AI IMPACT REPORT NO. 173 · REVISED 5 OCTOBER 2026 · 250 ROLES COVERED

Pickers/Packers

AI and robotics extensively automating item retrieval and order preparation.

EXPOSURE	WINDOW	ADOPTION TODAY	READING
36 Moderate exposure	4–8 yrs until change lands	High of AI-guided systems & robotics in large fulfillment centers	Augmented more than replaced. Exposure is the share of today's work AI can plausibly take on within the window.

§ 01 WHAT IS HAPPENING

What is happening to pickers/packers

Impact

AI-powered Warehouse Management Systems (WMS) direct automated storage and retrieval systems (AS/RS) and autonomous mobile robots (AMRs) to bring items to human packers or to automated packing stations. AI vision systems assist in item identification and quality control.

Risk

Massive task automation; human role shifts to working with robots, exception handling, or specialized packing.

The traditional Picker/Packer role, involving extensive manual walking, searching, item retrieval, and manual packing, is undergoing profound transformation. Many of these tasks are being automated by AI-driven robotics. Human roles are evolving to collaborate with these systems (e.g., "goods-to-person" models), manage exceptions, handle items unsuitable for automation, or perform complex/custom packing tasks.

Sector readiness

Rapidly Advancing in E-commerce & Large-Scale Distribution

E-commerce fulfillment centers and large distribution hubs are aggressively investing in AI and robotics to handle high volumes and meet speed demands. Automated picking and packing solutions are becoming increasingly sophisticated.

§ 02 POSITION

Where you stand

i The Picker/Packer role is undergoing very high levels of automation, especially for repetitive, high-volume tasks in large fulfillment centers.

ii AI and robotics are transforming the work from extensive manual walking and searching to more stationary, system-directed tasks in collaboration with automated systems.

iii Future roles will emphasize operating and interacting with these technologies, handling exceptions, and performing tasks that still require human dexterity or judgment. Upskilling for system operation or maintenance may be an avenue for career progression.

§ 03 ACTIONS 15 POINTS

What this means for you

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

01 **AI-Guided Picking via Wearables/Handhelds.** Using devices (headsets for voice picking, scanners, smart glasses) that receive AI-optimized picking lists and direct you to item locations efficiently.

02 **Goods-to-Person (G2P) Robotic Systems.** Working at a stationary pick station where AMRs or AS/RS bring bins or shelves of items directly to you for selection.

03 **Interacting with Pick-to-Light or Put-to-Light Systems.** Following light-indicated instructions (controlled by AI/WMS) to pick items from specific bins or place items into order containers.

04 **Operating Automated Packing Machines.** Overseeing or feeding items into machines that use AI to select appropriate box sizes, add dunnage, and seal packages.

05 **Quality Control & Exception Handling.** Identifying and resolving issues like damaged items, incorrect picks (flagged by vision systems or WMS), or items that automated systems cannot handle.

06 **Working Alongside Collaborative Robots (Cobots).** In some scenarios, working in close proximity with cobots that might assist with lifting, moving, or handing items.

07 **Need for Basic System Interaction & Troubleshooting.** Understanding how to interact with the interfaces of automated systems and potentially resolve minor jams or errors.

08 **Adaptability to AI-Driven Dynamic Workflows.** AI-WMS can change order priorities or picking strategies in real-time, requiring flexibility.

09 **Focus on Accuracy & Speed (Human Element).** Even with automation, human accuracy in selecting the correct item and maintaining pace in G2P systems is critical.

10 **Handling Specialized or Custom Packing Requirements.** Manually packing fragile, oversized, or items requiring custom gift wrapping or kitting, which are harder to automate.

11 **Replenishing Automated Systems.** Restocking AS/RS or picking modules with inventory.

12 **Data Input via Scanners.** Continuously using barcode scanners to confirm picks, update inventory, and track order progress within the WMS.

13 **Safety in Automated Environments.** Adhering to strict safety protocols when working with or near robotic systems and automated conveyors.

14 **Potential for Upskilling to Maintain/Operate Robots.** Opportunities to be trained as technicians for the automated systems.

