

Randstad advisory

talent strategy foundations
new collar talent.

SEGRO

September, 2026

randstad enterprise

partner for talent.



table of contents.

topics	page no.
why this research matters?	3
objectives & methodology	4
definitions, assumptions & limitations	7
executive summary and recommendation	10
blue collar talent supply analysis and talent hotspots	21
market demand trends and supply demand gap for new collar	30
blue collar - new collar transition and why the demand for such roles is increasing	51
blue collar skills - new collar skills transition	80
what countries and companies are doing to fill the skill gap	126
talent demand and market competitiveness for new collar roles	151

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

why this research matters?

overview

SEGRO has partnered with Randstad to develop a data-driven thought leadership report examining the emergence of new collar talent across Europe. The report provides evidence-based insights into how automation, digitalisation, AI, electrification and advanced technologies are reshaping workforce requirements across industrial, logistics and retail sectors , and the implications for future talent availability, workforce planning and business growth.

what have we uncovered?

define the emerging new collar talent landscape	Establish a clear view of the roles, skills and capabilities emerging between traditional blue collar occupations and degree-led professional roles, including the technical, digital and operational expertise increasingly required to work alongside advanced technologies.
understand how talent requirements are evolving	Identify how employer demand is shifting across smart manufacturing, transportation & logistics, retail and related sectors moving from conventional frontline roles towards digitally enabled technical occupations that support future operating models and technology adoption.
assess talent market dynamics across European markets	Evaluate differences in workforce supply, hiring demand and talent availability across SEGRO's priority markets to identify where relevant local talent markets are concentrated, where competition is intensifying and where potential shortages may constrain future growth.
quantify future talent availability and scalability	Assess the depth of available new collar talent pools and benchmark market capacity against future hiring requirements to understand where organisations can scale effectively and where additional workforce development may be required.
identify pathways to build skills required for emerging roles	Explore how existing frontline workforces across manufacturing, logistics, construction, maintenance and retail can transition into emerging new collar roles by identifying critical skill gaps and defining the employer-led training and career pathways needed to enable workforce mobility.
translate insights into strategic action	Provide SEGRO and its stakeholders with an evidence base to support workforce planning, investment decisions, location strategy and skills partnerships helping determine where talent can be accessed today and where future capabilities need to be developed.

Strategic Outcome

The report moves beyond assessing how frontline work is changing to provide a practical view of which roles are emerging, where the required talent exists, how workforce requirements are evolving and what actions are needed to build the capabilities required for future growth.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

objectives & methodology.

This strategic thought leadership report aims to provide Segro with expert market data and insights into the evolving landscape of new collar skills across Europe.

The primary objective of this assessment is to differentiate the talent requirements of modern smart manufacturing, transportation & logistics and retail, departing from traditional blue collar models.

This report delivers a comparative analysis across key SEGRO markets including the UK, Czechia, France, Germany, Italy, Netherlands, Poland and Spain to evaluate the availability and footprint of emerging skill sets, such as automation technicians.

The geographic scope includes identifying primary European industrial hubs across both main sectors (manufacturing, retail, transportation & logistics, defence, life sciences and construction) and specialised sub-industries (advanced manufacturing, automotive, food & beverage, online / traditional retail and data centres).

To provide an evidence to support talent and location decisions, the analysis will deliver detailed insights into demand trends and market behaviours surrounding new collar roles. The review will also map skill gaps by visualising the balance between talent supply and demand across each target industry to complete the strategic overview.



methodology and data used.

We present our findings using country maps, so it is clear for Segro to see the nuances across cities.



*availability of talent with the blue collar skillset across industries (manufacturing, retail, transportation & logistics, defence, life sciences and construction) to identify the main talent clusters across SEGRO markets (UK, Czechia, France, Germany, Italy, Netherlands, Poland and Spain). This provides an in-depth understanding of the potential local talent pipeline and identifying potential constraints or opportunities scaling specific skills.

methodology: Official statistics, company data and census datasets are processed through a proprietary model that combines skill market data with census weighting and demographic adjustments. This accounts for offline and underrepresented workers while using platforms such as LinkedIn as supplementary inputs, reducing selection bias and improving workforce estimates.

*Please note that the numbers presented in our report represent the total talent pool possessing the relevant skills, not just individuals with an online presence.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

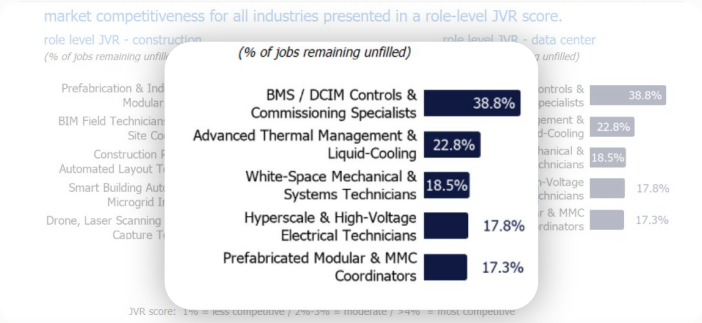
objectives & methodology.

supply - demand gap.

Even if a market shows a significant talent pool available, fierce competition for talent can impose challenges to recruit top-tier talent, scale teams effectively and successfully achieve growth objectives. We examine the competitiveness of the markets by establishing the demand for blue collar roles.

We further identify the top employers hiring and employing similar talent to see who Segro is competing with and how they are performing in various markets.

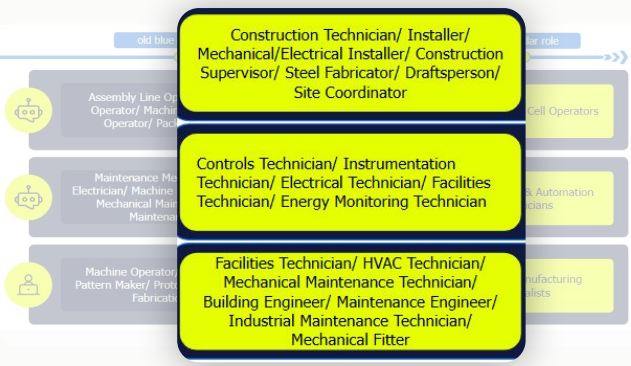




We first analysed market demand to measure overall competitiveness across industries. Next, we assessed the supply side by calculating how many individuals are available per job posting requiring new-collar skill sets. Finally, we quantified the additional talent gap needed to meet demand, providing a clear view of workforce readiness and market pressures.

new collar role identification and role transition.

Traditional blue-collar positions are rapidly evolving into hybrid roles that blend technical know-how with digital fluency. Even where labour pools appear strong, the pace of automation and digitalisation creates scarcity in specialised skills, making it harder to secure adaptable talent and sustain operational growth. We analyse the trajectory of these transformations by mapping how roles shift from manual to tech-enabled functions.



We analysed hiring trends by scanning leading job boards and social networking sites, mapping how roles evolve and which emerging skills companies now prioritise. Postings and profiles were systematically reviewed to identify new skill clusters, benchmarked against traditional role requirements, to assess how professionals move into redesigned roles. This allowed us to quantify the percentage of professionals who have transitioned into redesigned roles and validate findings against industry benchmarks for accuracy and relevance.

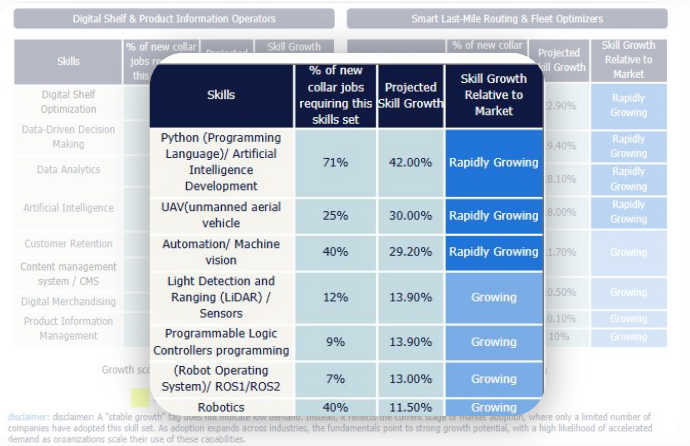
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

objectives & methodology.

new collar skill growth identification

To understand how workforce dynamics are shifting, we conducted a structured review of job postings across industries and sub-industries. This approach allowed us to capture what companies are actively seeking in the market, identify skills that are rapidly growing, steadily expanding or remaining stable for roles that are transitioning from traditional old-collar positions into emerging new-collar roles. By mapping demand signals against role evolution, the analysis shows how changing hiring demand is affecting career opportunities.





Skills	% of new collar jobs requiring this skills set	Projected Skill Growth	Skill Growth Relative to Market
Python (Programming Language)/ Artificial Intelligence Development	71%	42.00%	Rapidly Growing
UAV(unmanned aerial vehicle	25%	30.00%	Rapidly Growing
Automation/ Machine vision	40%	29.20%	Rapidly Growing
Light Detection and Ranging (LiDAR) / Sensors	12%	13.90%	Growing
Programmable Logic Controllers programming	9%	13.90%	Growing
(Robot Operating System)/ ROS1/ROS2	7%	13.00%	Growing
Robotics	40%	11.50%	Growing

We sampled job postings across industries and sub-industries to capture current market demand, identifying skills that are rapidly growing, steadily expanding or remaining stable. This analysis highlights how these skill categories support the transition of roles from traditional old-collar positions into emerging new-collar roles, providing a clear view of workforce shifts and demand signals.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

definitions, assumptions and limitations.

definitions

blue collar roles.

Traditional frontline or blue collar roles are hands-on operational, technical or trade-based occupations in areas such as production, equipment maintenance, transport, warehousing, retail operations, construction and material handling. Their core responsibilities are centred on operating, repairing, moving, installing or producing physical assets and services. These roles may require significant vocational qualifications, technical knowledge, safety expertise and practical experience and should not be interpreted as "low-skilled." Digital tools may support the work, but automation supervision, systems configuration, data interpretation and advanced digital control are not yet its defining requirements.

new collar roles.

new collar roles are evolved frontline, operational or technician-level occupations that combine practical trade or sector expertise with digital, automation, data, advanced engineering or technology oversight capabilities. The work increasingly involves configuring, monitoring, diagnosing, maintaining and coordinating technology-enabled operations, alongside managing exceptions that automated systems cannot resolve. new collar roles are defined by the capabilities and work performed not by university-degree requirements, organisational level or employment status.

workforce supply.

Workforce supply represents the modelled population possessing the relevant or adjacent occupational skills in 2026. It may include both employed people and non-employed people where official, census or professional profile sources provide evidence of relevant experience or capabilities. It does not represent only active job seekers or people who are immediately available for recruitment.

demand.

Demand represents unique advertised job posting signals for the identified roles and skills during the preceding 12 months.

future skill growth.

Future skill growth represents the expected direction and relative strength of employer demand over the two to three years from the 2026 baseline, based on current hiring patterns, technology adoption, legislation, public initiatives & sector development signals.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

definitions, assumptions and limitations.

assumptions

reference periods.

Workforce supply represents a 2026 stock estimate. Hiring demand covers the trailing 12 months to the confirmed extraction date, while future skill growth signals cover the subsequent two-to-three-year period.

data triangulation.

The analysis combines official labour-market statistics, national census and company data, job postings and employee profile evidence associated with approximately 13,000 companies and 400,000 job ads across the eight SEGRO markets. Relevant government legislation, industrial policies and workforce initiatives are used to test whether observed market signals align with the expected direction of sector change.

occupational harmonisation.

Country-specific occupations, job titles and skill terminology are translated and mapped into common cross-country role families and capability clusters to enable consistent comparison across labour markets while preserving local occupational context.

demand estimation.

Immigration is contributing to greater cultural and ethnic diversity in urban and suburban areas, creating a more diverse talent pool but also requiring organisations to adapt to different cultural perspectives and communication styles.

geographic scope.

National analysis follows official country boundaries. Local analysis uses functional metropolitan and industrial labour-market catchments that better represent commuting patterns and employer talent pools than administrative boundaries alone.

reliability framework.

Findings are assessed according to sample size, source diversity, consistency across independent datasets and alignment with official statistics. National and industry-level findings provide the highest confidence, while highly specialised occupations and emerging skills should be interpreted as directional.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

definitions, assumptions and limitations.

limitations

capability supply is not recruitment availability

Individuals identified within the workforce may already be employed, geographically constrained, economically inactive or require additional certification before transitioning into emerging occupations.

coverage of non-employed talent is inherently incomplete

Individuals outside employment are included only where relevant occupational history or skills can be identified through available datasets. Workers with limited digital or administrative records may therefore be underrepresented.

advertised demand does not equal realised employment

Job postings measure employer hiring intent rather than confirmed recruitment outcomes and may exclude internal mobility, informal recruitment or agency-led hiring activity.

role and skill categories may overlap

Individuals may possess capabilities relevant to multiple occupations or industries. Consequently, workforce totals across different role families should not be aggregated unless explicitly stated to be mutually exclusive.

cross-country comparisons require standardisation

Differences in occupational classifications, language, labour-market structures, digital adoption and data availability mean comparisons should be interpreted as harmonised estimates rather than perfectly equivalent national measures.

future demand estimates are directional

Forecasts reflect current technology adoption, investment activity, legislation and labour-market trends and may change as economic conditions, regulation or employer behaviour evolve.

modelled estimates contain inherent uncertainty

Workforce, transition and future demand estimates should be interpreted as evidence-based market estimates rather than exact administrative counts. Unless independently validated through statistical testing, no universal margin of error is assigned to the model.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

executive summary and recommendation.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

executive summary & recommendations.

This report examines how automation, AI, electrification and connected infrastructure are reshaping frontline work across manufacturing, retail, transportation and logistics, defence, life sciences, construction and data centres. Its central finding is that blue collar work is not disappearing; it is becoming more technical and digitally enabled. The evolution from blue collar to new collar work reflects a shift from roles focused primarily on physical execution and equipment operation towards technology-enabled roles that combine practical expertise with digital, technical and analytical capabilities. Workers are increasingly required to operate connected systems, interpret data, maintain advanced technologies and solve complex operational challenges. However, only a fraction of the existing workforce has made this transition, requiring companies to combine job redesign, vocational development and targeted talent mobility rather than depend primarily on external hiring.

01. new collar transformation is about redesigning the workforce into human-technology collaboration

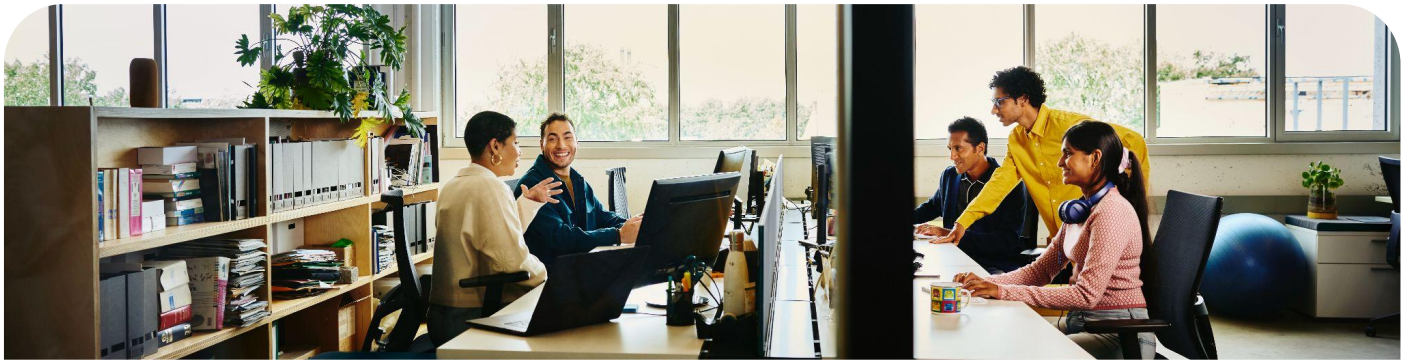
Automation, AI and electrification are reshaping frontline work, shifting roles from primarily physical execution towards technology-enabled activities such as system supervision, configuration, diagnostics and exception management. With EU manufacturing still employing 30.2 million people and cobots representing only 10.5% of industrial robot installations, future operations will continue to rely on workers who can operate alongside, maintain and optimise advanced technologies. Organisations should therefore view technology as a tool to improve productivity and expand job scope rather than a tool for reducing headcount, redesigning career pathways to transition traditional operators into digitally enabled technicians, coordinators and specialists who can manage connected infrastructure and advanced machinery.

02. pivot to internal reskilling to close critical supply gaps

The current pace of workforce transition is not sufficient to meet future demand.

Across the industries analysed, only approximately 2–26% of relevant workers have moved into new collar roles, while the manufacturing talent pool may need to expand by 86–90% and the retail pool by 91–99% to reach more sustainable labour-market levels.

Gaps of this scale cannot be closed through external recruitment alone. Employers should make structured conversion of existing workers, through reskilling, internal mobility and work redesign, the primary workforce strategy, supported by selective external hiring for the most specialised capabilities.



source: Eurostat Structural Business Statistics (EU Manufacturing Employment), International Federation of Robotics (IFR) World Robotics Report. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

executive summary & recommendations.

03. build the future workforce around hybrid operational and digital skills with differentiated upskilling pathways for Mechatronics, the most critical role

Manufacturers should prioritise building hybrid automation capabilities, as automation and mechatronics technicians have become Europe's most critical new collar roles, with 85.7% of employers identifying these skills as business critical alongside persistent shortages in mechanical engineering (63%), electrical engineering (54%) and production functions (47%). Modern manufacturing increasingly demands a combination of traditional trade expertise and digital capabilities in automation, robotics and industrial controls, yet transition rates into advanced roles remain low (2% for mechatronics compared with 22% for additive manufacturing). Organisations should therefore define hybrid competency frameworks, embed them into job architectures and implement tiered reskilling pathways that combine rapid conversion programme for adjacent operator roles with intensive work-based learning for advanced technical specialisations.

04. large markets drive scale, while smaller markets build specialist capabilities

Germany, the UK and France offer the largest workforce pools across SEGRO's priority industries, but their advantage extends beyond scale. Their strong blue collar bases, industrial bases and vocational infrastructure provide the greatest opportunity to convert existing workers into new collar roles. Germany's manufacturing base, the UK's retail and logistics workforce and France's manufacturing and construction talent pools create significant potential workforce for reskilling in automation, mechatronics, digital operations, low-carbon technologies and advanced technical services.

Other SEGRO markets require more targeted strategies. Czechia and Poland can use their industrial and logistics workforces to build conversion pipelines. The Netherlands can focus on specialised capabilities in advanced manufacturing, smart logistics and data centre infrastructure; while Italy and Spain can align workforce investment with sector strengths such as automotive, construction, food manufacturing, retail and energy transition. The priority is to combine scaled workforce transformation in larger markets with targeted sector specialisation in smaller markets.

05. align location strategy with local ecosystem strengths

National averages often mask extreme local concentrations of specialised talent, meaning workforce investments must be geographically precise. Sharp regional variations exist across borders, such as Germany averaging 449 industrial robots per 10,000 workers compared to 293 in the Netherlands, while individual metropolitan areas like Munich for manufacturing, London for retail or Prague for defence hold disproportionate shares of national talent. organisations that make location decisions purely based on country-level data risk missing these hyper-local ecosystem advantages. Companies should position training academies, technology labs and operational facilities directly within regional industrial clusters where talent scale, educational infrastructure and adjacent industries overlap.

source: CECIMO (European Association of the Machine Tool Industries and related Manufacturing Technologies) Advanced Manufacturing Skills Survey, International Federation of Robotics (IFR) Robot Density Benchmarks. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

executive summary & recommendations.

06. making automation skills accessible to SMEs (Small and Medium-sized Enterprises) through shared vocational training infrastructure

A significant divide has opened between large enterprises and small and medium sized enterprises (SMEs) regarding digital transformation and workforce development. While 73% of large enterprises provide emerging technology training to their employees, only 17% of small enterprises do the same due to a lack of capital and infrastructure for practical technical training.

Because industrial supply chains rely heavily on SMEs, this training gap creates systemic operational risk across industrial parks. To address these gaps, governments, industry associations, vocational training institutions, higher education providers and technology vendors should establish Public-Private Partnerships (PPPs) to create shared regional training centres rather than relying on individual firms to build training capacity. These hubs should provide shared PLC and robotics laboratories, mobile training centres and pilot facilities for testing and validation, enabling SMEs to access affordable, vendor-neutral practical training without significant capital investment.

07. expand cross-industry talent pathways instead of competing for the same limited technical workforce

Technical capabilities in areas such as automation supervision, robotics maintenance, predictive analytics and industrial IoT are increasingly transferable across traditional industry lines.

However, while 89% of manufacturers prioritise in-house training, only 20% currently provide the specific training across roles required to facilitate broader mobility.

This narrow focus leaves vast pools of adjacent technical talent untapped while companies compete for the same limited pool of direct hires. organisations should strategically expand their recruitment and talent development frameworks to pull candidates from adjacent sectors and establish structured internal mobility routes that capitalize on transferable technical skills.

08. use cross-border hiring as a bridge not as the long-term workforce strategy

Advanced technical capabilities are unevenly distributed across Europe, with Germany holding 163,900 new collar manufacturing workers 3 times more than France's 51,400 and additional specialist talent concentrated in markets like the Netherlands, Switzerland and Sweden. While selective cross-border hiring can help secure scarce robotics, mechatronics and automation specialists in the short term, international recruitment remains constrained by language barriers, qualification frameworks and local regulations. Consequently, cross-border sourcing should serve only as a temporary bridge to fill immediate skill gaps, supported by relocation assistance and qualification recognition. The long-term solution requires companies to actively expand local vocational pathways and regional training infrastructure to build sustainable domestic talent pipelines

source: Eurostat Enterprise ICT & AI Adoption Survey. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

key findings & recommendations by industry segment.

manufacturing

A large workforce is beginning to transition, but mechatronics remains the weakest link.

The transition to new collar manufacturing is underway, but progress is highly uneven across roles. Overall, 20% of the identified manufacturing workforce has transitioned into emerging smart manufacturing roles. However, transition is strongest for additive manufacturing specialists (22%) and predictive maintenance and analytics roles (20%), while it remains significantly lower for cobot and robot cell operators (8%) and mechatronics and automation technicians (2%) highlighting where the greatest capability shortages remain.

- Mechatronics is emerging as the industry's most critical capability gap. Future technicians are expected to diagnose faults across mechanics, electrics, PLCs, robotics, sensors, drives, pneumatics and industrial networks. Reflecting this shift, 86% of employers identify automation and mechatronics as business-critical capabilities, demonstrating that future roles require hybrid rather than purely digital capability.
- Labour market depth is becoming the primary constraint to automation adoption. Manufacturing markets currently provide only 5–7 relevant workers per vacancy and the existing new collar workforce would need to expand by 86–90% to scale.
- Automation readiness varies considerably across European markets. Germany remains Europe's most mature manufacturing automation market with 449 industrial robots per 10,000 manufacturing workers, followed by the Netherlands (293). Meanwhile, Czechia, where manufacturing is projected to account for approximately 25% of total employment by 2035, offers one of the largest long-term opportunities for workforce conversion into new collar manufacturing roles.

recommendation

Large manufacturers can run advanced training academies, but SMEs often cannot afford diverse robotics, PLCs and advanced manufacturing equipment. Governments, industry bodies, training providers and technology vendors should establish shared regional manufacturing dojos that teach vendor-neutral skills followed by short vendor-specific modules. Stackable, hands-on programme, shared equipment and mobile training units would help SMEs develop advanced capabilities at lower cost while providing portable, industry-recognised credentials.

advanced manufacturing

- Advanced manufacturing is leading the transition to new collar work: Approximately 26% of the blue collar workforce has transitioned into new collar roles higher than the 20% observed across manufacturing overall. The greatest progress is in smart factory data, quality automation and metrology (49%), reflecting the shift towards connected, data-driven production.
- Digital engineering is becoming integral to frontline operations: Transition into advanced CNC and hybrid machining roles reaches 29%, while 90% of employers already seek CNC programming capability. Demand is also projected to grow for Fusion CAD (24.8%), SolidWorks (22.9%) and IIoT (19.8%), highlighting the convergence of machining, design and industrial data.
- Cyber-physical production is creating a new technical workforce: Around 30% of the potential workforce has transitioned into mechatronics and cyber-physical assembly, with 68% of employers requiring PLC capability. At the same time, soft-sensor capability is projected to grow by 49.4%, signalling a shift from hardware maintenance towards software-enabled monitoring and intelligent controls.
- Robotics capability remains the sector's largest workforce gap: Despite increasing investment in automation, only 3% of the identified workforce has transitioned into advanced robotics and cobot coordination roles. Germany and the Netherlands currently provide the strongest talent pools, while Switzerland and Sweden represent important cross-border sources for specialist robotics capability.

recommendation

Create multi-level advanced manufacturing academies, not one generic digital curriculum. Workforce strategies should distinguish between roles requiring short upskilling and those needing deeper technical training. Production operators can transition into digital quality, HMI and basic robot coordination through short vocational programme, while mechatronics, controls, advanced CNC and robotics programming require longer pathways combining technical theory, vendor systems and real production experience. Regional academies should provide CNC/CAM labs, robotic cells, CMM and machine vision equipment, digital quality systems and connected production demonstrators. Common foundational credentials should be complemented by equipment-specific certifications. Cross-border hiring can meet immediate specialist needs while local talent pipelines are strengthened.

source: CECIMO Advanced Manufacturing Skills Survey, European Automobile Manufacturers' Association (ACEA) Electric Vehicle & Fleet Progress Reports, CEDEFOP Future Employment Forecasts, DRIVE35 UK Battery Initiative, French National Battery School Reports. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

key findings & recommendations by industry segment.

automotive manufacturing

Electrification is accelerating, but controls and mechatronics remain the largest workforce requirement.

- Automotive is managing three workforce transitions simultaneously: electrification, automation and digital quality. Approximately 16% of the automotive blue collar workforce has transitioned into new collar roles, with the strongest movement towards controls and mechatronics (35%) and advanced automation and robotics (18%). This reflects a shift from traditional production roles towards digitally enabled technical capabilities.
- Electrification is reshaping production requirements faster than workforce capability is adapting. As battery-electric vehicles gain share across Europe, traditional automotive workers increasingly require new capabilities in high-voltage systems, battery processes, e-drive technologies, digital traceability and battery testing. High- and low-voltage safety is already a core requirement, with 99% of relevant employers seeking this capability.
- Automation and robotics are moving from operation to optimisation. Automotive plants increasingly need workers who can troubleshoot, reconfigure and improve automated systems rather than simply operate them. Demand is growing across automation controls (29%), advanced robotics (17%) and robotic welding (32%), creating pressure to expand technical maintenance and programming capability.
- The biggest capability challenge is building cross-functional technical talent. Controls, predictive maintenance, industrial networking and robotics require deeper multidisciplinary expertise than traditional assembly roles. Germany remains a major automotive talent hub, while specialist robotics capability may require cross-border recruitment from markets such as Switzerland, Austria, Slovenia and Finland.

recommendation

separate ICE-to-EV conversion from automation training: Assembly and powertrain workers need a pathway covering batteries, e-drives, high-voltage safety and traceability. Maintenance mechanics and electricians need a deeper route covering PLCs, industrial controls, networks, robot diagnostics and predictive maintenance. Combining both groups in one EV programme will not create job-ready technicians.

food and beverage manufacturing

The workforce may remain stable, but its responsibilities are becoming more technical and regulated.

- The challenge is role redesign rather than workforce growth: Europe is expected to retain approximately 600,000 food manufacturing machine operators through 2035, but only 13% of the current workforce has transitioned into the identified automation-enabled roles, with the strongest movement into food safety and traceability digital roles (25%) and food industry mechatronics and automation (16%).
- Quality and compliance are becoming increasingly data-driven. Food safety roles are evolving beyond traditional inspection towards digital traceability, real-time quality monitoring, statistical process control, automated inspection and data-led compliance management. This is creating demand for workers who combine production knowledge with digital quality capabilities.
- Technical maintenance requires food-specific expertise, not only general automation skills. Future technicians must combine PLCs, sensors and automation capability with knowledge of hygienic design, clean-in-place systems, refrigeration and food safety requirements. Packaging automation remains an emerging opportunity, with only 4% transition into automated packaging and material flow roles despite increasing adoption of robotics.
- Skills development will depend on accessible training models, particularly for SMEs. Germany provides the strongest foundation for workforce conversion, but the fragmented nature of the sector means many smaller manufacturers cannot independently build automation or digital-quality academies. Regional, food-specific training ecosystems will be essential to scale capability.

recommendation

build food-grade automation pathways: Process operators should learn HMI, recipe systems and digital batch control; quality workers should learn digital HACCP, SPC and traceability; maintenance teams should combine mechatronics with hygienic design and refrigeration; sanitation workers should be trained to validate automated CIP cycles. Training should use actual food production equipment and simulated recall, cleaning and contamination events.

source: CECIMO Advanced Manufacturing Skills Survey, European Automobile Manufacturers' Association (ACEA) Electric Vehicle & Fleet Progress Reports, CEDEFOP Future Employment Forecasts, DRIVE35 UK Battery Initiative, French National Battery School Reports. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

key findings & recommendations by industry segment.

retail

Online operations are progressing, while physical store roles risk being left behind.

- Retail is undergoing two distinct workforce transformations: digital stores and automated fulfilment. Unlike other sectors, retail does not have a single transition pathway. Online retail has achieved approximately 12% transition into new collar roles, while traditional retail remains at around 3%, highlighting the need for separate workforce strategies across channels.
- Talent availability is becoming a critical constraint as retail technology adoption accelerates. The sector faces one of the largest new collar workforce gaps, with the required talent pool estimated to expand by 91–99% to reach sustainable labour-market benchmarks. In some markets, such as parts of Poland, availability is as low as 0.1 relevant workers per vacancy, indicating significant capability shortages despite a large overall retail workforce.
- Online retail roles are evolving towards logistics, data and operational intelligence. The strongest transitions are occurring in smart last-mile routing and fleet optimisation (30%) and inventory visibility and data roles (17%), driven by connected delivery networks, RFID, real-time inventory systems and digital fulfilment models.
- Store-based retail is progressing more slowly but has significant internal mobility potential. AI-enabled stock monitoring and fresh-waste coordination show the strongest transition at 8%, while digital shelf, store operations data and shrink analytics remain at earlier stages (1–3%). Existing frontline knowledge provides a strong foundation if retailers create structured digital career pathways.

Most of the operational change is still ahead: Nearly 80% of European warehouses remain manually operated, while only 5% are fully automated. Technology adoption will therefore create further demand for automation operators, inventory specialists and digitally enabled store workers.

recommendation

run separate but connected store and fulfilment strategies: Physical stores should focus on RFID, electronic shelf labels, fresh-waste management and digital shrink. Online operations should focus on WMS/WES, AMRs, inventory visibility and last-mile routing. Employees should be able to move between these pathways through common foundational training.

online retail

The strongest transition is occurring in inventory visibility and last-mile coordination.

- Online retail is shifting from manual fulfilment towards digitally coordinated operations. Approximately 12% of the online-retail workforce has transitioned into new collar roles, with the strongest movement in smart last-mile routing and fleet optimisation (30%) and inventory visibility roles (17%). These changes reflect the growing importance of real-time data, connected delivery networks and intelligent fulfilment systems.
- Inventory management is becoming a technology-enabled capability. Stock controllers and inventory teams are increasingly responsible for RFID, location accuracy, real-time availability and exception management. As online commerce depends on accurate fulfilment promises, inventory intelligence is becoming a core operational capability rather than a back-office activity.
- Warehouse roles are evolving from task execution towards automation supervision. Workers are increasingly required to operate alongside AMRs, AGVs, automated storage systems and digital warehouse platforms. However, transition remains limited in warehouse automation and mechatronics (6%), creating potential reliance on external specialists for maintenance and system optimisation.
- The next automation wave creates a limited window to build workforce capability. Digital product information roles remain at an early stage, with only 2% transition into product data and digital shelf capabilities, while many warehouses remain only partially automated. Building internal pathways from fulfilment roles into automation, data and coordination positions will be critical.

recommendation

Online retailers should establish clear career routes from fulfilment into automation roles that enable warehouse operators, inventory teams and dispatch workers to progress into digitally enabled roles. Workforce development should combine operational experience with WMS/WES, automation, inventory intelligence and data skills to support the next phase of logistics transformation.

source: Eurostat AI & Digital Economy Survey, British Retail Consortium (BRC) Retail Crime & Technology Reports, E-Commerce Europe Reports. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

key findings & recommendations by industry segment.

traditional retail

- Store technology is advancing faster than workforce capability development. Traditional retail has the lowest transition level across the industries assessed, with only 3% of the workforce moving into identified new collar roles despite increasing adoption of RFID, electronic shelf labels, computer vision and AI-enabled store operations.
- The strongest near-term opportunity is applying technology to improve operational decision-making. Transition is most advanced in AI-enabled stock monitoring and fresh-waste coordination (8%), where technology directly improves availability, reduces waste and supports better inventory decisions. Other capabilities, including smart inventory and RFID coordination (2%) and digital shelf and pricing roles (1%), remain at an early stage.
- Retail roles are shifting from task execution towards data-enabled operations. Loss prevention, inventory, merchandising and store operations teams increasingly need to interpret digital signals from POS systems, RFID alerts, self-checkout data and demand analytics. However, only 3% of workers have transitioned into digital shrink and asset protection roles, indicating significant untapped potential.
- Existing frontline knowledge provides a strong foundation for workforce transformation. Store employees already understand customer behaviour, product availability, replenishment challenges and operational exceptions. The challenge is creating structured pathways that provide access to digital tools, formal training and career progression rather than allowing technology adoption to become a substitute for workforce development.

recommendation

When retailers introduce RFID, ESLs, self-service systems, AI inventory tools or computer vision, they should identify frontline roles that can transition into operating and improving these technologies. Training should be delivered in-store using real operational scenarios, with credentials linked to formal job levels and pay progression.

transportation and logistics

Electrification and warehouse automation are creating two different workforce transitions.

- Transportation and logistics is undergoing two parallel workforce transitions: vehicle electrification and automated flow management. Approximately 9% of the workforce has transitioned into new collar roles, with the strongest movement towards synchromodal and multimodal coordination (20%) and electric and alternative-fuel fleet maintenance (18%). These shifts reflect the move towards connected, sustainable and data-driven logistics networks.
- Vehicle maintenance is becoming increasingly technology-intensive. The transition towards electric and alternative-fuel vehicles is creating demand for new capabilities in high-voltage systems, battery technologies, charging infrastructure, thermal management and connected vehicle diagnostics. While electrification adoption remains early, the technical requirements for maintenance roles are changing rapidly.
- Warehouse automation and digital fleet capability remain underdeveloped. Only 3% of the workforce has transitioned into automated fulfilment and AMR warehouse roles, while telematics-enabled fleet analytics (4%) and autonomous vehicle capabilities (1%) remain at an early stage. This creates a growing need for workers who can operate, maintain and optimise connected logistics systems.
- Workforce development must become more specialised and accessible. Smaller logistics operators face similar challenges to manufacturing SMEs, lacking access to EV diagnostic equipment, automation systems and simulation environments. Regional training networks will be critical to build capability across electrification, warehouse automation and multimodal operations.

recommendation

Transportation and logistics organisations should move away from broad "future logistics" training models and create specialised pathways for electrification, automation and network coordination. Shared regional academies and employer partnerships will be essential to help smaller operators access the technology and skills required for the next phase of logistics transformation.

source: International Road Transport Union (IRU) European Driver Shortage Survey Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

key findings & recommendations by industry segment.

defence

Industrial skills are transferable, but defence readiness requires a second layer of qualification.

- defence is moving beyond traditional industrial capability towards secure, digitally integrated systems. Only approximately 5% of the defence workforce has transitioned into identified new collar roles, with the UK leading the assessed markets at around 9%, while France and Czechia remain closer to 4–5%. Future demand is increasingly focused on connected systems, advanced maintenance, sensors, communications and digital engineering.
- Modern defence platforms require a new combination of industrial and digital expertise. Roles such as C4ISR and combat-systems technicians require workers who can combine electronics, secure networks, communications, sensors, radar and field maintenance. At the same time, maintenance is becoming increasingly data-driven through predictive maintenance, digital simulation and AI-assisted diagnostics.
- defence workforce transformation is constrained by security and regulatory requirements. Talent from adjacent sectors including aerospace, automotive, electronics and advanced manufacturing provides a strong technical base, but workers often require additional capabilities in security clearance, NATO standards, defence quality, export controls and platform-specific systems.
- Capability gaps vary significantly across European markets. Germany benefits from strong mechatronics capability but faces shortages in areas such as autonomy and secure communications. The Netherlands has strong innovation capability but limited field maintenance depth, while Poland's defence expansion is increasing demand for systems integrators and maintainers faster than supply can develop.

recommendation

defence organisations should create structured routes for workers from adjacent industries to enter defence roles that enable adjacent industrial talent to transition into defence roles. Shared academies, structured clearance preparation and recognised foundational credentials will help reduce the time required to develop mission-ready technical capability while maintaining security standards.

life sciences

Automation and regulation must be taught as one integrated capability.

- Life sciences manufacturing requires technicians who can operate at the intersection of automation, digital systems and regulatory compliance. Approximately 13% of the identified workforce has transitioned into new collar roles, with the strongest movement into GMP automation, validation and process control (22%), followed by digital quality, LIMS and PAT roles (15%). Unlike other manufacturing sectors, technology adoption must operate within strict GMP, validation and quality frameworks.
- The sector is scaling rapidly while becoming increasingly digital. Europe's research-based pharmaceutical industry employs approximately 955,000 people, generated €463.9 billion in 2024 and invested around €60 billion in R&D in 2025. This growth is increasing demand for technicians who can support advanced manufacturing, automation, digital quality systems and regulated production environments.
- The largest capability gap sits between technical expertise and regulated operations. GMP automation technicians require a combination of PLC, SCADA, process-control and automation skills alongside validation, data integrity, electronic batch records and deviation management. Current education pathways are not keeping pace, with approximately 32% of future digitalised role capabilities in the UK cell and gene therapy workforce not currently supported by available training provision.
- Workforce development must integrate technical and compliance learning. Quality, maintenance and production roles increasingly require workers who can diagnose technical issues while maintaining validated production states. Predictive maintenance (11% transition), LIMS, PAT, digital traceability and advanced therapies all require integrated training approaches rather than separate engineering and compliance pathways.

recommendation

Life sciences manufacturers should establish shared GMP automation and digital-quality academies that combine automation, validation, LIMS, PAT, electronic batch records, cybersecurity and data integrity in one practical environment. Training should simulate real production scenarios such as equipment alarms, calibration failures, batch record errors and quality deviations to develop technicians capable of operating within both digital and regulated manufacturing environments.

source: European Labour Authority (ELA) EURES Labour Shortage Report, NATO Common-Funded Infrastructure Budget, EDA Investment Reports. European Federation of Pharmaceutical Industries and Associations (EFPIA) Key Data, UK Cell and Gene Therapy Catapult Workforce Foresighting Study. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

key findings & recommendations by industry segment.

construction

Green buildings, digital delivery and smart infrastructure are accelerating the shift towards new collar construction roles.

- Construction is one of the fastest-transitioning industries, driven by digital delivery, smart infrastructure and industrialised building methods. Approximately 20% of the construction workforce has transitioned into new collar roles, with Germany leading at 20.5%, followed by Italy (18.6%), the Netherlands (18.3%) and Spain (16.9%). This highlights a sector moving rapidly towards digitally enabled delivery models.
- Digital coordination is becoming central to frontline construction roles. The strongest transitions are occurring in BIM field technician and digital site coordinator roles (32%) and smart building automation and microgrid integration roles (32%). Site professionals increasingly require capabilities in digital drawings, connected systems, data capture and technology-enabled project management.
- Industrialised construction is creating new technical pathways beyond traditional trades. Around 13% of the workforce has transitioned into prefabrication and modular assembly roles, while reality capture roles account for 9% and construction robotics roles 8%. Workers are increasingly expected to combine trade expertise with digital tools such as laser scanning, machine control, automation and smart building technologies.
- Workforce transformation remains constrained by fragmented delivery models. Approximately 44% of core vocational skills are expected to change and 60% of workers require upskilling or reskilling. Smaller contractors face particular challenges accessing technology training, highlighting the need for shared training infrastructure and industry-wide credentials.

recommendation

Construction should use live projects as the foundation for workforce transformation by embedding training, certification and digital capability development into project delivery. Shared regional training facilities and employer partnerships will be critical to help SMEs adopt new technologies while enabling workers to transition into higher-value digital roles.

data centre

Mission-critical power and cooling are becoming the real capability constraint

- Data centre construction is evolving from traditional MEP delivery towards mission-critical digital infrastructure. Approximately 35% of the sector's capability profile has already shifted towards digital and advanced infrastructure, with the future workforce expected to move towards a more balanced model of traditional construction skills and new collar technical capability by 2030.
- Modular delivery, power systems and mechanical infrastructure are becoming core workforce requirements. The strongest transition is into prefabricated modular and MMC coordination roles (64%), followed by high-voltage electrical roles (35%), white space mechanical systems (30%) and liquid cooling and BMS/DCIM controls (23% each). Workers increasingly require expertise across critical power, cooling, controls and integrated commissioning.
- AI workloads are reshaping data centre cooling and controls requirements. Demand is increasing across direct liquid cooling (31.5%), cooling tower systems (17.5%) and traditional CRAC/CRAH capabilities (~13%), requiring HVAC professionals to develop new expertise in liquid cooling, CDUs, thermal analytics, leak detection and advanced environmental monitoring. Controls capability is also becoming increasingly software-enabled through BMS, DCIM, EPMS and SCADA systems.
- The sector lacks established workforce conversion pathways for mission-critical environments. Traditional electrician, HVAC and construction programme rarely combine redundancy design, UPS and switchgear, CRAH/CRAC systems, liquid cooling, controls integration and commissioning. Building specialist capability will require collaboration between developers, contractors, operators and technology providers.

recommendation

Our recommendation is to establish dedicated mission-critical academies: Developers, contractors, operators and equipment vendors should collaborate to build workforce capability across critical power, advanced cooling, modular MEP systems, controls and integrated systems testing. Training should combine technical learning with practical simulations, including power-path failures, cooling interruptions, generator failover and BMS alarm diagnostics, ensuring technicians are prepared for mission-critical operational environments.

source: European Construction Sector Observatory (ECSO), EU Energy Performance of Buildings Directive (EPBD, European Data Centre Association (EUDCA) Investment & Employment Estimates, International Energy Agency (IEA) Global Data centre Energy Consumption Report, Uptime Institute Data centre Staffing Survey. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

strategic recommendations.

talent upskilling & transition strategies

build clear transition maps from potential roles.

Publish explicit transition maps for emerging roles rather than forcing workers through unrelated course catalogues. Maps must detail potential occupations, recognised skills, required modules, transition timelines, practical assessments and resulting job/pay levels.

design paid, flexible training for shift workers.

Eliminate financial and scheduling barriers for frontline staff by offering paid release time, stable income and flexible delivery during work hours. Models like Germany's income-replacement mechanism and Amazon's shift-compatible education prevent worker exclusion.

establish shared academies for SMEs.

Governments, employers, educators and tech providers should co-fund regional, vendor-neutral academies. This allows SMEs across sectors to access expensive equipment, digital platforms and real-world training scenarios without bearing the full cost alone.

tier roles into operator, technician and specialist levels.

Avoid overcomplicating job descriptions. Scalable learning architectures should separate duties into Operators (execution), Technicians (maintenance), Coordinators (workflows) and Specialists (design/programming), creating accessible pathways for frontline workers.

issue portable, recognised credentials.

Map internal company training to national standards, European qualification frameworks or independent microcredentials. standardise core skill foundations so employees gain transferable qualifications alongside vendor-specific certifications.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis and talent hotspots.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis - manufacturing.

To establish a baseline for our talent strategy, this chapter begins by mapping where the foundational blue collar workforce currently resides across all six of SEGRO's key industries, manufacturing, retail, life sciences, transportation & logistics, defence and construction spanning our eight European markets: Germany, France, Italy, the UK, the Netherlands, Poland, Spain and Czechia. By identifying these areas with the largest concentrations of blue collar workers, we build the essential foundation needed to address our next strategic imperative: evaluating how much of this existing workforce has already transitioned into future-ready 'new collar' roles and identifying the specialised, highly in-demand capabilities that are rising to drive the future of our industrial bases.

talent supply.

France

Paris MSA	106,855	Paris, Saint-Denis, Nanterre, Créteil, Versailles, Évry
Lyon MSA	39,576	Lyon, Villeurbanne, Vénissieux, Saint-Priest, Vienne
Toulouse MSA	29,682	Toulouse, Colomiers, Blagnac, Muret

Germany

Munich MSA	148,276	Munich, Garching, Freising, Dachau, Erding
Cologne-Düsseldorf MSA	39,801	Cologne, Düsseldorf, Leverkusen, Neuss, Dormagen, Bonn, Solingen, Essen, Duisburg, Dortmund
Stuttgart MSA	37,459	Stuttgart MSA involves : Stuttgart, Böblingen, Sindelfingen, Esslingen, Ludwigsburg, Waiblingen,heilbronn

United Kingdom

Birmingham West Midlands MSA	23,524	Birmingham, Coventry, Wolverhampton, Walsall, Solihull, Dudley
Leeds-Bradford MSA	20,163	Leeds, Bradford, Wakefield, Huddersfield
Manchester MSA	25,204	Manchester, Salford, Bolton, Stockport, Oldham, Rochdale

Netherlands

Rotterdam-The Hague MSA	38,566	Rotterdam, The Hague, Delft, Schiedam, Dordrecht
Eindhoven MSA	27,719	Eindhoven, Veldhoven, Helmond, Best
Enschede	22,496	Enschede, Hengelo, Almelo

Spain

Barcelona MSA	59,507	Barcelona, Terrassa, Sabadell, Martorell, Badalona
Madrid MSA	52,069	Madrid, Getafe, Leganés, Fuenlabrada, Alcalá de Henares
Valencia MSA	24,794	Valencia, Paterna, Sagunto, Torrent

Poland

Wrocław MSA	37,693	Wrocław, Świdnica, Oława, Legnica
Upper Silesia MSA	28,015	Katowice, Gliwice, Tychy, Zabrze, Sosnowiec, Bytom
Poznań MSA	17,318	Poznań, Swarzędz, Gniezno

Italy

Milan MSA	61,727	Milan, Monza, Lodi, Pavia, Rho
Bologna MSA	33,669	Bologna, Modena, Reggio Emilia, Imola
Turin MSA	24,691	Turin, Moncalieri, Chivasso, Rivoli

Czechia

Prague MSA	44,601	Prague, Kladno, Mladá Boleslav, Beroun
Brno MSA	20,196	Brno, Blansko, Vyškov, Břeclav
Ostrava MSA	16,830	Ostrava, Havířov, Karviná, Frýdek-Místek, Nový Jičín

source: The talent supply has been modelled by incorporating all known iterations of blue collar roles using company-registered member data (sample 13,000 companies) and LinkedIn statistics, then normalising through labour data across industries to reflect employment penetration and market trends. Data accurate 04-08-2026



Manufacturing blue collar Workforce Distribution: Key Insights

- Germany represents the largest manufacturing blue collar workforce pool, with 749K workers across the 8 countries. Within Germany, talent is concentrated around key industrial corridors, led by Munich MSA with 148K workers (20% of Germany's manufacturing workforce), driven by automotive, aerospace, industrial engineering and advanced manufacturing. Other important hubs include Cologne-Düsseldorf with 40K workers and Stuttgart with 37K workers.
- The UK has the second-largest manufacturing workforce pool, with 588K workers. Manufacturing talent is distributed across major industrial regions, with Manchester MSA accounting for 25K workers.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis - manufacturing.

Manufacturing blue collar Workforce Distribution: Key Insights (Contd.)

- France has a manufacturing workforce pool of 554K workers, with significant concentration around Paris and major industrial regions. Paris MSA represents the largest hub with 107K workers (19% of France's manufacturing workforce), supported by aerospace, electronics and industrial technology sectors. Additional hubs include Lyon with 40K workers and Toulouse with 30K workers.
- Italy has 365K manufacturing workers, concentrated mainly in Northern industrial corridors. Milan MSA represents 62K workers (17% of Italy's manufacturing workforce) and acts as a centre for industrial machinery, precision manufacturing and engineering.
- The Netherlands has 345K manufacturing workers, with talent concentrated around technology and industrial innovation hubs. Rotterdam-The Hague accounts for 39K workers (11%), supported by industrial logistics, chemicals and energy-related manufacturing.



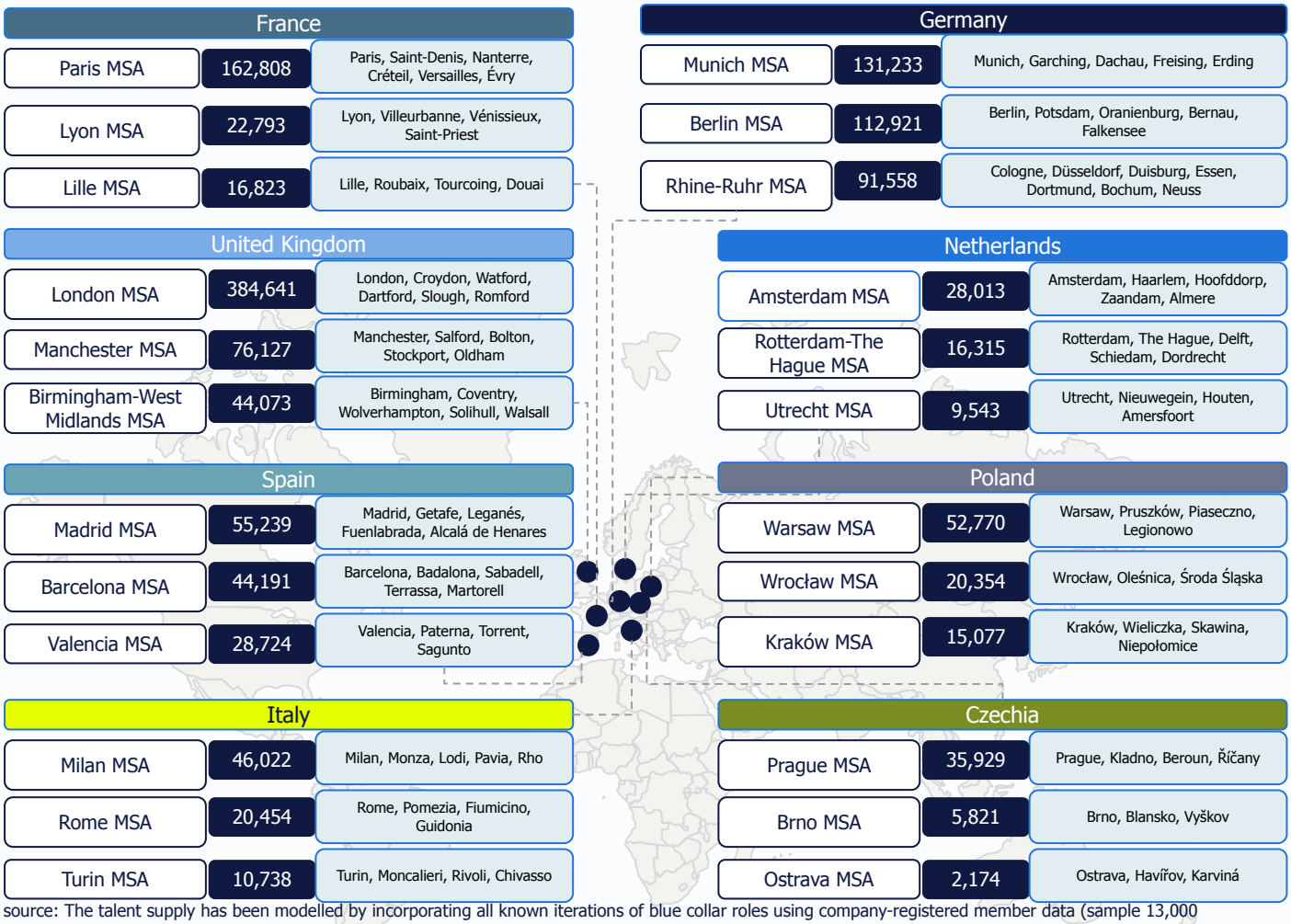


- Poland has 336K manufacturing workers, concentrated around emerging industrial corridors. Wrocław MSA represents 38K workers (11% of Poland's manufacturing workforce), supported by automotive, electronics and industrial production. Upper Silesia contributes 28K workers (8%) and remains one of Central Europe's largest industrial regions, with strengths in automotive, machinery and heavy manufacturing.
- Spain has 248K manufacturing workers, with the highest regional concentration among major markets. Barcelona MSA accounts for 60K workers (24% of Spain's manufacturing workforce), supported by automotive, chemicals, electronics and advanced manufacturing. Madrid MSA contributes 52K workers (21%), driven by aerospace, engineering and industrial technology. Together, these two hubs represent approximately 45% of Spain's manufacturing blue collar workforce.
- Czechia has 194K manufacturing workers, with one of the highest concentrations of talent in a single industrial hub. Prague MSA represents 45K workers (23% of Czechia's manufacturing workforce), supported by automotive and engineering industries.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis - retail.

talent supply.



source: The talent supply has been modelled by incorporating all known iterations of blue collar roles using company-registered member data (sample 13,000 companies) and LinkedIn statistics, then normalising through labour data across industries to reflect employment penetration and market trends. Data accurate 04-08-2026

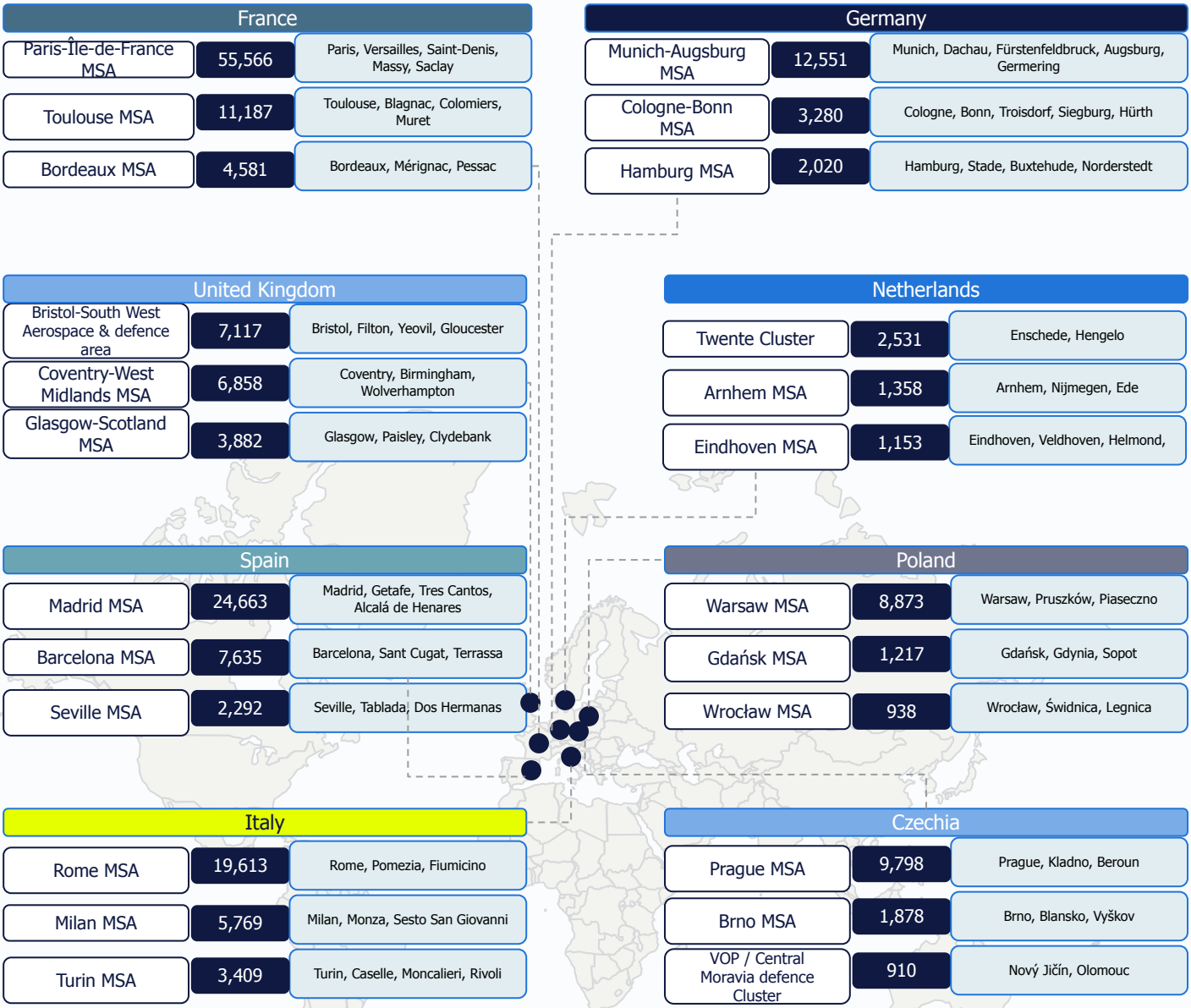
Key Retail Workforce Distribution Insights

- The UK has the largest retail blue collar workforce pool, with 1.20M workers, followed by Germany (793.5K) and France (542.7K). These three markets represent the largest opportunity pools for retail workforce transformation.
- Retail talent is highly concentrated in major metropolitan hubs. The strongest individual retail hubs are London (384.6K, 32% of UK retail workforce), Paris (162.8K, 30% of France), Munich (131.2K, 17% of Germany) and Madrid (55.2K, 22% of Spain).
- Urban concentration is highest in Czechia, where Prague alone accounts for 35.9K workers (59% of the national retail workforce), making it the most concentrated retail labour market among the countries analysed.
- Major retail hubs align closely with consumer, tourism and logistics corridors. London, Paris, Milan, Amsterdam, Madrid and Barcelona combine large store operations, e-commerce fulfilment, inventory management and omnichannel retail activities.
- For retail automation and new collar transitions, priority locations should focus on large urban retail ecosystems, where existing pools of sales associates, cashiers, stock clerks, inventory workers, warehouse associates and operations assistants can transition into digital inventory, retail automation, AI-assisted store operations and omnichannel support roles.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis - defence.

talent supply.



source: The talent supply has been modelled by incorporating all known iterations of blue collar roles using company-registered member data (sample 13,000 companies) and LinkedIn statistics, then normalising through labour data across industries to reflect employment penetration and market trends. Data accurate 04-08-2026

Key defence Workforce Distribution Insights

- The UK has the largest defence blue collar workforce pool, with 171.5K workers, followed by France (160.5K) and Italy (69.2K). These three markets represent the largest available talent pools for defence workforce transformation, providing significant numbers of technicians, mechanics, electricians, machinists, welders and maintenance workers who can transition into advanced defence roles.
- defence talent is concentrated around a small number of strategic industrial hubs. The strongest individual defence hubs are Paris-Île-de-France with 55.6K workers (35% of France's defence workforce), Madrid with 24.7K workers (43% of Spain's defence workforce), Rome with 19.6K workers (28% of Italy's defence workforce) and Munich-Augsburg with 12.6K workers (18% of Germany's defence workforce). These regions combine established defence manufacturing, aerospace, engineering and maintenance ecosystems.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis - defence.

Key defence Workforce Distribution Insights (Contd.)

- Central European defence markets show the highest workforce concentration within individual hubs. Prague accounts for 9.8K workers (60% of Czechia's defence workforce), while Warsaw represents 8.9K workers (45% of Poland's defence workforce). These concentrated talent pools create targeted opportunities for regional reskilling programme focused on autonomous systems, defence robotics and digital maintenance.
- defence workforce clusters align closely with aerospace, advanced manufacturing and engineering corridors. Regions such as Bristol in the UK (7.1K workers, 4% of the national total), Toulouse in France (11.2K workers, 7% of the national total), Turin in Italy (3.4K workers, 5% of the national total) and Eindhoven in the Netherlands (1.2K workers, 3% of the national total) benefit from strong aerospace, electronics, precision engineering and industrial technology capabilities that support the transition into future defence occupations.



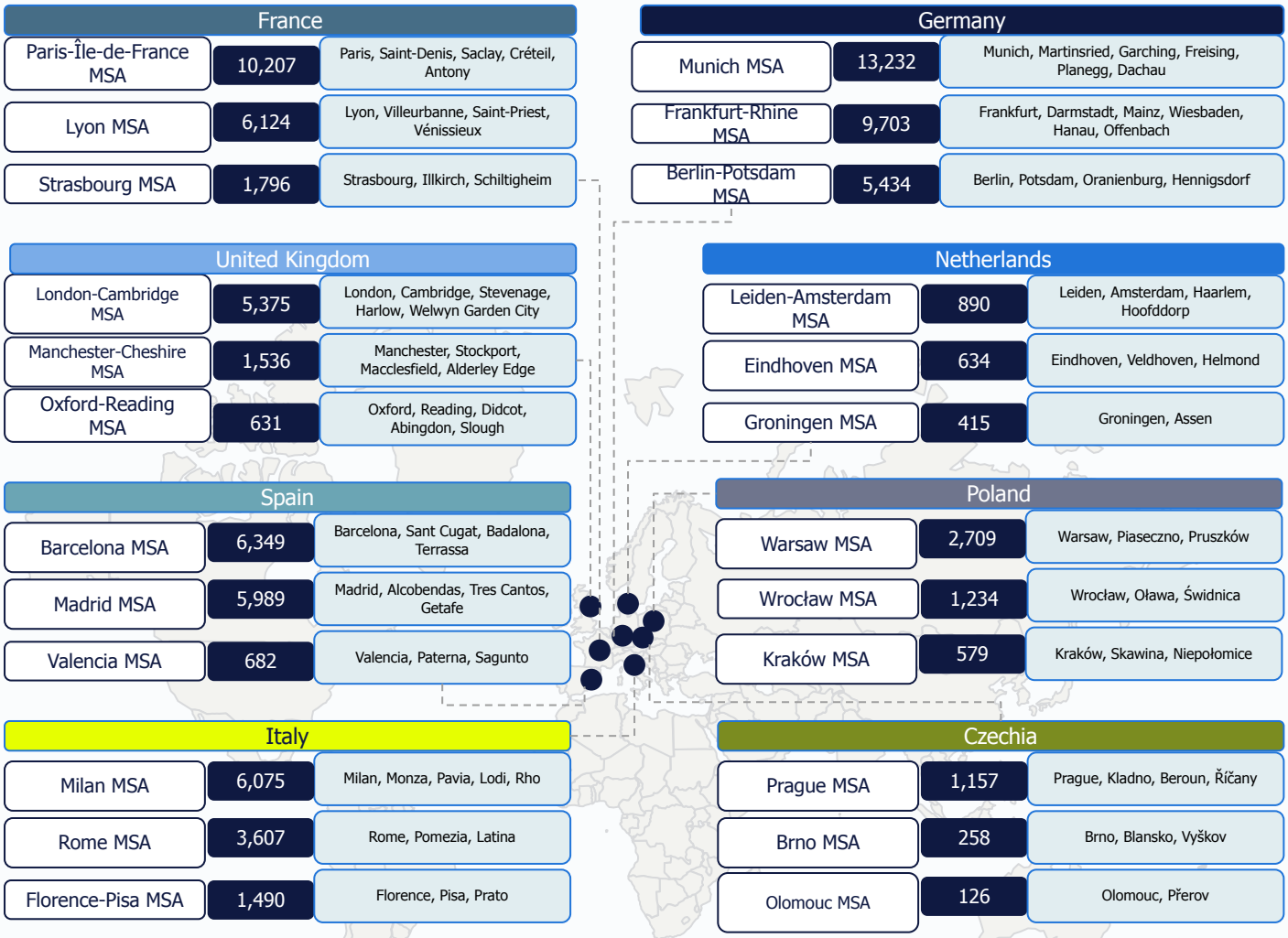


- Unlike consumer industries, defence talent is less evenly distributed and more dependent on specialised industrial bases. Workforce transformation should therefore prioritise locations where existing blue collar skills overlap with advanced defence capabilities, particularly mechanics, electricians, technicians, machinists and maintenance workers who can transition into autonomous systems technicians, robotics specialists, digital MRO technicians, cyber-physical maintenance roles and advanced manufacturing specialists.
- Priority locations for defence workforce transformation include Paris-Île-de-France (55.6K, 35%), Madrid (24.7K, 43%), Rome (19.6K, 28%), Munich-Augsburg (12.6K, 18%) and Prague (9.8K, 60%), as these hubs combine meaningful workforce scale with established defence and engineering ecosystems required to develop the talent required for future defence roles.

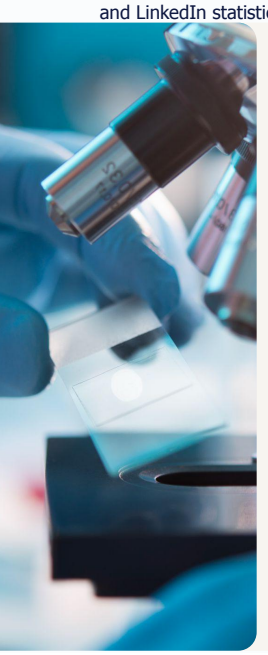
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis - life sciences.

talent supply.



source: The talent supply has been modelled by incorporating all known iterations of blue collar roles using company-registered member data (sample 13,000 companies) and LinkedIn statistics, then normalising through labour data across industries to reflect employment penetration and market trends. Data accurate 04-08-2026



Key life sciences Workforce Distribution Insights

- Germany has the largest life sciences blue collar workforce pool, with 80.3K workers, followed by France (54.4K) and the UK (31.7K). Together, these three markets represent the largest opportunity pools for developing new collar talent in pharmaceutical manufacturing, biotechnology and medical technology.
- life sciences talent is concentrated around Europe's leading pharmaceutical and biotechnology clusters. The strongest individual hubs are Munich (13.2K, 16% of Germany's workforce), Paris-Île-de-France (10.2K, 19% of France), Frankfurt-Rhine Main (9.7K, 12% of Germany), Barcelona (6.3K, 35% of Spain) and Milan (6.1K, 21% of Italy), reflecting the concentration of pharmaceutical manufacturing, biotech production and medtech industries.
- The highest workforce concentration is found in smaller but specialised life sciences markets. Prague accounts for 1.2K workers (48% of Czechia's life sciences workforce), while Barcelona (35%), Madrid (33%) and Warsaw (28%) represent highly concentrated national talent pools, making them attractive locations for targeted workforce transformation initiatives.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis - transportation & logistics.

talent supply.

France

Paris-Île-de-France MSA	46,980	Paris, Saint-Denis, Créteil, Nanterre, Roissy, Évry
Lyon MSA	8,456	Lyon, Saint-Priest, Vénissieux, Villeurbanne
Marseille-Fos MSA	6,107	Marseille, Fos-sur-Mer, Vitrolles, Aix-en-Provence

Germany

Hamburg MSA	41,129	Hamburg, Norderstedt, Stade, Pinneberg, Ahrensburg
Rhine-Ruhr MSA	34,107	Cologne, Düsseldorf, Duisburg, Essen, Dortmund, Neuss, Krefeld
Frankfurt-Rhine Main MSA	30,095	Frankfurt, Offenbach, Hanau, Darmstadt, Mainz, Wiesbaden

United Kingdom

London-Thames Gateway MSA	31,993	London, Dartford, Basildon, Harlow, Slough
Manchester MSA	6,900	Manchester, Salford, Bolton, Stockport, Warrington
Birmingham-West Midlands MSA	5,081	Birmingham, Coventry, Wolverhampton, Solihull, Walsall

Netherlands

Rotterdam-The Hague MSA	23,516	Rotterdam, The Hague, Delft, Schiedam, Dordrecht
Amsterdam-Schiphol MSA	22,575	Amsterdam, Haarlem, Hoofddorp, Zaandam, Almere
Eindhoven MSA	7,055	Eindhoven, Veldhoven, Helmond, Best

Spain

Madrid MSA	16,475	Madrid, Getafe, Leganés, Alcalá de Henares, Coslada
Barcelona MSA	12,714	Barcelona, Martorell, Terrassa, Sabadell, Badalona
Valencia MSA	5,730	Valencia, Sagunto, Paterna, Torrent

Poland

Warsaw MSA	15,687	Warsaw, Pruszków, Piaseczno, Legionowo
Wrocław MSA	5,704	Wrocław, Oleśnica, Środa Śląska
Upper Silesia MSA	4,563	Katowice, Gliwice, Tychy, Sosnowiec

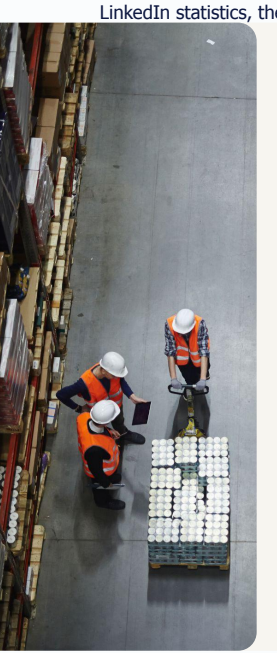
Italy

Milan MSA	15,704	Milan, Lodi, Monza, Pavia, Rho
Rome MSA	8,133	Rome, Pomezia, Fiumicino, Guidonia
Turin MSA	4,207	Turin, Rivoli, Moncalieri, Chivasso

Czechia

Prague MSA	19,024	Prague, Kladno, Beroun, Říčany
Brno MSA	2,866	Brno, Blansko, Vyškov
Ostrava MSA	1,043	Ostrava, Havířov, Karviná

source: The talent supply has been modelled by incorporating all known iterations of blue collar roles using company-registered member data (sample 13,000 companies) and LinkedIn statistics, then normalising through labour data across industries to reflect employment penetration and market trends. Data accurate 04-08-2026



Key Transportation & Logistics Workforce Distribution Insights

- Germany has the largest transportation & logistics blue collar workforce, with 290.9K workers (30% of the total workforce across the eight countries), followed by the UK with 156.8K (16%) and France with 145.6K (15%). Together, these three countries account for over 60% of the total regional blue collar talent pool, making them the primary markets for workforce transformation.
- Germany's workforce is distributed across multiple strategic logistics corridors. The largest hubs include Hamburg (41.1K), Rhine-Ruhr (34.1K) and Frankfurt-Rhine Main (30K). These regions are Europe's largest freight and industrial logistics corridors, supported by major ports, inland freight terminals, air cargo hubs and extensive road and rail distribution networks.
- The UK's logistics workforce is concentrated around the London-Thames Gateway corridor, with 32.0K workers (20% of the UK workforce). This corridor combines the Port of London, national distribution centres, airport logistics and rapidly expanding e-commerce fulfilment operations, making it the country's largest logistics employment hub.
- France is heavily anchored around the Paris Île-de-France logistics corridor, with 47.0K workers (32% of the national workforce). As France's primary consumer market and multimodal freight gateway, it supports large-scale warehousing, parcel distribution, air cargo and cross-border logistics operations.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar talent supply analysis - construction.

talent supply.

France		
Paris-Île-de-France MSA	107,891	Paris, Saint-Denis, Nanterre, Créteil, Versailles
Lyon MSA	21,578	Lyon, Villeurbanne, Saint-Priest, Vienne
Toulouse MSA	10,789	Toulouse, Blagnac, Colomiers

Germany		
Munich MSA	21,948	Munich, Dachau, Freising, Garching, Erding
Berlin MSA	11,619	Berlin, Potsdam, Oranienburg, Falkensee
Cologne-Düsseldorf MSA	7,101	Cologne, Düsseldorf, Bonn, Neuss, Duisburg

United Kingdom		
London MSA	56,307	London, Croydon, Watford, Dartford, Slough
Manchester MSA	11,824	Manchester, Salford, Bolton, Stockport
Leeds-Yorkshire MSA	8,446	Leeds, Bradford, Wakefield, Huddersfield

Netherlands		
Amsterdam MSA	12,456	Amsterdam, Haarlem, Hoofddorp, Almere, Zaandam
Arnhem-Nijmegen MSA	4,095	Arnhem, Nijmegen, Wageningen
Eindhoven MSA	3,925	Eindhoven, Veldhoven, Helmond

Spain		
Madrid MSA	32,668	Madrid, Getafe, Leganés, Alcalá de Henares
Barcelona MSA	18,093	Barcelona, Badalona, Terrassa, Sabadell
Valencia MSA	11,308	Valencia, Paterna, Sagunto

Poland		
Warsaw MSA	12,166	Warsaw, Pruszków, Piaseczno, Legionowo
Wrocław MSA	4,258	Wrocław, Oława, Świdnica
Kraków MSA	5,110	Kraków, Skawina, Wieliczka

Italy		
Milan MSA	10,409	Milan, Monza, Lodi, Pavia
Rome MSA	1,353	Rome, Pomezia, Fiumicino
Turin MSA	176	Turin, Rivoli, Moncalieri

Czechia		
Prague MSA	13,383	Prague, Kladno, Beroun, Říčany
Brno MSA	4,226	Brno, Blansko, Vyškov
Ostrava MSA	1,342	Ostrava, Karviná, Frýdek-Místek

source: The talent supply has been modelled by incorporating all known iterations of blue collar roles using company-registered member data (sample 13,000 companies) and LinkedIn statistics, then normalising through labour data across industries to reflect employment penetration and market trends. Data accurate 04-08-2026

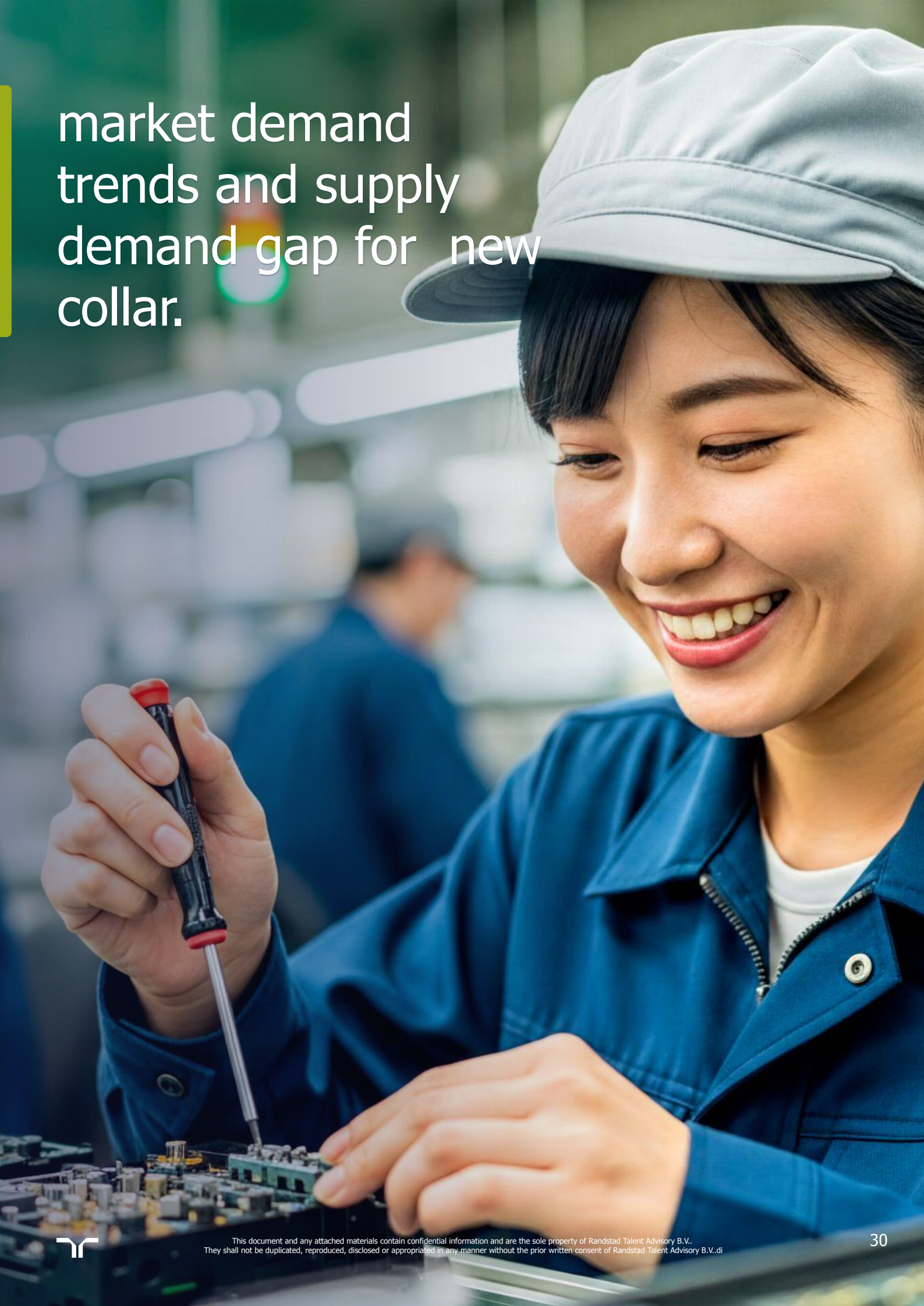


Key Construction Workforce Distribution Insights

- France has the largest construction blue collar workforce, with 384.4K workers (34% of the total workforce across the eight countries), followed by the UK with 230.9K (20%) and Spain with 123.1K (11%). Together, these three countries account for around 65% of the regional construction workforce, representing the largest markets for construction workforce transformation.
- France's workforce is heavily concentrated around the Paris Île-de-France corridor, with 107.9K workers (28% of the national workforce). This is Europe's largest construction market, driven by major commercial developments, residential projects, transport infrastructure and large-scale urban regeneration programme. Other key hubs include Lyon (21.6K) and Toulouse (10.8K).
- The UK's largest construction hub is London, with 56.3K workers (24% of the national workforce). London's continuous residential, commercial and infrastructure developments make it the country's largest source of construction talent.
- Spain's construction workforce is centred around Madrid, with 32.7K workers (27% of the national workforce). Barcelona (18.1K) and Valencia (11.3K) remain major hubs for residential construction, industrial development, logistics parks and renewable energy projects.
- Several smaller markets show strong regional concentration. Prague accounts for 13.4K workers (38%) of Czechia's construction workforce, while Warsaw (12.2K) is Poland's largest construction hub. In Germany, construction activity is more evenly distributed across Munich (21.9K), Berlin (11.6K) and the Cologne-Düsseldorf corridor (7.1K), reflecting the country's decentralised construction market.

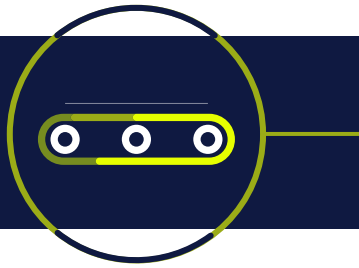
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market demand trends and supply demand gap for new collar.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in manufacturing.



European manufacturing is not simply replacing production workers. it is shifting them from direct machine execution towards technology supervision, configuration and exception handling.

EU manufacturing employed 30.2 million people and generated €2.5 trillion in value added in 2025, making it the largest part of the EU business economy. Even partial redesigns of production, maintenance or quality work affect a vast labour pool. Globally, 542,000 industrial robots were installed in 2025 over twice the number a decade earlier, with Europe accounting for 16%. collaborative robots made up 10.5% of installations in 2025, showing cobots are expanding beyond pilots but remain a minority in the overall robot market.

Mechatronics and automation technicians are the most critical new collar manufacturing role and the hardest role for employers to fill.

A 2024 CECIMO survey found 85.7% of advanced-manufacturing employers viewed automation and mechatronic technicians as critical up over 25% from 2023. Automation-control skills were prioritised by 63.6% of companies and robotics operation, programming, integration and maintenance by 60.6%. Shortages are already acute: 63% of manufacturers reported gaps in mechanical/industrial engineering, 54% in electrical engineering and 47% in production functions.

The primary gap is no longer a simple shortage of machine operators. It is a shortage of hybrid workers who combine production knowledge with controls, data and connectivity skills.

Manufacturing employees increasingly need skills in PLCs and industrial control systems, robot teach pendants and cell configuration, sensors, actuators and machine vision, industrial Ethernet and protocols like OPC UA/MQTT, condition monitoring and reliability engineering, CAD/CAM and additive-manufacturing design, data visualisation and machine-data interpretation and operational-technology cybersecurity.

Transition difficulty differs substantially across the five roles.

The easiest transition is typically machine operator → cobot/robot cell operator. The hardest are mechanical maintenance fitter → mechatronics/automation technician (requiring electrical, controls and networking skills), production or maintenance worker → predictive maintenance/analytics specialist (combining reliability engineering and data analysis) and conventional maintenance technician → industrial IoT technician (merging OT, IT networking and cybersecurity). Additive manufacturing remains niche: only 5.7% of companies identified it as a critical priority versus 85.7% for mechatronics/automation technicians. However, CAD/CAM (42.4%) and 3D modelling, simulation, CNC programming (27.3%) were prioritised, showing additive skills are often embedded in engineering and production roles rather than standalone jobs.

source: : Eurostat SBS, IFR World Robotics, CECIMO Skills Survey Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in manufacturing.

European manufacturers are training actively, but most training reinforces current roles rather than enabling cross-occupational mobility.

89% of manufacturers rely on in-house training, 54% on online training, about half on external providers, 37% on apprenticeships or internships and only 20% on cross-training across roles. This is a critical weakness: training a machine operator to use an upgraded HMI may improve current performance but does not create pathways into robotics, mechatronics, IoT or predictive maintenance.



Germany and the Netherlands are best positioned technically, while the UK has good qualifications but uneven investment. Poland faces the largest overall transition gap

- Germany has the strongest automation and mechatronics base but experiences intense competition for technicians.
- The Netherlands has strong digital infrastructure, fieldlabs and work-based training, but a limited domestic technical workforce.
- The UK has well-defined apprenticeship standards, but comparatively weak and volatile robot investment.
- Spain has strong automotive automation and improving vocational pathways, but weaker diffusion into SMEs.
- France has substantial future skills funding but lacks enough intermediate technicians to support re-industrialisation.
- Czechia has a strong industrial potential workforce but needs more AI, data, IoT and cybersecurity capability.
- Poland has a large production workforce and employer training subsidies, but lower digital adoption and weaker availability of advanced technical skills.

source: : Eurostat SBS, IFR World Robotics, CECIMO Skills Survey Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

supply and demand gap - manufacturing.

Building on our previous examination of the blue collar workforce's dispersion across six industries and eight SEGRO markets, this analysis evaluates the current supply of new collar talent within priority sectors. By benchmarking existing talent pools against demand signals, we identify critical gaps in workforce availability. This assessment underscores the necessity for significant workforce expansion and emphasises the urgency of accelerating reskilling pathways to transition traditional blue collar staff into future-focused technical roles.

	blue collar pool	new collar pool	demand for new collar roles	supply demand gap ratio	workforce needed to reach 50:1	workforce expansion required (%)	% of talent who have already transitioned
Germany	749,186	163,884	31,216	5.3	1,396,920	90%	22%
France	554,065	51,449	7,915	6.5	344,312	87%	9%
Italy	364,754	58,922	8,417	7.0	361,948	86%	16%
Netherlands	345,489	43,683	7,148	6.1	313,720	88%	13%
Poland	336,183	47,881	9,194	5.2	411,824	90%	14%
Czechia	193,554	23,563	3,366	7.0	144,745	86%	12%
Spain	247,948	34,713	4,897	7.1	210,136	86%	14%
UK	588,112	85,696	14,098	6.1	619,198	88%	15%

Note.

The Supply–Demand Ratio represents the number of available worker profiles for each job posting. Lower ratios (e.g., 10:1 or 15:1) indicate a tighter talent market and greater hiring difficulty. The values presented in the blue columns are based on an illustrative 50:1 profiles per job posting benchmark, representing a healthy level of talent availability for scalable hiring while recognising that only a proportion of the available candidates will possess the specific skills and experience required for a given role. The Required Workforce Pool (50:1) estimates the size of the new collar workforce needed to achieve this benchmark, while the Workforce Expansion Required (%) indicates the percentage increase in the current estimated new collar workforce needed to meet the 50:1 benchmark. The 50:1 benchmark is an analytical planning assumption for workforce planning and scenario analysis rather than a workforce forecast or policy target and can be adjusted to align with SEGRO's hiring objectives, talent strategy and market conditions.

Manufacturing: Supply–Demand Gap for new collar Talent

Despite growing adoption of new collar manufacturing roles, the available talent pool remains insufficient across all eight markets. Germany has the largest new collar workforce (163,884 professionals), accounting for approximately one-third of the total talent pool across the analysed countries. It also records the highest hiring demand, with over 31,000 job postings. At the other end of the spectrum, France has the lowest new collar transition rate (9.3%), indicating a relatively smaller pipeline of digitally skilled manufacturing talent. UK faces a critical challenge in the Food & Beverage (F&B) manufacturing sector, where the current unfilled job rate is 5X higher than the broader manufacturing industry.

Across all markets, supply-to-demand ratios range from 5 to 7.1 workers per vacancy, meaning that for every open position, only around 5 potential candidates are available at the lower end.This highlights increasing competition among employers for suitably skilled talent and suggests that recruitment challenges are becoming more pronounced, regardless of overall market size.

Reaching the healthy benchmark of a minimum of 50 people per job position would require the new collar talent pool to grow by approximately 86–90% over its current size. highlighting that existing workforce transitions alone will not be sufficient to meet future demand. Germany alone will require approximately 1.4 million additional workers to close the talent gap and meet future demand, while other markets face shortages of at least 0.3 million workers each.

These findings highlight the need to accelerate the transition of workers from traditional manufacturing roles into new collar positions through targeted upskilling and reskilling programme. Additionally, cross-industry and cross-border hiring strategies will be critical levers to help address talent shortages and close the workforce gap.

source: The new collar workforce data has been identified by incorporating all iterations of new collar roles across 12 industries using company-registered data, census demographics and professional social platforms such as LinkedIn. The data is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends.
Demand data has been identified from a sample of over 400,000 job postings collected across industry-specific and country-specific job boards. The dataset is deduplicated to eliminate repeated listings and provide an accurate representation of hiring demand for new collar roles. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in retail.



European retail is moving from labour-intensive execution to technology-supervised operations, but the transition is creating hybrid jobs rather than purely technical IT jobs.

In 2025, 20% of EU enterprises used AI, up from 13.5% in 2024. Adoption is far higher among large firms (≈55%) than small ones (17%), concentrating new-collar retail roles in large retailers, fulfilment centres and digitally mature chains. Wholesale and retail AI adoption already varies widely 30.5% in the Netherlands, 25.5% in Germany, but only 8.9% in Poland showing role creation will be highly uneven across Europe.

The fastest-growing jobs will sit at the intersection of frontline retail knowledge and technology oversight.

Retailers still need workers skilled in receiving, picking, replenishment, stock discrepancies, customer behaviour and shrink, but those roles now also demand the ability to diagnose robots, maintain RFID data, resolve AI-generated exceptions and interpret computer-vision alerts. This shift supports emerging positions such as robotics technicians, RFID coordinators, store-technology support specialists and exception controllers, rather than converting frontline employees wholesale into software engineers.

The largest transition gap is not basic computer literacy alone, it is the absence of structured pathways that combine electromechanical, data and retail process capabilities.

Only around 60% of EU adults had at least basic digital skills in 2025, still 20 percentage points below the EU's 2030 target of 80%. At the same time, 57.5% of EU enterprises that attempted to recruit emerging technology specialists reported difficulty filling vacancies, rising to 72.41% in Germany and 70.47% in Czechia.

Retail employers are underinvesting in the workers who could make the transition.

Only 22.29% of EU enterprises provided emerging technologies' training to employees, including just 17.21% of small enterprises, compared with 72.62% of large enterprises. This creates a structural risk that technology adoption produces external hiring competition rather than internal mobility for warehouse, store and loss prevention workers.

source: : Eurostat Enterprise ICT & AI Usage Survey, BRC Cost of Crime & Automation Reports Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in retail.

The strategic opportunity is to create paid, stackable conversion pathways rather than expecting frontline workers to complete generic digital courses.

Retailers should establish pathways such as warehouse operative → automation operator → robotics technician, stock controller → RFID coordinator → inventory exception controller and loss prevention officer → digital shrink analyst. Without these bridges, the new jobs are likely to be filled by external technical talent while existing retail workers remain in declining task categories.



The limited availability of training programme that integrate retail equipment, live inventory data, AI-driven exception handling and asset protection poses a significant talent risk.

Without expanding these capabilities, organisations will need to increasingly depend on cross-industry hiring to fill critical skills gaps.

Across SEGRO's key European markets, the availability of talent for retail automation differs considerably.

- Germany has a large retail workforce and strong vocational training, but there are not enough workers with mechatronics and warehouse data skills.
- The Netherlands has high levels of digital adoption and online shopping but faces a shortage of automation technicians.
- The UK has advanced e-commerce and warehouse automation companies, although most training is provided by individual employers.
- France combines Europe's largest e-commerce market with significant investment in workforce training.
- Spain offers relevant robotics and digital maintenance qualifications, but skill availability varies across regions.
- Czechia has a strong manufacturing workforce supported by a large Industry 4.0 reskilling programme.
- Poland has a well-developed parcel-locker network and employer-funded training but continues to face automation and data skill gaps, especially among smaller businesses.
- Italy has a strong technical education system and hosts Amazon's European robotics innovation centre, although workforce skills and training opportunities differ widely across regions.

source: : Eurostat Enterprise ICT & AI Usage Survey, BRC Cost of Crime & Automation Reports Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

supply and demand gap - retail.

	blue collar pool	new collar pool	demand for new collar roles	supply demand gap ratio	workforce needed to reach 50:1	workforce expansion required (%)	% of talent who have already transitioned
Germany	793,500	18,800	41,689	0.5	2,065,664	99%	2.37%
France	542,693	4,146	2,057	2.0	98,694	96%	0.76%
Italy	238,631	1,480	1,527	1.0	74,882	98%	0.62%
Netherlands	129,289	1,505	646	2.3	30,817	95%	1.16%
Poland	226,158	9,092	81,824	0.1	4,082,107	100%	4.02%
Czechia	61,080	2,605	611	4.3	27,935	91%	4.26%
Spain	254,101	2,526	1,653	1.5	80,149	97%	0.99%
UK	1,202,003	12,421	21,135	0.6	1,044,340	99%	1.03%

Note.