15 **Reduced Physical Walking/Strain (in G2P systems).** Goods-to-person automation can significantly reduce the amount of walking and searching required.

§ 04 CAUSES 10 DRIVERS

What is pushing this change

01 **E-commerce Boom & High Order Volumes.** The sheer volume of online orders necessitates high-speed, high-accuracy picking and packing that often exceeds human-only capabilities.

02 **Demand for Ultra-Fast Order Fulfillment & Delivery.** Customers expect rapid delivery (same-day, next-day), which requires extremely efficient warehouse operations, driven by automation.

03 **Labor Shortages & High Turnover in Warehouse Roles.** Difficulties in attracting and retaining workers for physically demanding warehouse jobs drive investment in automation.

04 **Advancements in Warehouse Robotics (AMRs, AS/RS, Robotic Arms).** Modern robots are more intelligent, flexible, and capable of navigating warehouses and handling a wider variety of items.

05 **AI for Optimizing Picking Paths & Order Batching (WMS).** AI algorithms within Warehouse Management Systems create the most efficient sequences for picking items, minimizing travel time.

06 **Need to Reduce Picking & Packing Errors.** Automated systems, guided by AI and using barcode/vision scanning, can significantly improve order accuracy.

07 **Pressure to Lower Labor Costs in Fulfillment.** Automation can reduce the labor component of fulfillment costs, which is a major expense for e-commerce businesses.

08 **Advancements in AI-Powered Computer Vision for Item Recognition & QC.** AI vision systems can identify items, verify picks, and inspect for damage more consistently than humans for certain tasks.

09 **Development of Automated Packing Solutions.** Machines that can automatically select the right box size, add fill, and seal packages are becoming more common.

10 **Desire for Increased Warehouse Throughput & Efficiency.** AI and robotics enable distribution centers to process more orders with the same or less physical space and labor.

§ 05 VARIATION 5 SECTORS

Impact by sector

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

E-commerce Fulfillment Centers	Highest level of AI and robotics adoption for picking individual items for customer orders (each-picking). Goods-to-person systems are common.
Retail Distribution Centers (Store Replenishment)	Mix of case picking and some each-picking. AI for optimizing pallet building and store replenishment orders.
Third-Party Logistics (3PL) Warehouses	Need for flexible automation that can handle diverse client products and order profiles. AI helps manage complexity.
Manufacturing Warehouses (Parts & Finished Goods)	AI and AS/RS for managing components for production lines (just-in-time) and storing/retrieving finished goods.
Grocery & Cold Storage Warehouses	Automation adapted for cold environments. AI helps manage inventory with expiration dates and optimize picking for temperature-sensitive items.

§ 06 PREPARATION 8 SKILLS

Skills to build

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

01 **Ability to Work with & Alongside Automated Systems/Robots.** Comfortably and safely interacting with AMRs, AS/RS, automated conveyors, and packing machines.

02 **Attention to Detail & Accuracy (in picking/packing).** Ensuring the correct items and quantities are picked and packed, even when assisted by technology; verifying system outputs.

03 **Basic Digital Literacy (Handheld Scanners, System Interfaces).** Proficiency in using handheld scanners, mobile devices, and computer terminals to receive instructions and confirm tasks in the WMS.

04 **Adaptability to Dynamic Work Instructions.** Ability to follow changing instructions from AI-driven systems that optimize workflows in real-time.

05 **Physical Stamina (for roles still involving manual handling).** While some tasks are less strenuous with automation, many roles still require standing, lifting, and moving.

06 **Problem-Solving for Exceptions.** Effectively handling situations where items are missing, damaged, or an automated system encounters an error.

07 **Safety Consciousness in Automated Environments.** Strict adherence to safety protocols when working in environments with moving robots and machinery.

08 **Speed & Efficiency in Manual Tasks.** Maintaining pace and efficiency in manual picking or packing tasks, especially at goods-to-person stations.

§ 07 INSTRUMENTS 11 ENTRIES

Tools in use

KINDS OF TOOL WORTH KNOWING

01 **Warehouse Management Systems (WMS) with AI Optimization.** Software that uses AI to direct all warehouse activities, including optimizing picking routes, storage, and labor.