The Supply–Demand Ratio represents the number of available worker profiles for each job posting. Lower ratios (e.g., 10:1 or 15:1) indicate a tighter talent market and greater hiring difficulty. The values presented in the blue columns are based on an illustrative 50:1 profiles per job posting benchmark, representing a healthy level of talent availability for scalable hiring while recognising that only a proportion of the available candidates will possess the specific skills and experience required for a given role. The Required Workforce Pool (50:1) estimates the size of the new collar workforce needed to achieve this benchmark, while the Workforce Expansion Required (%) indicates the percentage increase in the current estimated new collar workforce needed to meet the 50:1 benchmark. The 50:1 benchmark is an analytical planning assumption for workforce planning and scenario analysis rather than a workforce forecast or policy target and can be adjusted to align with SEGRO's hiring objectives, talent strategy and market conditions

Retail: Supply-Demand Gap for new collar Talent

The transition towards new collar roles in retail remains at an early stage across all eight markets, with the current new collar workforce representing only 2% of the identified retail workforce. While retail is rapidly adopting automation, digital inventory systems, RFID, AI-assisted operations and automated fulfilment technologies, the supply of workers with these emerging capabilities has not scaled at the same pace as market demand.

Poland represents the largest demand market for new collar retail talent, with 81,824 job postings, significantly exceeding all other analysed markets. Germany follows with 41,689 postings, while the United Kingdom records 21,135 postings. In terms of existing talent supply, Germany has the largest new collar workforce (18,800 workers), followed by the UK (12,421) and Poland (9,092), highlighting a significant mismatch between market demand and available talent.

The greatest supply constraints are observed in Poland, Germany and the UK. Poland has the most severe shortage, with only 0.1 available workers per vacancy, indicating that demand is significantly outpacing the current new collar talent pool. Germany and the UK also face substantial shortages, with supply-demand ratios of 0.5 and 0.6 respectively. These markets will require significant workforce expansion to support the adoption of automation, digital inventory systems and smart retail operations.

Across all markets, supply remains significantly below the benchmark of 50 qualified workers per vacancy. Achieving this benchmark would require expanding the new collar workforce by approximately 28,000 workers in Czechia to over 4 million workers in Poland, representing a 91% increase from current workforce levels.

Unlike sectors such as manufacturing or transportation, where technical roles have already begun scaling, retail is still experiencing a significant gap between traditional frontline roles and emerging technology-enabled positions. As retailers continue adopting automated fulfilment, smart inventory management, AI-enabled store operations and digital merchandising solutions, accelerating reskilling pathways for warehouse associates, inventory workers, store assistants, cashiers and other frontline employees will be critical to building the future retail workforce.

source: The new collar workforce data has been identified by incorporating all iterations of new collar roles across 12 industries using company-registered data, census demographics and professional social platforms such as LinkedIn. The data is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends.
Demand data has been identified from a sample of over 400,000 job postings collected across industry-specific and country-specific job boards. The dataset is deduplicated to eliminate repeated listings and provide an accurate representation of hiring demand for new collar roles. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in life sciences.

European life-sciences manufacturing is expanding, but its workforce is shifting from manual execution and retrospective testing to digitally controlled, continuously monitored production.

In 2025, Europe's research-based pharmaceutical industry employed ≈955,000 people and invested €60 billion in R&D in 2025. Transformation is reshaping production, maintenance, lab and quality roles: process operators use electronic batch records and automated recipes, maintenance technicians analyse equipment-health data, QC analysts work with LIMS and in-line measurements and validation technicians must ensure connected, configurable, AI-supported systems remain validated.

The most important new collar role will be the GMP Automation, Validation & Process Control Technician because every other digital manufacturing role depends on controlled, validated systems.

The EU GMP framework requires computerised applications used in GMP activities to be validated, equipment and processes to be qualified and changes to remain controlled throughout the system life cycle. This drives demand for technicians who combine industrial automation and pharmaceutical compliance: a PLC engineer may grasp control logic but not data integrity or deviation management, while a validation specialist may understand documentation yet lack skills to diagnose PLC, SCADA or process-control failures.

Bioprocess and advanced therapy manufacturing will create significant employment.

The European Commission highlights biomanufacturing's reliance on specialised equipment and multidisciplinary skills spanning life sciences, AI, big data, robotics, regulation and quality assurance. Advanced therapies add requirements in cell processing, viral vectors, chain-of-identity, cryogenic logistics and aseptic manufacturing not found in conventional production. The UK illustrates the capability gap: its cell and gene therapy workforce is projected to grow from 6,232 in 2023 to 10,161 by 2028, yet a 2025 foresight study found ≈32% of future digitalised and automated role capabilities are unsupported by current education provision.

Digital QC, LIMS and PAT roles provide one of the most accessible transitions for existinglaboratory analysts.

Process Analytical Technology (PAT) uses timely measurements of critical material and process attributes to understand and control production. It allows quality decisions to move closer to the process rather than depending entirely on end-product testing. QC analysts already understand sampling, specifications, analytical methods, deviations and out-of-specification investigations. The principal transition gaps arelaboratory informatics, data integrity, system configuration, multivariate analysis and the interpretation of continuous process signals.

source: :EFPIA Key Data, US Food and Drug Administration (FDA) Advanced Manufacturing/PAT Guidelines, UK Cell & Gene Therapy Catapult Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in life sciences.

Digital twins and predictive analytics have high value, but their workforce implications differ.

A pharmaceutical digital twin models processes, equipment, facilities, or production systems to simulate, predict and optimise performance. The FDA has recognised digital twins in its AI and advanced-manufacturing work, envisioning them as complements or replacements for static system descriptions. Predictive maintenance is narrower and more immediately scalable, using equipment condition, work-order history and process data to signal interventions.



Germany, Italy, France and the UK have the largest industrial bases in the selected group, while the Netherlands offers the strongest practical bioprocess training model. Spain is building scale through health-sector investment, whereas Czechia and Poland still need to convert strong scientific capability into a larger GMP manufacturing and technician base.

source: :EFPIA Key Data, US Food and Drug Administration (FDA) Advanced Manufacturing/PAT Guidelines, UK Cell & Gene Therapy Catapult Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

supply and demand gap - life sciences.

	blue collar pool	new collar pool	demand for new collar roles	supply demand gap ratio	workforce needed to reach 50:1	workforce expansion required (%)	% of talent who have already transitioned
Germany	80,273	12,084	11,903	1.0	583,058	98%	15.05%
France	54,439	3,743	1,919	2.0	92,206	96%	6.88%
Italy	28,478	2,468	494	5.0	22,213	90%	8.67%
Netherlands	11,194	1,281	390	3.3	18,244	93%	11.44%
Poland	9,851	1,204	389	3.1	18,251	94%	12.23%
Czechia	2,421	224	145	1.5	7,039	97%	9.27%
Spain	17,968	1,460	280	5.2	12,521	90%	8.13%
UK	31,675	3,935	326	12.1	12,382	76%	12.42%

Note.

The Supply–Demand Ratio represents the number of available worker profiles for each job posting. Lower ratios (e.g., 10:1 or 15:1) indicate a tighter talent market and greater hiring difficulty. The values presented in the blue columns are based on an illustrative 50:1 profiles per job posting benchmark, representing a healthy level of talent availability for scalable hiring while recognising that only a proportion of the available candidates will possess the specific skills and experience required for a given role. The Required Workforce Pool (50:1) estimates the size of the new collar workforce needed to achieve this benchmark, while the Workforce Expansion Required (%) indicates the percentage increase in the current estimated new collar workforce needed to meet the 50:1 benchmark. The 50:1 benchmark is an analytical planning assumption for workforce planning and scenario analysis rather than a workforce forecast or policy target and can be adjusted to align with SEGRO's hiring objectives, talent strategy and market conditions

life sciences: Limited blue collar Transition Pipeline Creates new collar Talent Constraints

The life sciences sector has already begun transitioning traditional blue collar roles into new collar positions. However, the overall transition pool remains limited. Across the analysed markets, the identified blue collar workforce is relatively small and only 11% of workers have transitioned into new collar roles, leaving a constrained pipeline of technicians, operators, mechanics, electricians and quality specialists available to support increasingly digital and automated manufacturing environments.

Germany has the largest available transition pool, with 12,084 new collar workers out of an 80,273-person blue collar workforce, representing a 15.05% transition rate. It also has the highest demand, with 11,903 new collar job postings, resulting in only 1.02 available workers per position. This highlights a significant supply challenge despite Germany having the most developed transition base.

The UK presents a comparatively stronger position, with 3,935 transitioned workers and the highest supply-demand ratio among the analysed markets at 12.06 workers per posting. While this remains below the 50:1 benchmark, the UK requires the lowest relative effort to close the gap, needing a 76% expansion of its current new collar pool. In contrast, most other markets such as Germany, France, Czechia, Poland and the Netherlands would require approximately 90%+ expansion to achieve the same benchmark.

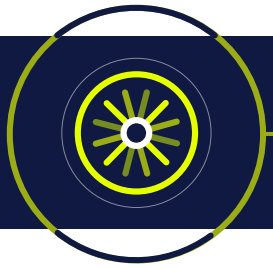
Across the remaining markets, the challenge is amplified by both limited workforce size and low transition penetration. Countries such as Czechia, Poland and the Netherlands have transitioned only a small absolute number of workers, meaning the available talent pool for advanced manufacturing, GMP automation, digital quality and predictive maintenance roles remains highly constrained.

To achieve a healthier supply environment of 50 qualified workers per vacancy, significant investment will be required in structured reskilling pathways. Expanding transition programme for pharmaceutical workers will be critical to building the workforce required for increasingly automated and data-driven life sciences manufacturing.

source: The new collar workforce data has been identified by incorporating all iterations of new collar roles across 12 industries using company-registered data, census demographics and professional social platforms such as LinkedIn. The data is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends.
Demand data has been identified from a sample of over 400,000 job postings collected across industry-specific and country-specific job boards. The dataset is deduplicated to eliminate repeated listings and provide an accurate representation of hiring demand for new collar roles. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in defence.



> defence investment is driving demand for technicians who can sustain software-defined, connected and sensor-intensive military systems, not just manufacture conventional equipment.

EU defence expenditure rose to €343 billion in 2024 up 19% from 2023 and is projected at ≈ €381 billion in 2025. Investment passed €100 billion for the first time, reaching €106 billion, while equipment procurement grew 39% to €88 billion. defence R&D rose 20% to €13 billion and R&T 27% to €5 billion. This profile is shifting workforce demand towards communications, radar, cyber, digital engineering, data-enabled maintenance and advanced materials.

> C4ISR and combat-systems technicians will be among the most strategically important new collar roles because modern defence platforms increasingly operate as connected "systems of systems".

NATO's Digital Backbone is intended to connect sensors, decision-makers and effectors across land, air, maritime, space and cyber domains. The European defence Agency is simultaneously advancing European Command and Control, satellite communications and geospatial information-sharing capabilities. This creates demand for technicians who combine radio-frequency electronics, secure IP networks, datalinks, radar, electronic warfare, systems integration and field maintenance.

> The fastest-growing security requirement is likely to be the convergence of cyber operations with physical platform and facility maintenance.

Military vehicles, ships, aircraft, radars, logistics facilities and weapons-support systems now embed software, controllers, sensors and networked maintenance interfaces. Future technicians must diagnose both physical faults and cyber issues such as compromised configurations, unauthorised access, insecure firmware or network disruption.

> Digital Twin and AI-enabled maintenance roles will expand as defence organisations seek greater equipment availability without proportionately increasing maintenance headcount.

The European Commission plans a trusted European defence Data Space by 2028 to support AI models, digital twins and predictive maintenance. The Netherlands has already examined a defence digital twin platform connected to predictive maintenance and scenario analysis tools, while Spain's connected-air-base programme is applying sensors, AI and data-driven maintenance to sustainment operations.

source: : European Defence Agency (EDA) Defence Data, NATO Digital Backbone & Defence Investment Reports, EU Defence Fund (EDF) Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in defence.

The blue collar-to-new collar transition is more difficult in defence than in conventional manufacturing.

Existing defence technicians in radar, avionics, electronics, aircraft, vehicle and ship maintenance bring valuable practical knowledge, but face added barriers: security clearance, classified/export-controlled information, NATO standards, airworthiness and weapons-safety obligations, restricted training data and long platform lifecycles. The European Commission's 2026 study confirms growing skills shortages, citing surveys of over 2,600 students and young professionals and 700 defence employees, which highlight limited recruitment visibility, weak cross-border mobility and perceived rigidity as major obstacles to entry and retention.



Despite the availability of skilled talent, security clearance requirements remain a major barrier to cross-industry and cross-border hiring.

- Germany: Strong mechatronics capability, but a shortage of workers with expertise in defence autonomy, GNSS-denied navigation, secure communications and electronic warfare. Most qualifications remain platform- and supplier-specific.
- The Netherlands: Strong in defence technology design and innovation, but has a limited pool of field maintenance technicians and faces competition for talent from semiconductor, maritime, aviation and logistics industries.
- UK: Strong research base and apprenticeship programme, but lacks a clear progression from operator to robotics integrator, autonomy specialist and field maintainer. Access to hands-on autonomous systems training remains limited.
- France: Broad defence ecosystem, but needs more technician-level talent with skills spanning robotics, AI, autonomy software, sensor fusion and military systems integration.
- Spain: Expanding investment in AI, autonomous systems and defence technologies, but vocational training and specialist capability remain uneven across regions.
- Czechia: Strong manufacturing workforce, but specialist expertise in autonomous systems, radar, electronic warfare, cybersecurity and predictive maintenance remains limited.
- Poland: defence expansion is outpacing the supply of autonomy integrators, secure software specialists, field maintenance technicians and trainers needed to sustain advanced platforms.
- Italy: Growing adoption of autonomous technologies, but clearer progression is needed from drone operators, vehicle technicians and avionics maintainers into robotics integration, autonomy diagnostics and defence mechatronics.

source: : European Defence Agency (EDA) Defence Data, NATO Digital Backbone & Defence Investment Reports, EU Defence Fund (EDF) Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

supply and demand gap - defence.

	blue collar pool	new collar pool	demand for new collar roles	supply demand gap ratio	workforce needed to reach 50:1	workforce expansion required (%)	% of talent who have already transitioned
Germany	68,461	4,884	5,705	0.9	280,371	98%	7.13%
France	160,525	7,187	3,692	1.9	177,417	96%	4.48%
Italy	69,224	3,721	3,461	1.1	169,339	98%	5.38%
Netherlands	40,942	2,096	789	2.7	37,366	95%	5.12%
Poland	19,647	938	919	1.0	45,011	98%	4.77%
Czechia	16,330	747	1,995	0.4	98,983	99%	4.57%
Spain	57,546	3,607	4,110	0.9	201,915	98%	6.27%
UK	171,453	15,558	8,401	1.9	404,502	96%	9.07%

Note.

The Supply–Demand Ratio represents the number of available worker profiles for each job posting. Lower ratios (e.g., 10:1 or 15:1) indicate a tighter talent market and greater hiring difficulty. The values presented in the blue columns are based on an illustrative 50:1 profiles per job posting benchmark, representing a healthy level of talent availability for scalable hiring while recognising that only a proportion of the available candidates will possess the specific skills and experience required for a given role. The Required Workforce Pool (50:1) estimates the size of the new collar workforce needed to achieve this benchmark, while the Workforce Expansion Required (%) indicates the percentage increase in the current estimated new collar workforce needed to meet the 50:1 benchmark. The 50:1 benchmark is an analytical planning assumption for workforce planning and scenario analysis rather than a workforce forecast or policy target and can be adjusted to align with SEGRO's hiring objectives, talent strategy and market conditions

defence: Demand for new collar Skills Is Outpacing Available Talent Pools

The defence sector is undergoing a significant workforce transition as traditional technical roles evolve into new collar positions supporting autonomous systems, advanced electronics, digital maintenance and cyber-physical defence technologies. However, the current transition pipeline remains limited, with only 5% of the identified defence blue collar workforce transitioning into new collar roles across analysed markets.

While the UK and Germany have developed relatively stronger transition pipelines, the available workforce remains insufficient to meet growing demand. The largest demand pressures are concentrated in the UK, Germany, Spain and Czechia, where demand for new collar defence skills is exceeding the available pool of transitioned workers.

Germany has 4,884 new collar workers against demand for 5,705 roles, resulting in a deficit of 821 workers and only 0.86 available workers per vacancy. Czechia faces the most severe imbalance, with 747 new collar workers supporting demand for 1,995 positions, resulting in only 0.37 workers per vacancy. Spain also faces a supply shortage, with 3,607 available workers compared with demand for 4,110 roles.

The UK represents the largest existing new collar talent pool, with 15,558 transitioned workers, supported by the highest transition rate across markets (9.07%). However, demand remains significant, with 8,401 open positions, meaning the current pool still provides only 1.85 workers per vacancy, well below the 50:1 benchmark required for a balanced talent market.

France, despite having the largest defence blue collar workforce base (160,525 workers), has transitioned only 7,187 workers (4.48%), highlighting a significant opportunity to expand the pipeline through structured reskilling.

Across all markets, achieving a healthier talent supply ratio of 50 workers per vacancy would require expanding new collar workforce pools by 95% in most countries, demonstrating that current transition efforts alone will not be sufficient to support future defence technology adoption.

source: The new collar workforce data has been identified by incorporating all iterations of new collar roles across 12 industries using company-registered data, census demographics and professional social platforms such as LinkedIn. The data is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends.
Demand data has been identified from a sample of over 400,000 job postings collected across industry-specific and country-specific job boards. The dataset is deduplicated to eliminate repeated listings and provide an accurate representation of hiring demand for new collar roles. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in transportation & logistics.

Europe's transportation transition is creating a new layer of technical and operational roles between drivers, warehouse workers, mechanics and traditional logistics managers.

Transport contributes ≈5% of EU GDP and employs 10+ million people, with 1.4 million enterprises in 2026. Yet the European labour Authority reports shortages in drivers, plant operators, warehousing and transport-support roles. The transition won't eliminate these jobs but is reshaping them: drivers will supervise automated systems, mechanics will handle high-voltage, fuel-cell and software-controlled vehicles, warehouse staff will manage robot fleets.

Autonomous road freight is progressing from research towards controlled deployment, but Europe is not yet moving to fully driverless transport at scale.

In June 2026, EU transport ministers backed a cross-border initiative for common approval principles, coordinated permitting and autonomous-vehicle deployments in freight, logistics and public transport. Projects in Germany, France and Spain are piloting hub-to-hub autonomous trucks and remote-operation systems. Near-term new-collar roles will not replace professional drivers but evolve into automation supervisors or operator-maintainers, responsible for multiple vehicles, defined operating areas, remote intervention, convoy coordination, inspections and incident recovery.

Electric and alternative-fuel fleet maintenance will generate the largest immediate technician transition.

Only 0.3% of the EU's 6.2 million trucks are electrically chargeable, with an average age of ≈14 years. Yet new registrations are rising: 4.2% of medium/heavy trucks in 2025 (up from 2.3% in 2024), 11.2% of vans and 23.8% of buses. The maintenance workforce must therefore support a mixed fleet of diesel, battery-electric, hybrid, hydrogen and alternative-fuel systems for years. This requires skills in high-voltage safety, power electronics, charging diagnostics, thermal management, battery health, fuel-cell systems, software updates and safe recovery of damaged vehicles.

Driver shortages will accelerate investment in autonomy and analytics, but technology alone will not remove the workforce problem.

The IRU's 2025 survey found ≈502,000 unfilled truck-driving jobs in Europe, a 13% shortage, with ≈20% of drivers set to retire within five years including ≈660,500 by 2030. Two-thirds of operators already report turning down contracts due to insufficient drivers. While automation can ease long-haul and repetitive work, it creates demand for remote operators, depot technicians, route-assurance specialists and fleet-control staff. Success depends on giving experienced drivers credible pathways into these roles, rather than treating them solely as costs to eliminate.

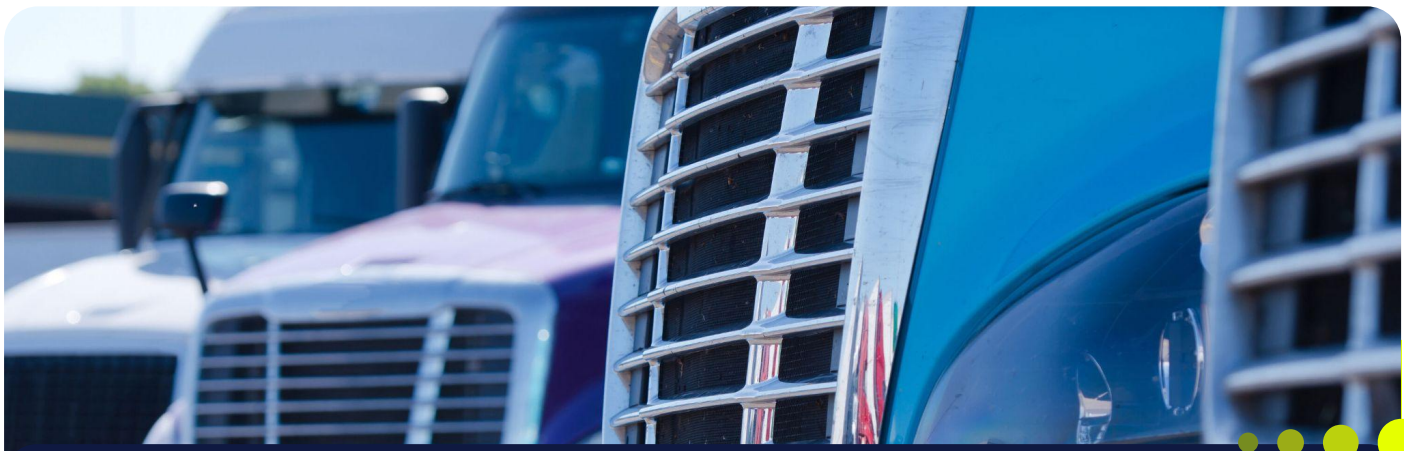
source: :ACEA Commercial Vehicle Registrations, IRU European Driver Shortage Report, European Environment Agency (EEA) Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in transportation & logistics.

Automated warehousing and telematics analytics provide the most accessible internal mobility pathways.

Warehouse staff already understand picking, loading, congestion, vehicle flows and exceptions, while dispatchers and fleet administrators know routes, delays, fuel use, driver availability and customer needs. These workers can more easily transition into AMR supervision and telematics analytics than drivers into advanced autonomous-system engineering. The main missing skills are data interpretation, WMS robot integration, incident management, route optimisation, energy analysis and cyber-secure handling of connected vehicle data.



The Netherlands currently has the strongest overall readiness, while Germany has the deepest technical base. Poland and Italy have large workforce opportunities but require more structured conversion pathways.

- The Netherlands is leading electric truck growth and synchromodal freight development.
- Germany has the strongest combination of vehicle technology, vocational training and combined transport.
- The UK has relatively clear apprenticeship and autonomous mobility programme, but its pathways remain fragmented.
- Spain and France have strong vocational foundations but uneven adoption outside major operators.
- Czechia is moving rapidly on autonomous mobility and rail digitalisation.
- Poland has a large road transport base but needs to connect major fleet investments to technician training.
- Italy has one of Europe's largest logistics workforces and a strong network of higher technical academies, but advanced transport skills remain unevenly distributed by region.

source: :ACEA Commercial Vehicle Registrations, IRU European Driver Shortage Report, European Environment Agency (EEA) Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

supply and demand gap - transportation & logistics.

	blue collar pool	new collar pool	demand for new collar roles	supply demand gap ratio	workforce needed to reach 50:1	workforce expansion required (%)	% of talent who have already transitioned
Germany	290,915	20,030	9,896	2.0	474,764	96%	6.89%
France	145,637	7,525	808	9.3	32,890	81%	5.17%
Italy	78,522	3,855	571	6.8	24,699	87%	4.91%
Netherlands	136,390	12,184	1,819	6.7	78,742	87%	8.93%
Poland	62,747	3,073	512	6.0	22,538	88%	4.90%
Czechia	34,366	1,403	219	6.4	9,532	87%	4.08%
Spain	57,304	2,374	246	9.7	9,905	81%	4.14%
UK	156,828	10,148	3,500	2.9	164,854	94%	6.47%

Note.

The Supply–Demand Ratio represents the number of available worker profiles for each job posting. Lower ratios (e.g., 10:1 or 15:1) indicate a tighter talent market and greater hiring difficulty. The values presented in the blue columns are based on an illustrative 50:1 profiles per job posting benchmark, representing a healthy level of talent availability for scalable hiring while recognising that only a proportion of the available candidates will possess the specific skills and experience required for a given role. The Required Workforce Pool (50:1) estimates the size of the new collar workforce needed to achieve this benchmark, while the Workforce Expansion Required (%) indicates the percentage increase in the current estimated new collar workforce needed to meet the 50:1 benchmark. The 50:1 benchmark is an analytical planning assumption for workforce planning and scenario analysis rather than a workforce forecast or policy target and can be adjusted to align with SEGRO's hiring objectives, talent strategy and market conditions

Transport & Logistics: Early Transition Progress, but Limited Scale to Support Digital Transformation

The transport and logistics sector has started transitioning traditional operational roles into new collar positions, including autonomous vehicle operators, fleet technology specialists, electric vehicle maintenance technicians, warehouse automation technicians and logistics data coordinators. However, the overall transition remains limited, with only 6% of the identified transport workforce moving into new collar roles across analysed markets.

Unlike some sectors where demand is already creating severe shortages, transport and logistics currently has a relatively larger available talent pool compared with immediate demand. However, the challenge lies in scaling this pipeline fast enough to support the shift towards electrification, automation, connected fleets and smart logistics operations.

Germany has the largest new collar transport workforce, with 20,030 workers, followed by the Netherlands (12,184) and the UK (10,148). Germany also has the highest demand, with 9,896 new collar job postings, creating the tightest labour market among major transport economies with only 2.02 workers available per vacancy. The UK follows with 3,500 postings and a supply-demand ratio of 2.90.

The strongest transition momentum is observed in the Netherlands, where 8.93% of the identified workforce has already moved into new collar roles, followed by Germany (6.89%) and the UK (6.47%). However, even these leading markets have significant room for expansion, with current new collar workers representing less than 10% of the available workforce pool.

Germany would require expanding its new collar workforce pool to approximately 475,000 workers to achieve the 50:1 benchmark, while the UK would require approximately 165,000 workers. Other markets have stronger short-term supply positions, with France and Spain reaching ratios above 9 workers per vacancy, but still remain significantly below the benchmark level.

source: The new collar workforce data has been identified by incorporating all iterations of new collar roles across 12 industries using company-registered data, census demographics and professional social platforms such as LinkedIn. The data is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends.
Demand data has been identified from a sample of over 400,000 job postings collected across industry-specific and country-specific job boards. The dataset is deduplicated to eliminate repeated listings and provide an accurate representation of hiring demand for new collar roles. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in construction.

labour shortages are accelerating construction technology adoption, but the most immediate outcome will be occupational redesign rather than widespread replacement of trades.

Construction made up 8.6% of EU employment and 12.1% of enterprises in 2025, but remains fragmented and reliant on craft and medium-skilled roles. The European labour Authority's 2025 report flagged 2,617 shortages across trades and machine operators, driven by ageing, skills mismatches and limited mobility. This creates a strong case for technologies that cut manual measurement, repetitive handling, rework and site risks. Yet robots, drones and BIM still depend on tradespeople who understand sequencing, tolerances, access, safety and constructability.

BIM Field Technicians and Reality Capture Technicians are likely to scale faster than fully autonomous construction robotics.

BIM and reality capture can be added to projects without redesigning construction methods and public-sector BIM requirements are expanding: Spain has a progressive BIM plan, Czechia mandates BIM for public projects above CZK 135 million (€5.4m) from 2027 and Italy requires digital information-management on qualifying works above €2m from January 2025. By contrast, construction robotics is advancing through targeted use cases such as drilling, layout, shotcrete, inspection, façade work, line marking, hazardous-material removal.

industrialised and modular construction creates the strongest bridge from traditional construction into manufacturing-style occupations.

Offsite construction shifts work into controlled factory or assembly settings. Trades such as carpenters, steel fixers, electricians, plumbers and dryliners retain practical knowledge but must add skills in production planning, digital instructions, quality gates, DfMA, tolerance management and logistics coordination. The European Construction Sector Observatory estimates 3-4 million workers need energy-efficiency upskilling, highlighting standardisation, industrialisation, BIM, lean production and DfMA as key drivers. New initiatives like BuildOffsiteEU are creating modular vocational pathways for industrialised construction.

Drone and scanning roles offer a relatively accessible transition, but surveying competence is more important than basic drone operation.

Europe has 1.6 million registered drone operators under a common EU framework, lowering entry barriers. But construction employers need more than licensed pilots, they require technicians skilled in survey planning, control points, coordinate systems, LiDAR/photogrammetry data, accuracy checks and BIM comparisons.

source: :European Labour Authority (ELA) Shortages Report, EU BIM Task Group Handbook, EASA (European Union Aviation Safety Agency) Drone Regulations Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in construction.

Smart Building Automation & Microgrid Integrators will face one of the strongest policy-driven demand increases.

Energy Performance of Buildings Directive requires automation and control systems in non-residential buildings above 290 kW capacity, falling to 70 kW by end-2029, with interoperability across different manufacturers. Policy also expands renewables, storage, smart EV charging, demand response and energy communities, with the Smart Readiness Indicator assessing nine domains and over 8,000 active energy communities recognised. This demands technicians skilled in electrical work, HVAC controls, networks, energy systems and commissioning, a step beyond conventional electricians or installers.



- Germany has the strongest technical-trade and building engineering foundation.
- The Netherlands has the most coordinated digital construction data ecosystem.
- The UK has strong BIM experience and substantial construction workforce demand but fragmented skills routes.
- Spain, Italy and Czechia are creating demand through formal BIM procurement requirements.
- France is combining BIM, offsite construction and building-automation policy.
- Poland has significant construction and engineering capacity but a less mature nationwide BIM mandate and wider gaps between large contractors and SMEs.

source: :European Labour Authority (ELA) Shortages Report, EU BIM Task Group Handbook, EASA (European Union Aviation Safety Agency) Drone Regulations Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in data centre.

Europe's data centre construction pipeline is expanding faster than the available mission-critical workforce.

The European Data centre Association estimates €100 billion investment could support 80,000+ jobs by 2030, with Europe adding a record 937 MW capacity in 2025 up 43% from 2024 led by Frankfurt, London, Amsterdam, Paris and Dublin, while Milan and Madrid surpass 100 MW. Expansion is reinforced by AI infrastructure, with the IEA projecting global data-centre electricity use to nearly double to 945 TWh by 2030, growing ≈15% annually. This drives demand for high-voltage systems, denser cooling, factory-built power modules and complex integrated commissioning.

The largest workforce constraint is not the availability of general electricians or mechanical trades. It is the shortage of people with mission-critical systems competence.

The Uptime Institute's 2025 survey found 46% of operators struggled to hire and 37% to retain staff, with electrical, mechanical and junior-to-mid-level gaps all above 30%. Rising demand from dense AI facilities adds further pressure. Conventional electricians may know cables, protection and switchgear but not UPS topologies, generator paralleling or mission-critical switching. HVAC technicians may understand chilled-water systems but not direct-to-chip cooling, coolant distribution, water chemistry or the risks of thermal interruption in high-density IT.

AI infrastructure is creating a two-speed data centre market.

Most facilities still run at <30 kW rack densities in 2025, but new AI halls require far higher-density power and thermal systems. Europe must therefore maintain air-cooled sites while building a workforce for hybrid air-and-liquid environments. CIBSE highlights cooling as a key AI-driven design change, while ASHRAE expands guidance on high-density and liquid-cooled systems. This creates a new specialist pathway in direct-to-chip cooling, rear-door exchangers, coolant distribution, flow balancing, leak detection and coolant-quality management.

Prefabrication and modular construction are changing where data centre work occurs.

Data-centre components such as electrical rooms, power skids, cooling modules and full hall blocks are increasingly factory-built, tested and then transported to site. Modular construction shortens programme and improves repeatability but requires coordinators who understand both manufacturing control and site integration. The role goes beyond supervision, covering BIM coordination, factory acceptance testing, interface control, transport and lifting, site connections, configuration management and re-testing after installation.

source: : European Data Centre Association (EUDCA), IEA World Energy Outlook, Uptime Institute Global Data centre Survey, ASHRAE & CIBSE Thermal Guidelines
Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

market trends in data centre.

Smart Building Automation & Microgrid Integrators will face one of the strongest policy-driven demand increases.

Energy Performance of Buildings Directive requires automation and control systems in non-residential buildings above 290 kW capacity, falling to 70 kW by end-2029, with interoperability across different manufacturers. Policy also expands renewables, storage, smart EV charging, demand response and energy communities, with the Smart Readiness Indicator assessing nine domains and over 8,000 active energy communities recognised. This demands technicians skilled in electrical work, HVAC controls, networks, energy systems and commissioning, a step beyond conventional electricians or installers.

White Space technicians are becoming multidisciplinary integration specialists.

The white-space role is expanding beyond rack installation to cover rack alignment, busway connections, overhead containment, fibre and cabling pathways, airflow and blanking, liquid-cooling manifolds, leak detection, environmental sensing, asset/capacity data and integrated systems testing. It now requires controlled integration of IT, power, mechanical, network and monitoring infrastructure.



Germany and the Netherlands have the strongest established ecosystems, while Italy and Spain are growing rapidly from smaller bases.

- Germany already hosts 2,000+ data centres with 2,700 MW IT load, aiming to double capacity by 2030 and quadruple HPC/AI.
- The Netherlands has a mature market with strong industry-education ties, though grid congestion and planning limits growth.
- Italy is among the fastest-growing, with 42 GW power-connection requests by March 2025 and ≈€10 billion investment in 2025-26.
- Spain is emerging as a growing southern European market for hyperscale and subsea-connected data centres, centered on Madrid and Aragón.

source: : European Data Centre Association (EUDCA), IEA World Energy Outlook, Uptime Institute Global Data centre Survey, ASHRAE & CIBSE Thermal Guidelines
Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

supply and demand gap - construction.

	blue collar pool	new collar pool	demand for new collar roles	supply demand gap ratio	workforce needed to reach 50:1	workforce expansion required (%)	% of talent who have already transitioned
Germany	122,650	25,176	6,659	3.8	307,755	92%	20.5%
France	384,362	41,868	80,908	0.5	4,003,542	99%	10.9%
Italy	80,072	14,871	1,364	10.9	53,305	78%	18.6%
Netherlands	102,381	18,770	2,341	8.0	98,286	84%	18.3%
Poland	55,963	6,813	1,647	4.1	75,550	92%	12.2%
Czechia	34,867	3,522	634	5.6	28,175	89%	10.1%
Spain	123,133	20,857	5,026	4.2	230,435	92%	16.9%
UK	230,858	23,649	7,798	3.0	366,276	94%	10.2%

Note.

The Supply–Demand Ratio represents the number of available worker profiles for each job posting. Lower ratios (e.g., 10:1 or 15:1) indicate a tighter talent market and greater hiring difficulty. The values presented in the blue columns are based on an illustrative 50:1 profiles per job posting benchmark, representing a healthy level of talent availability for scalable hiring while recognising that only a proportion of the available candidates will possess the specific skills and experience required for a given role. The Required Workforce Pool (50:1) estimates the size of the new collar workforce needed to achieve this benchmark, while the Workforce Expansion Required (%) indicates the percentage increase in the current estimated new collar workforce needed to meet the 50:1 benchmark. The 50:1 benchmark is an analytical planning assumption for workforce planning and scenario analysis rather than a workforce forecast or policy target and can be adjusted to align with SEGRO's hiring objectives, talent strategy and market conditions

Construction: Stronger Transition Progress, but Demand Pressure Is Creating Workforce Gaps

The construction sector shows one of the strongest early movements towards new collar roles among the analysed industries, with several markets already transitioning a significant share of traditional construction workers into digitally enabled roles. These roles include BIM field technicians, construction robotics technicians, digital survey specialists, modular construction technicians and smart building automation technicians.

Across analysed markets, the transition rate ranges from 10% to 21%, significantly higher than many other industries. Germany has the highest transition rate, with 20.53% of its identified construction workforce already moving into new collar roles, followed by Italy (18.57%), the Netherlands (18.33%) and Spain (16.94%).

However, the availability of these skills is not evenly distributed against market demand. France represents the largest demand pressure point, with 80,908 new collar job postings compared with only 41,868 available workers, resulting in a severe supply shortage of just 0.52 workers per vacancy. This makes France the most difficult market to fill despite having the largest construction workforce base.

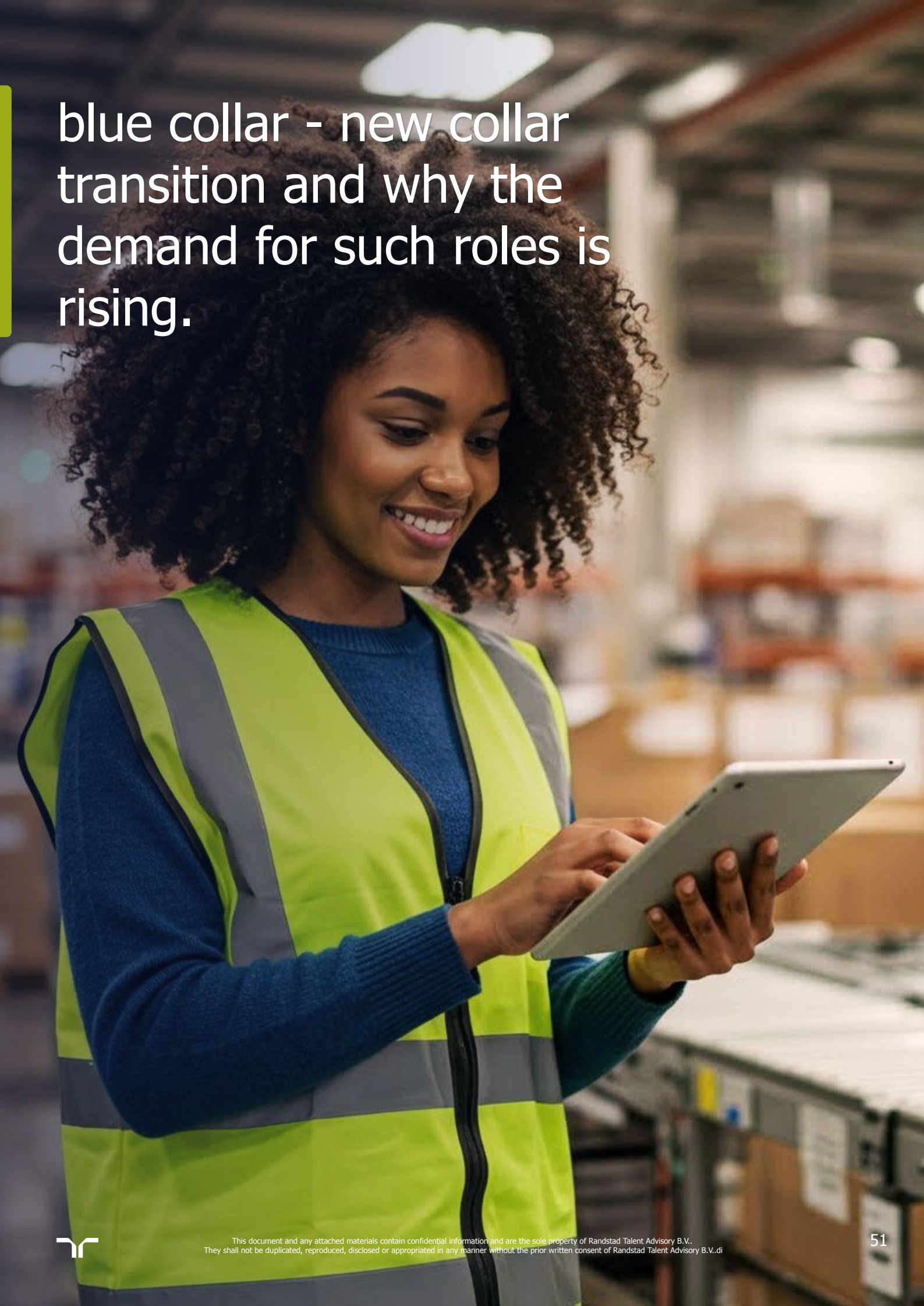
Germany and the UK also face significant workforce constraints. Germany has the largest transitioned talent pool after France (25,176 workers) but still provides only 3.78 workers per vacancy, while the UK has 23,649 new collar workers against 7,798 postings, resulting in a ratio of 3.03 workers per vacancy.

Markets such as Italy and the Netherlands currently have stronger relative supply positions, with 10.91 and 8.02 workers per vacancy respectively, but their overall pools remain small compared with future demand requirements. Achieving the 50:1 benchmark would still require expanding their new collar workforce pools by 78-84%.

source: The new collar workforce data has been identified by incorporating all iterations of new collar roles across 12 industries using company-registered data, census demographics and professional social platforms such as LinkedIn. The data is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends.
Demand data has been identified from a sample of over 400,000 job postings collected across industry-specific and country-specific job boards. The dataset is deduplicated to eliminate repeated listings and provide an accurate representation of hiring demand for new collar roles. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar - new collar transition and why the demand for such roles is rising.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar roles transition:

manufacturing.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in manufacturing?

Cobot & Robot Cell Operators

Cobots are particularly attractive to SMEs and high-mix, lower-volume plants because they can be redeployed more easily than traditional fixed automation. Global cobot installations represented approximately 10.5% of industrial robot installations in 2026, while European manufacturers continue investing in robotic handling, welding, assembly, machine tending and packaging. Germany remains Europe's largest robot market in 2026, installing 26,982 units, while Spain installed approximately 5,100 units, becoming the third-largest European robot market.

Mechatronics & Automation Technicians

CECIMO found that 85.7% of manufacturers view automation and mechatronics technicians as critical, with automation-control systems (63.6%) and robotics skills (60.6%) prioritised. UK standards reflect this hybrid demand: the Mechatronics Maintenance Technician role spans mechanical, electrical, electronic, control, fluid-power, PLC and robotics, while the Automation and Controls Engineering Technician covers installation, maintenance, fault-finding and optimisation. This is the most strategically important role in advanced manufacturing, yet also one of the hardest to fill, since it requires sustained work-based training rather than short digital courses.

Additive Manufacturing Specialists

Additive manufacturing remains niche: only 5.7% of employers in the CECIMO survey identified it as a critical priority, though 42.4% prioritised CAD/CAM and 27.3% 3D modelling, simulation and CNC programming, showing additive skills are often embedded in design, tooling and production roles rather than standalone teams. Demand will be strongest in aerospace, defence, medical technology, automotive, advanced machinery and specialised contract manufacturing, with transitions smaller in volume than cobot or mechatronics roles but offering significant skill and wage progression.

Predictive Maintenance, Industrial IoT & Analytics Specialists

In 2021, 29% of EU enterprises used IoT, with 24% of users applying sensors for condition-based maintenance. Adoption was higher in large firms (48%) than small firms (26%). More recent evidence shows 45.5% of advanced-manufacturing employers prioritised IoT and sensor integration, while 36.4% prioritised data analytics and visualisation. Predictive maintenance will augment rather than replace work, with the scarce capability being the ability to translate machine-data anomalies into credible failure hypotheses and maintenance decisions.

source: : IFR World Robotics, Bundesagentur für Arbeit (German Federal Employment Agency), Renault Industrial Reskilling / Battery School Ecosystem, Czech Ministry of Industry and Trade Automotive Production Statistics Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

manufacturing industry transition.

Following the previous section discussion on the growing demand for "new collar" roles, this section highlights the workforce transition needed to support these emerging capabilities. It outlines the percentage of employees across SEGRO markets who have developed future-ready skills through upskilling and reskilling pathways. Industry 4.0 adoption is transforming traditional manufacturing roles, enabling transitions into technology-driven positions such as cobot and robot cell operators, predictive maintenance specialists, additive manufacturing specialists and Industrial IoT technicians. These shifts build on existing workforce expertise while preparing employees for smart manufacturing environments.

blue collar role		new collar role
Assembly Line Operator/Production Operator/ Machine Operator/ Press Operator/ Packaging Operator	8% shift	Cobot & Robot Cell Operators
Maintenance Mechanic/ Industrial Electrician/ Machine Repair Worker/ Fitter/ Mechanical Maintenance Worker/ Maintenance Helper	2% shift	Mechatronics & Automation Technicians
Machine Operator/ Tool & Die Maker/ Pattern Maker/ Prototype Shop Operator/ Fabrication Worker	22% shift	Additive Manufacturing Specialists
Maintenance Mechanic/ Lubrication Technician/ Maintenance Fitter/ Machine Repair Worker/ Equipment Maintenance Worker	20% shift	Predictive Maintenance & Analytics
Control Panel Electrician/ Industrial Electrician/ Instrumentation Mechanic/ Control Room Operator/ Electrical Maintenance Worker	13% shift	Industrial IoT & Connected Facility Technicians

Approximately 20% of the workforce has already transitioned to predictive and smart manufacturing skill sets. There is a growing demand for cobot and robot operators, requiring technicians to collaborate directly with robotic systems.

Germany remains the optimal location for automation and robotics, boasting the highest density of robot installations in Europe at 449 per 10,000 employees, followed by the Netherlands with 293. Meanwhile, emerging markets warrant attention. Czechia, in particular, is projected to hold the highest share of manufacturing employment in the EU (25%) by 2035.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

advanced manufacturing industries transition.

The rise of smart manufacturing and automation is reshaping workforce requirements across advanced manufacturing industries. As factories adopt robotics, cyber-physical systems, advanced CNC technologies and data-driven production methods, traditional roles are evolving into digitally enabled positions. This shift requires a workforce equipped with advanced technical skills, combining manufacturing expertise with automation, data and digital capabilities to support more automated and digitally controlled production environments.

blue collar role		new collar role
Assembly Line Operator/ Machine Operator/ Welding Operator/ Production Operator/ Manufacturing Technician	3% shift	Advanced Robotics & Cobot Coordinators
Maintenance Mechanic/ Industrial Electrician/ Fitter/ Assembly Technician/ Machine Repair Worker/ Production Technician	30% shift	Mechatronics & Cyber-Physical Assembly Technicians
Industrial Electrician/ Instrumentation Technician/ Control Panel Technician/ Electrical Maintenance Worker/ Maintenance Mechanic	21% shift	Industrial Controls & Automation Specialists
Operator/ Setter/ Machinist/ Lathe Operator/ Milling Machine Operator/ Press Brake Operator/ Conventional Machinist	29% shift	Advanced CNC & Hybrid Machining Technicians
Production Operator/ Quality Inspector/ Process Operator/ Manufacturing Technician/ Production Recorder	49% shift	Smart Factory Data, Quality Automation & Metrology Specialist

Currently, 26% of blue collar workers have transitioned into these roles. Transformation is most prominent among Smart Factory Data and Quality Automation specialists (49%), Mechatronics and Cyber-Physical Assembly technicians (30%) and Advanced CNC and Hybrid Machining technicians (29%).

To accelerate the adoption of next-generation manufacturing technologies, countries with mature advanced manufacturing ecosystems must invest in targeted upskilling and training initiatives to address these evolving talent gaps. Germany and the Netherlands are emerging as key hubs for robotics-related roles, while Sweden and Switzerland present significant opportunities for cross-hiring strategies to help alleviate ongoing workforce shortage.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

automotive manufacturing industries transition.

Battery-electric cars represented 17.4% of new EU car registrations in 2025. Their share reached 20.7% during the first half of 2026, indicating that electric vehicle manufacturing capability will become progressively more important even though demand continues to vary by country and manufacturer.

blue collar role		new collar role
Battery Assembly Operator/ Automotive Assembly Operator/ Production Operator/ Electrical Assembler/ Cell Assembly Worker/ Packaging Operator	6% shift	EV Battery Manufacturing & Circular Recovery Technician
Assembly Line Operator/ Production Operator/ Machine Operator/ Manufacturing Technician	18% shift	Advanced Automation & Robot programming
Welder/ Spot Welder/ MIG/TIG Welder/ Body Shop Operator/ Assembly Operator/ Press Shop Operator	5% shift	Robotic Welding & Body-in-White (BIW) Operators
Maintenance Mechanic/ Industrial Electrician/ Instrumentation Technician/ Fitter/ Machine Repair Worker/ Electrical Maintenance Technician	35% shift	Automotive Controls & Mechatronics Technicians
Quality Inspector/ QC Technician/ Production Inspector/ Test Technician/ End-of-Line Tester	13% shift	AI Vision Quality Control & Traceability Specialists

Currently, 16% of blue collar workers have successfully transitioned into these roles. The most significant demand for transition exists among Automotive Controls & Mechatronics Technicians (35%), driven by the increasing necessity for expertise in automation, predictive maintenance and EV production systems. Strategic upskilling will be vital to facilitating the shift towards next-generation automotive factories and electric vehicle production.

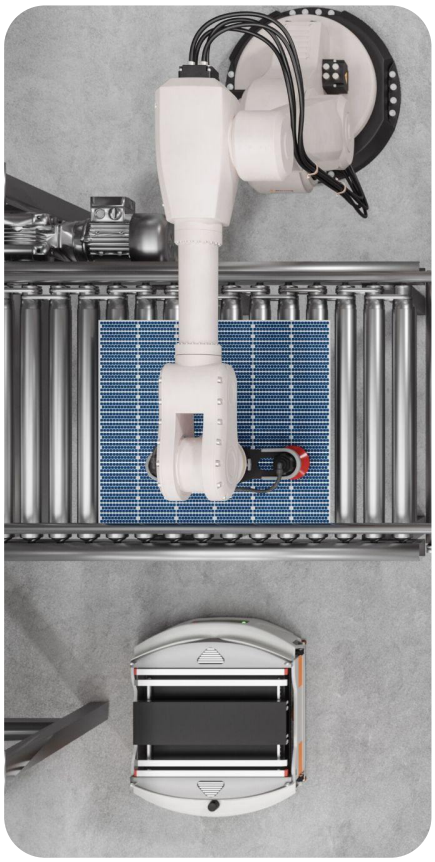
Regarding robotic capabilities, Germany reports an automotive robot density of approximately 1,492 units per 10,000 factory workers, ranking as the 6th largest market in Europe. Notably, none of the target SEGRO markets currently appear in the top 10 of the robotic skill index. Consequently, Switzerland, Slovenia, Austria and Finland should be considered as alternative locations for recruitment.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

automotive manufacturing industries.

Extensive battery and electrification initiatives are being developed across France, Italy, Spain and the UK. Conversely, Poland and Czechia face significant transition exposure, as their industrial economies rely heavily on the automotive sector making these markets ideal for hiring EV talent.



Across Europe, nations are proactively developing specialised local talent markets to support the automotive and electromobility sectors:

- France: Establishing a networked battery school alongside Renault's industrial reskilling ecosystem.
- Spain: Integrating significant electric-vehicle investment with the rollout of nationally recognised qualifications in EV technology and collaborative robotics.
- The UK: Launching level 2-5 battery training programmes, bolstered by investments via the DRIVE35 initiative.
- Czechia: Demonstrating strong industrial growth, with 2025 production exceeding 1.44 million vehicles and an 89% surge in electrified vehicle output.
- Poland: Implementing new automotive skills centres and introducing the electromobility technician occupation.
- Italy: Capitalising on its expansive automotive workforce by combining mechatronics education with a specialised Battery Technology centre and a new circular economy hub.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

food & beverages manufacturing industries transition.

blue collar role		new collar role
Food Production Operator/ Process Operator/ Fermentation Operator/ Brewery Operator/ Dairy Processing Operator/ Mixing Operator/ Batch Operator/ Machine Operator	12% shift	Digital Process & Fermentation Operators
Quality Inspector/ Food Safety Inspector/ QA Technician/ Production Quality Checker/ Hygiene Inspector	25% shift	Food Safety & Traceability Digital Analysts
Packaging Operator/ Filling Machine Operator/ Packing Worker/ Palletizer Operator/ Warehouse Worker/ Material Handler/ Production Line Operator	4% shift	Packaging Automation, Robotic palletising & Material Flow Technician
Maintenance Mechanic/ Food Plant Maintenance Worker/ Industrial Electrician/ Mechanical Fitter/ Machine Repair Technician/ Equipment Operator	16% shift	Food Industry Mechatronics & Automation Technicians
Sanitation Worker/ Hygiene Operator/ Cleaning Technician/ Filling Line Operator/ Food Processing Operator/ Production Operator	8% shift	Automated Sanitation & CIP Technician

Addressing labour market challenges requires a dual approach: managing replacement demand and upgrading workforce capabilities.

While the food and beverage manufacturing sector is projected to maintain a stable workforce of approximately 600,000 machine operators across the EU through 2035. However the nature and demand of these roles is evolving. The integration of automation, connected machinery and digital process technologies is driving an increasing demand for digitally proficient operators. Given the constraints on labour pool growth, the key to closing the emerging skills gap and successfully transitioning to smart manufacturing lies in targeted upskilling programmes that prepare the existing workforce for automation-enabled roles.

13% of the blue collar workforce across SEGRO markets has successfully transitioned to these roles. The highest transition requirement is seen in Food Safety & Traceability Digital Analysts (25%), driven by increasing demand for real-time quality monitoring, regulatory compliance and data-driven food safety management. Germany holds Europe's largest food manufacturing workforce, making it an ideal market to scale.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar roles transition:

retail.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in retail?

Warehouse Robotics & Sorter Technicians

Strong growth in distribution centres, fulfilment operations and retail logistics is driving deployment of autonomous mobile robots, AS/RS, robotic picking, conveyor sortation, machine-vision scanning and automated packaging. These systems shift demand from manual handling to uptime, fault diagnosis and preventive maintenance. The emerging technician must handle sensor, motor, conveyor and robotic-arm faults, work with PLCs, HMIs and maintenance systems, interpret WMS/WCS alerts, perform first-line electrical, mechanical and network troubleshooting, escalate complex faults and conduct preventive maintenance without disrupting throughput. These roles will grow faster than conventional warehouse-operator jobs, but at smaller volumes, since one technician can support multiple machines creating higher-skilled positions without one-for-one replacement.

AI-Assisted Store Operations & Support Specialists

Retail stores are becoming distributed tech environments with self-checkout, shelf labels, handheld devices, digital signage, task apps, cameras and AI scheduling. Supervisors often lack the skills to manage failures, creating demand for AI-assisted operations specialists who bridge store teams and IT by resolving checkout/device issues, validating AI alerts, coordinating with vendors, guiding staff and maintaining override processes. The role is growing as EU enterprise AI use rose from 13.5% in 2024 to 20% in 2025, concentrated in large retailers (≈55% adoption).

Predictive Analytics & Exception Controllers

Supply-chain work is shifting from manual planning to supervising AI decisions. Systems forecast sales, set stock, recommend orders and flag risks, but humans remain vital for local events, promotions, weather, supplier failures and data errors. Exception controllers review alerts, decide on recommendations, fix data issues, coordinate teams and translate analytics into action. The role scales quickly since routine tasks can be automated while humans handle complex cases. Broader trends show 39% of skills will change by 2030, with employers citing gaps in AI, big data, cybersecurity, tech literacy and analytical thinking.

Digital Asset Protection & Shrink Analysts

Loss prevention is converging with data analytics, computer vision, payments risk and cyber-fraud investigation. Traditional surveillance is giving way to systems that analyse POS transactions, refunds, loyalty data, inventory discrepancies, self-checkout activity and vision alerts. Digital shrink analysts now review suspicious patterns, link losses to products or sites, validate alerts, distinguish theft from errors, monitor bias, preserve evidence and coordinate with operations, legal, privacy, cybersecurity and law enforcement. Retailers are expanding video analytics, RFID, EAS and transaction monitoring, though outcomes vary and must be balanced against privacy and false-positive risks. The role is not "more surveillance" but ensuring alerts are valid, evidence preserved and technology used lawfully.

source: : BRC Crime and Automation Survey, EU AI Act (Article 4 AI Literacy Directives), World Economic Forum (WEF) Future of Jobs Report, EU Waste Framework Directive (Food Waste Reduction Targets Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in retail?

AI-assisted fresh-stock roles

The revised EU waste framework sets a binding 30% per-capita food-waste reduction by 2030 across retail, food services and households. Unsold food already costs retailers about 1.8% of revenue through handling, markdowns and disposal. This strengthens the case for AI-supported forecasting, expiry detection, markdowns and waste analytics, though employees must still judge whether food is safe, saleable, suitable for donation or should be removed.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

retail industries transition.

The retail industry is rapidly adopting automation, AI, robotics and data-driven inventory management to improve operational efficiency and customer experience. While demand for warehouse and store operations remains strong, the nature of retail work is evolving as businesses invest in automated fulfilment, RFID-enabled inventory tracking, AI-assisted store operations and predictive analytics. As a result, traditional retail roles are increasingly transitioning towards technology-enabled positions that combine operational expertise with digital, automation and data capabilities.

blue collar role		new collar role
Warehouse Associate/ Warehouse Worker/ Picker/ Packer/ Material Handler/ Sortation Operator/ Forklift Operator/ Warehouse Maintenance Worker	6% shift	Warehouse Robotics & Sorter Technicians
Stock Clerk/ Inventory Clerk/ Storekeeper/ Shelf Stocker/ Receiving Clerk/ Inventory Counter	9% shift	Smart Inventory & RFID Coordinators
Sales Associate/ Retail Salesperson/ Customer Service Associate/ Cashier/ Floor Associate/ Store Assistant	1% shift	AI-Assisted Store Operations & Support Specialists
Inventory Control Clerk/ Pricing Clerk/ Replenishment Associate/ Stock Controller/ Operations Assistant	7% shift	Predictive Analytics & Exception Controllers
Loss Prevention Associate/ Security Guard/ Store Detective/ Inventory Auditor/ Stock Control Associate	2% shift	Digital Asset Protection & Shrink Analysts

Among the six industries analysed, the retail sector shows the lowest transition to new collar roles at just 5% for the overall market, signaling slow market adoption and challenges in securing a skilled talent pool.

The highest transition rates are observed for Smart Inventory & RFID Coordinators (9%) and Predictive Analytics & Exception Controllers (7%), reflecting the growing importance of real-time inventory visibility, data-driven replenishment and automated decision-making.

A key reason for the limited talent pool is the data literacy gap, driven by insufficient upskilling initiatives from both organisations and governments. A perception gap further widens the challenge: while management prioritises advanced technical skills, frontline workers focus on basic operational and socioemotional capabilities. This misalignment limits the development of critical thinking and decision-making skills needed for new collar roles. As a result, around 25% of retail employees report that existing digital upskilling materials are outdated or lack practical relevance.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

online retail industries transition.

Europe's logistics automation market is projected to grow from USD 18.7 billion in 2024 to USD 52.6 billion by 2034 (10.9% CAGR), with warehouse automation expanding even faster at 15.1% CAGR. While hardware remains the largest investment area, software solutions such as AI, WMS and WES are the fastest-growing segment. Despite this growth, nearly 80% of European warehouses still operate manually, with only 5% fully automated. This automation gap, coupled with labour shortages and rising e-commerce demand, is accelerating the shift from traditional blue collar roles to new collar technical job.

blue collar role		new collar role
Warehouse Associate/ Picker/ Packer/ Material Handler/ fulfilment Associate/ Sortation Operator/ Forklift Operator/ Warehouse Worker	5% shift	Robotics-Assisted & Automated fulfilment Operators
Maintenance Mechanic/ Conveyor Maintenance Technician/ Industrial Electrician/ Warehouse Maintenance Worker/ Mechanical Fitter/ Equipment Technician	6% shift	Warehouse Automation & Mechatronics Technicians
Inventory Clerk/ Stock Controller/ Storekeeper/ Inventory Counter/ Receiving Clerk/ Warehouse Inventory Assistant	17% shift	Inventory Visibility & Data Technicians
Stock Clerk/ Retail Sales Associate/ Product Listing Assistant/ Order Processing Clerk/ Returns Associate/ Customer Service Associate	2% shift	Digital Shelf & Product Information Operators
Delivery Driver/ Courier/ Dispatch Clerk/ Fleet Coordinator/ Route Planner/ Logistics Assistant	30% shift	Smart Last-Mile Routing & Fleet optimisers

New collar role adoption within the e-commerce sector is outpacing trends observed in both traditional and retail markets. Across SEGRO markets, 12% of the blue collar workforce has already transitioned into these new roles.

The shift is most pronounced in the following areas, underscoring the rising demand for AI-supported logistics and advanced data management:

- Smart Last-Mile Routing & Fleet optimisers (30%): Reflects the increasing reliance on connected logistics networks and AI-powered route optimisation.
- Inventory Visibility & Data Technicians (17%): Highlights the growing necessity for RFID technologies and real-time inventory tracking.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

traditional retail industries transition.

Traditional retail is evolving as retailers adopt RFID, electronic shelf labels (ESLs), AI-powered inventory monitoring and data-driven store operations to improve efficiency and enhance the customer experience. While in-store roles remain essential, routine manual activities such as stock replenishment, pricing, inventory management and loss prevention are increasingly supported by digital technologies. As a result, existing retail employees will require targeted upskilling to work effectively with connected store systems, AI-enabled tools and real-time operational data.

blue collar role		new collar role
Stock Clerk/ Shelf Stocker/ Replenishment Associate/ Inventory Clerk/ Storekeeper/ Receiving Associate/ Backroom Associate	2% shift	Smart Inventory & RFID Coordinators
Shelf Stocker/ Merchandiser/ Retail Associate/ Pricing Clerk/ Store Assistant/ Display Associate	1% shift	Digital Shelf, ESL & Price Integrity Operators
Fresh Food Associate/ Grocery Clerk/ Produce Associate/ Inventory Associate/ Stock Replenishment Worker/ Department Associate	8% shift	AI Stock Monitoring & Fresh Waste Coordinators
Loss Prevention Associate/ Security Guard/ Store Detective/ Inventory Auditor/ Cash Office Associate	3% shift	Digital Shrink & Asset Protection Analysts
Store Associate/ Cashier/ Customer Service Associate/ Floor Associate/ Department Supervisor/ Store Operations Assistant	1% shift	AI-Assisted Store Operations Data Coordinators

Across SEGRO markets, only 3% of the blue collar workforce has already transitioned into these new roles.

The largest transition is for AI Stock Monitoring & Fresh Waste Coordinators (8%), reflecting retailers' growing focus on reducing food waste and improving on-shelf availability through AI-driven inventory management.

Across SEGRO's European markets, these trends demonstrate that the future of traditional retail will rely on digitally enabled store operations rather than increased workforce numbers.

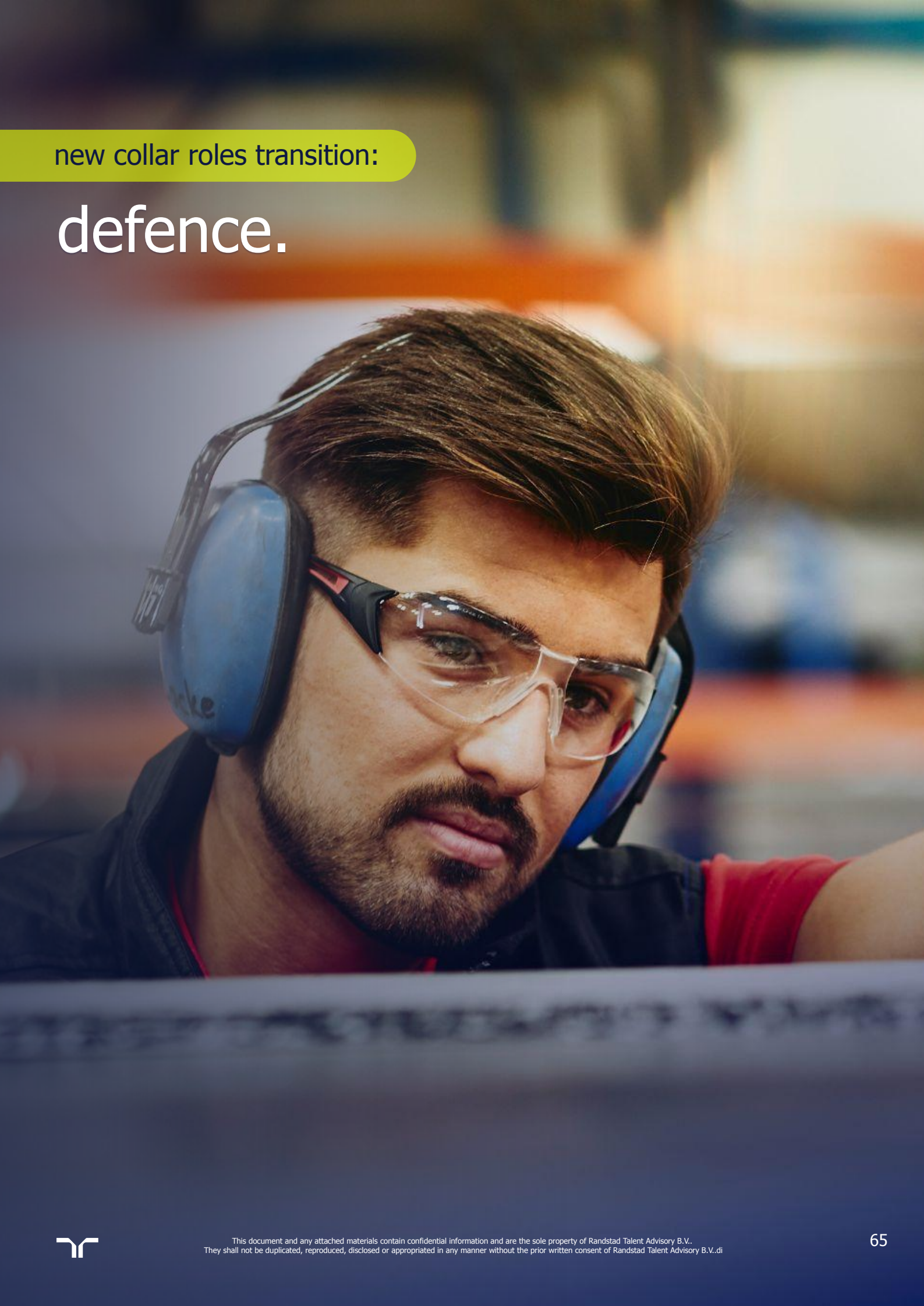
Upskilling existing employees to work with RFID, AI, electronic shelf labels and real-time analytics will be critical to improving inventory accuracy, operational efficiency and the overall customer experience.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar roles transition:

defence.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in defence?

C4ISR, Radar & Combat Systems Technicians

NATO's 2025-29 funding plan identifies Command and Control-Communications and Information Systems as the largest infrastructure investment. Demand for technicians will be very high, since nearly all defence capabilities: air defence, drones, counter-drone, long-range fires, maritime surveillance and deployed HQs depend on sensors, communications and data exchange. The 57 projects selected under the 2025 European defence Fund span AI, cyber defence, drones, sensors and digital transformation, reinforcing the need for specialists to integrate and sustain these systems beyond initial development.

Cyber-Physical Security & OT Maintenance Technicians

Cyber and electromagnetic activity are converging, with the EDA in October 2025 calling for closer integration of communications, radar, jamming, electronic protection and cyber operations. Demand for this role is very high, with one of the largest supply gaps: cybersecurity experts often lack knowledge of machinery, weapons platforms and safety-critical maintenance, while experienced maintainers may lack skills in secure networking, identity management, malware and incident response. This makes it one of the most difficult yet strategically valuable cross-skilling opportunities.

Digital Twin, Smart MRO & AI Maintenance Specialists

Demand for this role is high, especially in complex defence platforms such as aviation, naval fleets, armoured vehicles, radars, propulsion, weapons, sensors, depots and large MRO operations. The European Commission's 2025 roadmap highlights defence AI models, digital twins and predictive maintenance enabled through a secure European defence Data Space. The main constraint is not the software but the lack of consistent configuration records, quality maintenance histories, reliable component identifiers, OEM data access, interoperable standards, authorised data-sharing and sufficient labelled failure data to train and validate models.

Additive Manufacturing & Materials Technologists

Spain's defence logistics research highlights AI, digital twins, IoT and additive manufacturing as key enablers, already applied in its connected air-base programme. Demand is moderate in volume but high in strategic value, with the largest opportunities in aerospace, naval, missile, land-platform and deployed-support environments. The occupation will remain smaller than C4ISR or cyber maintenance, since not all components are suitable for additive production. The main constraint is qualification, not printing: defence organisations must prove that printed parts have predictable properties and remain safe under loads, temperatures, vibration, fatigue and environmental conditions.

source: : NATO Military Common-Funded Investment Plan, European Defence Fund (EDF) Work programme, European Commission Defence Industry and Space Study
Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

defence industry.

The defence industry is undergoing a major technological transformation driven by autonomous systems, advanced electronics, digital engineering and smart maintenance capabilities. As defence organisations adopt robotics, AI-enabled systems, cyber-physical technologies and digital twins, traditional maintenance and manufacturing roles are evolving into highly specialised technical positions. This shift requires the workforce to combine hands-on defence and engineering expertise with new capabilities in automation, software-enabled systems, data analytics and advanced manufacturing technologies.

blue collar role		new collar role
Military Vehicle Mechanic/ Equipment Mechanic/ Armored Vehicle Technician/ Aircraft Maintenance Technician/ Mechatronics Technician/ Industrial Maintenance Technician/ Mechanical Fitter	40% shift	Autonomous Systems, Robotics & defence Mechatronics Specialists
Electronics Technician/ Communications Technician/ Radio Technician/ Avionics Technician/ Signal Technician/ Network Technician	30% shift	C4ISR, Radar & Combat Systems Technicians
Operator/ Machinist/ Toolmaker/ Industrial Electrician/ Mechanical Fitter/ Maintenance Mechanic/ Manufacturing Technician/ Production Line Technician	10% shift	Cyber-Physical Security & OT Maintenance
Aircraft Maintenance Technician/ Vehicle Maintenance/ Reliability Technician/ Maintenance Planner/ Equipment Technician/ Manufacturing Technician/ Quality Technician	6% shift	Digital Twin, Smart MRO & AI Maintenance
Machinist/ Welder/ Fabrication Technician/ Toolmaker/ Pattern Maker/ Manufacturing Technician/ Materials Technician	12% shift	Additive Manufacturing & Materials Technologist

Across SEGRO markets, 20% of the blue collar workforce has transitioned into these new roles.

The highest transition requirement is observed for Autonomous Systems, Robotics & defence Mechatronics Specialists (40%), reflecting the growing adoption of unmanned systems, robotics and autonomous platforms. C4ISR, Radar & Combat Systems Technicians require a 30% skill shift as defence operations become increasingly reliant on advanced sensors, communication systems and integrated mission technologies.

Additionally, a 6% transition in Digital Twin, Smart MRO and AI Maintenance roles marks a critical shift towards data-driven, predictive asset management. Targeted workforce development in these areas is essential to support next-generation defence operations.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di



new collar roles transition:

life sciences.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in life sciences?

Digital Twin & Simulation Specialists

The FDA defines a process digital twin as a digital replica to analyse, predict and optimise manufacturing performance, with pilots also helping regulators understand production systems and changes. The strongest foundation lies with chemical engineers, process engineers and bioprocess specialists, but full roles require added skills in mathematical modelling, statistics, software and data integration. Process operators can move into support or simulation-technician roles, though direct model development usually demands further education. Demand is high but concentrated, smaller in volume than automation, QC or bioprocess operations, yet highly influential in process development and plant performance.

Predictive Maintenance & Data Analytics Specialists

Mechanical, electrical, instrumentation and calibration technicians bring transferable failure-mode knowledge, but often lack skills in condition monitoring, data visualisation, statistical reasoning and asset-performance platforms. Demand is very high, since this pathway is more scalable than full digital-twin development and can be applied directly to existing plants and legacy equipment.

Bioprocess Operations & Advanced Therapy Technicians

The most suitable potential groups are sterile-manufacturing operators, lab technicians, chemical-process operators, food-biotech workers and hospital cell-processing staff. Advanced therapy roles, however, demand stronger aseptic, biological and traceability skills than conventional pharma. Demand outlook is very high for bioprocess operations and targeted but rapidly growing for advanced therapies.

GMP Automation, Validation & Process Control Technicians

EU GMP Annex 11 requires validation of computerised GMP applications and qualification of IT infrastructure, while Annex 15 mandates lifecycle qualification/validation and Annex 17 supports real-time or parametric release when justified. Strong potential groups include instrumentation, automation, electrical, calibration and validation technicians, but the main barrier is combining practical controls competence with GMP documentation, data integrity and change-control discipline. Demand is very high, as this role underpins deployment of all other digital manufacturing technologies.

source: : EU GMP Guidelines (Annex 1, Annex 11, Annex 15, Annex 17), European Medicines Agency (EMA) ATMP Guidelines, FDA Process Analytical Technology (PAT) Framework Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

life sciences industries transition.

blue collar role		new collar role
Machine Operator/ Production Operator/ Draftsperson/ Manufacturing Technician/ Device Assembly Operator	12% shift	Digital Twin & Simulation Specialists
Maintenance Mechanic/ Maintenance Fitter/ Industrial Electrician/ Machine Repair Worker/ Equipment Maintenance Worker	11% shift	Predictive Maintenance & Data Analytics
Pharmaceutical Production Operator/ Cleanroom Operator/ Process Operator/ Filling & Packaging Operator/ Manufacturing Operator/ Sterile Production Worker	7% shift	Bioprocess Operations & Advanced Therapy
Quality Inspector/ QC Technician/ Sampling Technician/ Production Quality Checker	15% shift	Digital QC, LIMS & PAT Technicians
Maintenance Mechanic/ Industrial Electrician/ Instrumentation Technician/ Machine Operator/ Packaging Line Operator/ Process Operator	22% shift	GMP Automation, Validation & Process Control Technician

Across SEGRO markets, 13% of the blue collar workforce has already transitioned into these "new collar" roles.

The highest transition requirement is observed for GMP Automation, Validation & Process Control Technicians (22%), driven by the adoption of automated production systems, validation processes and advanced manufacturing controls. Digital QC, LIMS & PAT Technicians require a 15% skill shift as quality functions become more data-driven.

Across European life sciences manufacturing, these trends highlight the shift from traditional production roles to digitally enabled technical positions. However, training in areas such as GMP, automation, validation, digital systems and cybersecurity is often delivered separately, creating a gap in job-ready skills.Without integrated, hands-on training and shared technical facilities, the workforce will struggle to support increasingly digital and data-driven pharmaceutical manufacturing.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar roles transition:

transportation & logistics.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in transportation & logistics?

Electric & Alternative-Fuel Fleet Maintenance Technicians

Transport operators must now manage a diverse powertrain mix: battery-electric vans, buses and trucks; plug-in hybrids; hydrogen fuel-cell and combustion vehicles; biomethane and gas vehicles; conventional diesel with advanced emissions systems; plus charging, fuelling and depot-energy infrastructure. The new technician role extends beyond mechanical servicing into electrical, electronic, software and energy-system diagnosis. Diesel mechanics already bring skills in vehicle architecture, safety, braking, suspension and diagnostics, but gaps remain in high-voltage competence, battery/fuel-cell technology, software-defined systems and depot charging infrastructure. Demand is very high, as these vehicles are already entering service, making this the most immediate technician requirement compared with slower autonomous-vehicle deployment.

Automated Fulfilment & AMR Warehousing Specialists

Automated mobile robots are now used in ecommerce, parcel, postal, spare-parts, retail and 3PL warehouses to move shelves, pallets, containers and items. European programme are developing interoperable fleets and AI robotic assistants that share information. Forklift drivers, warehouse operatives and team leaders bring strong operational knowledge, but need added skills in robot-fleet software, first-line mechatronics, wireless networks and structured incident resolution. Demand is high in large fulfilment and parcel operations, but moderate and uneven among smaller logistics businesses.

Telematics-Enabled Fleet Analytics Specialists

Digital freight is expanding under the EU electronic freight transport framework and the 2026 rail telematics specification, which enable paperless data exchange, common formats, tracking, e-consignment notes and multimodal links. Dispatchers, planners, fleet and maintenance administrators already understand operating constraints, but must now learn to query, validate and communicate data instead of relying on manual calls or spreadsheets. Demand is very high, since telematics can be deployed across existing diesel fleets without waiting for full vehicle replacement.

Synchromodal & Multimodal Transport Coordinators

Synchromodal planning lets coordinators switch transport modes dynamically rail, road, maritime or inland waterways based on capacity, disruption, cost, carbon or customer needs. The European Commission is driving this shift with TEN-T investments, eFTI, corridor systems and 2026 rail telematics. Freight forwarders, dispatchers, port clerks and rail coordinators already have commercial expertise but need skills in live optimisation, interoperable platforms, carbon accounting and cross-mode exception management. Demand is high in ports, corridors, terminals and large forwarders, but moderate in road-only operators.

source: : EU Electronic Freight Transport Information (eFTI) Regulation, TEN-T (Trans-European Transport Network) Policy Guidelines, ACEA Electric Truck Registration data. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

transportation industry transition.

blue collar role		new collar role
Forklift Operator/ Material Handler/ Warehouse Operator/ Truck Driver/ Yard Driver/ Logistics Equipment Operator/ Conveyor Operator	1% shift	Autonomous Vehicle & Convoy Operations
Diesel Mechanic/ Heavy Vehicle Mechanic/ Bus Mechanic/ Truck Mechanic/ Fleet Maintenance Worker/ Automotive Mechanic/ Auto Electrician	18% shift	Electric & Alternative-Fuel Fleet Maintenance
Warehouse Associate/ Warehouse Worker/ Picker/ Packer/ Material Handler/ Forklift Operator/ Inventory Handler/ Distribution centre Operator	3% shift	Automated fulfilment & AMR Warehousing
Truck Driver/ Delivery Driver/ Fleet Dispatcher/ Fleet Coordinator/ Transport Operator/ Route Planner	4% shift	Telematics-Enabled Fleet Analytics
Dispatch Clerk/ Freight Handler/ Terminal Operator/ Rail Yard Worker/ Shipping Clerk/ Warehouse Dispatcher/ Port Operations Worker	20% shift	Synchromodal & Multimodal Coordinators

Across the eight markets, current new collar workforce penetration is approximately 6%. The average incidence across the five selected role pathways is approximately 9%, with the highest observed transition in synchromodal and multimodal coordination.

The highest transformation needs are concentrated in Synchromodal & Multimodal Coordinators (20%) and Electric & Alternative-Fuel Fleet Maintenance roles (18%), reflecting the industry's shift towards integrated logistics networks and low-emission vehicle ecosystems. These roles require a combination of operational experience, digital tools and technical expertise.

As transportation networks become more connected and automated, workforce transformation will be critical to closing emerging capability gaps. However, current training programme lag behind the shift to automation and electrification, with limited coverage of autonomous systems, heavy-vehicle electrification, data analytics and multimodal logistics. Expanding practical, integrated training is essential to prepare workers for next-generation transport operations, particularly as smaller operators have limited capacity to develop these skills.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar roles transition:

construction.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in construction?

Construction Robotics & Automated Layout Technicians

The European Commission's robotics call for construction and renovation targets lower costs, fewer errors, shorter timelines, improved safety and automated surveying/inspection. Projects like RADIANCE, ShieldBot and InfraROB are developing robots for façade work, road maintenance and renovation. Strong potential groups include survey assistants, setting-out engineers, plant operators, drilling operatives, concrete workers, dryliners and experienced forepersons. Tradespeople bring knowledge of materials, sequence and tolerance, but need added skills in coordinate geometry, robotic total stations, machine-control systems, GNSS/local positioning, robot safety, digital model extraction, sensor calibration, mechatronics and troubleshooting. Demand is medium to high, with greatest adoption in infrastructure, repetitive commercial builds, large residential programme and specialist subcontracting.

Drone, Laser Scanning & Reality Capture Technicians

The EU drone framework distinguishes lower-risk open-category operations from more complex specific-category operations, with 2026 EASA rules adopting the updated SORA 2.5 risk-assessment package. Strong potential groups include survey assistants, site engineers, inspectors, crane/plant survey staff, photographers and skilled tradespeople. The main gap is not piloting but expertise in survey accuracy, geodesy, LiDAR/photogrammetry, point-cloud registration, BIM comparison, data interpretation, QA and regulatory risk assessment. Demand is very high, since reality capture can be adopted on existing projects without altering construction methods.

BIM Field Technicians & Digital Site Coordinators

The EU BIM Task Group positions BIM and ISO 19650 information management as central to construction digitalisation, recommending stronger open BIM procurement requirements and linking BIM to carbon, product data and the twin transition. Strong potential groups include site engineers, document controllers, design coordinators, survey technicians, forepersons and skilled tradespeople. Missing skills are BIM authoring/viewing, ISO 19650 principles, common data environments, model federation, clash/issue management, sequencing, openBIM/IFC, field-data capture and digital handover. Demand is very high, especially in public infrastructure, complex buildings, prefabrication and digital handover projects.

Smart Building Automation & Microgrid Integrators

The Smart Readiness Indicator measures building capability across HVAC, lighting, electricity, EV charging, monitoring and control, plus maintenance prediction, occupant needs, energy flexibility and storage. Strong potential groups include electricians, HVAC technicians, controls engineers, commissioning technicians, solar installers, building-services engineers and facilities technicians. The main gap is integrating electrical distribution, HVAC control, digital communications, renewables, batteries/EV charging, grid interaction, cybersecurity and commissioning. Demand is very high, driven by the EPBD, decarbonisation, electrification and energy flexibility.

source: : Energy Performance of Buildings Directive (EPBD) / Smart Readiness Indicator (SRI), EASA SORA 2.5 Drone Risk Assessment Framework, ISO 19650 Building Information Modelling Standards, Schneider Electric / Vertiv Data centre Technical Infrastructure Whitepapers Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in data centre?

Hyperscale & High-Voltage Electrical Technicians

Germany plans to expand data-centre capacity from about 3 GW to over 6 GW by 2030, while new Italian facilities near Milan will connect directly to high-voltage networks or generation assets. Transition pathways vary in difficulty: moving from commercial electrician to data-centre installer is medium, from industrial electrician to critical-power technician is medium-high and from electrician to authorised HV commissioning technician is high. The principal barrier is the operational consequence: unlike a conventional site where an error affects only one area, a misstep in a hyperscale facility such as an incorrect protection setting or switching action can compromise an entire power train.

Advanced Thermal Management & Liquid-Cooling Specialists

Traditional data centres relied on air handlers, chillers and hot-aisle/cold-aisle containment, but AI infrastructure is driving adoption of liquid cooling. This supports higher-density compute and reduces cooling footprint, yet introduces challenges in water chemistry, material compatibility, cleanliness and leak management unfamiliar to conventional HVAC workers. Transition pathways vary: an HVAC technician to conventional data-centre cooling technician is medium difficulty, a chilled-water technician to hybrid liquid-cooling specialist is medium-high and a pipefitter to AI cooling commissioning specialist is high. The largest gap is the interface between facility engineering and IT hardware, requiring technicians to understand both the mechanical loop and the thermal limits of servers and racks.

Prefabricated Modular & MMC Coordinators

Modern modular data centres are prefabricated structures designed to accelerate deployment and manage safety risks in distributed, scalable architectures. Companies highlight modular systems as a faster way to add capacity compared with conventional builds. Transition difficulty is medium-high: while physical manufacturing skills are transferable, coordinators must master mission-critical redundancy, digital configuration control and the commissioning consequences of every interface.

BMS/DCIM Controls & Commissioning Specialists

DCIM is evolving beyond simple asset inventory into energy, capacity, alarm and performance management, with providers like Schneider Electric integrating DCIM across power, cooling and modular infrastructure. Transition difficulty is high: the role demands combined expertise in controls, electrical, mechanical, networking and commissioning. A conventional BMS technician often lacks the redundancy logic and operational-risk awareness required in hyperscale power and cooling systems.

source: : Energy Performance of Buildings Directive (EPBD) / Smart Readiness Indicator (SRI), EASA SORA 2.5 Drone Risk Assessment Framework, ISO 19650 Building Information Modelling Standards, Schneider Electric / Vertiv Data centre Technical Infrastructure Whitepapers Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

drivers of increasing demand for new collar roles in data centre?

White Space Mechanical & Systems Technicians

The white space role is shifting as density increases inside controlled environments housing racks and servers. Beyond traditional containment, technicians now manage overhead busways, intelligent rack PDUs, structured fibre/cabling, sensors, direct-to-chip manifolds, rear-door heat exchangers, leak-detection cables and DCIM asset records. Transition difficulty is medium: the challenge lies less in individual installation tasks and more in the need to coordinate power, network, cooling, asset data and change control with virtually zero tolerance for error.



source: : Energy Performance of Buildings Directive (EPBD) / Smart Readiness Indicator (SRI), EASA SORA 2.5 Drone Risk Assessment Framework, ISO 19650 Building Information Modelling Standards, Schneider Electric / Vertiv Data centre Technical Infrastructure Whitepapers Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

construction industries transition.

In 2025, Europe's construction sector employed approximately 25 million jobs, including 18 million direct roles. To overcome persistent productivity, safety and skills challenges, the sector is increasingly adopting automation, robotics and off-site manufacturing. Additionally, strict EU energy and sustainability mandates are fueling demand for "new collar" roles that merge traditional construction expertise with digital, data and advanced manufacturing proficiency.

blue collar role		new collar role
Mason/ Bricklayer/ Construction labourer/ Concrete Worker/ Construction Equipment Operator/ Layout Worker/ Carpenter	8% shift	Construction Robotics & Automated Layout Technicians
Carpenter/ Joiner/ Steel Fixer/ Fabrication Worker/ Construction labourer/ Modular Assembly Worker/ Installer	13% shift	Prefabrication & industrialised Modular Assembly Specialists
Survey Assistant/ Chainman/ Construction Survey Worker/ Site Inspector/ Construction labourer	9% shift	Drone, Laser Scanning & Reality Capture Technicians
Site Supervisor/ Foreman/ Construction Technician/ Site Engineer Assistant/ Construction Inspector	32% shift	BIM Field Technicians & Digital Site Coordinators
Electrician/ Technician/ Building Services Technician/ Electrical Installer/ Maintenance Electrician	32% shift	Smart Building Automation & Microgrid Integrators

Approximately 20% of the construction workforce is shifting into these "new collar" roles.

This transition is most prominent within two key areas, BIM Field Technicians & Digital Site Coordinators and Smart Building Automation & Microgrid Integrators, which each show a 32% transition rate. This trend highlights the increasing demand for expertise in digital project delivery, connected buildings, renewable energy systems and intelligent infrastructure.

Construction workforce transition faces significant skill and adoption barriers. With 44% of core vocational skills expected to change by 2027 and 60% of workers requiring upskilling or reskilling, limited access to structured training, declining foundational skills and digital capability gaps remain major challenges.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

data centre industry transition.

The expansion of AI, cloud and digital services is fueling European demand for hyperscale and edge data centres. This shift is evolving traditional engineering roles into specialised positions focused on high-voltage infrastructure, liquid cooling and intelligent building systems, necessitating a workforce that integrates core engineering with advanced digital, automation and mission-critical skills.

blue collar role		new collar role
Electrician/ Industrial Electrician/ Electrical Installation/ Power Distribution Technician/ Substation Technician/ Electrical Maintenance Technician/ Generator Technician/ Industrial Electrical Engineer	35% shift	Hyperscale & High-Voltage Electrical Technicians
Refrigeration Technician/ Mechanical Technician/ Pipefitter/ Plumber/ Mechanical Installer/ Building Services Technician	23% shift	Advanced Thermal Management & Liquid-Cooling Specialists
Construction Technician/ Installer/ Mechanical/Electrical Installer/ Construction Supervisor/ Steel Fabricator/ Draftsperson/ Site Coordinator	64% shift	Prefabricated Modular & MMC Coordinators
Controls Technician/ Instrumentation Technician/ Electrical Technician/ Facilities Technician/ Energy Monitoring Technician	23% shift	BMS / DCIM Controls & Commissioning Specialists
Facilities Technician/ HVAC Technician/ Mechanical Maintenance Technician/ Building Engineer/ Maintenance Engineer/ Industrial Maintenance Technician/ Mechanical Fitter	30% shift	White Space Mechanical & Systems Technicians

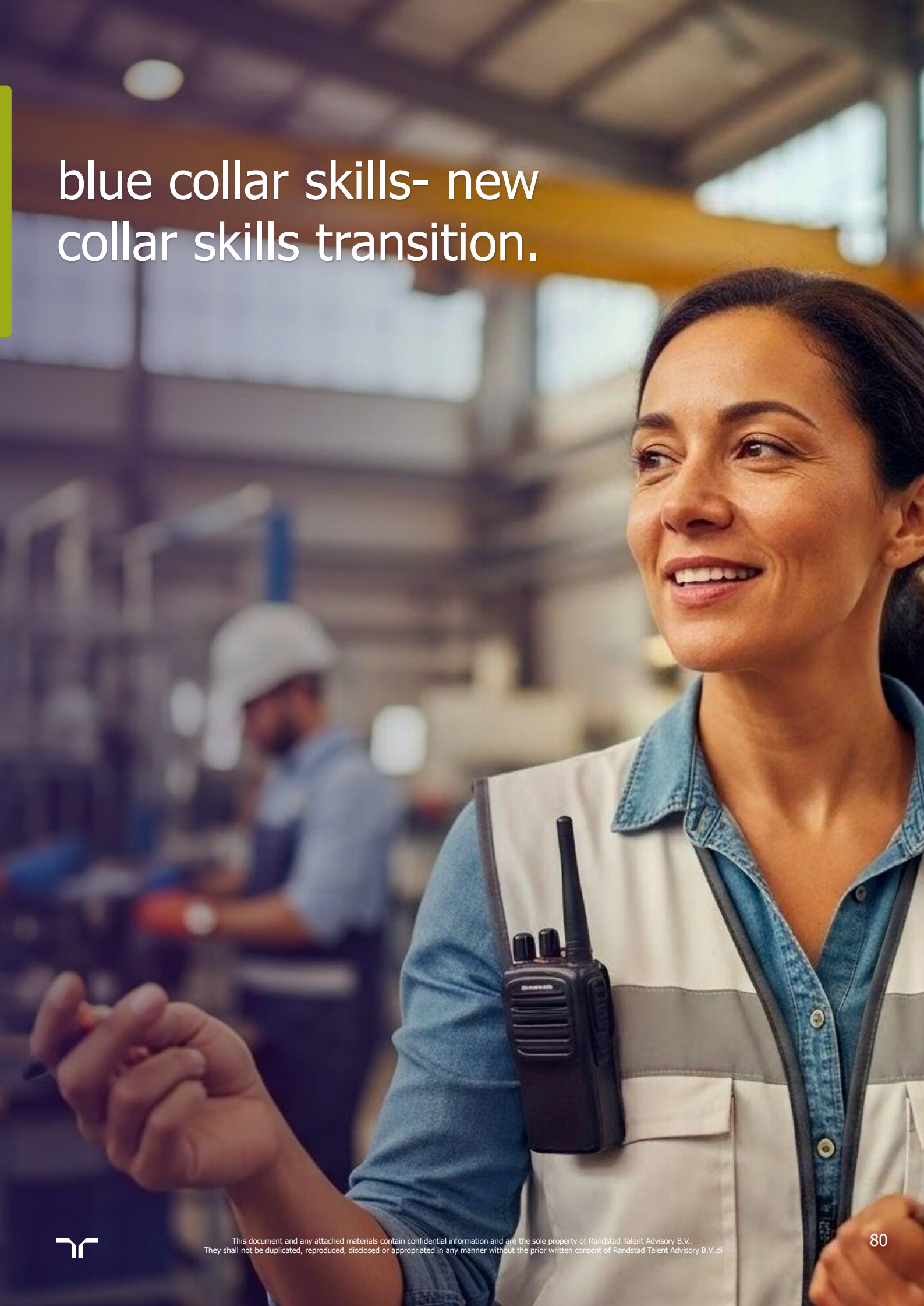
Transitions from blue collar backgrounds into emerging data centre roles range from 23% to 64%. Prefabricated Modular & MMC Coordinators see the highest transition (64%) due to modular construction adoption, followed by Hyperscale & High-Voltage Electrical (35%) and White Space Mechanical & Systems Technicians (30%), reflecting the growing need for mission-critical infrastructure specialists.