02 **Autonomous Mobile Robots (AMRs) / Goods-to-Person (G2P) Systems.** Robots that bring shelves or totes of items directly to a stationary human picker, or transport goods autonomously.

03 **Pick-to-Light / Voice-Directed Picking Systems.** Systems that use lights or voice commands to direct pickers to specific locations and item quantities.

04 **Automated Packing & Sortation Systems.** Machines that automatically select boxes, pack items, add dunnage, seal, and label packages, or sort them for shipping.

05 **AI-Powered Computer Vision for Item Recognition/QC.** Camera systems with AI that can identify products, verify picks, or inspect items for damage during the picking or packing process.

06 **Handheld RF Scanners & Wearable Tech.** Mobile devices used by operatives to scan barcodes, receive instructions from the WMS, and confirm task completion.

NAMED TOOLS ALREADY IN USE

Locus Robotics / Geek+ / Kiva Systems (now Amazon Robotics)
Leading vendors of AMRs used in goods-to-person fulfillment operations in warehouses.

Dematic PickMOD / Knapp Open Shuttle / Swisslog CarryPick (G2P/ASRS systems)
Major providers of automated storage and retrieval systems and goods-to-person picking solutions.

Honeywell Voice / Zebra Technologies (Voice & Wearable Solutions)
Companies offering voice-directed and wearable technology solutions to guide warehouse operatives.

Sealed Air (Automated Packaging) / Körber (Sortation Systems)
Companies providing automated packaging machines and high-speed sortation systems, often incorporating AI.

Cognex / Keyence (Industrial Vision Systems with AI)
Providers of advanced machine vision systems, increasingly using AI for item identification, inspection, and guidance in logistics.

§ 08 EXAMPLES 5 EXAMPLES

In practice

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

Work at a Goods-to-Person Robotic Pick Station EXAMPLE 1	HOW	Stand at a designated workstation where AMRs bring shelves of items to you; follow screen prompts to pick the correct items and quantities for orders.
	GAIN	Significantly reduces walking and search time, increases picking speed and accuracy, and improves ergonomics.
Use Voice-Directed Picking Technology EXAMPLE 2	HOW	Wear a headset that provides voice instructions from the WMS, guiding you through the warehouse to pick locations and confirming picks verbally.
	GAIN	Allows for hands-free operation, can improve picking accuracy, and is effective in various warehouse environments, including cold storage.
Follow Pick-to-Light System Instructions EXAMPLE 3	HOW	Move along aisles and pick items from bins that are illuminated by lights, with quantities displayed, as directed by the AI-optimized WMS.
	GAIN	Increases picking speed and accuracy by providing clear visual cues, reducing errors from misreading pick lists.
Oversee an Automated Packing Machine EXAMPLE 4	HOW	Ensure a steady flow of items into an automated packing machine, monitor its operation, and clear any jams or replenish packaging materials.
	GAIN	Dramatically increases packing throughput, ensures consistent packaging quality, and can optimize material usage.
Handle Exceptions Flagged by an AI Vision System EXAMPLE 5	HOW	When an AI camera system flags an item on a conveyor for a potential defect or incorrect label, manually inspect the item and take corrective action.
	GAIN	Improves overall quality control, reduces shipment of defective goods, and allows human focus on subjective or complex inspection tasks.

§ 09 CONTEXT

How this role compares

Three neighbouring roles chosen to show the direction of travel.