These transitions demonstrate that many future data centre roles are being filled by workers from adjacent construction, electrical and mechanical occupations rather than entirely new talent pools. However, current training pathways rarely integrate mission-critical electrical systems, liquid cooling, modular construction, automation and digital infrastructure management. Expanding integrated, hands-on training programme will be essential to enable more workers to transition into these high-demand roles and support Europe's rapidly growing data centre sector.

source: :Transition data identifies, within the registered blue collar workforce across 12 industries, the number of individuals currently working in identified new collar roles who previously held blue collar job titles. This analysis is verified using company-registered workforce data, statutory body records, professional social platforms such as LinkedIn and census demographic data. The dataset is further modelled and normalised using government-registered labour board data to reflect workforce distribution, employment penetration and prevailing labour market trends. Data accurate as of 04-08-2026.

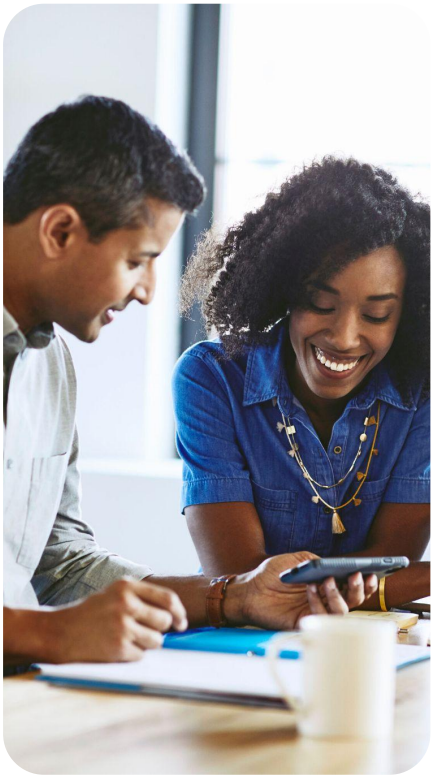
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar skills- new collar skills transition.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar skill demand trends.



To identify reskilling opportunities, this section assesses the current demand for traditional ("old-collar") blue collar skills across SEGRO's priority sectors.

The analysis shows that many core technical skills remain resilient, with continued growth in areas such as welding in manufacturing (16.1%), environmental health and safety in life sciences (12.2%) and merchandising in retail (9.8%).

In contrast, routine, manual and transactional skills are among the most lagging capabilities as automation and digital technologies reshape workforce needs. In retail, Selling Techniques (-0.7%) and Retail Sales (2.4%) remain lagging skills, while transportation and logistics show gaps in Over-the-Road Driving (1.0%) and Data Entry (2.9%). Construction continues to rely on several lagging skills, including Apartment Maintenance (2.1%), Irrigation (3.6%), Electrical Maintenance (3.8%), Appliance Repair (3.8%) and Productivity Improvement (4.0%), while Precision Measuring Instruments (1.0%) is a lagging skill in defence.

These trends provide the foundation for identifying occupations that are most likely to benefit from targeted upskilling. Rather than replacing traditional skills, the opportunity lies in augmenting them with digital, automation and data capabilities, enabling workers to transition into emerging new collar roles across key industries.

manufacturing

Skills	Projected Skill Growth	Skill Growth Relative to Market
Welding	16.10%	Growing
Good Manufacturing Practices	11.70%	Stable
Occupational Safety and Health Administration (OSHA)	11.60%	Stable
Hydraulics	11.10%	Stable
Lifting Ability	10.20%	Stable
Machinery	9.00%	Stable
HVAC	8.60%	Stable
Loading And Unloading	8.00%	Stable
Hand Tools	7.40%	Stable
palletising	5.40%	Stable

retail

Skills	Projected Skill Growth	Skill Growth Relative to Market
Merchandising	9.80%	Stable
Cash Handling	9.80%	Stable
Stock Rotation	9.80%	Stable
Automotive Services	8.60%	Stable
Loading And Unloading	8.00%	Stable
Customer Engagement	8.00%	Stable
Merchandise Maintenance	7.20%	Stable
Order fulfilment Management	6.90%	Stable
Retail Sales	2.40%	Lagging
Selling Techniques	-0.70%	Lagging

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging | stable | growing | rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

source: demand data modelled from aggregated and de-duplicated job posting data retrieved from job boards, networking sites, social media, agency postings and career sites. Data accurate 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

blue collar skill demand trends.

transportation & logistics

Skills	Projected Skill Growth	Skill Growth Relative to Market
Loading And Unloading	8.00%	Stable
Hand Tools	7.40%	Stable
Flatbed Truck Operation	6.70%	Stable
Forklift Truck	5.60%	Stable
Refrigerated Trucking maintenance	5.60%	Stable
palletising	5.40%	Stable
No-Touch Freight	5.30%	Stable
Pre-Trip And Post-Trip Vehicle Inspections	5.00%	Stable
Data Entry	2.90%	Lagging
Over-The-Road Driving	1.00%	Lagging

construction

Skills	Projected Skill Growth	Skill Growth Relative to Market
Lifting Equipment	8.70%	Stable
HVAC	8.60%	Stable
Masonry	7.70%	Stable
Plant Identification	6.50%	Stable
Pruning	5.60%	Stable
Productivity Improvement	4%	Lagging
Appliance Repair	3.80%	Lagging
Electrical maintenance	3.80%	Lagging
Irrigation (Landscaping And Agriculture)	3.60%	Lagging
Apartment Maintenance	2.10%	Lagging

defence

Skills	Projected Skill Growth	Skill Growth Relative to Market
Data Recording	9.70%	Growing
Wiring Diagram	9.50%	Stable
Electrical Networks	8.80%	Stable
Operability	7.50%	Stable
Hand Tools	7.40%	Stable
Transformers (Electrical)	6.70%	Stable
Electrical Equipment maintenance	5.90%	Stable
Drilling	5.80%	Stable
Optics	4.80%	Stable
Precision Measuring Instruments	1.00%	Stable

life sciences

Skills	Projected Skill Growth	Skill Growth Relative to Market
Environment Health And Safety	12.20%	Growing
Overall Equipment Effectiveness	9.40%	Stable
Microscopy	8.20%	Stable
FDA Regulations	8.00%	Stable
Hand Tools	7.40%	Stable
Current Good Manufacturing Practices (cGMPS)	7.40%	Stable
Molding (Manufacturing Process)	6.80%	Stable
Drilling	5.80%	Stable
Environmental Management Systems	5.70%	Stable
Medical Devices maintenance	4.70%	Stable

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

source: demand data modelled from aggregated and de-duplicated job posting data retrieved from job boards, networking sites, social media, agency postings and career sites. Data accurate 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

Manufacturing roles are shifting from simple task execution to digital, technology-integrated operations.

Approximately 15% of the capability profile of manufacturing roles is shifting towards digital and automation competencies.

Core blue collar Skills (Remain Essential)	Capability Shift	Future new collar Skills to Build
Welding	Digital fabrication & automated production	Robotics & Cobots, Robotic Welding
Machinery Operation	Smart equipment operation	Automation, Automation Systems, Human Machine Interfaces
Hydraulics & Mechanical Systems	Electro-mechanical integration	Mechatronics, PLC programming, Control Systems
Manual Inspection & Troubleshooting	AI-assisted diagnostics	Machine Monitoring, AI, Machine Learning, Thermal Imaging
Material Handling	Autonomous material movement	Industrial IoT, Industrial Networking, Automated Systems
Safety & GMP	Connected safety & quality systems	IoT Sensors, Digital Twin, Smart Manufacturing Systems
CNC & Fabrication	Advanced manufacturing processes	Additive Manufacturing, CAD/CAM, SolidWorks
Hand Tools & Equipment Maintenance	Data-driven asset management	Predictive Maintenance, CMMS, Condition Monitoring

Manufacturing Workforce Capability Shift.

Today: Traditional Manufacturing Workforce

Traditional Manufacturing Skills: 85%

Digital & new collar Skills: 15%

Future Workforce Requirement (2030)

Traditional Manufacturing Skills: 60%

Digital & new collar Skills: 40%

The manufacturing workforce is experiencing a 5x expansion in capability requirements, evolving beyond traditional blue collar technical skills into a broader ecosystem of 40+ new collar capabilities. These emerging skills span automation, robotics, Industrial IoT, AI, predictive maintenance and advanced manufacturing technologies and will become increasingly critical by 2030 for operating next-generation manufacturing environments. The detailed roles and skill requirements across each capability area are highlighted in the following slide.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - manufacturing.

Driven by technology adoption, demand for specialised technical capabilities is accelerating across the manufacturing sector. This section tracks current adoption rates and projected skill growth to help guide strategic talent planning.

Cobot & Robot Cell Operators

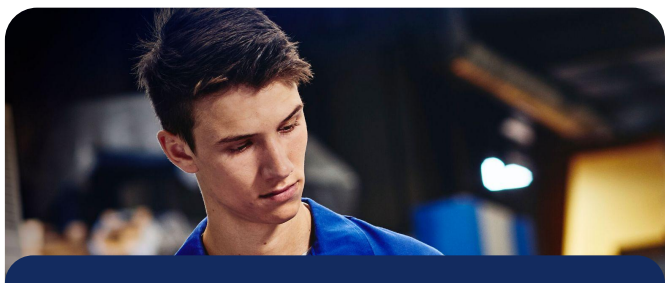
Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	40%	29.20%	Rapidly Growing
Automation Systems	11%	24.20%	Rapidly Growing
cobot	12%	20%	Rapidly Growing
Programmable Logic Controllers programming	14%	19.20%	Rapidly Growing
Sensors	21%	13.90%	Growing
Industrial Automation	13%	13.30%	Growing
Robotics	19%	11.50%	Growing
Human Machine Interfaces	79%	7.30%	Stable

Additive Manufacturing Specialists

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	17%	29.20%	Rapidly Growing
SolidWorks (CAD)	21%	22.90%	Rapidly Growing
CNC Machining	8%	18.80%	Rapidly Growing
3D modelling	12%	17.30%	Rapidly Growing
Additive Manufacturing (3D Printing)	77%	16.50%	Rapidly Growing
Computer-Aided Manufacturing	5%	16.40%	Rapidly Growing
Computer-Aided Design	14%	14.70%	Growing
Robot assisted machining	9%	11.50%	Growing

Mechatronics & Automation Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	33%	29.20%	Rapidly Growing
Programmable Logic Controllers programming	20%	19.20%	Rapidly Growing
SAP Applications	11%	18.80%	Rapidly Growing
computerised Maintenance Management Systems (CMMS)	80%	14.70%	Growing
Industrial Sensors	22%	13.90%	Growing
Robotic Systems	15%	12.90%	Growing
Mechatronics	55%	12.00%	Growing
Predictive Maintenance/IBM Maximo	24%	8.00%	Stable



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - manufacturing.

Predictive Maintenance & Analytics

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	11%	29.20%	Rapidly Growing
thermal imaging	12%	19.20%	Rapidly Growing
Root Cause Analysis	10%	18.00%	Rapidly Growing
computerised Maintenance Management Systems (CMMS)	14%	14.70%	Growing
IoT sensors	8%	13.90%	Growing
Preventive Maintenance	85%	11.60%	Growing
Internet of Things (IoT)	11%	10.80%	Growing
Predictive Maintenance	24%	8.00%	Stable

Industrial IoT & Connected Facility Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	32%	29.20%	Rapidly Growing
Industrial Networking	41%	20.80%	Rapidly Growing
Artificial Intelligence	20%	20.10%	Rapidly Growing
Machine Learning	12%	19.10%	Rapidly Growing
Digital Twin	13%	13.90%	Growing
Cyber Security	10%	13.90%	Growing
Internet Of Things (IoT)	89%44	10.80%	Growing
Industrial Automation	15%	7%	Stable

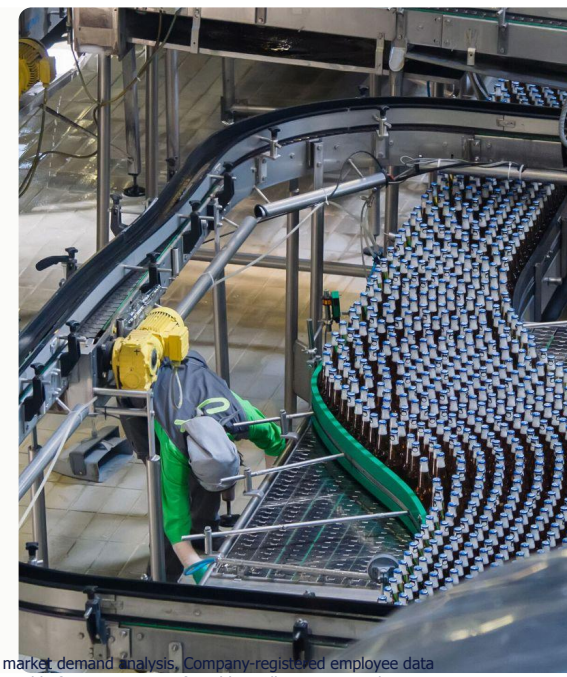
Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for manufacturing industry.

- Demand for cobot and robot cell operators is surging, with Automation projected to grow by 29.20% in the future (40% of companies are seeking this skill now). Cobot programming is projected to grow by 20.00%, driven by the widespread adoption of human-robot collaborative assembly lines. Manufacturers will increasingly need Programmable Logic Controllers (PLC), projected to grow by 19.20%, to support flexible, high-throughput production environments.
- Mechatronics and automation technician capabilities are expected to grow rapidly as factories become more automated and interconnected. Automation is projected to grow by 29.20% (33% of companies are seeking this skill now), while Programmable Logic Controllers are projected to grow by 19.20% (20% of companies are seeking this skill now). Supporting technologies such as SAP Applications, projected to grow by 18.80% and CMMS, projected 15% growth. Growth projection for Mechatronics is 12% in future, will also become increasingly important as technicians connect equipment, maintenance systems and enterprise platforms.



source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

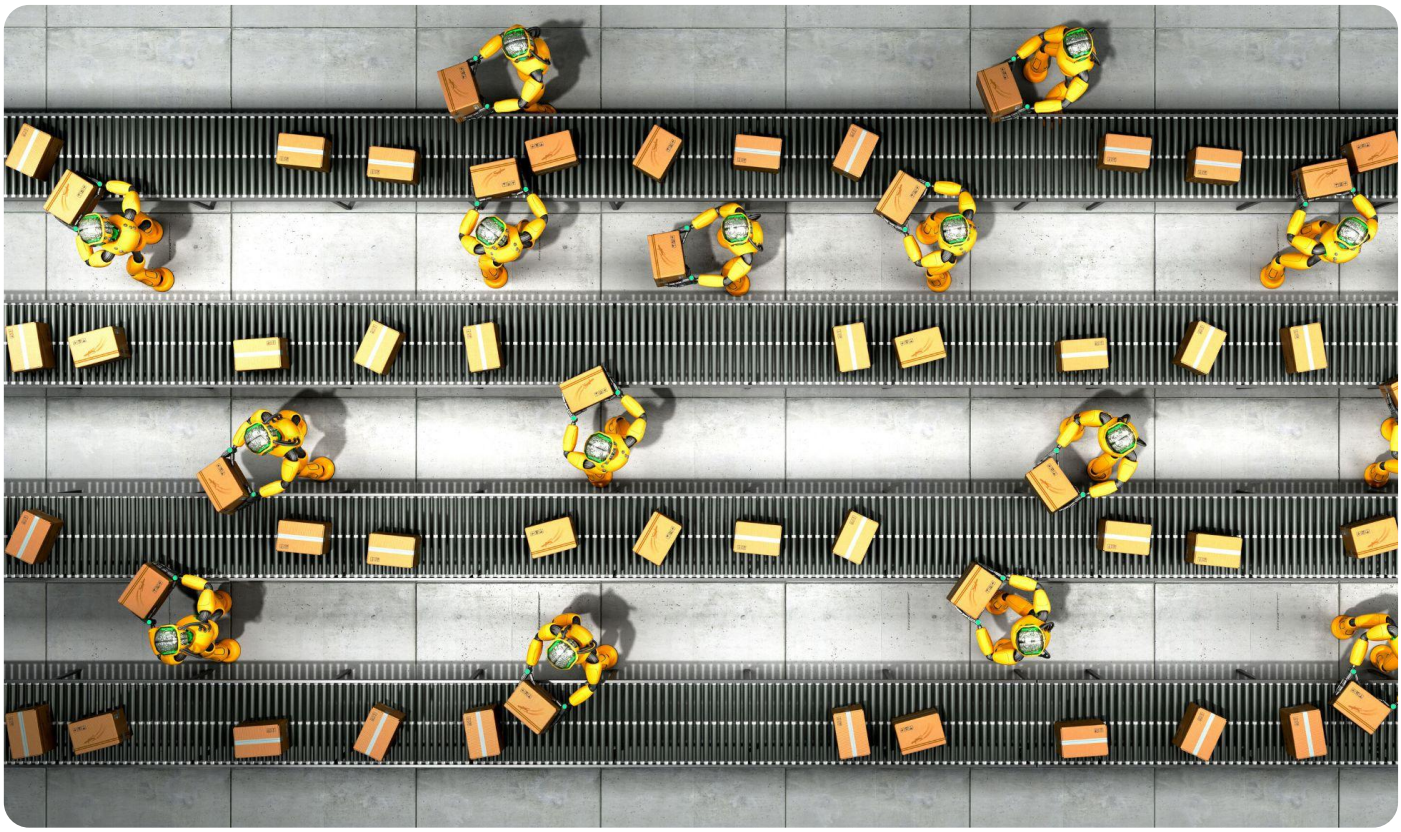
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - manufacturing.

key insights for manufacturing industry (Contd.).

- Additive manufacturing capabilities are expanding as 3D printing moves from prototyping into production applications. SolidWorks CAD is projected to grow by 22.90%, while Additive Manufacturing (3D Printing) is projected to grow by 16.50% (77% of companies are seeking this skill now). These skills will enable manufacturers to accelerate product development, reduce lead times and improve production flexibility.
- Predictive maintenance and analytics skills are expected to grow as manufacturers transition towards data-driven asset management. Thermal Imaging is projected to grow by 19.20% and Root Cause Analysis is projected to grow by 18.00% whereas Automation by 29% as plants adopt real-time monitoring and diagnostics. Preventive Maintenance remains a critical capability, with 85% of companies seeking this skill now, highlighting the continued focus on equipment reliability and minimizing downtime. Low adoption skills such as IOT sensors and computerised Maintenance Management Systems (CMMS) are projected to grow 14% in future.
- Industrial IoT and connected facility capabilities are growing as manufacturers build smarter, more connected operations. Industrial Networking is projected to grow by 20.80% (41% of companies are seeking this skill now), while Artificial Intelligence is projected to grow by 20.10% as organisations invest in intelligent automation and data-driven decision-making. These trends are increasing demand for professionals who can integrate, secure and optimise connected manufacturing systems. Low adoption skills like Digital Twin and IIOT are projected to grow 10-13% in future years.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - advanced manufacturing.

Rapid digital transformation is reshaping key skill requirements across automated environments. The breakdown below details adoption levels and projected growth rates for core capabilities across advanced manufacturing to help navigate evolving market demands.

Advanced Robotics & Cobot Coordinators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	32%	29.20%	Rapidly Growing
Automation Systems	7%	24.20%	Rapidly Growing
Programmable Logic Controllers programming	46%	16.50%	Rapidly Growing
robotic Welding	25%	16.10%	Rapidly Growing
Sensors integration	14%	13.90%	Growing
Industrial Automation	6%	13.30%	Growing
Robotics	14%	11.50%	Growing
Human Machine Interfaces	52%	7.30%	Stable

Industrial Controls & Automation Specialists

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Soft Sensors	29%	49.40%	Rapidly Growing
Automation	47%	29.20%	Rapidly Growing
Programmable Logic Controllers programming	66%	13.90%	Growing
Industrial Networking	80%	9.10%	Growing
Supervisory Control And Data Acquisition (SCADA)	42%	7.40%	Stable
Human machine interfaces	43%	7.30%	Stable
Automation Controls	29%	6.60%	Stable
Message Queuing Telemetry Transport (MQTT)	29%	6.00%	Stable

Mechatronics & Cyber-Physical Assembly Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Programmable Logic Controllers	68%	13.90%	Growing
Industrial Automation	80%	13.30%	Growing
Mechatronics	65%	12.00%	Growing
Preventive Maintenance	34%	11.60%	Growing
sensor integration	41%	9.90%	Growing
Industrial Control Systems	37%	9.10%	Growing
cyber physical systems	80%	8.30%	Stable
Manufacturing automation	36%	6.4%	Stable



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging | stable | growing | rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - advanced manufacturing.

Advanced CNC & Hybrid Machining Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Fusion (CAD Software)	8%	24.80%	Rapidly Growing
SolidWorks (CAD)	25%	22.90%	Rapidly Growing
Industrial Internet of things (IIoT)	12%	19.80%	Rapidly Growing
Computer Numerical Control (CNC) programming	90%	16.80%	Rapidly Growing
Computer-Aided Manufacturing	12%	16.40%	Rapidly Growing
Smart manufacturing	80%	11.50%	Growing
Mastercam (CAD/CAM Software)	9%	11.00%	Growing
Coordinate Measuring Machine (CMM)	8%	9.30%	Growing

Smart Factory Data, Quality Automation & Metrology Specialist

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	22%	29.20%	Rapidly Growing
SolidWorks (CAD)	9%	22.90%	Rapidly Growing
Artificial Intelligence	7%	20.10%	Rapidly Growing
Digital twin	80%	13.90%	Growing
Robotics	8%	11.50%	Growing
Corrective And Preventive Action (CAPA)	7%	11.00%	Growing
Metrology	86%	10.60%	Growing
Smart factory	80%	10.30%	Growing
Industrial Internet of things (IIoT)	80%	10.20%	Growing

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for advanced manufacturing industry.

- Automation skills represent one of the fastest-growing requirements across advance manufacturing roles, with Automation and Automation system skills are projected to grow by 29.20% in the future. This growth is driven by manufacturers scaling operational capacity, reducing manual errors, improving productivity and addressing skilled labour shortages through increased adoption of automated processes.Advanced Robotics & Cobot Coordinator skills are evolving beyond basic equipment monitoring towards advanced control and programming capabilities. PLC programming is projected to grow by 16.50%, while Robotic Welding is projected to grow by 16.10%, as manufacturers require operators who can troubleshoot, reconfigure and optimise increasingly complex robotic production cells. HMI skills remain highly relevant, with 7.30% projected growth, supporting operators in managing automated equipment.
- Advanced CNC Technician capabilities are experiencing strong growth in digital design and manufacturing skills. Fusion CAD is projected to grow by 24.00% and SolidWorks CAD is projected to grow by 22.90%, as modern machining environments require technicians who can digitally design, simulate and optimise components before production. CNC programming remains a critical capability, with 90% of companies seeking this skill now, highlighting its importance in advanced manufacturing .Industrial Internet of things (IIoT) and smart manufacturing skills are projected to grow 20% 12% in future.



source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - advanced manufacturing.

key insights for advanced manufacturing industry. (Contd.)

- Cyber-Physical Assembly Technician skills are becoming increasingly important as manufacturing operations become more connected. Industrial Automation is projected to grow by 13.30%, while PLC skills are currently sought by 68% of companies, reflecting the need for technicians who can integrate mechanical assembly expertise with digital control systems and connected production environments .cyber physical systems Though is currently adopted by few is projected to grow 8% in future.
- Industrial Controls & Automation Specialist skills are seeing significant growth as smart factories adopt more advanced monitoring technologies. Soft Sensors are projected to grow by 49.40%, alongside continued demand for PLC programming, currently sought by 66% of companies. Skills like Industrial networking and Human Machine interface are projected to grow 9% and 7% in future. This trend reflects the shift towards software-based monitoring, predictive insights and intelligent control systems that improve manufacturing efficiency without requiring additional physical hardware.
- Smart Factory, IIoT and Digital Twin capabilities are emerging as key skills for Smart Factory Quality roles, with these technologies currently sought by 80% of companies. These skills are projected to grow by 10-13% in the future as manufacturers accelerate the adoption of connected operations, real-time quality monitoring and digital process optimisation.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - automotive manufacturing.

Modern automotive manufacturing relies heavily on complex software, automated systems and specialised technical capabilities. The following data highlights projected growth rates and market demand across core skill domains.

EV Battery Manufacturing & Circular Recovery Technician

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Python (programming Language)	20%	20.20%	Rapidly Growing
High Voltage/ Low voltage	99%	17.00%	Rapidly Growing
Preventive Maintenance	12%	11.60%	Growing
Corrective Maintenance	13%	11.10%	Growing
Battery Management System/BMS	21%	9.20%	Growing
MATLAB	12%	8.90%	Stable
Descriptive Analytics	15%	7.30%	Stable
Electric Vehicles	78%	4.20%	Stable

Robotic Welding & Body-in-White (BIW) Operators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Robotic welding	57%	31.50%	Rapidly Growing
Automation	15%	29.20%	Rapidly Growing
Body in white	40%	20.00%	Rapidly Growing
3D modelling	11%	17.30%	Rapidly Growing
Computer-Aided Design	10%	14.70%	Growing
AutoCAD	9%	14.30%	Growing
Computer Aided Three-Dimensional Interactive Application (CATIA)	28%	9.60%	Growing
Design For Manufacture And Assembly (DFMA)	7%	5.50%	Stable

Advanced Automation & Robot programming

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	40%	29.20%	Rapidly Growing
Advanced Robotics	9%	17.00%	Rapidly Growing
Programmable Logic Controllers	39%	13.90%	Growing
Preventive Maintenance	23%	11.60%	Growing
COBOT	48%	11.50%	Growing
Sensor Integration	10%	9.70%	Growing
Human Machine Interfaces	11%	7.30%	Stable
Electric Vehicles	9%	4.20%	Stable



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - automotive manufacturing.

Automotive Controls & Mechatronics Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation controls	57%	29.20%	Rapidly Growing
Automation Systems	12%	24.20%	Rapidly Growing
Predictive Maintenance	35%	24.00%	Rapidly Growing
Industrial Networking	25%	20.20%	Rapidly Growing
computerised Maintenance management systems	80%	14.70%	Growing
Programmable Logic Controllers	43%	13.90%	Growing
Industrial Automation	43%	13.30%	Growing
Mechatronics	57%	12.00%	Growing

AI Vision Quality Control & Traceability Specialists

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	9%	29.20%	Rapidly Growing
computerised Maintenance Management Systems	12%	14.70%	Growing
Manufacturing Execution System	80%	11.80%	Growing
Preventive Maintenance	9%	11.60%	Growing
Advanced Driver Assistance Systems	34%	10.70%	Growing
Statistical Process Controls	80%	10.30%	Growing
Coordinate Measuring Machine (CMM)	9%	9.30%	Growing
Machine Vision	80%	6.50%	Stable

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for automotive manufacturing industry.

- EV Battery Manufacturing & Circular Recovery Technicians are seeing increasing demand for digital and safety-related capabilities as battery production and recycling processes become more complex in automotive manufacturing sector. Python is projected to grow by 20.20% in the future, while High/Low Voltage safety is currently sought by 99% of companies, reflecting the need for technicians who can analyse battery management system data while safely handling advanced energy storage technologies.
- Advanced Automation & Robot programming roles are shifting towards more specialised robotics expertise as manufacturers adopt flexible and intelligent automation. Automation is projected to grow by 29.20%, while Advanced Robotics is projected to grow by 17.00%, driven by OEM demand for professionals who can develop, programme and optimise complex robotic systems beyond basic teaching-pendant operations. COBOT seeked by 48% of companies is projected to grow by 12% in future.



source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - automotive manufacturing.

key insights for automotive manufacturing industry. (Contd.)

- Robotic Welding & Body-in-White Operators continue to be critical in automotive manufacturing, with strong demand for advanced welding and structural assembly skills. Robotic Welding is projected to grow by 31.50% (57% of companies are seeking this skill now), while Body-in-White processes are projected to grow by 20.00% (40% of companies are seeking this skill now). Growth is driven by the need for highly skilled operators who can support automated vehicle frame assembly and robotic joining processes.Computer Aided Three-Dimensional Interactive Application (CATIA) is currently seeked by 28% of companies.
- Automotive Controls & Mechatronics Technicians are expected to see increased demand as vehicle manufacturing plants become more connected and automated. Automation Controls are projected to grow by 29.20%, Predictive Maintenance by 24.00% and Industrial Networking by 20.20%, while Mechatronics is currently sought by 57% of companies. These skills are essential for integrating physical equipment, digital controls and industrial networks to improve reliability and reduce production downtime.
- AI Vision Quality Control & Traceability Specialists are evolving as manufacturers move from standalone inspection processes towards intelligent, connected quality systems. Automation is projected to grow by 29.20%, while demand is expanding for integrated CMMS/MES capabilities to enable real-time tracking and quality management. Machine Vision and Statistical Process Control (SPC) are currently sought by 80% of companies, showing the continued importance of automated inspection and traceability in advanced manufacturing.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - food & beverages.

As food and beverage operations integrate digital monitoring, automated packaging and advanced quality systems, core technical requirements are rapidly evolving. The metrics below highlight adoption rates and projected skill growth to help guide operational readiness across the sector.

Digital Process & Fermentation Operators

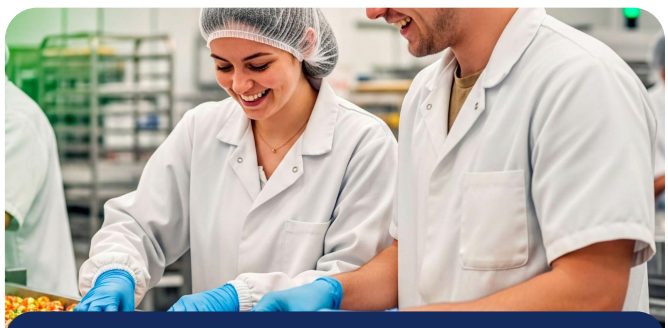
Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	75%	29.20%	Rapidly Growing
computerised Maintenance Management Systems	8%	14.70%	Growing
Programmable Logic Controllers	84%	13.90%	Growing
Sensors	12%	13.90%	Growing
programming Languages	55%	9.00%	Growing
Predictive Maintenance	7%	8.00%	Stable
Supervisory Control And Data Acquisition (SCADA)	8%	7.40%	Stable
Human Machine Interfaces	72%	7.30%	Stable

Packaging Automation, Robotic palletising & Material Flow Technician

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	49%	29.20%	Rapidly Growing
AGM/AMR	35%	20.00%	Rapidly Growing
COBOT	18%	14.50%	Growing
Programmable Logic Controllers	46%	13.90%	Growing
Machine Vision	22%	11.60%	Growing
Predictive Maintenance	15%	8.00%	Stable
Human Machine Interfaces	25%	7.30%	Stable
Manufacturing Automation	17%	6.40%	Stable

Food Safety & Traceability Digital Analysts

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Digital Quality Management systems	90%	32.20%	Rapidly Growing
Automation	25%	29.20%	Rapidly Growing
Hazard Analysis And Critical Control Points (HACCP)	87%	25.40%	Rapidly Growing
Data Analytics	33%	19.90%	Rapidly Growing
Statistical Process Controls	16%	10.30%	Growing
Internet Of Things (IoT) monitoring	12%	10.20%	Growing
Industry 4.0	8%	4.20%	Stable



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - food & beverages.

Food Industry Mechatronics & Automation Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Industrial Networking	41%	20.80%	Rapidly Growing
Programmable Logic Controllers programming	90%	16.55%	Rapidly Growing
computerised Maintenance Management Systems	23%	14.70%	Growing
Sensors	33%	13.90%	Growing
Industrial Automation	77%	13.30%	Growing
Mechatronics	24%	12%	Growing
Robotics	17%	11.50%	Growing
Predictive Maintenance	16%	8.00%	Stable

Automated Sanitation & CIP Technician

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	77%	29.20%	Rapidly Growing
Control Systems	18%	14.50%	Growing
Programmable Logic Controllers	18%	13.90%	Growing
Communications Protocols/ sensors	14%	11.10%	Growing
Cleaning In Place (CIP) automation	100%	10.40%	Growing
OSIsoft PI System / AVEVA PI	18%	9.00%	Growing
Supervisory Control And Data Acquisition (SCADA)	14%	7.40%	Stable
Automatic Cleaning Control	14%	4.50%	Stable

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for F&B manufacturing industry.

- Digital Process & Fermentation Operators are evolving from traditional supervisory roles towards advanced automation-based operations in F&B manufacturing sector. Automation is projected to grow by 29.20% in the future (75% of companies are seeking this skill now), while PLC skills are currently sought by 84% of companies. This growth reflects the increasing need for operators who can manage automated batch processing, continuous control systems and digitally enabled production environments. computerised Maintenance Management Systems is projected to grow 15% in future.
- Food Safety & Traceability Digital Analysts are experiencing strong growth as food manufacturers transition from paper-based compliance processes to real-time digital quality systems. Digital Quality Management Systems are projected to grow by 32.20% (90% of companies are seeking this skill now), while digital HACCP protocols are projected to grow by 25.40% (67% of companies are seeking this skill now). These capabilities are becoming essential for improving regulatory compliance, audit readiness and end-to-end product traceability.



source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - food & beverages.

key insights for F&B manufacturing industry. (Contd.)

- Packaging Automation & Material Flow Technicians are seeing increased demand as food facilities automate internal logistics and material movement. Autonomous Guided Vehicles (AGVs) and Autonomous Mobile Robots (AMRs) are projected to grow by 20.00% (25% of companies are seeking this skill now), driven by the need to reduce manual handling, improve material flow and increase packaging line efficiency.
- Food Industry Mechatronics & Automation Technicians are becoming increasingly important as production environments require greater machine connectivity and coordination. Industrial Networking is projected to grow by 20.80%, while PLC maintenance is currently sought by 90% of companies. These skills enable technicians to integrate, troubleshoot and maintain interconnected food manufacturing equipment. Industrial Automation is seeked by 70% of companies with 13% growth projection whereas Mechatronics 12% growth.
- Automated Sanitation & CIP Technicians are adopting more advanced process improvement capabilities to optimise cleaning operations. Cleaning In Place (CIP) automation are projected to grow by 10.00%, as manufacturers focus on reducing chemical usage, conserving water, improving efficiency and minimizing production downtime during sanitation cycles.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

Retail roles are evolving from traditional operations toward digital, automated and intelligence-driven ecosystems.

Approximately 30% of the retail capability profile is shifting towards digital, analytics, automation and AI-enabled competencies.

Core blue collar Skills (Remain Essential)	Capability Shift	Future new collar Skills to Build
Merchandising	Digital merchandising & intelligent product optimisation	AI-driven merchandising, Digital Shelf optimisation, Dynamic Pricing Analytics
Cash Handling & Transactions	Automated checkout and digital payment systems	Self-checkout systems, Digital Payments, AI-enabled Transaction Monitoring
Stock Rotation & Inventory Operations	Smart inventory visibility and automation	RFID Systems, Smart Inventory Management, Automated Replenishment, IoT Tracking
Retail Sales & Customer Engagement	AI-assisted customer interaction and personalised experiences	AI Customer Assistants, Customer Analytics, personalisation Engines
Order fulfilment Management	Automated fulfilment and omnichannel operations	Warehouse Robotics, Autonomous Mobile Robots (AMR), Automated Guided Vehicles (AGV), fulfilment Analytics
Retail Store Operations	Intelligent store management and connected environments	AI-Assisted Store Operations, IoT-enabled Stores, Digital Store Platforms
Loss Prevention & Asset Protection	Data-driven risk prevention and predictive monitoring	Shrink Analytics, Predictive Analytics, Computer Vision, Digital Asset Protection
Traditional Reporting & Decision Making	Advanced analytics-driven decision support	Data Analytics, Power BI / Business Intelligence, Machine Learning, Predictive modelling

Retail Workforce Capability Shift.

Today: Traditional Retail Workforce

Traditional Retail Skills:

93%

Digital & new collar Skills:

7%

Future Workforce Requirement (2030)

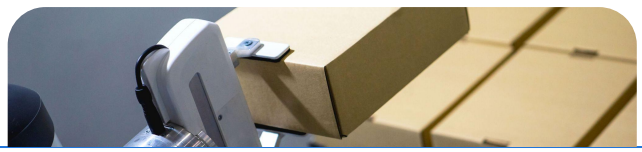
Traditional Retail Skills:

65%

Digital & new collar Skills:

35%

The retail workforce is experiencing a significant expansion in capability requirements, evolving beyond traditional store-based skills into a broader ecosystem of digital, automation, AI and analytics capabilities. These **emerging skills, including smart inventory management, robotics, AI-assisted operations, predictive analytics and digital asset protection,** will become increasingly critical by 2030 to operate next-generation retail environments. The detailed roles and skill requirements across each capability area are highlighted in the following slide.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - retail.

Rapid digital transformation continues to reshape core technical requirements across modern retail, warehousing and asset management environments. The metrics below highlight high-priority skill sets and projected market growth trends across key operational functions.

Warehouse Robotics & Sorter Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation/ Artificial Intelligence	23%	29.20%	Rapidly Growing
Programmable Logic Controllers	9%	13.90%	Growing
Warehouse Management Systems	44%	12.30%	Growing
Preventive Maintenance	7%	11.60%	Growing
Robotics	31%	11.50%	Growing
Automated Guided Vehicle (AGV)	5%	10.00%	Growing
Autonomous Mobile Robot (AMR)	2%	10.00%	Growing
Human Machine Interfaces	6%	7.30%	Stable

Smart Inventory & RFID Coordinators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Digital Shelf optimisation	5%	53.70%	Rapidly Growing
Electronic Shelf	3%	50%	Rapidly Growing
Artificial Intelligence	11%	20.10%	Rapidly Growing
Inventory Management	17%	14.90%	Growing
Cycle Counting	62%	12.50%	Growing
Warehouse Management Systems	10%	12.30%	Growing
Visual Merchandising	11%	12.10%	Growing
Internet Of Things (IoT)	11%	10.80%	Growing

AI-Assisted Store Operations & Support Specialists

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	48%	29.20%	Rapidly Growing
Artificial Intelligence	89%	20.10%	Rapidly Growing
Machine Learning	40%	19.10%	Rapidly Growing
Digital product information Management (DPIM)	1%	15%	Growing
Digital product passport	5%	15%	Growing
AI assisted store	22%	15%	Growing
Infrastructure as Code (IaC)	22%	12.30%	Growing
AIOps (Artificial Intelligence For Retail Operations)	17%	7.10%	Stable



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - retail.

Predictive Analytics & Exception Controllers

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Data-Driven Decision Making	13%	20.90%	Rapidly Growing
Artificial Intelligence	57%	20.10%	Rapidly Growing
Power BI / Business Intelligence	18%	19.60%	Rapidly Growing
Retail Analytics/ Advanced Analytics	19%	16.00%	Rapidly Growing
Pricing analytics	80%	13.40%	Growing
Demand Forecasting	86%	12.60%	Growing
Predictive Analytics	73%	10.10%	Growing
Predictive modelling	14%	9.20%	Growing

Digital Asset Protection & Shrink Analysts

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Data-Driven Decision Making	13%	20.90%	Rapidly Growing
Data Analysis	31%	19.90%	Rapidly Growing
Salesforce Apex	25%	18.30%	Rapidly Growing
Data Analysis Tools	13%	17.50%	Rapidly Growing
Advanced Analytics	15%	14.10%	Growing
Loss Prevention Analytics	100%	10.90%	Growing
JavaScript (programming Language)	25%	10.00%	Growing
Shrink analytics	10%	7.00%	Stable

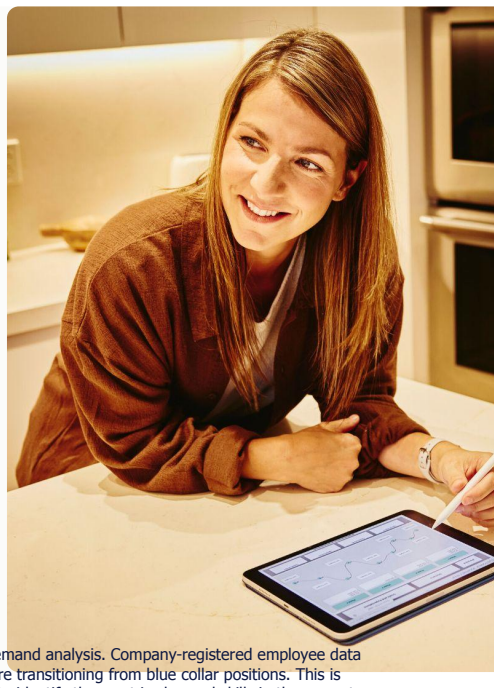
Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for retail industry.

- Warehouse Robotics & Sorter Technicians are moving beyond traditional warehouse management systems towards intelligent automation capabilities. Automation and AI are projected to grow by 29.20% in the future (23% of companies are seeking this skill now), as distribution centres adopt dynamic sortation systems, autonomous material movement and robotics-enabled workflows to improve speed and accuracy. Key skills like Robotics, Automated Guided Vehicle (AGV), Autonomous Mobile Robot (AMR) are projected to grow by 10% in future due to low adoption.
- Smart Inventory & RFID Coordinators are experiencing rapid growth as retailers move toward real-time inventory visibility and automated shelf management. Digital Shelf optimisation is projected to grow by 51.70% and Electronic Shelf Management is projected to grow by 50.00%, while cycle counting is currently sought by 62% of companies. These capabilities are becoming increasingly important for enabling dynamic pricing, accurate inventory tracking and improved customer experience.



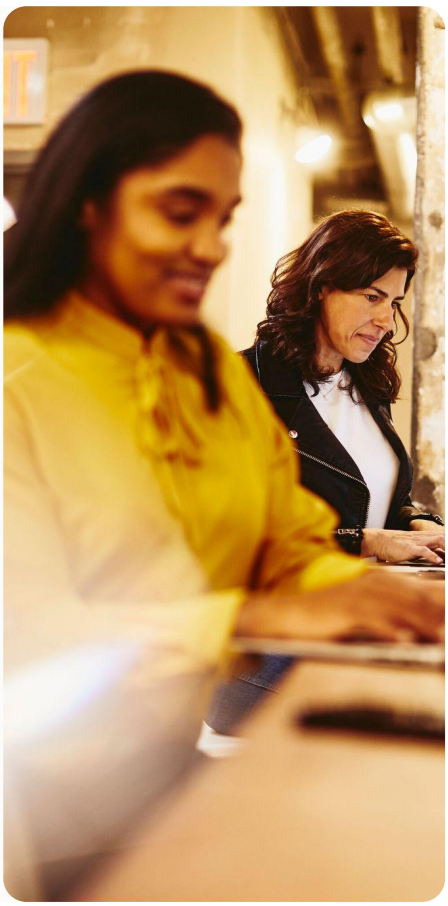
source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - retail.

key insights for retail industry. (Contd.)

- AI-Assisted Store Operations & Support Specialists are becoming more critical as retail operations adopt intelligent automation and connected technologies. Artificial Intelligence is projected to grow by 20.10% (89% of companies are seeking this skill now), while Machine Learning is projected to grow by 19.10% (40% of companies are seeking this skill now). These skills support autonomous retail systems, cloud-connected infrastructure and data-driven store operations.
- Predictive Analytics & Exception Controllers are growing as retailers use data to improve forecasting, inventory management and operational decisions. Data-Driven Decision Making is projected to grow by 20.90% and Power BI/Business Intelligence is projected to grow by 19.00%, while demand forecasting is currently sought by 86% of companies. These capabilities enable organisations to convert real-time data into automated inventory and pricing decisions.
- Digital Asset Protection & Shrink Analysts are evolving from traditional loss prevention towards proactive, analytics-driven approaches. Data-Driven Decision Making is projected to grow by 20.90% and Salesforce Apex tools are projected to grow by 18.30%, while Loss Prevention Analytics is currently sought by 100% of companies. Shrink Analytics is also emerging as an important future capability, projected to grow by 7.00% as more companies gradually adopt advanced analytics solutions to detect fraud, reduce losses and improve asset protection across omnichannel operations.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - online retail.

Modern e-commerce systems rely heavily on intelligent software, automated systems and real-time data integration. The breakdown below tracks current adoption levels and projected demand trajectories across high-impact domain areas.

Robotics-Assisted & Automated fulfilment Operators

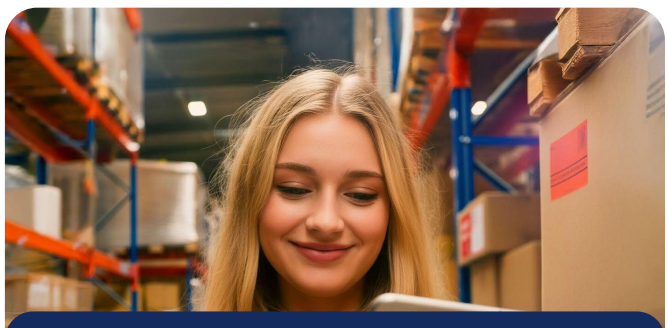
Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automated Storage And Retrieval Systems	100%	45.70%	Rapidly Growing
Industrial Automation	50%	32.00%	Rapidly Growing
Controller Development System (CoDeSys)	50%	26.30%	Rapidly Growing
Industrial Networking	50%	20.80%	Rapidly Growing
Warehouse management systems/Warehouse control systems	80%	12.30%	Growing
Robotics	100%	11.50%	Growing
AMR (Autonomous Mobile Robot)	5%	10.00%	Growing
Human machine interfaces	80%	7.30%	Stable

Warehouse Automation & Mechatronics Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Warehouse Automation	20%	29.20%	Rapidly Growing
Artificial Intelligence	80%	20.10%	Rapidly Growing
Industrial networking	20%	12.30%	Growing
Mechatronics	100%	12.00%	Growing
Preventive Maintenance	100%	11.60%	Growing
Robotics	100%	11.50%	Growing
Proximity Sensor	20%	9.10%	Growing
Predictive Maintenance	100%	8.00%	Stable

Inventory Visibility & Data Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Data Analytics/BI/ Dashboard	84%	45.00%	Rapidly Growing
Automation	17%	29.20%	Rapidly Growing
Data-Driven Decision Making	20%	20.90%	Rapidly Growing
Enterprise Resource Planning	17%	20.10%	Rapidly Growing
Real Time Monitoring	40%	20.00%	Rapidly Growing
Power BI	37%	19.60%	Rapidly Growing
Tableau (Business Intelligence Software)	26%	16.40%	Rapidly Growing
Warehouse Management Systems WMS	57%	12.30%	Growing



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - online retail.

Digital Shelf & Product Information Operators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Digital Shelf optimisation	80%	53.70%	Rapidly Growing
Data-Driven Decision Making	38%	20.90%	Rapidly Growing
Data Analytics	50%	20.20%	Rapidly Growing
Artificial Intelligence	38%	20.10%	Rapidly Growing
Customer Retention	25%	19.40%	Rapidly Growing
Content management system / CMS	20%	8.70%	Stable
Digital Merchandising	25%	8.60%	Stable
Product Information Management	80%	6.70%	Stable

Smart Last-Mile Routing & Fleet optimisers

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Delivery Performance Analytics	7%	22.90%	Rapidly Growing
Predictive scheduling	6%	19.40%	Rapidly Growing
Predictive Route optimisation	59%	18.10%	Rapidly Growing
Fleet Analytics	7%	18.00%	Rapidly Growing
Transportation Management systems / TMS	4%	11.70%	Growing
Global Positioning Systems	15%	10.50%	Growing
Predictive Analytics	80%	10.10%	Growing
Telematics	3%	10%	Growing

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights online retail industry.

- Robotics-Assisted & Automated fulfilment Operators are seeing strong growth as warehouses transition from manual picking processes to highly automated fulfilment environments in online retail industry. Automated Storage and Retrieval Systems (ASRS) are projected to grow by 45.70% in the future (90% of companies are seeking this skill now), while Industrial Automation is projected to grow by 32.00% (50% of companies are seeking this skill now). These capabilities are becoming essential for operating high-density automated warehouses and improving fulfilment speed and accuracy. Controller Development System (CoDeSys) is projected to grow by 26% in future and AMR (Autonomous Mobile Robot) by 12%
- Warehouse Automation & Mechatronics Technicians are expanding beyond traditional maintenance responsibilities towards advanced automation support. Warehouse Automation is projected to grow by 29.20% (20% of companies are seeking this skill now), while Artificial Intelligence is projected to grow by 20.10% (80% of companies are seeking this skill now). These skills are increasingly important for maintaining AI-enabled sorting systems, conveyors and automated warehouse equipment. Industrial networking and Mechatronics skills are projected to grow 12% in future.



source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - online retail.

key insights for online retail industry. (Contd.)

- Inventory Visibility & Data Technicians are becoming critical as companies require real-time visibility across increasingly complex supply networks. Data Analytics and Dashboards are projected to grow by 45.00% (84% of companies are seeking this skill now), while Automation is projected to grow by 29.20% (17% of companies are seeking this skill now). Combined with Warehouse Management Systems (WMS), currently sought by 57% of companies, these skills enable accurate inventory tracking and data-driven fulfilment decisions.
- Digital Shelf & Product Information Operators are growing in importance as retailers and e-commerce companies focus on improving online product visibility and customer engagement. Digital Shelf optimisation is projected to grow by 53.70% (80% of companies are seeking this skill now), supported by Product Information Management, currently sought by 80% of companies. These capabilities help organisations optimise product content, improve digital experiences and increase online conversion.
- Smart Last-Mile Routing & Fleet optimisers are becoming increasingly important as companies seek more efficient and cost-effective delivery operations. Delivery Performance Analytics is projected to grow by 22.90%, while Predictive Route optimisation is projected to grow by 18.10% (59% of companies are seeking this skill now). These technologies enable companies to reduce delivery times, optimise fleet capacity and improve last-mile efficiency.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - traditional retail.

Traditional retail environments are increasingly adopting digital shelf technologies, automated asset protection and predictive stock monitoring tools. The breakdown below details current adoption levels and growth trajectories to highlight core skill priorities across the sector.

Digital Shrink & Asset Protection Analysts

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Shrink Analytics	5%	53.00%	Rapidly Growing
Data-Driven Decision Making	13%	20.90%	Rapidly Growing
Data Analytics	31%	19.90%	Rapidly Growing
Incident Management Systems	13%	19.60%	Rapidly Growing
Video Analytics	19%	19.40%	Rapidly Growing
Loss Prevention analytics	80%	10.90%	Growing
Enterprise Application Software	19%	10.40%	Growing
JavaScript (programming Language)	25%	10.00%	Growing

AI-Assisted Store Operations Data Coordinators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	55%	29.20%	Rapidly Growing
Retail analytics dashboard	35%	22.40%	Rapidly Growing
Artificial Intelligence	87%	20.10%	Rapidly Growing
omnichannel retail analytics	33%	20.00%	Rapidly Growing
Machine Learning	45%	19.10%	Rapidly Growing
POS analytics	35%	18.10%	Rapidly Growing
Data Science	24%	15.60%	Growing
Customer Data Platform	80%	9.80%	Growing

Digital Shelf, ESL & Price-Integrity Operators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Digital Shelf optimisation	80%	53.70%	Rapidly Growing
Pricing Analytics	54%	20.90%	Rapidly Growing
Advanced Analytics	62%	20.20%	Rapidly Growing
Power BI	31%	19.60%	Rapidly Growing
Electronic Shelf Labels (ESL)	46%	18.00%	Rapidly Growing
Data Science	31%	15.60%	Growing
Category Analytics	31%	12.40%	Growing
Predictive modelling	31%	9.20%	Growing



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - traditional retail.

Smart Inventory & RFID Coordinators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Stock Accuracy Analytics	19%	19.90%	Rapidly Growing
Inventory Management systems	35%	16.00%	Rapidly Growing
Smart inventory	9%	15.00%	Growing
Digital Inventory Auditing	14%	13.90%	Growing
Cycle Counting	27%	12.50%	Growing
Warehouse Management Systems	59%	12.30%	Growing
Barcode Systems	72%	4.20%	Stable

AI Stock Monitoring & Fresh Waste Coordinators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Temperaturing monitoring analytics	22%	21.10%	Rapidly Growing
Freshness Tracking Analytics	22%	20.80%	Rapidly Growing
Artificial Intelligence	47%	20.10%	Rapidly Growing
Expiry Tracking Analytics	29%	20.00%	Rapidly Growing
Machine Learning	31%	19.10%	Rapidly Growing
Waste Analytics	21%	14.80%	Growing
Demand Forecasting	65%	12.60%	Growing
Inventory Management System	38%	11.90%	Growing
Inventory Forecasting	10%	10.40%	Growing

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging | stable | growing | rapidly growing

disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights traditional retail industry.

- Digital Shrink & Asset Protection Analysts are evolving from traditional loss prevention activities towards predictive, data-driven approaches for reducing retail losses. Shrink Analytics is projected to grow by 53.00% in the future (5% of companies are seeking this skill now), while Loss Prevention remains a core capability with 80% of companies seeking this skill now. As retailers increase adoption of advanced analytics, asset protection will shift towards proactive fraud detection and real-time risk monitoring.
- Digital Shelf, ESL & Price-Integrity Operators are becoming increasingly important as retailers adopt dynamic pricing and real-time shelf management technologies. Digital Shelf optimisation is projected to grow by 53.70% (80% of companies are seeking this skill now), while Pricing Analytics is projected to grow by 20.90% (54% of companies are seeking this skill now). These capabilities enable retailers to automate price updates, improve product accuracy and enhance digital and physical shelf experiences.



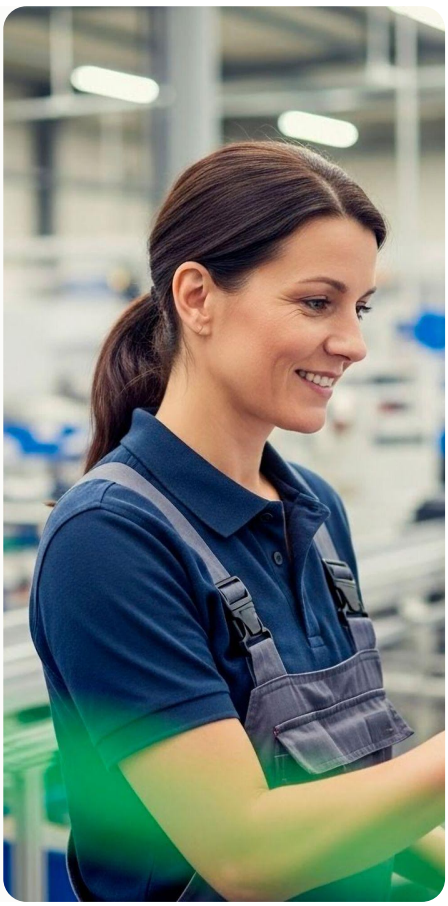
source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - online retail.

key insights for traditional retail industry. (Contd.)

- AI-Assisted Store Operations Data Coordinators are expanding as retailers integrate artificial intelligence and automation into daily operations. Automation is projected to grow by 29.20% (55% of companies are seeking this skill now), while Artificial Intelligence is projected to grow by 20.10% (87% of companies are seeking this skill now) and Machine Learning by 19.10% (45% of companies are seeking this skill now). These technologies support automated workflows, improved customer insights and connected omnichannel operations.
- Smart Inventory & RFID Coordinators are moving beyond traditional inventory tracking towards advanced stock visibility and analytics capabilities. Stock Accuracy Analytics is projected to grow by 19.90%, while Barcode Systems remain widely adopted with 72% of companies seeking this skill now. Other key skills such as Smart inventory, Cycle counting are projected to grow by 15% in future.The evolution towards advanced inventory management systems will help retailers improve accuracy, reduce stockouts and optimise inventory across locations.
- AI Stock Monitoring & Fresh Waste Coordinators are growing as retailers focus on reducing food waste and improving fresh product management. Temperature Monitoring Analytics is projected to grow by 21.10% and Freshness/ Expiry Tracking Analytics is projected to grow by 20.00%, while Demand Forecasting is currently sought by 65% of companies. These capabilities enable more accurate replenishment, better quality control and reduced losses in perishable goods operations.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

defence roles are shifting from manual engineering and maintenance towards autonomous, AI-driven, software-defined systems.

Approximately 40% of the defence capability profile is expected to shift toward AI, autonomy, cyber-physical security, digital engineering and advanced manufacturing capabilities by 2030.

Core blue collar Skills (Remain Essential)	Capability Shift	Future new collar Skills to Build
Mechanical & Electrical Maintenance	Autonomous platform sustainment	Robotics, Mechatronics, ROS, Predictive Maintenance
Equipment Assembly & Integration	Intelligent autonomous systems	UAVs, Autonomous Systems, Machine Vision, LiDAR
Wiring & Electrical Networks	Connected mission systems	C4ISR, Smart Sensors, IIoT, Software-Defined Radio
Conventional Maintenance	AI-driven maintenance	Digital Twin, AI, Machine Learning, Smart MRO
Equipment Diagnostics	Cyber-resilient operations	OT Security, Cyber-Physical Systems, SCADA
Combat Systems	Network-centric warfare	Electronic Warfare, Radar Systems, Signal Intelligence
Manufacturing & Repair	Advanced digital manufacturing	Additive Manufacturing, DfAM, CAD/CAM, SolidWorks
Manual Reporting	Data-driven decision support	Predictive Analytics, AI, Python, Digital Engineering

defence Workforce Capability Shift.

Today: Traditional defence Workforce

Traditional Engineering & defence Operations

75%

Digital, AI & Advanced Technologies:

25%

Future Workforce Requirement (2030)

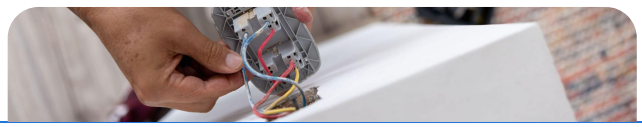
Traditional Engineering & defence Operations:

55%

Digital, AI & Advanced Technologies:

45%

The defence workforce is experiencing a significant expansion in capability requirements, evolving beyond traditional mechanical, electrical and maintenance skills into a broader mix of advanced engineering and digital skills. By 2030, expertise in **autonomous systems, robotics, C4ISR, cyber-physical security, digital twins, AI-enabled maintenance**, additive manufacturing and advanced materials will become increasingly critical for designing, operating and sustaining next-generation defence platforms. The detailed roles and skill requirements across each capability area are highlighted in the following slide.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - defence.

Driven by modernization across defence operations, demand for high-impact capabilities in robotics, digital twins and additive manufacturing continues to accelerate. The following breakdown tracks key adoption levels and growth trajectories to highlight priority competencies across the sector.

Autonomous Systems, Robotics & defence Mechatronics Specialists

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Python (programming Language)/ Artificial Intelligence Development	71%	42.00%	Rapidly Growing
UAV(unmanned aerial vehicle	25%	30.00%	Rapidly Growing
Automation/ Machine vision	40%	29.20%	Rapidly Growing
Light Detection and Ranging (LiDAR) / Sensors	12%	13.90%	Growing
Programmable Logic Controllers programming	9%	13.90%	Growing
(Robot Operating System)/ ROS1/ROS2	7%	13.00%	Growing
Robotics	40%	11.50%	Growing

Cyber-Physical Security & OT Maintenance

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Predictive maintenance	70%	20.00%	Rapidly Growing
Operational Technology security	58%	15.40%	Growing
PLC programming	93%	10.00%	Growing
SCADA	48%	10.00%	Growing
Industrial Internet of Things (IIoT)	19%	10.00%	Growing
Human Machine Interface	33%	10.00%	Growing
Cyber-Physical Systems	100%	8.30%	Stable
CNC diagnostics	90%	5.00%	Stable

C4ISR, Radar & Combat Systems Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Electronic Warfare	18%	25.80%	Rapidly Growing
electronic countermeasures / tactical networking	11%	20.00%	Rapidly Growing
Sensors	60%	13.90%	Growing
Software defined Radio Frequency	18%	10.20%	Growing
Signal intelligence	39%	7.90%	Stable
C4ISR	40%	7.30%	Stable
embedded Linux	16%	5.30%	Stable
Radar	33%	4.00%	Stable



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - defence.

Digital Twin, Smart MRO & AI Maintenance

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Python (programming Language)	17%	20.20%	Rapidly Growing
Artificial Intelligence	21%	20.10%	Rapidly Growing
Machine Learning	20%	19.10%	Rapidly Growing
computerised Maintenance Management Systems	80%	14.70%	Growing
Digital Twin	68%	13.90%	Growing
Industrial Internet Of Things (IIoT)	10%	10.20%	Growing
Smart Factory	11%	9.40%	Growing
Industry 4.0	18%	7.40%	Stable

Additive Manufacturing & Materials Technologist

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
SolidWorks (CAD)	7%	22.90%	Rapidly Growing
Design for Additive Manufacturing (DfAM	8%	20.00%	Rapidly Growing
Additive Manufacturing (3D Printing)	72%	16.50%	Rapidly Growing
Computer Aided Manufacturing	80%	16.40%	Rapidly Growing
Computer-Aided Design	9%	14.70%	Growing
PTC Creo (CAD Suite)	8%	11.00%	Growing
MasterCAM (CAD/CAM)	17%	11.00%	Growing
Computer Aided Three dimensional Interactive Application	80%	9.60%	Growing

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for defence industry.

- Autonomous Systems & defence Mechatronics Specialists are seeing strong growth as defence organisations accelerate adoption of intelligent unmanned systems. Python/AI Development is projected to grow by 42.00% in the future (71% of companies are seeking this skill now), while UAV technologies are projected to grow by 30.00% (25% of companies are seeking this skill now). (Robot Operating System)/ ROS1/ROS2 and Light Detection and Ranging (LiDAR) are projected to grow by 13% in future. These capabilities are becoming essential for developing and maintaining next-generation autonomous defence platforms.
- C4ISR & Combat Systems Technicians are expanding beyond traditional sensing and communication technologies towards advanced electronic warfare capabilities. Electronic Warfare is projected to grow by 25.80% (18% of companies are seeking this skill now), C4ISR is projected to grow by 7% in future, alongside increasing adoption of electronic countermeasures (signal intelligence), as defence systems require stronger protection, secure communications and advanced tactical network capabilities.



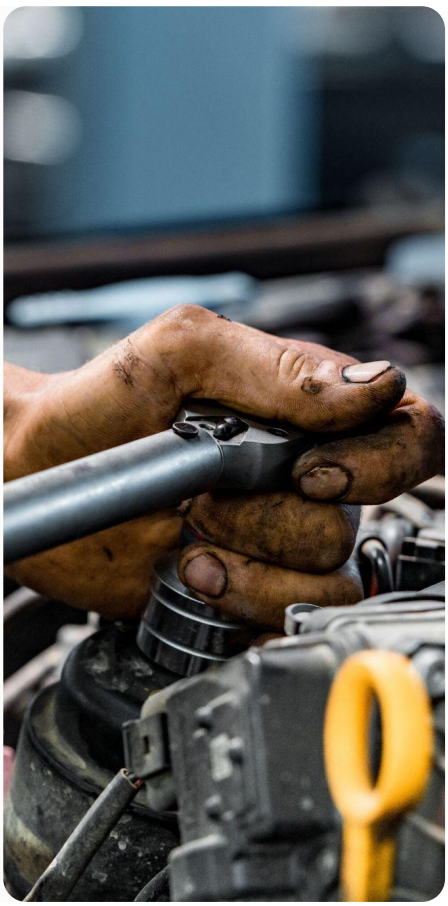
source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - defence.

key insights for defence industry. (Contd.)

- Cyber-Physical Security & OT Technicians are becoming increasingly important as defence and industrial environments become more connected. Predictive Maintenance is projected to grow by 20.00% (70% of companies are seeking this skill now), while OT Security is projected to grow by 15.40% (58% of companies are seeking this skill now). Cyber-Physical Systems is projected to grow by 8% in future. These skills support the protection of critical infrastructure by combining operational technology expertise with cybersecurity capabilities.
- Digital Twin & AI Maintenance Specialists are emerging as key roles for improving equipment readiness and lifecycle management. Python is projected to grow by 20.20% and Machine Learning is projected to grow by 19.10%, while CMMS is currently sought by 80% of companies and Digital Twin capabilities by 68% of companies which is projected to grow by 14% in future. These technologies enable real-time equipment modelling, predictive insights and improved maintenance planning.
- Additive Manufacturing Technologists are growing in importance as defence manufacturers use advanced manufacturing to improve component design and production flexibility. SolidWorks CAD is projected to grow by 22.90% and Design for Additive Manufacturing (DFAM) is projected to grow by 20.00%, while Additive Manufacturing (3D Printing) is currently sought by 72% of companies with 17% future growth projected.These skills support lightweight component design, faster production cycles and optimised defence hardware development.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

The life sciences sector is evolving from traditional GMP-focused manufacturing towards digitally integrated production environments.

Approximately 15% of the life sciences manufacturing capability profile has shifted towards digital, automation and advanced manufacturing competencies. By 2030, this transition is expected to accelerate as manufacturers adopt AI, robotics, digital twins and connected quality systems.

Core blue collar Skills (Remain Essential)	Capability Shift	Future new collar Skills to Build
GMP Production Operations	Intelligent & automated manufacturing	Smart Manufacturing, MES, Process Automation
Equipment Maintenance	Predictive & condition-based maintenance	AI Maintenance, Digital Twin, CMMS, Predictive Analytics
Quality Control & Documentation	Digital quality management	LIMS, eQMS, PAT, Statistical Process Control
Manufacturing Process Monitoring	Real-time process optimisation	IoT Sensors, Advanced Analytics, AI Process Control
Equipment Validation	Simulation-driven validation	Digital Twin, modelling & Simulation
Manual Inspection & Testing	AI-enabled quality inspection	Machine Vision, AI Quality Analytics
Bioprocess Manufacturing	Advanced therapy production	Cell Therapy, Gene Therapy, Continuous Processing
Manufacturing Operations	Connected GMP ecosystems	Robotics, Automation, Industrial IoT

life sciences Manufacturing Workforce Capability Shift.

Today: Traditional life sciences Manufacturing Workforce

Traditional GMP, Production & Maintenance Skills



Digital & new collar Skills:

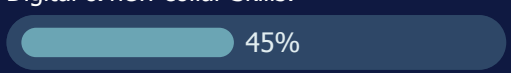


Future Workforce Requirement (2030)

Traditional GMP, Production & Maintenance Skills



Digital & new collar Skills:



The life sciences manufacturing workforce is undergoing a significant expansion in capability requirements, evolving beyond traditional GMP, production and maintenance skills into a broader ecosystem of digital and advanced manufacturing capabilities. By 2030, expertise in digital twins, predictive maintenance, **AI-driven analytics, automation, LIMS, MES, robotics, PAT and smart manufacturing technologies** will become increasingly critical for operating next-generation pharmaceutical, biotechnology and medical device manufacturing environments. The detailed capability requirements for each emerging role are highlighted in the following slides.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - life sciences.

Modern life sciences operations rely increasingly on digital twin simulation, predictive analytics and automated process control. The breakdown below tracks key adoption levels and growth trajectories to highlight priority competencies across the sector.

Digital Twin & Simulation Specialists

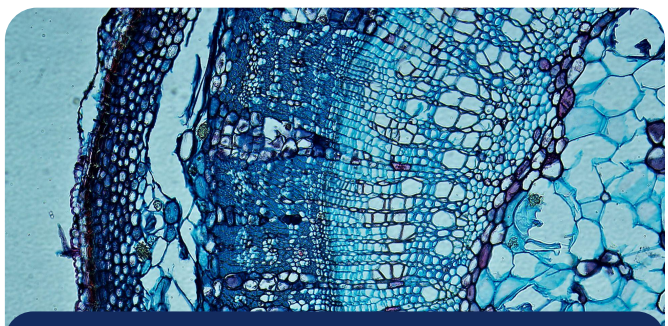
Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	39%	29.20%	Rapidly Growing
Microsoft Azure	30%	24.60%	Rapidly Growing
SolidWorks (CAD)	26%	22.90%	Rapidly Growing
Computer-Aided Manufacturing	39%	16.40%	Rapidly Growing
Computer-Aided Design	65%	14.70%	Growing
Digital Twin	61%	13.90%	Growing
Ansys Simulation Software/ Simulations	26%	13.00%	Growing
Manufacturing Execution System (MES)	26%	11.80%	Growing

Predictive Maintenance & Data Analytics

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation / IOT	12%	29.20%	Rapidly Growing
SAP Applications	19%	18.80%	Rapidly Growing
Root Cause Analysis	17%	18.00%	Rapidly Growing
computerised Maintenance Management Systems	27%	14.70%	Growing
Programmable Logic Controllers	15%	13.90%	Growing
Preventive Maintenance	82%	11.60%	Growing
Corrective And Preventive Action (CAPA)	10%	11.00%	Growing
Predictive Maintenance	30%	8.00%	Stable

Bioprocess Operations & Advanced Therapy

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Continuous Improvement Process	39%	20.00%	Rapidly Growing
New Product Development	35%	18.00%	Rapidly Growing
Good Manufacturing Practices	60%	11.70%	Growing
Corrective And Preventive Action (CAPA)	29%	11.00%	Growing
upstream/downstream bioprocessing	13%	8.00%	Stable
Process Validation/ monitoring	11%	7.80%	Stable
Cell Therapy Manufacturing	75%	5.90%	Stable
Gene Therapy Manufacturing	80%	4.90%	Stable



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - life sciences.

Digital QC, LIMS & PAT Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
SAP Applications	23%	18.80%	Rapidly Growing
PAT testing	10%	15.00%	Growing
labouratory Information Management Systems/ LIMS	87%	11.80%	Growing
Manufacturing Execution System (MES)	14%	11.80%	Growing
Good Manufacturing Practices	75%	11.70%	Growing
Corrective And Preventive Action (CAPA)	25%	11.00%	Growing
Statistical Process Controls	80%	10.30%	Growing
Analytical Method	11%	7%	Stable

GMP Automation, Validation & Process Control Technician

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Distributed Control Systems / DeltaV	29%	22.00%	Rapidly Growing
Industrial automation	25%	14.70%	Growing
PLC programming	67%	13.90%	Growing
Proficy HMI/SCADA - iFIX	25%	13.10%	Growing
eQMS / electronic quality management system	25%	11.80%	Growing
Good Manufacturing Practices automation	92%	11.70%	Growing
Supervisory Control And Data Acquisition (SCADA)	29%	7.40%	Stable
Human Machine Interfaces	57%	7.30%	Stable

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A 'stable growth' tag reflects current adoption, not future trajectory. Demand is limited today because only a few firms deploy the skill. Yet the fundamentals indicate high growth potential, with strong likelihood of accelerated uptake as industries scale. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for life sciences industry.

- Digital Twin & Simulation Specialists are experiencing rapid growth as biomanufacturing organisations adopt virtual modelling to optimise processes before executing costly physical production runs. Digital Twin capabilities are projected to grow by 19.00% in the future, alongside Automation projected to grow by 29.20%, Cloud Platforms such as Microsoft Azure projected to grow by 24.60% and CAD capabilities projected to grow by 22.90%. These technologies enable cloud-based simulations, process optimisation and improved decision-making in complex bioprocess environments.
- Predictive Maintenance teams are becoming increasingly important as biomanufacturing facilities focus on preventing costly equipment failures and production losses. SAP Integration is projected to grow by 18.80% in the future and Automation / IOT is projected to grow by 29.00%, while Preventive Maintenance is currently sought by 82% of companies. These capabilities help organisations improve equipment reliability, reduce downtime and protect high-value production batches.



source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

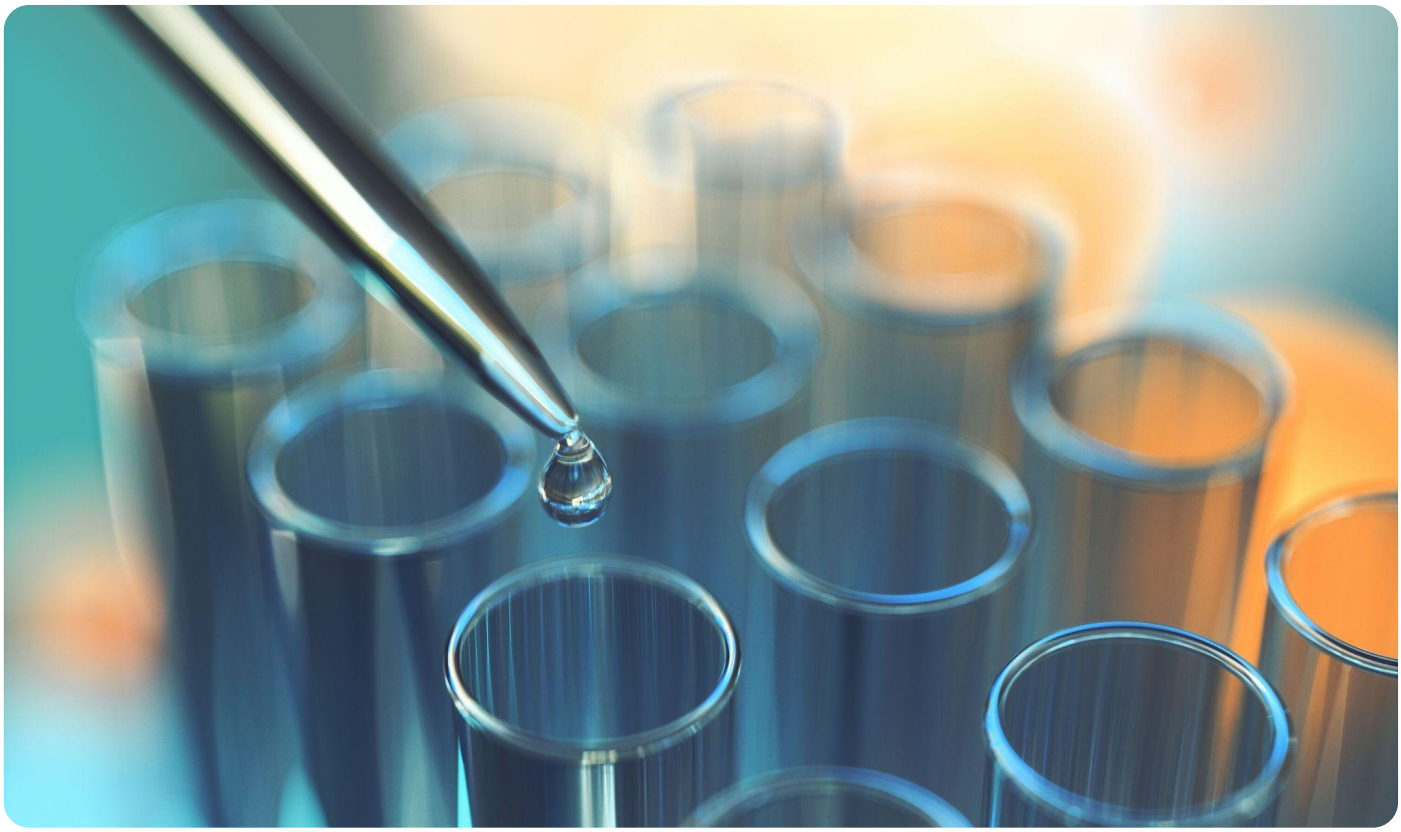
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - life sciences.

key insights for life sciences industry. (Contd.)

- Bioprocess Operations Specialists are expanding their skill requirements as advanced therapies move from research environments into commercial-scale manufacturing. Continuous Improvement is projected to grow by 20.00% in the future, while Cell & Gene Therapy skills are currently sought by 75% of companies. These capabilities support scalable production, process optimisation and the growing demand for personalised medicine.
- Digital QC and LIMS Technicians are seeing increased demand as life sciences companies digitize quality processes and strengthen regulatory compliance. SAP Applications are projected to grow by 18.80% in the future, while LIMS is currently sought by 87% of companies. PAT testing is projected to grow by 15% in future. These skills enable automated data capture, laboratory traceability and integration of quality information into enterprise systems.
- GMP Automation Technicians are becoming critical as biomanufacturing processes require higher levels of precision, control and compliance. Distributed Control Systems (DCS) / DeltaV is projected to grow by 22.00% in the future, driven by the need for automated monitoring and control of environmental and chemical parameters that exceed the capabilities of manual operations.Good Manufacturing Practices automation and eQMS / electronic quality management system is projected to grow 12% in future.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

Transportation & Logistics is shifting from traditional operations towards intelligent, automated and digitally connected mobility ecosystems.

Approximately 10% of the transportation and logistics workforce capability profile has shifted towards digital, automation and advanced mobility competencies. By 2030, this transition is expected to accelerate as autonomous vehicles, electric fleets, robotics, AI-supported logistics and connected supply chain technologies become increasingly integrated into transportation operations.

Core blue collar Skills (Remain Essential)	Capability Shift	Future new collar Skills to Build
Truck Driving & Fleet Operations	Autonomous fleet operations	Autonomous Vehicles, Convoy Operations, Advanced Driver Assistance Systems (ADAS)
Loading, Unloading & Material Handling	Automated fulfilment operations	Robotics, AMRs, AGVs, Automated Storage & Retrieval Systems (ASRS)
Vehicle Maintenance	Electrified & connected fleet maintenance	EV Powertrain Diagnostics, Battery Management Systems, High Voltage Systems
Route Planning & Dispatch Operations	AI-enabled logistics optimisation	Predictive Routing, Fleet Analytics, AI Decision Support
Warehouse Operations	Intelligent warehouse automation	Warehouse Robotics, WMS/WCS, Smart Warehousing
Manual Tracking & Reporting	Real-time connected logistics	Telematics, IoT Sensors, Digital Control Towers
Freight Coordination	Multimodal optimisation	Synchromodal Planning, Supply Chain Analytics
Equipment Inspection	Predictive maintenance	Condition Monitoring, AI Diagnostics

Transportation & Logistics Workforce Capability Shift.

Today: Traditional Transportation & Logistics Workforce

Traditional Transportation Operations: 90%

Digital & new collar Skills: 10%

Future Workforce Requirement (2030)

Traditional Transportation Operations: 65%

Digital & new collar Skills: 35%

The transportation and logistics workforce is undergoing a significant expansion in capability requirements, evolving beyond traditional driving, warehouse and fleet maintenance skills into a broader ecosystem of digital and automated capabilities. By 2030, expertise in **autonomous mobility, electric vehicle systems, robotics, AI-powered analytics, telematics, predictive maintenance and connected supply chain technologies** will become increasingly critical for operating next-generation transportation networks. The detailed capability requirements for each emerging role are highlighted in the following slides.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - transportation & logistics.

Driven by technology adoption across fulfilment networks, demand for specialised capabilities in fleet management, robotics and supply chain analytics continues to accelerate. The following breakdown tracks current adoption levels and projected growth trajectories across key domain areas.

Autonomous Vehicle & Convoy Operations

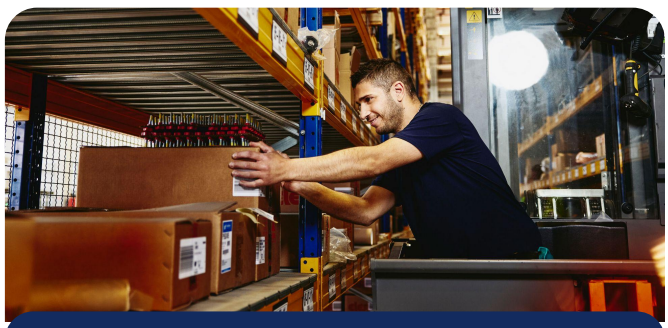
Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automated Storage And Retrieval Systems	15%	45.70%	Rapidly Growing
Robotics / Automation Systems	17%	24.20%	Rapidly Growing
autonomous fleet management	100%	21.40%	Rapidly Growing
AGV / AMR	90%	20.00%	Rapidly Growing
Industrial Automation	8%	13.30%	Growing
Warehouse Automation	15%	11.60%	Growing
Human Machine Interfaces	72%	7.30%	Stable
Light Detection and Ranging (LiDAR)	80%	6.70%	Stable

Automated fulfilment & AMR Warehousing

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automated Storage And Retrieval Systems	12%	45.70%	Rapidly Growing
Automation Systems	10%	24.20%	Rapidly Growing
Autonomous mobile robots / AMR	46%	20.00%	Rapidly Growing
Robotic Systems	9%	12.90%	Growing
Warehouse Management Systems/ Warehouse control systems / WMS/WCS	29%	12.30%	Growing
Warehouse Automation	22%	11.60%	Growing
Robotics	14%	11.50%	Growing
Human Machine Interfaces	80%	7.30%	Stable

Electric & Alternative-Fuel Fleet Maintenance

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
EV powertrain diagnostics,	18%	17.00%	Rapidly Growing
Battery Management System/ BMS	58%	14.60%	Growing
Electric Vehicle (EV) Installation	10%	14.50%	Growing
connected vehicle systems,	18%	14.40%	Growing
Preventive Maintenance	8%	11.60%	Growing
Advanced Driver Assistance Systems	9%	10.70%	Growing
High Voltage	42%	9.70%	Growing
Autonomous Vehicles	12%	7.60%	Stable



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - transportation & logistics.

Telematics-Enabled Fleet Analytics

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Dashboard Interpretation	6%	24.90%	Rapidly Growing
Fleet Analytics	24%	21.40%	Rapidly Growing
Connected Vehicle Systems	7%	21.10%	Rapidly Growing
Data Analytics	8%	19.90%	Rapidly Growing
Telematics	25%	19.30%	Rapidly Growing
Predictive Route optimisation	11%	17.60%	Rapidly Growing
GPS	6%	17.10%	Rapidly Growing
Fuel-Efficiency Analytics	18%	7.40%	Stable

Synchromodal & Multimodal Coordinators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	2%	29.20%	Rapidly Growing
ERP analytics	6%	21.30%	Rapidly Growing
supply chain control towers	8%	18.10%	Rapidly Growing
logistics analytics	9%	18.00%	Rapidly Growing
predictive analytics	19%	17.80%	Rapidly Growing
real-time decision-making,	4%	14.60%	Growing
multimodal logistics planning,	4%	6.70%	Stable
Transportation Management Systems / TMS	16%	5.80%	Stable

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging | stable | growing | rapidly growing

disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for transportation & logistics industry.

- Autonomous Vehicle & Convoy Operators are experiencing rapid skill growth as logistics operations move beyond basic vehicle operation towards managing autonomous vehicle fleets and automated material movement systems. ASRS (Automated Storage and Retrieval Systems) is projected to grow by 45.70% in the future, alongside Robotics/Automation Systems projected to grow by 24.20%. Autonomous Fleet Management and AGV/AMR skill sets are also emerging as rapidly growing capabilities, with 20.00% future growth projected, driven by increased adoption of autonomous logistics, smart warehousing and automated transportation systems.
- Electric & Alternative-Fuel Fleet Maintenance Technicians are shifting towards advanced digital diagnostics as commercial fleets transition from traditional engines to electrified powertrains. EV Powertrain Diagnostics is projected to grow by 17.00% in the future, while Battery Management Systems are currently sought by 58% of companies. Additional emerging capabilities such as Advanced Driver Assistance Systems (ADAS), projected to grow by 10.00% and Connected Vehicle Systems, projected to grow by 14.00%, reflect the growing need for technicians who can maintain software-enabled, connected vehicles.



source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

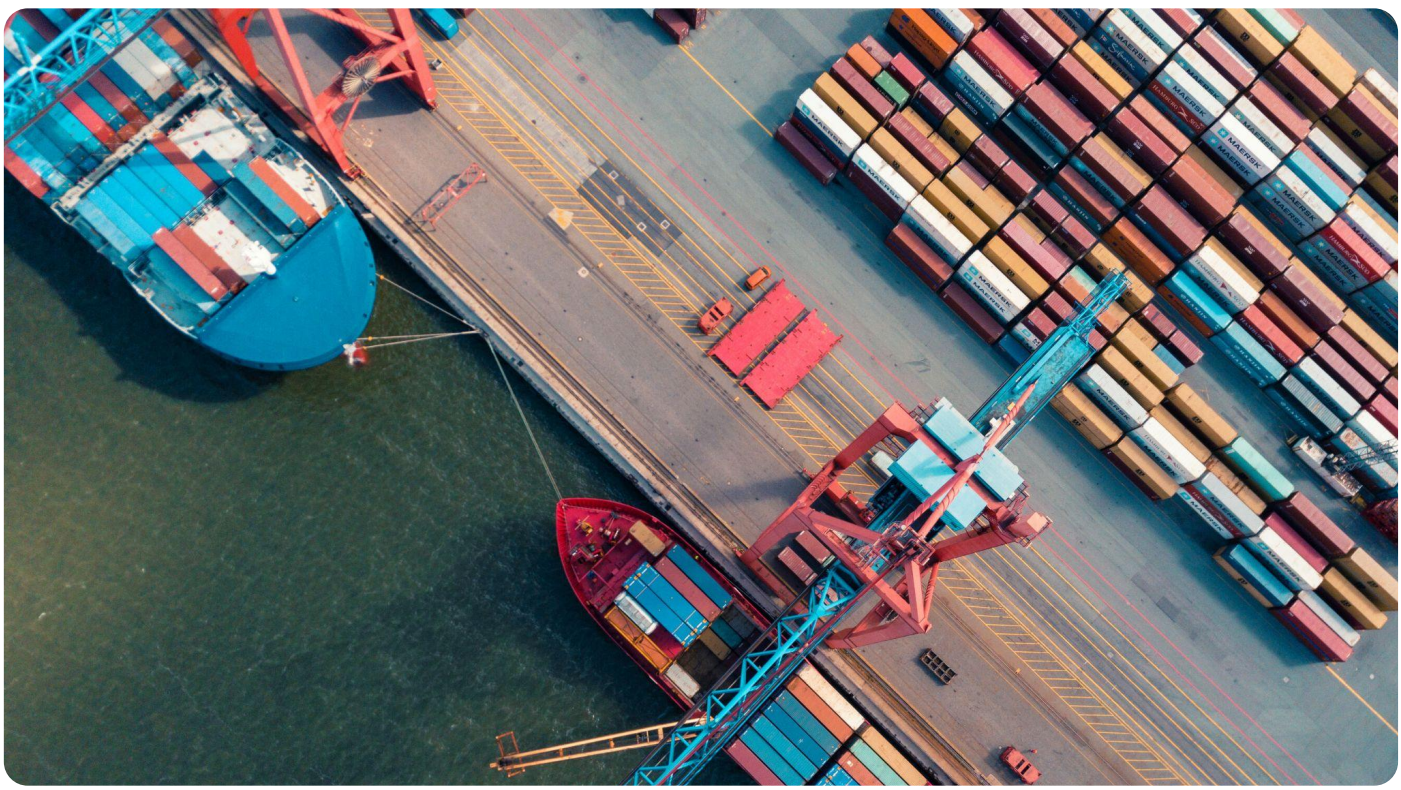
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - transportation & logistics.

key insights for transportation & logistics industry. (Contd.)

- Automated fulfilment & AMR Warehousing Specialists are experiencing strong growth as distribution centres adopt autonomous robotics to improve efficiency and reduce manual material handling. ASRS (Automated Storage and Retrieval Systems) is projected to grow by 45.70% in the future, while Autonomous Mobile Robots (AMRs) are currently adopted by 46% of companies and projected to grow by 20.00%. These technologies are becoming essential for optimizing warehouse operations, improving throughput and enabling intelligent material flow.
- Telematics-Enabled Fleet Analytics Specialists are expanding as transportation companies increasingly rely on connected data to optimise fleet performance. Dashboard Interpretation is projected to grow by 24.90% in the future, alongside Fleet Analytics projected to grow by 21.40% and Connected Vehicle Systems projected to grow by 21.10%. These capabilities enable organisations to transform complex telematics data into real-time insights for improving fleet utilization, maintenance planning and operational efficiency.
- Synchromodal & Multimodal Logistics Coordinators are seeing increased demand as companies require greater visibility and coordination across complex transportation networks. Automation is projected to grow by 29.20% in the future, alongside ERP Analytics projected to grow by 21.30% and Supply Chain Control Towers projected to grow by 18.10%. Multimodal Logistics Planning remains an important capability today and is projected to grow by 6.00%, with future adoption of integrated transportation networks and digital supply chain platforms expected to significantly increase demand for professionals with multimodal planning expertise.