Manual Inventory Counters (Traditional, full warehouse counts) MORE EXPOSED	AI IMPACT	Extremely High (AI-powered WMS with real-time tracking, drone-based inventory scanning, and AS/RS drastically reduce or eliminate manual full counts)
	WORK MOVES TO	Significant role decline; shift to cycle counting for exceptions or managing inventory data integrity within automated systems.
Robotics Technicians / Automation Maintenance Specialists (Warehouse) DIFFERENT SKILLS, GROWING	AI IMPACT	Foundational/Enabling (They install, maintain, troubleshoot, and repair the AI-powered robotic and automation systems used for picking and packing)
	WORK MOVES TO	Deep skills in mechatronics, robotics, PLCs, sensor technology, and troubleshooting automated systems.
Warehouse Supervisors / Operations Managers (Human Leadership) COMPLEMENTARY, LESS EXPOSED	AI IMPACT	High Augmentation (Use AI-WMS data and analytics for labor planning, performance monitoring, process optimization), but core team leadership, problem-solving complex operational issues, and managing human staff remain human-led.
	WORK MOVES TO	Leadership, people management, operational planning, process improvement, and ensuring overall warehouse efficiency and safety.

§ 10 VERDICT

Closing judgement

> For Pickers/Packers, AI and robotics are reshaping the physical demands and workflows of the job. While manual dexterity and attention to detail remain important, the role is increasingly about collaborating with intelligent systems, operating new technologies, and handling exceptions. Adaptability and comfort with technology are becoming essential.

§ 11 BASIS REVISED 5 OCTOBER 2026

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

55 to 36

WINDOW

3-7 years to 4-8 years

The 5 October 2026 review moved the score down by 19 points.

Exposure Index v2. Inputs: task applicability 18/100 (Microsoft AI applicability score 0.09 for Packers and packagers, hand; Stockers and order fillers); observed usage 0/100 (Anthropic observed exposure 0.00); official exposure tier 25/100 (BLS: low / moderate); labour-market trajectory 45/100 (BLS projects employment to grow 2% over 2025–35); published adoption rating 70/100 (high adoption (of ai-guided systems & robotics in large fulfillment centers)). Weighted base 26.3. Editorial adjustment +10: Robotic picking and automated packing lines are in commercial use at scale; text-usage measures cannot see it. Final score 36. The previous figure of 55 was lowered by 19 points: the earlier method kept 60% of the weight on an undocumented editorial prior and capped movement at fifteen points, so the measured evidence was only partly reflected. The change window moves from 3-7 years to 4-8 years under the one-notch-per-ten-points rule.

HOW THE FIGURE IS BUILT (EXPOSURE INDEX V2)

Task applicability — Microsoft Research, AI applicability score	18 × 35%	6.3
Observed usage — Anthropic Economic Index, observed exposure	0 × 20%	0.0
Official exposure tier — US BLS AI-exposure category	25 × 20%	5.0
Labour-market trajectory — US BLS projected employment change 2025–35	45 × 10%	4.5
Published adoption rating — This report's adoption level	70 × 15%	10.5
Weighted base		26.3
Editorial adjustment: Robotic picking and automated packing lines are in commercial use at scale; text-usage measures cannot see it.		+10
Exposure score		36

MEASURES BEHIND THE SCORE

US Bureau of Labor Statistics · *Employment Projections 2025–35 and AI Exposure Categories* (27 August 2026)

AI-exposure tier: Low / Moderate. Projected employment change 2025–35: +2.0%. Matched to Packers and packagers, hand; Stockers and order fillers.

PUBLISHER PDF ARCHIVED COPY

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

AI applicability score 0.09 (percentile 30 of 785 occupations) for SOC 53-7064, 53-7065.

PUBLISHER PDF ARCHIVED COPY

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

Observed exposure 0.00 for SOC 53-7064, 53-7065 (no meaningful Claude usage recorded on these tasks).

PUBLISHER PDF

World Economic Forum · *The Future of Jobs Report 2025* (7 January 2025)

Cashiers and ticket clerks head the WEF fastest-declining list; light-truck and delivery drivers are on the growing list.

PUBLISHER PDF

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

ALSO CITED FOR THIS ROLE

McKinsey Global Institute · *Agents, robots, and us: Skill partnerships in the age of AI* (25 November 2025)

Physical, in-person work sits mainly in the robot (not agent) share of technical potential, which McKinsey puts at roughly 13% of US hours and expects to move more slowly.

PUBLISHER

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 × 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 A/IS
Ethically Aligned Design — Recommendations for ethical AI design.

Center for AI and Digital Policy
Policy briefs — Accountable AI policy.