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

Construction is evolving from traditional craft-based operations toward digitally enabled, automated and intelligent built environments.

Approximately 20% of the construction workforce capability profile has transitioned towards digital, automation and advanced construction technologies. By 2030, this transition is expected to accelerate as the industry adopts robotics, BIM, drones, reality capture, smart buildings, modular construction and AI-enabled project delivery methods.

Core blue collar Skills (Remain Essential)	Capability Shift	Future new collar Skills to Build
Skilled Trades & Craft labour	Automated construction processes	Construction Robotics, Automated Layout, Robotic Systems
Manual Surveying & Site Measurement	Digital site intelligence	Drones, LiDAR, Laser Scanning, Reality Capture
Traditional Drafting & Documentation	Digital engineering workflows	BIM, Autodesk Revit, Navisworks, VDC
On-site Material Assembly	industrialised construction	Prefabrication, Modular Construction, Off-site Manufacturing
Building Systems Installation	Intelligent building integration	Smart Buildings, IoT, Building Automation Systems
Equipment Operation	Connected and autonomous equipment	GNSS, GPS, Machine Automation
Energy Systems Installation	Sustainable infrastructure	Solar PV, Microgrids, Smart Energy Management
Maintenance & Facility Operations	Data-driven building management	AI Analytics, Sensors, SCADA, Digital Twins

Construction Workforce Capability Shift.

Today: Traditional Construction Workforce

Traditional Construction Skills:



Digital & new collar Skills:

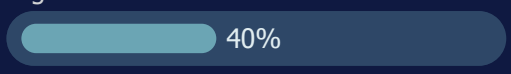


Future Workforce Requirement (2030)

Traditional Construction Skills:



Digital & new collar Skills:



The construction workforce is undergoing a significant expansion in capability requirements, evolving beyond traditional trade skills, manual processes and conventional project execution into a broader set of digital and automated construction capabilities. By 2030, expertise in **Building Information modelling (BIM), robotics, drone-based reality capture, digital twins, smart building systems, AI-enabled project optimisation and industrialised construction methods** will become increasingly critical for delivering next-generation infrastructure and built environments. The detailed capability requirements for each emerging role are highlighted in the following slides.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - construction.

Advanced technology continues to reshape core capability requirements across construction planning, execution and facility systems integration. The following data highlights key skill growth rates and market adoption metrics across critical technical areas.

Construction Robotics & Automated Layout Technicians

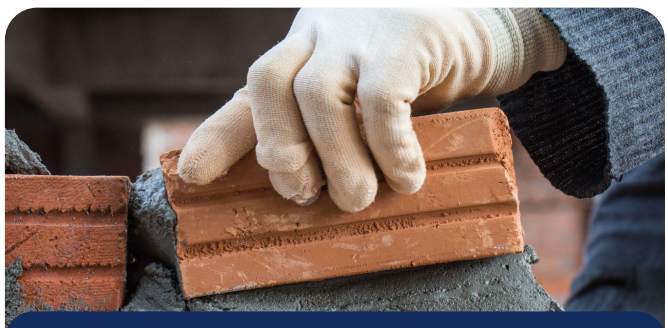
Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	34%	29.20%	Rapidly Growing
Tridium/Niagara Framework	5%	23.20%	Rapidly Growing
BACnet	5%	21.00%	Rapidly Growing
Global Navigation Satellite System (GNSS)	37%	19.40%	Rapidly Growing
Autodesk Revit	5%	15.10%	Growing
Robotics	100%	11.50%	Growing
Global Positioning Systems	80%	10.50%	Growing
Human Machine Interface	14%	7.30%	Stable

Drone, Laser Scanning & Reality Capture Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Drone / UAS	9%	19.90%	Rapidly Growing
Remote sensing	33%	16.70%	Rapidly Growing
Laser scanning	24%	16.10%	Rapidly Growing
Light Detection And Ranging (LiDAR)	16%	15.00%	Growing
Aerial Surveys	7%	13.20%	Growing
Geographic Information Systems/ ArcGIS (GIS Software)	36%	10.80%	Growing
Global Positioning Systems/GPS	29%	10.50%	Growing
GNSS	15%	10.20%	Growing

Prefabrication & industrialised Modular Assembly Specialists

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Automation	7%	29.20%	Rapidly Growing
Lean construction	6%	21.30%	Rapidly Growing
Building Information modelling/ BIM	7%	19.50%	Rapidly Growing
off-site manufacturing	2%	18.60%	Rapidly Growing
CAD	8%	17.20%	Rapidly Growing
Autodesk Revit	9%	15.10%	Growing
Prefabrication	6%	14.50%	Growing
AutoCAD	10%	14.30%	Growing



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - construction.

BIM Field Technicians & Digital Site Coordinators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Navisworks (BIM Software)	28%	21.00%	Rapidly Growing
Building Information modelling	72%	19.50%	Rapidly Growing
Building Automation System	15%	16.60%	Rapidly Growing
Autodesk Revit	57%	15.10%	Growing
Computer-Aided Design	10%	14.70%	Growing
AutoCAD	42%	14.30%	Growing
Virtual Design And Construction (VDC)	7%	12.00%	Growing
Autodesk Navisworks	29%	10.70%	Growing

Smart Building Automation & Microgrid Integrators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
PLC	6%	21.60%	Rapidly Growing
Artificial Intelligence	7%	20.10%	Rapidly Growing
Smart sensors	5%	17.80%	Rapidly Growing
Building Automation System	15%	16.60%	Rapidly Growing
solar PV installation	8%	11.70%	Growing
Internet of Things (IoT)	15%	10.80%	Growing
Smart Buildings	10%	10.00%	Growing
Supervisory Control And Data Acquisition (SCADA)	6%	7.40%	Stable

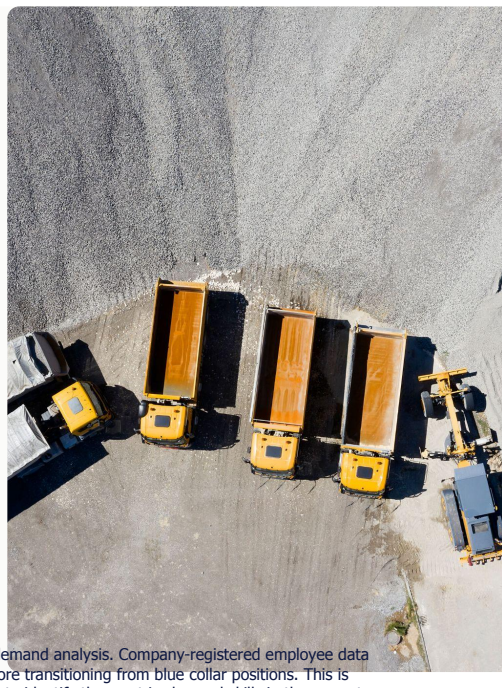
Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for construction industry.

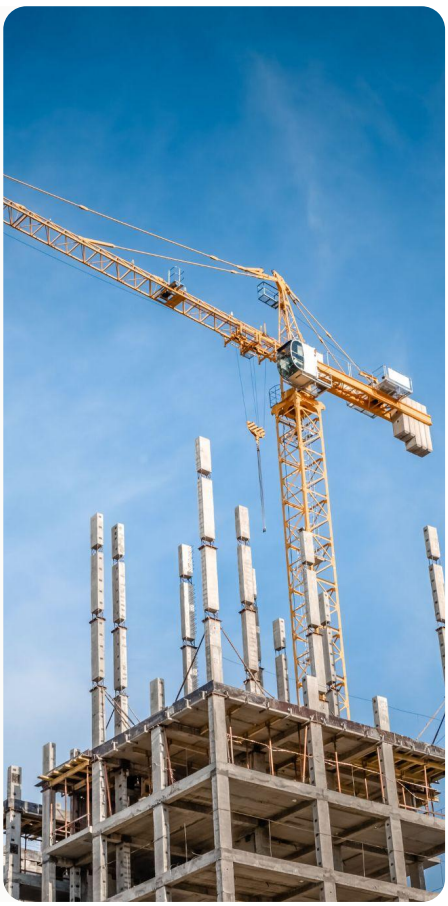
- Construction Robotics & Automated Layout Technicians are seeing rapid projected skill growth in Tridium/Niagara Framework (23.20% projected growth) and BACnet protocols (21.00% projected growth) because robotic layout operations are increasingly integrated directly into intelligent building management systems during initial site setup. Global Navigation Satellite System (GNSS) is another rapidly growing skills projected to grow by 20% in future.
- Prefabrication & industrialised Modular Assembly Specialists are prioritising Lean Construction (21.30% projected growth) and off-site manufacturing (18.00% projected growth) as modular construction companies are applying factory-floor efficiency methodologies to streamline assembly lines. Building Information modelling/ BIM is another rapidly growing skills projected to grow by 20% in future



source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - construction.



key insights for construction industry. (Contd.)

- Drone, Laser Scanning & Reality Capture Technicians are experiencing surging demand with strong projected growth in Drone/UAS (19.90% projected growth) and Remote Sensing (16.70% projected growth) as project teams are replacing manual land surveying with automated aerial data collection for real-time site tracking. LIDAR is another rapidly growing skills projected to grow by 15% in future.
- BIM Field Technicians & Digital Site Coordinators are pairing core BIM (72% adoption) and Autodesk Revit (57% adoption) with Navisworks spatial clash detection (21.00% projected growth) because digital coordinators must resolve structural clashes virtually before physical construction begins.
- Smart Building Automation & Microgrid Integrators are prioritising PLC programming (21.00% projected growth) and Artificial Intelligence (20.10% projected growth) because modern facility networks require automated, intelligent control systems to optimise energy management and microgrid operations. Smart Building and Building automation are growing skills in the market projected to grow 10% and 17% in the future.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

Data centre construction is evolving from traditional facility installation to the delivery of digitally integrated, automated and intelligent infrastructure.

Approximately 35% of the data centre construction workforce capability profile has transitioned towards digital, automation and advanced infrastructure technologies. By 2030, this transition is expected to accelerate as the industry adopts modular construction, advanced cooling systems, BIM, digital twins, intelligent controls and AI-enabled facility operations.

Core blue collar Skills (Remain Essential)	Capability Shift	Future new collar Skills to Build
Electrical Installation & Power Distribution	High-density power infrastructure	High Voltage Systems, Medium Voltage, Switchgear, UPS, PDU Systems
HVAC & Mechanical Systems	Advanced thermal management	Liquid Cooling, CRAH/CRAC Systems, Cooling optimisation, Thermal Analytics
MEP Installation & Coordination	Digital integrated construction	BIM Coordination, Digital Twin, MEP modelling, Autodesk Revit, Navisworks
Traditional Construction Assembly	industrialised construction delivery	Modular Data centres, Prefabrication, MMC Coordination
Manual Equipment Monitoring	Intelligent facility controls	BMS, DCIM, SCADA, EPMS Controls
Preventive Maintenance	Predictive and AI-enabled maintenance	Predictive Analytics, AI Maintenance, CMMS, Condition Monitoring
Site Commissioning & Testing	Automated commissioning	Controls Integration, Automated Testing, Digital Commissioning
Facility Operations	Data-driven infrastructure management	Data centre Operations Analytics, Energy optimisation, AI Operations

Data centre Construction Workforce Capability Shift.

Today: Traditional Data centre Construction Workforce

Traditional Construction Skills: 65%

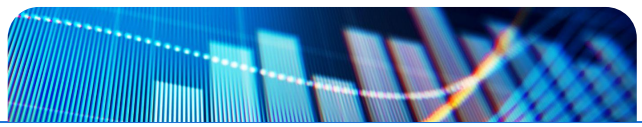
Digital & new collar Skills: 35%

Future Workforce Requirement (2030)

Traditional Construction Skills: 50%

Digital & new collar Skills: 50%

The data centre construction workforce is experiencing a significant expansion in capability requirements, evolving beyond traditional electrical, mechanical and construction trades into a broader range of digital infrastructure capabilities. By 2030, expertise in **high-voltage systems, liquid cooling, modular construction, BIM, digital twins, DCIM, BMS controls and AI-enabled operations** will become increasingly critical for designing, building and operating next-generation hyperscale and AI data centre environments. The detailed capability requirements for each emerging role are highlighted in the following slides.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - data centre.

Rapid expansion across modern facility environments is driving strong demand for technical capabilities in thermal management, modular construction and site automation systems. The following metrics track market adoption levels and growth trajectories across critical domain areas.

Hyperscale & High-Voltage Electrical Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Data centre infrastructure/ operations efficiency	80%	32.40%	Rapidly Growing
Power distribution Units/ PDU	80%	31.10%	Rapidly Growing
Medium Voltage	25%	21.80%	Rapidly Growing
Uninterruptible Power Supply	80%	15.40%	Growing
Switchgear systems	24%	10.80%	Growing
Electric Power monitoring systems/ EPMS	4%	10%	Growing
High Voltage/ Low Voltage	28%	9.70%	Growing
Automation controls	80%	6.60%	Stable

Prefabricated Modular & MMC Coordinators

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Autodesk Construction Cloud	8%	40.70%	Rapidly Growing
Navisworks (BIM Software)	17%	21.00%	Rapidly Growing
Building Information modelling	32%	19.50%	Rapidly Growing
Mechanical Electrical And Plumbing (MEP) Systems	42%	17.40%	Rapidly Growing
3D modelling	80%	17.30%	Rapidly Growing
Autodesk Revit	24%	15.10%	Growing
AutoCAD	18%	14.30%	Growing
Data centres	15%	9.10%	Growing

Advanced Thermal Management & Liquid-Cooling Specialists

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Data centre Cooling	9%	31.50%	Rapidly Growing
Cooling Towers	16%	17.50%	Rapidly Growing
Building Management System	20%	16.60%	Rapidly Growing
Air-Cooled Engines	13%	15.70%	Growing
Computer Room Air Conditioning (CRAC) Units	17%	13.50%	Growing
Cooling Systems	16%	12.30%	Growing
Computer Room Air Handler (CRAH) Units	10%	10.60%	Growing
Thermal Management	10%	10.30%	Growing



disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market — lagging — stable — growing — rapidly growing

source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - data centre.

BMS / DCIM Controls & Commissioning Specialists

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Siemens Apogee	16%	22.40%	Rapidly Growing
Python	91%	20.20%	Rapidly Growing
EPMS (electrical power monitoring system)	33%	20.00%	Rapidly Growing
Building Management System	76%	16.60%	Rapidly Growing
Programmable Logic Controllers programming	53%	13.90%	Growing
Industrial Automation	16%	13.30%	Growing
Data centre Infrastructure Management	53%	10.00%	Growing
Supervisory Control And Data Acquisition (SCADA)	85%	7.40%	Stable

White Space Mechanical & Systems Technicians

Skills	% of new collar jobs requiring this skill set	Projected Skill Growth	Skill Growth Relative to Market
Data centre Operations	43%	32.40%	Rapidly Growing
Data centre Infrastructure monitoring/ DCIM	39%	30.00%	Rapidly Growing
BACnet	35%	21.00%	Rapidly Growing
computerised Maintenance Management Systems/ CMMS	35%	14.70%	Growing
Preventive Maintenance	39%	11.60%	Growing
Data centre Infrastructure Management	10%	10.00%	Growing
(N+1, 2N)	11%	10.00%	Growing
Chilled Water cooling	6%	8.40%	Stable

Growth score: <4% = lagging /4%-9% = stable / 9%-16% = growing / >16% = rapidly growing

Skill Growth Relative to Market lagging stable growing rapidly growing

disclaimer: A "stable growth" tag does not indicate low demand. Instead, it reflects the current stage of market adoption, where only a limited number of companies have adopted this skill set. As adoption expands across industries, the fundamentals point to strong growth potential, with a high likelihood of accelerated demand as organisations scale their use of these capabilities. Projected growth estimates the evolution of skill demand over the next 2–3 years (starting 2026) based on national trends. This reflects a shift in demand share rather than a forecast of future employment levels.

key insights for data centre industry.

- Hyperscale & High-Voltage Electrical Technicians are experiencing rapid demand in Data centre Infrastructure/Operations Efficiency (80% adoption, 32.40% projected growth) and Power Distribution Units (80% adoption, 31.10% projected growth), driven by hyperscale facilities needing specialised management of extreme power loads and energy consumption.
- Advanced Thermal Management & Liquid-Cooling Specialists are prioritising direct Data centre Cooling (31.50% projected growth) and Cooling Towers (17.50% projected growth) over legacy air-cooled systems, reflecting a industry-wide pivot towards high-efficiency liquid cooling to manage thermal outputs from AI hardware loads. Computer Room Air Conditioning (CRAC) Units and Computer Room Air Handler (CRAH) Units are projected in demand skills projected to grow 13%
in future.



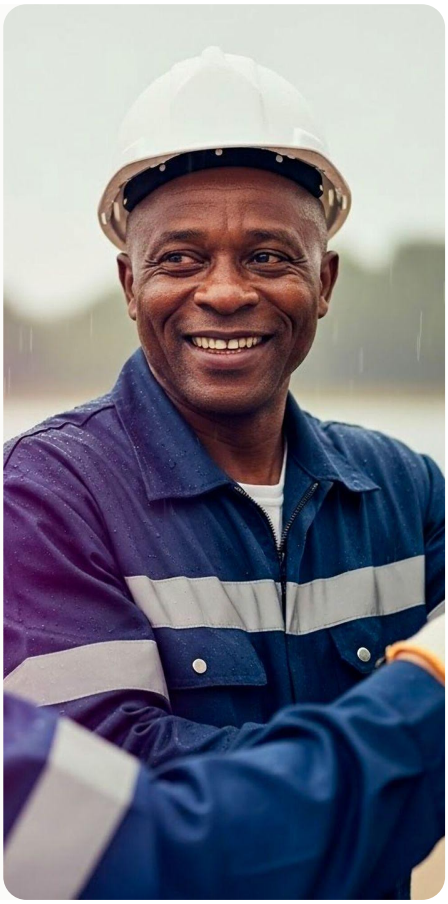
source: : Skill growth projections are developed using a two-pronged methodology that combines workforce transition analysis and market demand analysis. Company-registered employee data and professional social platforms are analysed to identify individuals currently employed in new collar roles and the skills they possessed before transitioning from blue collar positions. This is complemented by a deduplicated analysis of more than 400,000 job postings collected from industry-specific and country-specific job boards to identify the most in-demand skills in the current labour market. The combined dataset is processed using proprietary algorithms and machine learning models that analyse historical and current national hiring demand trends to project skill growth and emerging skill requirements over the next 2–3 years. Data accurate as of 04-08-2026.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

new collar skills' demand trends & projected skill growth - data centre.

key insights for data centre industry. (Contd.)

- Prefabricated Modular & MMC Coordinators are seeing surging demand in Autodesk Construction Cloud (40.70% projected growth) and Navisworks (21.00% projected growth), owing to cloud-connected BIM software becoming essential for designing and assembling pre-engineered modular server halls.
- BMS / DCIM Controls & Commissioning Specialists are combining Python (20.20% projected growth) with Siemens Apogee (22.40% projected growth) and Electrical Power Monitoring Systems (20.00% projected growth), as modern facilities increasingly rely on automated software scripts to optimise power delivery and environmental controls in real time. Data centre Infrastructure Management is projected to grow by 10% in future.
- White Space Mechanical & Systems Technicians are expanding into Data centre Operations and Data centre infrastructure (DCIM) (30% projected growth in future) and BACnet protocols (21.00% projected growth), resulting from White Space technicians needing cross-disciplinary skills to connect physical server hall hardware directly into broader facility management networks. (N+1, 2N) is an emerging and high-growth skill in the data centre industry, projected to grow by 10.00% in the future as organisations focus on improving infrastructure resilience, redundancy and scalability





This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries and companies are doing to fill the skill gap.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in manufacturing industry to fill the skill gap?

Building upon our previous examination of new collar skill priorities and the transition from blue collar roles, this section provides an in-depth analysis of the international strategies currently used to bridge these gaps. We evaluate specific approaches across six key industries, manufacturing, retail, defence, life sciences, construction and transportation & logistics and outline potential cross-country frameworks to effectively address these challenges.



Germany

- Plattform Industrie 4.0 connects more than 300 businesses, associations, research bodies and policymakers around standards, interoperability, cybersecurity, test environments and digital manufacturing.
- Germany's Qualifizierung Shelf supports workers undertaking training because of structural change. Eligible workers receive 60% of the relevant net earnings difference, rising to 67% for workers with children. This reduces the income risk of longer automation and mechatronics training.
- The dual apprenticeship model/ VET programme provides strong mechatronics, electronics, production and industrial-mechanics foundations. Mechatronics is the 2nd most popular apprenticeship programme in Germany.

Netherlands

- Smart Industry fieldlabs and skills labs allow companies to test robotics, sensors, IoT, 3D printing, connected systems and data applications.
- The SLIM subsidy supports SMEs in developing learning cultures, company training centres and practice-based development routes for future jobs in sectors including technology and ICT.
- Smart Industry is developing shared skills language and skills pyramids to make programme more understandable to employers, employees and training providers.

United Kingdom

- The Mechatronics Maintenance Technician apprenticeship covers electrical, electronic, mechanical, controls, PLCs, robotics and fluid power.
- The Automation and Controls Engineering Technician standard includes installation, maintenance, fault-finding and optimisation of automation hardware and software in manufacturing and process environments.
- The Made Smarter programme is being expanded nationally. The government states that £116 million is being provided for advice and training, targeting 5,500 manufacturing SMEs.
- The UK's 2026 advanced-manufacturing AI adoption plan explicitly prioritises predictive maintenance, quality control, production optimisation and skills development.

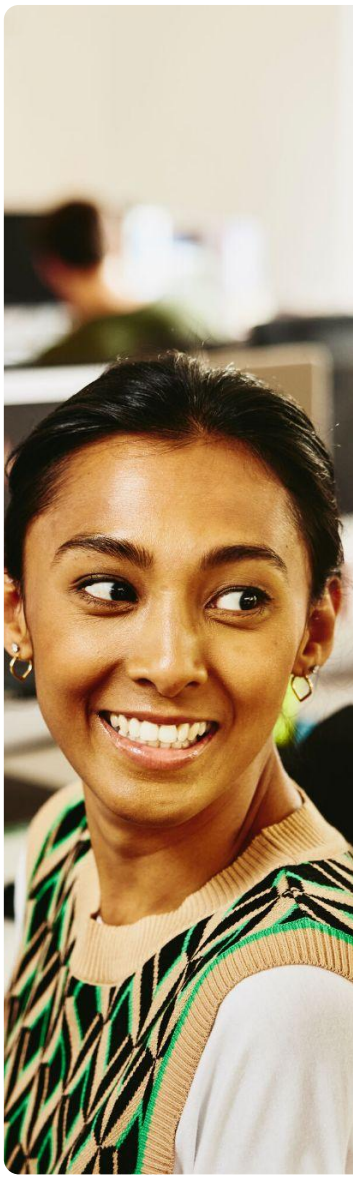
source: : Bundesagentur für Arbeit - Qualifizierungsgeld, Business.gov.nl - SLIM Subsidy, GOV.UK - Technical Excellence Colleges, La Moncloa - Plan Nacional de Competencias Digitales, Ministère de l'Enseignement Supérieur - France 2030 CMA, Ministry of Industry and Trade CZ, Gov.pl - Krajowy Fundusz Szkoleniowy, INDIRE - Sistema ITS Academy Italy Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in manufacturing industry to fill the skill gap?

Spain

- Spain's National Strategy for Connected Industry 4.0 promotes the digital transformation of industrial companies.
- The Ministry of Industry provides UNE 0060 and 0061 specifications to help companies assess the requirements for becoming digitally enabled industries.
- Digitalisation content is being embedded more strongly within vocational education, while recognition of skills acquired through work experience can support experienced industrial workers who lack formal credentials.

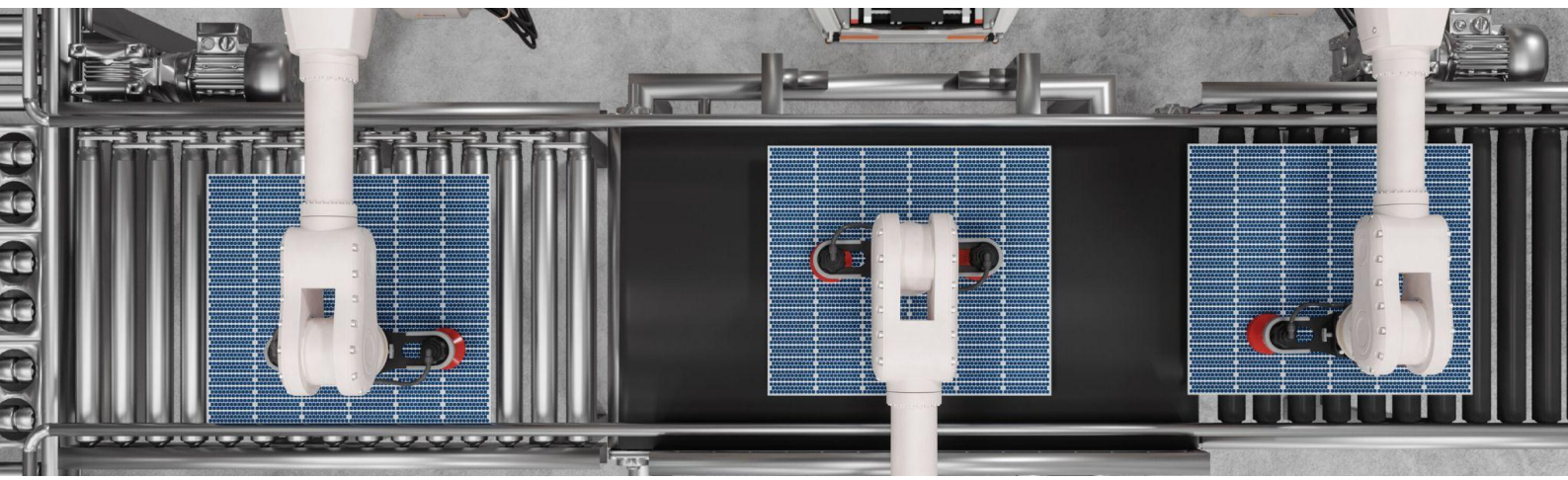


France

- France 2030 has an overall investment envelope of €54 billion, supporting research, innovation, industrial transformation and workforce development.
- The Compétences et métiers d'avenir programme has a €2 billion envelope and supports training aligned with re-industrialisation, decarbonisation, digital technology, energy, health, food and other strategic industries.
- Industrial and vocational bodies are developing new hybrid qualifications, including robot cell and robotic-welding pathways.

Czechia

- Czech Industry 4.0 test facilities allow manufacturers to experiment with automation and digital production. The CEITEC Industry 4.0 Testbed, for example, represents an investment of approximately CZK450 million and supports research and SME adoption.
- The Czech AI National Skilling Plan was launched with an initial investment exceeding CZK 10 million and an ambition to reach more than 350,000 people, including support for industrial and SME digitalisation.
- Czech recovery and labour-market programme include training in digital and Industry 4.0 capabilities.



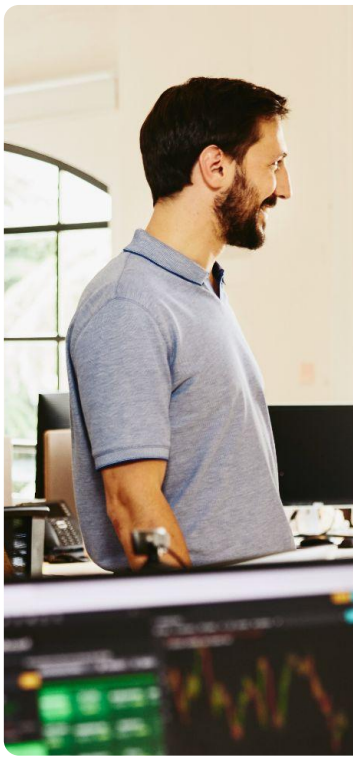
source: : Bundesagentur für Arbeit - Qualifizierungsgeld, Business.gov.nl - SLIM Subsidy, GOV.UK - Technical Excellence Colleges, La Moncloa - Plan Nacional de Competencias Digitales, Ministère de l'Enseignement Supérieur - France 2030 CMA, Ministry of Industry and Trade CZ, Gov.pl - Krajowy Fundusz Szkoleniowy, INDIRE - Sistema ITS Academy Italy Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in manufacturing industry to fill the skill gap?

Poland

- The Future Industry Platform was established to strengthen Industry 4.0 capability through training, advisory services, demonstrations and collaboration around digital transformation.
- Poland's National Training Fund supports employer-led continuing education. It can fund 80% of eligible training costs and up to 100% for microenterprises, subject to programme conditions and participant limits.
- The earlier Future Industry e-learning platform closed in 2025, with users directed towards the PARP Academy and newer digital-support services.



Italy

- The Future Industry Platform was established to strengthen Industry 4.0 capability through training, advisory services, demonstrations and collaboration around digital transformation.
- Poland's National Training Fund supports employer-led continuing education. It can fund 80% of eligible training costs and up to 100% for microenterprises, subject to programme conditions and participant limits.
- The earlier Future Industry e-learning platform closed in 2025, with users directed towards the PARP Academy and newer digital-support services.



source: : Bundesagentur für Arbeit - Qualifizierungsgeld, Business.gov.nl - SLIM Subsidy, GOV.UK - Technical Excellence Colleges, La Moncloa - Plan Nacional de Competencias Digitales, Ministère de l'Enseignement Supérieur - France 2030 CMA, Ministry of Industry and Trade CZ, Gov.pl - Krajowy Fundusz Szkoleniowy, INDIRE - Sistema ITS Academy Italy Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what companies are doing in manufacturing industry to fill the skill gap?

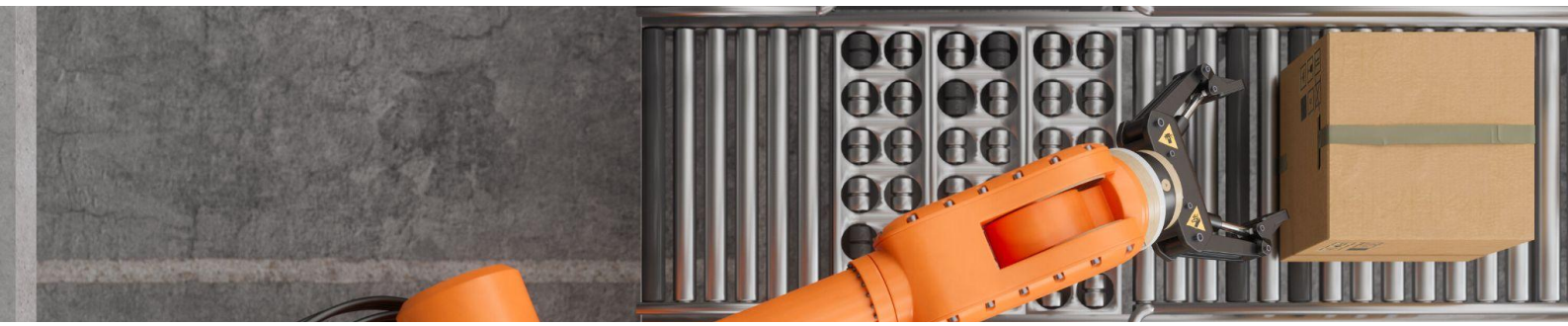
While national frameworks establish the necessary infrastructure, leading manufacturers are addressing skills shortages by investing directly in company-run technical training programmes. These strategies shift the focus from reactive, external hiring to a continuous, internal transformation journey that actively develops the technical capabilities of both new recruits and the existing workforce.

A leading European automotive manufacturer operates an internal learning academy delivering over one million training options annually. The curriculum focuses on critical future skills, including e-mobility, data analytics, predictive maintenance, production automation and digital manufacturing.

Rather than relying exclusively on new graduate recruitment to bridge talent gaps, the enterprise treats technical transformation as an ongoing workforce initiative. This wide-ranging upskilling framework supports both specialised technical personnel and existing floor-level production staff.

A global industrial technology vendor uses its own technical training platform and courses to deliver comprehensive technical training across industrial automation, controls, drives and digitalisation. The curriculum spans core operational domains, including Programmable Logic Controllers (PLCs), industrial networks, system simulation, Industrial IoT (IIoT) and digital manufacturing.

This approach highlights the strategic value of OEM-backed technical enablement for both internal talent and customer teams. However, to maximize workforce portability, vendor-specific certifications must be paired with broader occupational standards so workers gain versatile, transferable skills rather than single-stack dependencies.



source: :BMW Group Careers & Academy, Siemens SITRAIN Academy Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in retail industry to fill the skill gap?

Germany

- Germany's dual vocational-education system provides established pathways in warehouse logistics, mechatronics, electronics and IT. Digitalisation, information security and data protection content has increasingly been incorporated into technical vocational occupations.



Netherlands

- The LLO Katalysator supports lifelong development and collaboration between employers and education providers, with an emphasis on modular, demand-led learning. Dutch vocational education is also strongly work-based: apprenticeships generally allocate at least 60% of learning time to the workplace.
- The national Human Capital Agenda for ICT prioritises areas including data and AI, cybersecurity, software and cloud capabilities.

United Kingdom

- Skills Bootcamps provide free, employer-linked training lasting up to 16 weeks in areas including digital, data, engineering and technical skills. These can provide introductory bridges for store support, data and exception management roles.
- The apprenticeship system contains several directly relevant standards:
  - The Level 2 Supply Chain Warehouse Operative apprenticeship lasts approximately 12 months and explicitly includes the use of robotic and automated handling equipment. (Skills England)
  - The Level 3 Mechatronics Maintenance Technician apprenticeship lasts approximately 42 months and provides the technical foundation for robotics and sorter maintenance. (Skills England)
  - The Level 3 Data Technician apprenticeship lasts approximately 24 months and includes data sourcing, formatting, analysis, legislation and ethical data use. It can be applied in retail environments.
- In January 2026, the government expanded its AI skills ambition to provide practical AI training to 10 million UK workers by 2030, increasing the original 7.5 million target announced in 2025.



source: :European Commission, Digital Strategy, Statista, IHK, Bundesagentur für Arbeit, Business.gov.nl, CEDEFOP, Digital Holland, The Times, skillsforcareers.education.gov.uk, Skills England, GOV.UK, Digital Spain, TodoFP, Eurydice, Direction générale des Entreprises, Les Bases, enseignementsup-recherche.gouv.fr, Ministry of Industry and Trade, OECD, Source, Gov.pl Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in retail industry to fill the skill gap?

Spain

- Spain's National Digital Skills Plan has been funded with more than €3.75 billion and had trained more than two million people by October 2025. Reported beneficiaries included more than one million teachers, 650,000 citizens, 36,000 public employees and 4,500 SME executives.
- The country has also introduced digitalisation content into vocational education, including the analysis of digitised production and service systems and the development of sector-specific digital-transformation projects. AI and data evaluation are increasingly included in the curriculum.
- Spain's permanent mechanism for recognising competencies acquired through work experience and informal learning is especially relevant to frontline workers who have practical skills but lack formal qualifications.

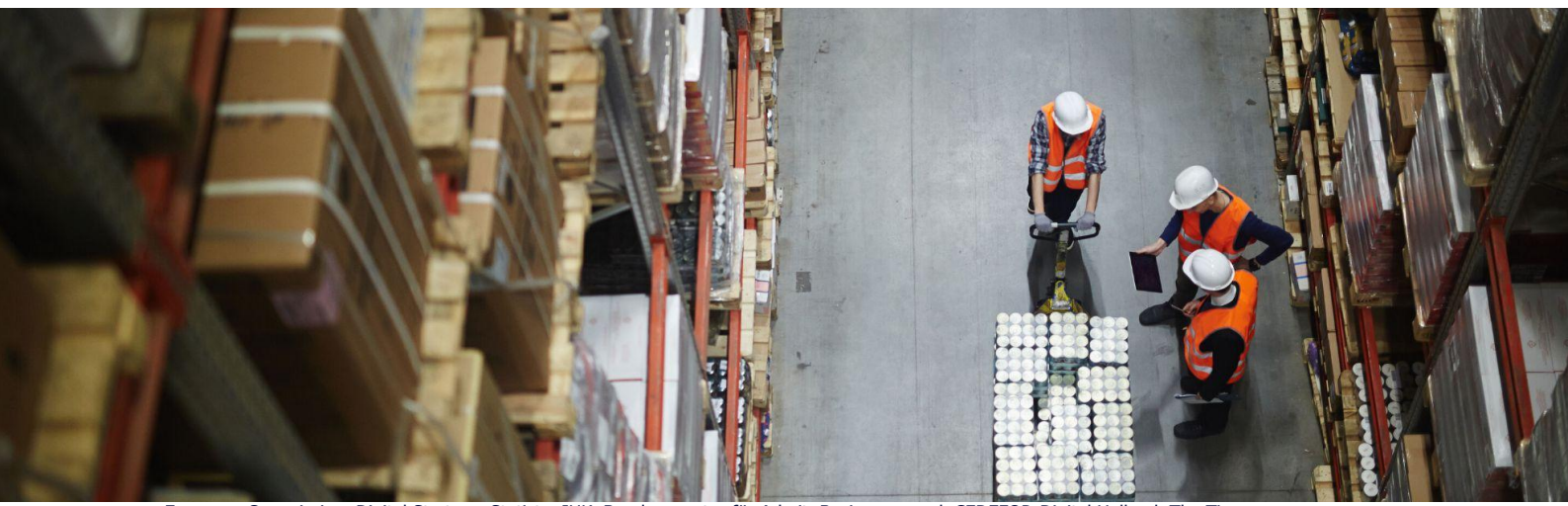


France

- The national Osez l'IA plan, launched in July 2025, aims to accelerate AI adoption across companies, particularly SMEs and mid-sized businesses. It includes diagnostics, advisory support and programme co-financed through France 2030.
- The plan includes an ambition to train 15 million professionals by 2030 through an AI Academy and associated initiatives.
- France has also committed more than €1.13 billion through the France 2030 "Skills and Jobs of the Future" initiative, supporting training design, initial education, continuing education and the attractiveness of occupations connected with major economic transitions.

Czechia

- labour-office and recovery-plan programme have supported digital and Industry 4.0 training for employees and jobseekers. However, OECD analysis of Czech labour Office data showed that 26,577 people participated in digital-skills courses, while participation was skewed towards people who were already relatively well educated: approximately 54.7% had higher education, compared with only 1.8% with primary education and 6.3% with secondary education without a diploma.



source: :European Commission, Digital Strategy, Statista, IHK, Bundesagentur für Arbeit, Business.gov.nl, CEDEFOP, Digital Holland, The Times, skillsforcareers.education.gov.uk, Skills England, GOV.UK, Digital Spain, TodoFP, Eurydice, Direction générale des Entreprises, Les Bases, enseignementsup-recherche.gouv.fr, Ministry of Industry and Trade, OECD, Source, Gov.pl Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in retail industry to fill the skill gap?

Poland

- Poland is making large investments in digital infrastructure and skills. The European Funds for Digital Development programme allocated approximately PLN2.3 billion or €553 million, to digital resilience, cybersecurity and associated digital capabilities.
- Public and private initiatives provide AI and data courses for businesses, while education investments are expanding access to AI and STEM laboratories.



Italy

- Italy's ITS Academy system provides an additional route into higher technical education, with strong employment outcomes. ITS Academy LAST delivers two-year programme in logistics, automotive and ICT. Half of the curriculum is completed through company placements, supported by a network of more than 600 partner organisations. Its logistics programme covers integrated logistics, transport, intermodality and supply chain management, combining technical instruction with extensive industry-based learning.



source: :European Commission, Digital Strategy, Statista, IHK, Bundesagentur für Arbeit, Business.gov.nl, CEDEFOP, Digital Holland, The Times, skillsforcareers.education.gov.uk, Skills England, GOV.UK, Digital Spain, TodoFP, Eurydice, Direction générale des Entreprises, Les Bases, enseignementsup-recherche.gouv.fr, Ministry of Industry and Trade, OECD, Source, Gov.pl Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what companies are doing in retail industry to fill the skill gap?

While national frameworks establish the necessary infrastructure, forward-thinking retail companies are addressing skills shortages by investing directly in company-run technical training programmes. These strategies shift the focus from reactive, external hiring to a continuous, internal transformation journey that actively develops the technical capabilities of both new recruits and the existing workforce.

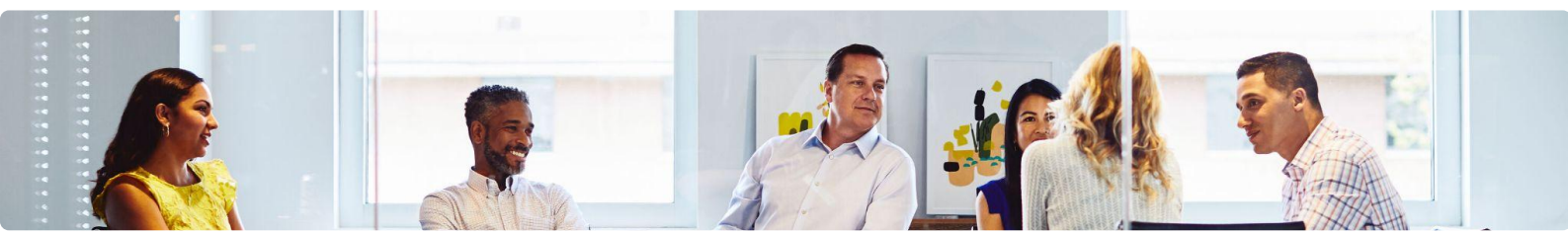
A major global e-commerce and logistics enterprise announced a $1 billion global investment commitment through 2030 for its internal career progression and upskilling framework, allocating over €30 million to European operations in 2026. The programme collaborates with more than 90 educational institutions across Europe, focusing curriculum pathways on high-demand technical areas including cybersecurity, software engineering, logistics systems, renewable energy and mechatronics.

The initiative provides a clear blueprint for converting "old-collar" operational roles into "new collar" technical careers. For example, a warehouse packing associate at a regional fulfilment centre completed a company-funded pre-apprenticeship in mechatronics while maintaining regular shift work. This enabled them to transition directly into a full mechatronics apprenticeship responsible for servicing and maintaining automated robotic systems.

A global industrial technology vendor uses its own technical training platform and courses to deliver comprehensive technical training across industrial automation, controls, drives and digitalisation. The curriculum spans core operational domains, including Programmable Logic Controllers (PLCs), industrial networks, system simulation, Industrial IoT (IIoT) and digital manufacturing.

This approach highlights the strategic value of OEM-backed technical enablement for both internal talent and customer teams. However, to maximize workforce portability, vendor-specific certifications must be paired with broader occupational standards so workers gain versatile, transferable skills rather than single-stack dependencies.

source: Amazon, Carrefour Data accurate 04-08-2026



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in defence industry to fill the skill gap?

Germany

- The Cyber and Information Domain provides a dedicated organisational base for cyber, IT, electronic warfare, geospatial information and secure communications skills.
- Exercises such as Quadriga include the Cyber and Information Domain alongside land, air and maritime forces, building interoperability and operational experience.
- Germany's vocational and continuing training mechanisms provide strong potential workforce pathways in electronics, mechatronics and IT, while wage-replacement support can reduce income loss during substantial retraining.

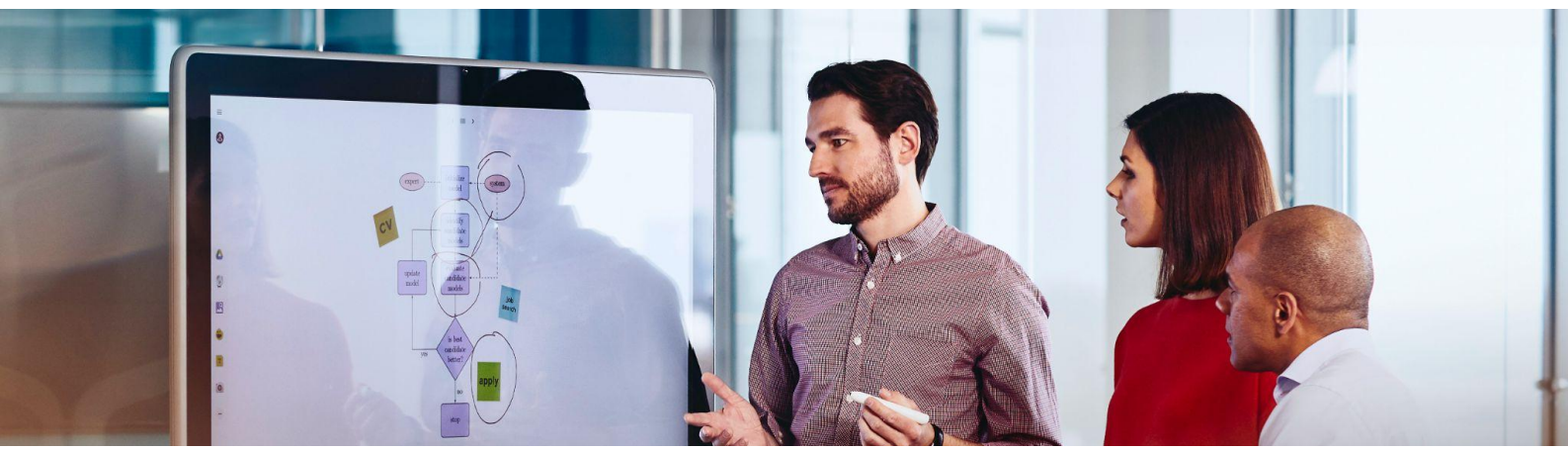


Netherlands

- defence initiated a 2025 market dialogue for a digital twin platform that would connect to predictive maintenance models, data exploration and scenario analysis.
- The 2025 defence Cyber Strategy strengthens the role of cyber operations and cooperation with national cybersecurity organisations.
- The defence Strategy for Industry and Innovation provides a framework for closer collaboration among defence, knowledge institutions and industry.

United Kingdom

- Five defence Technical Excellence Colleges are intended to develop high-demand technical skills, including engineering, welding and cyber capability.
- The 2025 Strategic defence Review identifies cyber and digital, AI and data skills as workforce priorities.
- The 2026 Future Combat Air System Digital Strategy places digital engineering and people and skills within the development model for next-generation combat aviation.
- Existing apprenticeships in radio networks, aerospace engineering, aircraft maintenance, cyber security and mechatronics provide building blocks for modular defence pathways.



source: Bundeswehr, Ministry of Defence, GOV.UK, Skills England, GOV.UK Assets, defensa.gob.es, Ejército del Aire, Ministère des Armées, Unob Fmt, ud.unob.cz, spojar.mo.gov.cz, Gov.pl, wel.wat.edu.pl, repo.bg.wat.edu.pl Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in defence industry to fill the skill gap?

Spain

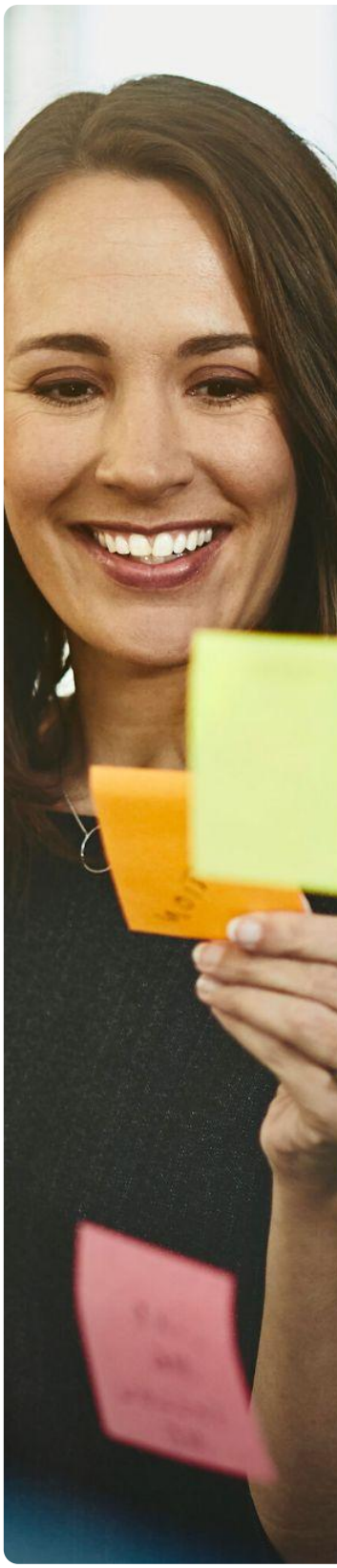
- In March 2026, the defence, industry and science ministries agreed to strengthen training in engineering, cybersecurity, digital technologies, aerospace and space systems.
- Spain operates basic and advanced cyber-defence courses, alongside cyber-security administrator training.
- A practical cybersecurity programme delivered with UNED and INCIBE runs for approximately 17 weeks at ten hours per week, providing virtual laboratories and applied exercises for military personnel.
- Spain allocated 70 public-employment positions to CETEDEX in the 2025 intake to strengthen defence technology and experimentation capacity.
- The BACSI connected-air-base programme includes predictive maintenance, AI, sensors, additive manufacturing, connectivity and tactical 5G.

France

- The Ministry of the Armed Forces has set a 2026 objective for approximately 270,000 military and civilian personnel to validate a common foundation of 82 minimum digital skills and knowledge areas.)
- The defence Digital Academy covers data, AI, cyber, office technology and emerging technologies across the ministry.
- In 2025, 116 personnel completed three-month professional pathways in digital-project, functional and architecture roles while remaining in their existing jobs.
- The newly established defence Digital Commissariat consolidates digital structures and competencies to strengthen operational digital capability.
- France also undertook approximately 100 cyber diagnostics within the final eight months of 2024 as part of efforts to strengthen defence-industrial suppliers.

Czechia

- The University of defence's radar and electronic-warfare department provides bachelor's, master's and compact technical courses covering radar operation, electronic warfare and system maintenance.
- Its organisational structure includes dedicated departments for communication technologies, electronic warfare, radiolocation, air defence, informatics and cyber operations.
- The 2026 Signals Corps conference brought together nearly 50 partners and approximately 650 specialists in ICT, cyber defence, command and control, communications and digital sovereignty.
- The University of defence also hosted the Czech round of the 2026 EUDIS defence Hackathon, strengthening connections among defence, technology companies and innovation organisations.



source: Bundeswehr, Ministry of Defence, GOV.UK, Skills England, GOV.UK Assets, defensa.gob.es, Ejército del Aire, Ministère des Armées, Unob Fmt, ud.unob.cz, spojar.mo.gov.cz, Gov.pl, wel.wat.edu.pl, repo.bg.wat.edu.pl Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in defence industry to fill the skill gap?

Poland

- The CYBER.MIL.PL programme is intended to strengthen national cyber-defence capability and coordinate military cyber initiatives.
- In 2025, the Military University of Technology and PIT-RADWAR agreed to cooperate on training specialists for passive-radar systems used within the NAREW air-defence programme.
- The Military University of Technology maintains programme and research in radar, signal processing, communications, optoelectronics, AI and secure data exchange.
- Under Poland's SAFE programme, 62 contracts worth approximately PLN 120 billion were signed with Polish defence-industry companies, signalling the scale of the workforce and sustainment requirement now being created.
- The defence and digital ministries agreed in 2025 to expand practical cyber training and knowledge exchange across the public sector.



Italy

- The Italian Army trained 1,000 drone operators in 2025, establishing a foundational base that requires further expansion into specialised roles like payload, datalink and autonomy technicians.
- Italy is moving beyond vendor demos to institutionalize testing and evaluation, highlighted by the Army's 2025 RAS experimentation at Monte Romano and ongoing investment in the RASTER test range.
- Hosting the EDA's OPEX 2025 campaign enabled Italy to test UAVs and UGVs in complex cross-domain logistics, building critical expertise in operational evaluation and test engineering.
- The Italian Navy's 2025 tests with autonomous underwater vehicles for mine warfare and subsea operations are driving demand for specialists in marine engineering, sonar and underwater communications.
- Leonardo's 2025 Drone Contest challenged university teams to operate autonomous air and ground platforms in GNSS-denied environments, directly cultivating talent in perception, navigation and robotic autonomy.



source: Bundeswehr, Ministry of Defence, GOV.UK, Skills England, GOV.UK Assets, defensa.gob.es, Ejército del Aire, Ministère des Armées, Unob Fmt, ud.unob.cz, spojar.mo.gov.cz, Gov.pl, wel.wat.edu.pl, repo.bg.wat.edu.pl Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what companies are doing in defence industry to fill the skill gap?

While national defence programmes build the foundational infrastructure, defence contractors are increasingly moving beyond passive recruitment to establish coordinated recruitment and training programmes. By integrating early-career development with reskilling existing employees at scale, these firms are building high-skill, sustainable talent pipelines that align directly with national industrial policy.

A major global defence and aerospace contractor maintains an extensive workforce development pipeline, supporting over 6,800 individuals in early-career programmes, including approximately 5,100 technical apprentices. To upskill its existing workforce alongside entry-level talent, the enterprise operates a specialised internal Digital Academy engaging over 8,000 learners annually focused on high-criticality disciplines such as cybersecurity, artificial intelligence, data analytics and digital engineering.

The initiative demonstrates a dual-track strategy: expanding early-career entry pathways while systemically reskilling the incumbent workforce. Rather than offering isolated training courses, the organisation has mapped core competencies into defined, structured career pathways spanning complex domains like C4ISR, advanced manufacturing, shipbuilding and submarine systems engineering.

Another major defence and aerospace prime contractor logs approximately 1.6 million employee training hours annually and supports over 1,300 early-career opportunities across internships, apprenticeships, traineeships and work placements. With roughly 64% of its workforce possessing specialised STEM training, the enterprise maintains high technical capability in advanced domains such as radar systems, avionics, autonomous hardware, cyber defence, defence electronics and aerospace mechatronics.

The initiative highlights an integrated ecosystem model, connecting internal enterprise learning directly to national technical education and vocational pathways. By bridging sovereign defence industrial programmes with public education systems, the organisation establishes a sustainable, high-skill talent pipeline that supports both company capabilities and broader national industrial policy.



source: BAE Systems, Leonardo Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in life sciences industry to fill the skill gap?

Germany

- Germany's pharmaceutical strategy supports a stronger domestic research and production environment and recognises the strategic importance of medicines manufacturing. The broader bioeconomy and innovation infrastructure also provides research and technology transfer capacity relevant to biological manufacturing.

Netherlands

- Leiden's training infrastructure demonstrates how jobseekers and workers from adjacent sectors can acquire GMP competence in a simulated production environment rather than through online theory alone. The model is particularly relevant to bioprocess operations and digital QC because participants can practise process execution, aseptic behaviour and deviation response before entering a commercial facility.

United Kingdom

- The Industry Skills Accelerator, funded through Innovate UK and delivered with Cogent Skills, the Cell and Gene Therapy Catapult and CPI, focuses on advanced therapies, digital capability and medicines manufacturing skills. The life sciences Innovative Manufacturing Fund is designed to support manufacturing investment in medicines, diagnostics and medical technologies.
- The Cell and Gene Therapy Catapult is also using workforce foresighting to identify future digital and automation capabilities, develop occupational profiles and work with education providers and Skills England on qualifications and short courses.

France

- Campus Biotech Digital and Immerscio.bio were created to provide a comprehensive, personalised bioproduction training platform. The initiative is supported by major manufacturers and technology partners and is intended to develop productivity, domestic production and employment. Eight new training pathways were announced in 2024. (Sanofi)
- France 2030's "Skills and Jobs of the Future" programme has supported health and digital-health training, while regional initiatives such as BIO'OCC are introducing specialised bioproduction and biotechnology programme from 2025.

Czechia

- Pharmaceuticals, biotechnology, medical devices and life sciences are included in Czechia's research and innovation specialisation priorities. The Ministry of Industry and Trade is also developing an industrial and research strategy for the pharmaceutical and biotechnology sector.
- The Prague.bio cluster, created in 2023, is seeking to connect universities, research institutions, start-ups, investors and industrial companies and reduce fragmentation in the Czech biotechnology ecosystem.



source: Economic Affairs Ministry, Biotech Training Facility, Catapult, Cogent Skills, Innovate UK Business Connect, Sanofi, University of Montpellier, Ministry of Industry and Trade, Prague Bio, Łukasiewicz – PORT, Agencja Badań Medycznych, ITS Academy Giulio Natta, Volta. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in life sciences industry to fill the skill gap?

Poland

- The Medical Research Agency and Polish Development Fund have agreed to cooperate on biotechnology and medical-research development. The Virtual Research Institute programme is intended to support medical-biotechnology research with commercialisation potential.



Italy

- Italy has several ITS Academy programme directly relevant to the new roles. The Giulio Natta ITS Academy offers pharmaceutical plants and production training covering process management, regulation, instrumentation and information systems, as well as a Pharma Technologies course focused on innovative pharmaceutical technology and plant validation.
- Other ITS programme include Biotech Quality Specialist pathways with GMP, GLP, quality systems and up to 800 hours of industry internship. Regional PNRR-supported ecosystems such as the Tuscany Health Ecosystem are also intended to build specialised skills and connect researchers, companies and clinical institutions.



source: Economic Affairs Ministry, Biotech Training Facility, Catapult, Cogent Skills, Innovate UK Business Connect, Sanofi, University of Montpellier, Ministry of Industry and Trade, Prague Bio, Łukasiewicz – PORT, Agencja Badań Medycznych, ITS Academy Giulio Natta, Volta. Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what companies are doing in life sciences industry to fill the skill gap?

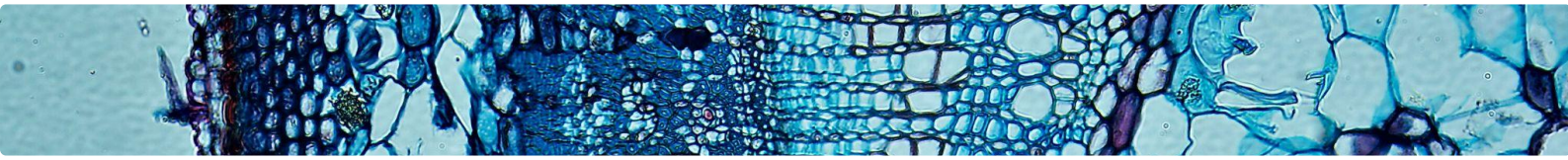
While national frameworks and public-private partnerships provide the initial training infrastructure for life sciences innovation, leading companies are increasingly taking direct ownership of talent development. By establishing proprietary apprenticeships and integrated technical ecosystems, these firms are converting traditional workforce roles into specialised roles requiring stronger data and digital skills that align directly with the requirements of advanced biomanufacturing.

A life sciences growth centre and innovation catalyst established a dedicated advanced therapies apprenticeship community, enrolling over 378 apprentices since launch, with 160 successfully completing their programmes to date. Demonstrating strong industry retention, 88% of programme graduates remained employed in the sector. In parallel, the centre's digital learning platform has delivered over 9,000 completed technical courses across specialised domains, including cell and gene therapy manufacturing, Good Manufacturing Practice (GMP), advanced laboratory techniques, regulatory affairs and bioprocess engineering.

A key strength of this model is its focus on employment-continuation metrics rather than simple enrollment counts. Furthermore, by operating as a shared ecosystem asset, the initiative provides scalable training infrastructure for multiple organisations enabling smaller advanced therapy startups and mid-market companies to access high-grade technical talent without the overhead of operating independent academies.

A leading global biopharmaceutical manufacturer maintains a multi-pathway technical apprenticeship framework spanning life sciences,laboratory quality control, chemical engineering, manufacturing operations, supply chain logistics and data analytics. This strategy builds early-career and entry-level access directly into pharmaceutical manufacturing, mitigating over-reliance on university-educated graduate hiring.

To maximize long-term operational ROI, the model links traditional vocational training directly to advanced digital roles. Apprentices progress into high-value smart manufacturing disciplines including Process Analytical Technology (PAT),laboratory Information Management Systems (LIMS), predictive equipment maintenance and Good Manufacturing Practice (GMP) automation.



source: Sanofi, GSK, Catapult Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in transportation & logistics to fill the skill gap?

Germany

- Germany has one of Europe's largest logistics workforces. Approximately 3.35 million people worked in German logistics in 2023, while 25,178 people were enrolled in transport and logistics vocational training in 2025. Germany also has an established legal framework for autonomous driving and is funding Level 4 applications in public transport and logistics.

Netherlands

- The Dutch AanZET scheme supports zero-emission truck acquisition, while practical initiatives have introduced fully zero-emission heavy-truck driver training. The country is also strengthening multimodal freight corridors and terminal nodes through implementation agreements running through 2027.

United Kingdom

- The UK has a comparatively developed autonomous mobility policy and occupational-standards environment. A joint government and industry programme provided £81 million to seven commercial self-driving projects, including autonomous buses, remotely operated HGVs in Sunderland and a zero-emission autonomous heavy-goods vehicle project.
- The UK Transport AI Action Plan commits the Department for Transport to identify AI skills needs across the transport sector and improve access to transport data for AI development.
- Skills England also lists specialist heavy electric and hybrid vehicle qualifications, as well as maintenance standards for material-handling and powered-access equipment.

Spain

- Spain is expanding vocational training connected to electric mobility and digitally enabled industrial systems. The Ministry of Education reported in January 2025 that almost 50 new vocational qualifications had been created in emerging areas including hybrid and electric vehicles, collaborative robotics, AI, big data and digital maintenance. More than half of the Spanish automotive sector's workers come through vocational education.
- Spain's national vocational catalogue includes specialisation courses in hybrid and electric vehicle maintenance, advanced rolling-stock maintenance, IoT systems, artificial intelligence and big data. The Sustainable Mobility Law was published in December 2025 and establishes a broader framework for transport transformation and competitiveness.

France

- France Travail's occupational standards for road-transport mechanics and expert after-sales technicians now include electric and hybrid vehicle maintenance, embedded-software updates, preventive maintenance and heavy-vehicle systems. France Mobilités also provides an innovation and training framework for connected and sustainable mobility.



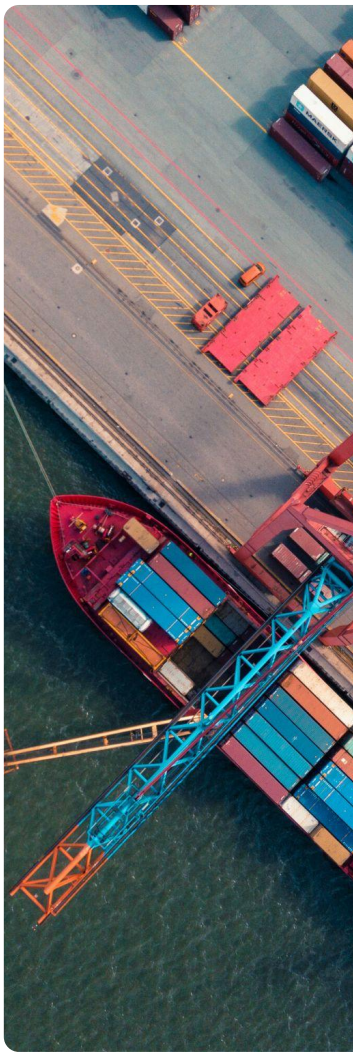
source: Make It In Germany, BMV, ACEA, Overheid.nl, GOV.UK, TodoFP, France Logistique, Mon emploi en Île-de-France, md.gov.cz, Trade.gov.pl, Gov.pl, Infrastructure & Transport Ministry, Indire Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in transportation & logistics industry to fill the skill gap?

Czechia

- Czechia updated its autonomous mobility plan in 2026 after signing a cooperation memorandum with the national automotive industry in June 2025. From January 2026, vehicles with conditional SAE Level 3 automation became permissible on Czech roads under defined conditions.
- The Czech Ministry of Transport has identified multimodality, interoperability and digitalisation as central to expanding rail freight and combined transport. Its autonomous mobility plan also covers digital infrastructure, artificial intelligence and modernisation of road networks.



Poland

- Poland launched three zero-emission heavy-transport programme with a combined budget of PLN4 billion, supporting heavy-vehicle acquisition, high-power charging and electricity-grid infrastructure. The purchase and leasing scheme for zero-emission N2 and N3 vehicles runs from May 2025 to June 2029, subject to available funding. Poland also has a formal intermodal transport strategy to 2030 and is expanding digital transport systems.

Italy

- Italy has 147 ITS Academies, including 21 specialising in sustainable mobility and logistics. The 2025 national monitoring exercise covered 450 programme delivered by 109 academies, creating a substantial platform for technician-level transport training. The Ministry of Infrastructure and Transport also continues work around Smart Roads, connected vehicles, advanced logistics and intermodality.



source: Make It In Germany, BMV, ACEA, Overheid.nl, GOV.UK, TodoFP, France Logistique, Mon emploi en Île-de-France, md.gov.cz, Trade.gov.pl, Gov.pl, Infrastructure & Transport Ministry, Indire Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what companies are doing in transportation & logistics industry to fill the skill gap?

Beyond the national initiatives and policy frameworks designed to address transportation and logistics labour challenges, leading enterprises are taking direct action to build resilient, tech-enabled workforces. By implementing targeted conversion programmes for experienced technicians and scaling comprehensive, structured learning frameworks, these organisations are closing critical skills gaps through practical, internal pathways.

A leading commercial vehicle manufacturer operates an accelerated six-week conversion programme designed to transition experienced mechanics from passenger vehicle, agricultural and heavy-plant backgrounds into certified Heavy Goods Vehicle (HGV) technicians. The targeted curriculum bridges specific knowledge gaps in commercial-fleet systems, focusing on heavy-vehicle architecture, air braking systems, industrial hydraulics and advanced commercial diagnostics.

The initiative serves as a high-efficiency adjacent-worker conversion model. By validating and building upon prior technical competence, it teaches only the specific skills required for heavy commercial platforms eliminating redundant training and enabling experienced technicians to quickly enter high-demand fleet maintenance roles without restarting their qualifications.

A global logistics and supply chain enterprise utilizes a structured 70/20/10 learning framework delivering 70% of capability development through on-the-job experience, 20% through social learning and coaching and 10% via formal coursework. In 2025, the organisation committed over €229 million in training expenditure, delivering five million total learning hours. The core curriculum features a unified organisational foundation followed by specialised functional tracks in warehouse automation, digital logistics, data science applications and operational leadership.

Rather than treating classroom instruction as a standalone solution, formal modules serve as anchor points that are systematically reinforced through workplace assignments, peer mentorship and structured role-transition pathways.



source:Scania, DHL Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in construction industry to fill the skill gap?

Germany

- BIM Deutschland provides a national platform for standards, education and public-client implementation. Federal construction and infrastructure clients are expanding BIM and digital information management requirements, while the Building Energy Act and EPBD implementation increase demand for BACS and technical building system integration.

Data centre: The German Data Centre Association (GDA) supports workforce development by leveraging Germany's dual VET system to adapt electrical, IT, mechatronics and refrigeration skills for data centre needs. Training programme and industry apprenticeships focus on areas such as high-voltage systems, cooling technologies, energy efficiency and ISO/IEC 22237-X standards, preparing technicians for mission-critical infrastructure roles.

Netherlands

- DigiGO operates as a public-private foundation for digital collaboration across the built-environment value chain and develops open standards and a trusted construction data space framework. A wider digital agreement to 2030 initially brought together 61 construction, engineering and technology partners.
- DigiGO is building common digital standards, trusted data exchange and chain-wide cooperation. This is important because robotics, modular production, scanning and smart building systems all depend on reliable information exchange between designers, contractors, suppliers and asset operators.
- The Netherlands has also generated open 3D data for approximately 10 million buildings, illustrating the maturity of the national geospatial and reality capture environment, although this does not automatically translate into sufficient construction technicians.

Data centre: The Dutch Data Centre Association's 2025 sector assessment found that almost half of participating companies had internal talent-development programme and 44% worked with education providers through internships, curriculum contributions or related partnerships. The Netherlands' broader work-based learning and SME support ecosystem can also support shared data centre pathways, although a nationally portable mission-critical credential is still missing.





source:BIM Deutschland, Construction Products, arXiv, CITB, Public Buyers Community, Internal Market & SMEs, Ministères Écologie & Transports, Direction générale des Entreprises, Koncepce BIM, Global BIM, Normattiva Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in construction industry to fill the skill gap?

United Kingdom

- CITB's workforce planning provides a national evidence base for future construction skills and supports employer training, competence frameworks and apprenticeships. The scale of projected demand strengthens the case for using automation, industrialised construction and digital coordination to raise output per worker.
- The UK also has an established BIM standards environment, although the practical application of information management remains uneven below the largest contractors and public clients.

Data centre: The UK is developing data centre skills pathways through initiatives such as Equinix's apprenticeship programme, which combines hands-on projects, mentoring and routes into full-time technical careers. Supported by wider Skills Bootcamps, apprenticeships and partnerships involving UTC Southwark, the Data centre Alliance and industry operators, these programme provide training in BIM, high-voltage systems, HVAC and digital technologies, helping young people transition into emerging data centre and other technical roles.



Spain

- Spain's construction skills strategy is led by the Fundación laboral de la Construcción (FLC), which coordinates vocational training and developed the European Construction Blueprint programme. The initiative provides standardised VET training in digitalisation, circular economy and energy efficiency, covering BIM, reality capture, cybersecurity, automation, robotics and smart technologies. These programme help construction workers transition into digital roles and adapt to evolving industry demands. .
- Spain is also participating in BuildOffsite EU, which is developing modular vocational pathways for industrialised construction and aligning them with European qualification and occupational frameworks.

Data centre: Spain DC works with regional engineering associations and technical universities to develop specialised training programme. These courses cover advanced data centre technologies, including direct-to-chip liquid cooling, high-density GPU infrastructure and renewable energy integration through Power Purchase Agreements (PPAs).



source:BIM Deutschland, Construction Products, arXiv, CITB, Public Buyers Community, Internal Market & SMEs, Ministères Écologie & Transports, Direction générale des Entreprises, Koncepce BIM, Global BIM, Normattiva Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in construction industry to fill the skill gap?

France

- France's BIM programme supports digital adoption, while France 2030 has selected multiple waves of offsite construction and renovation projects. The government is also promoting timber-based offsite construction and reported that one specialist facility can produce approximately 1,500 of timber-frame walls per day, illustrating the move towards manufacturing scale building production
- France 2030 is separately supporting robotics and intelligent-machine providers, creating a broader technology base relevant to construction automation.

Data centre: specialised academies such as Campus C2EI and private training providers offer targeted data centre skills programme, covering high-voltage systems, cooling technologies, BESS management and CDCTP certification. These courses help electricians and HVAC technicians develop expertise in liquid cooling, power distribution and airflow management for modern data centre environments.



Czechia

- The BIM Act creates formal demand for lifecycle information management rather than design-only modelling. Czechia also maintains a national BIM implementation strategy and is positioning the mandate around the management of information throughout construction and operation.

Data centre: Czechia supports workforce development through investment incentives that subsidize training and retraining for technology projects. Technical schools and regional training centres are upgrading vocational programme with practical skills in electromechanics, cooling systems and BMS networking to prepare workers for expanding data centre infrastructure.



source:BIM Deutschland, Construction Products, arXiv, CITB, Public Buyers Community, Internal Market & SMEs, Ministères Écologie & Transports, Direction générale des Entreprises, Koncepce BIM, Global BIM, Normattiva Data accurate 04-08-2026

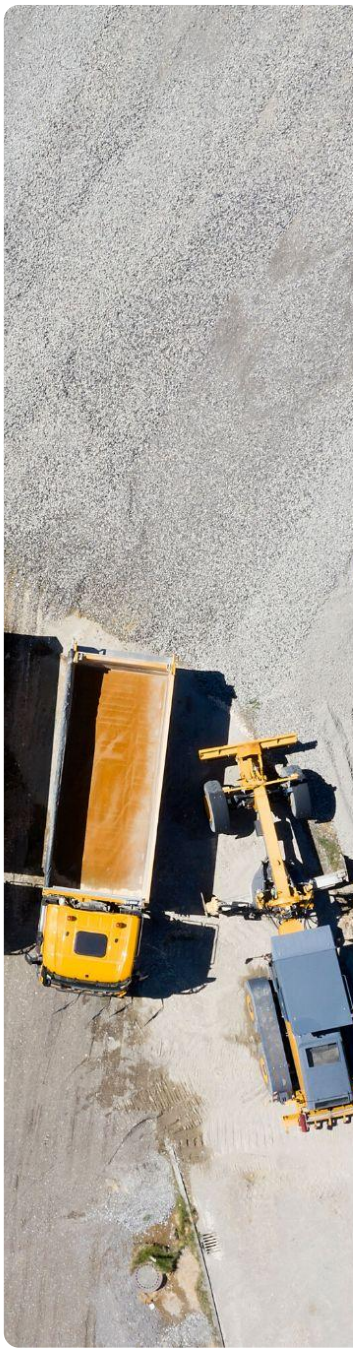
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what countries are doing in construction industry to fill the skill gap?

Poland

- Poland aligns its qualifications framework with industry needs through the Sectoral Skills Council for Construction, which develops competency standards in areas such as BIM, smart construction and automated equipment. Training providers are also adapting methods from cross-sector initiatives, including the AI4Agri programme, to equip construction workers with skills in data analysis, sensor technologies and automated machinery for demolition and earth-moving operations.

Data centre: The Polish Data centre Association (PLDCA) coordinates industry efforts to address workforce needs. Working with technical universities in Warsaw and Silesia, it supports reskilling programmes that transition industrial electricians and heavy-machinery mechanics into data centre roles, with training in medium-voltage systems, building management systems (BMS) and White Space mechanical installation.



Italy

- Italy's vocational construction training is coordinated nationally by Formedil through a network of territorial training schools. To support digital and professional upskilling, Formedil uses the EDO digital guidance platform, which offers personalised learning pathways, training resources and self-assessment tools.
- Italy's approach combines traditional construction skills with digital technologies, including BIM and robotic total stations. Regional training centres equip field technicians with the skills to integrate digital workflows while supporting the preservation of the country's historic built environment.

Data centre: The Italian Datacentre Association (IDA) is addressing data centre skills shortages through its Education Working Group. In partnership with DCD>Academy, it offers the Data centre Talent Scholarship for engineering and ITS students, providing training in facilities management, mission-critical power systems and liquid cooling. IDA also collabourates with the Politecnico di Milano to connect technical graduates with data centre design, construction and operations.



source:BIM Deutschland, Construction Products, arXiv, CITB, Public Buyers Community, Internal Market & SMEs, Ministères Écologie & Transports, Direction générale des Entreprises, Koncepce BIM, Global BIM, Normattiva Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what companies are doing in construction industry to fill the skill gap?

While national strategies for digital adoption and vocational training provide the foundation, leading construction enterprises are increasingly taking direct ownership of talent development to accelerate the adoption of Modern Methods of Construction (MMC). By establishing specialised technical training facilities and implementing AI-driven career development programmes, these organisations are converting traditional construction trades into standardised, long-term technical roles that support the shift towards industrialised building delivery.

A major international engineering and construction enterprise established a dedicated Modern Methods of Construction (MMC) technical training facility, introducing a formal Level 2 Construction Assembly Installation apprenticeship. The curriculum focuses on the digital workflows and technical skills required to install components on site, off-site prefabricated components, spanning modular assembly, digital work instructions, prefabrication engineering and manufacturing-led construction methodologies.

This initiative translates industrialised construction from a project-by-project delivery method into a recognised, standardised occupation. By creating a dedicated qualification and clear career pathway for the "assembly specialist," the model avoids the common pitfall of simply expecting traditional site trades to execute complex modular assembly without formal preparation.

A major global infrastructure and concessions group maintains a career-long training model, setting an organisational target of 24 annual training hours per employee aligned with individual career goals and enterprise requirements. The organisation utilizes an AI-driven skills management platform to help personnel assess capabilities, identify skill gaps and map personalised development paths. While this approach drives broad-based digital and operational transformation across fields like digital construction, sustainable infrastructure, energy systems and modern project delivery, it highlights a key industry challenge: internal, company-level upskilling programmes must be tied to portable, industry-recognised credentials specifically for specialised field roles like BIM coordination, reality capture and smart building
systems integration.



source:Laing O'Rourke, VINCI Data accurate 04-08-2026

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

what is still missing in each industry?

Manufacturing: access for SMEs

Large manufacturers can operate sophisticated academies, but small and medium-sized manufacturers cannot maintain several robot brands, PLC laboratories, additive manufacturing equipment and predictive maintenance systems. The priority is to expand shared regional training dojos and allow workers to earn credentials based on common technical principles, supplemented by vendor-specific modules.d

Retail: specialist pathways beyond basic digital learning

Retailers are training large employee populations in general digital tools, but relatively few have published formal conversion pathways for Smart Inventory Coordinators, Predictive Exception Controllers or Digital Shrink Analysts. The next step should be to identify store, stockroom and loss prevention workers with relevant experience and move them through targeted modules in RFID, inventory data, AI exception handling, POS analytics, computer vision and privacy.

defence: portability and clearance

defence training is frequently excellent but highly platform-specific. A radar or autonomous-systems technician may be competent on one system without an externally recognisable occupational credential. Countries should develop defence skills passports and begin clearance screening earlier so adjacent workers from aerospace, telecom, automotive and industrial automation can enter training before recruitment delays cause them to leave the process.

Transportation: pathways from driver and dispatcher roles

Transport companies have created strong mechanic conversion programme, but fewer structured routes exist from professional driving into autonomous vehicle supervision or from dispatch into telematics and synchromodal analytics. These pathways should treat route knowledge, incident judgement and customer understanding as valuable existing skills rather than starting with a generic data science curriculum.

life sciences: technician-level digital integration

The sector is expanding apprenticeships and bioprocess training, but digital twin, PAT, LIMS, predictive maintenance and automation-validation curricula remain fragmented. Training should combine scientific, quality and systems competence so that companies do not continue searching for candidates who simultaneously possess laboratory, engineering, data and GMP experience without having created a route to develop them.

Construction: formal recognition of digital site roles

BIM, scanning, robotics and smart building responsibilities are often added to existing positions without creating a recognised occupation or pay progression. Construction employers need explicit job families for BIM Field Technicians, Reality Capture Technicians, Robotic Layout Technicians and Smart Building Integrators, linked to assessment, responsibility and compensation.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

talent demand and market competitiveness for new collar roles.



This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

talent demand & market competitiveness.

In addition to talent supply, having a direct impact on local market conditions, another key parameter to consider is the competitiveness of the market. Analysing the level of competitiveness in the market helps understand the demand for specific skills and expertise.

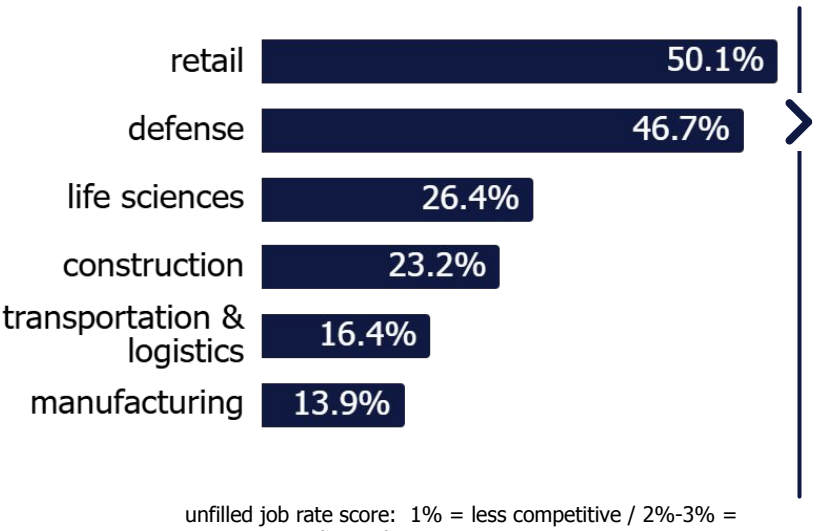
> Even if a market shows a significant talent pool available, fierce competition for talent imposes challenges to recruit top-tier talent, scale teams effectively and successfully achieve growth objectives in region.

In this chapter we will deepdive into the level of competitiveness and how they differentiate across the different industries



The Job Vacancy Rate is one of the key metrics to understand competitive pressures of the local talent markets. A unfilled job rate score of 1% or less indicates a strong market. When we take the unfilled job rate in manufacturing as an example, the average unfilled job rate of 14% indicates that there are 14% open positions for all the roles. It is a result of high demand and a shortage of qualified candidates making the Netherlands highly competitive market.

Jobs often remain unfilled not just due to talent shortages, but also because of several unavoidable factors in the hiring process. A key issue is the lack of salary transparency early on, which leads many candidates to disengage mid-process. Additionally, weak employer branding, unclear value propositions or negative perceptions about company culture can deter applicants. Lengthy and overly complex selection processes such as requiring five to six interview rounds for moderately senior roles further discourage candidates, especially when faster-moving competitors make offers sooner. Location constraints, rigid work models and uninspiring job descriptions can also contribute, making the role less attractive even when talent is available.



unfilled job rate score: 1% = less competitive / 2%-3% = moderate / >4% = most competitive

relative labour scarcity low medium high

source: demand data modelled from aggregated and de-duplicated job posting data retrieved from job boards, networking sites, social media, agency postings and career sites. Data accurate 04-08-2026

The new collar talent market across specific SEGRO locations is 30 times more competitive, driven by a significant scarcity of skilled professionals.

Retail hiring is particularly challenging. On average, 50% of positions remain unfilled, with demand frequently exceeding the total available talent pool, a trend previously noted.



In the defence sector, a similar trend persists: market demand continues to outpace the available skilled workforce, leaving 48% of positions unfilled.

While broad market indicators suggest a high level of competency, this landscape shifts significantly when examining the specific industry-focused "new collar" roles, which are detailed in the subsequent slide.

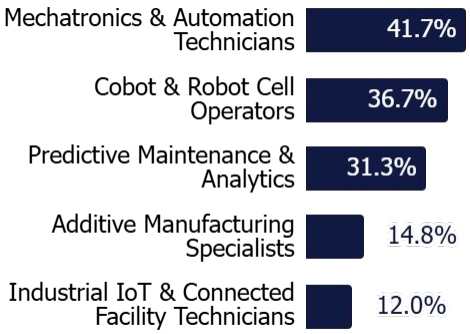
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

talent demand & market competitiveness.

market competitiveness for all industries presented in a role-level unfilled job rate score.

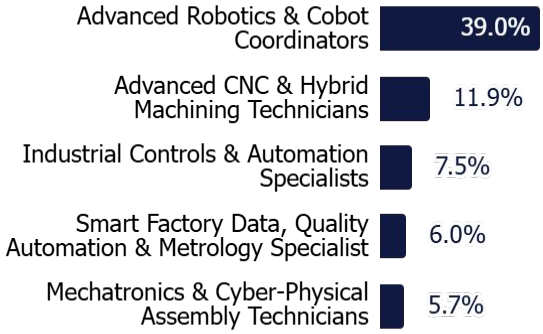
role level unfilled job rate -manufacturing

(% of jobs remaining unfilled)



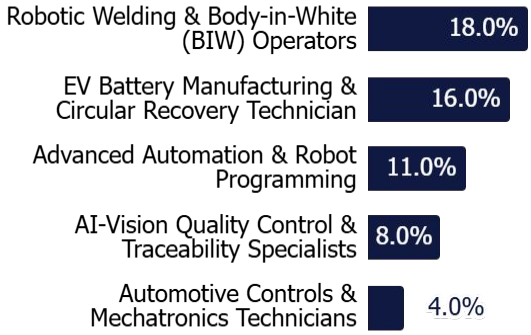
role level unfilled job rate - advanced manufacturing

(% of jobs remaining unfilled)



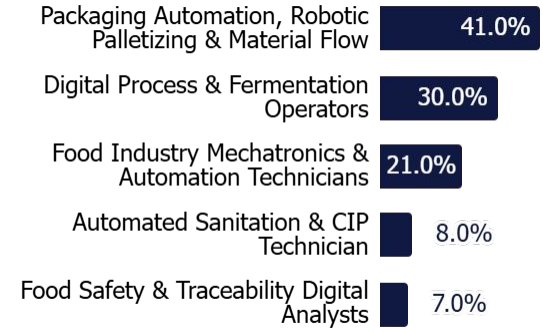
role level unfilled job rate -automotive manufacturing

(% of jobs remaining unfilled)



role level unfilled job rate - food & beverages manufacturing

(% of jobs remaining unfilled)



relative labour scarcity low medium high

unfilled job rate score: 1% = less competitive / 2%-3% = moderate / >4% = most competitive

source: demand data modelled from aggregated and de-duplicated job posting data retrieved from job boards, networking sites, social media, agency postings and career sites. Data accurate 04-08-2026.

key industry competitiveness insights.

High-Pressure Hiring Areas

Technical roles with severe talent shortages:

- Mechatronics & Automation Technicians: 41.7%
- Packaging Automation, Robotic Handling & Material Flow Specialists: 41.0%
- Advanced Robotics & Cobot Coordinators: 39.0%

Emerging Skill Sets & Future Outlook

- lower competition for Smart Factory Data/Quality Automation (6.1%) and AI Vision Quality Control (8.0%) do not indicate ease of recruitment. Rather, these figures reflect the nascent stage of these skill sets. As industrial adoption of AI and automation accelerates, demand will surge, likely creating critical talent shortages in the near future.

Although fewer automotive companies have currently adopted new collar technologies, resulting in a smaller active demand pool for these emerging skills. Thus the sector's hiring competition is approximately 14% lower than advanced manufacturing and 43% lower than food & beverage manufacturing

Disclaimer: A low job-to-vacancy ratio (unfilled job rate) does not necessarily indicate lower demand or that a skillset is easier to hire for. Instead, it may reflect that the skill is still emerging, with limited adoption among companies in the current European market. As adoption increases and the technology becomes more widespread, demand for these skills is expected to grow.

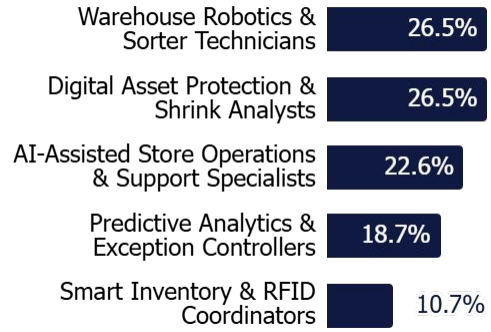
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

talent demand & market competitiveness.

market competitiveness for all industries presented in a role-level unfilled job rate score.

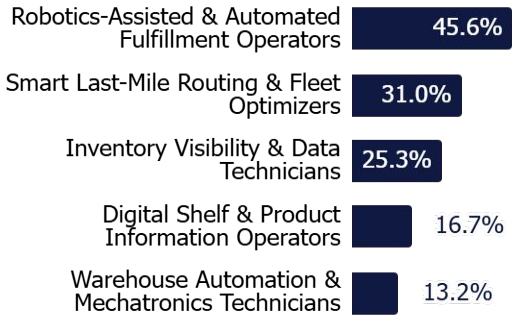
role level unfilled job rate -retail

(% of jobs remaining unfilled)



role level unfilled job rate - online retail

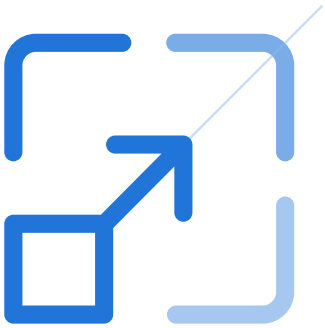
(% of jobs remaining unfilled)



role level unfilled job rate - traditional retail

(% of jobs remaining unfilled)





relative labour scarcity low medium high

unfilled job rate score: 1% = less competitive / 2%-3% = moderate / >4% = most competitive

source: demand data modelled from aggregated and de-duplicated job posting data retrieved from job boards, networking sites, social media, agency postings and career sites. Data accurate 04-08-2026.

key industry competitiveness insights.

High-pressure hiring areas

- Robotics-Assisted & Automated Fulfilment Operators: 45.6%
- AI Stack Monitoring & Fresh Waste Coordinators: 36.7%
- Digital Shrink & Asset Protection Analysts: 36.4%
- Warehouse Automation & Mechatronics Technicians: 31.0%

These figures reflect a constrained talent pool for expertise in automation, AI-enabled operations and data-centric management.

Emerging skill sets and future outlook

Roles with lower current competition, including Smart Inventory & RFID Coordinators (7.8-10.7%) and Predictive Analytics & Exception Controllers (18.7%), remain strategically vital. These lower metrics represent early-stage technology adoption. As AI and robotics implementation scales, demand for these specialised skills will surge, likely triggering imminent talent shortages.

The traditional retail market faces significant recruitment challenges due to the slow adoption of new collar skill sets and a scarcity of qualified talent. This skills gap has made hiring 26% more difficult, resulting in an average vacancy rate of 26% across the sector.

Disclaimer: A low job-to-vacancy ratio (unfilled job rate) does not necessarily indicate lower demand or that a skillset is easier to hire for. Instead, it may reflect that the skill is still emerging, with limited adoption among companies in the current European market. As adoption increases and the technology becomes more widespread, demand for these skills is expected to grow.

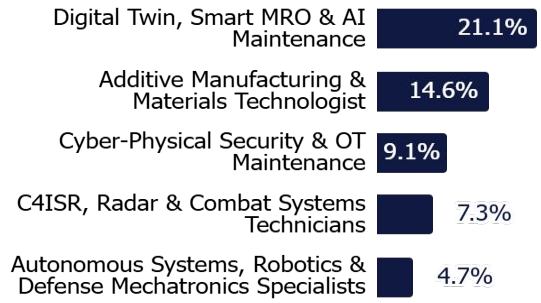
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V.. They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

talent demand & market competitiveness.

market competitiveness for all industries presented in a role-level unfilled job rate score.

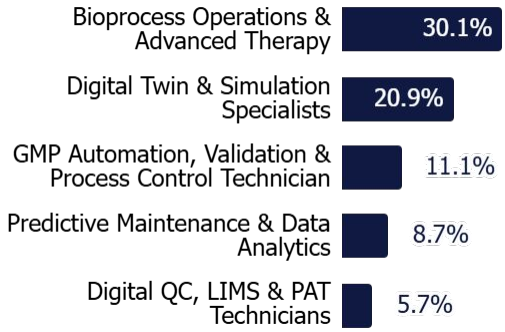
role level unfilled job rate - defence

(% of jobs remaining unfilled)



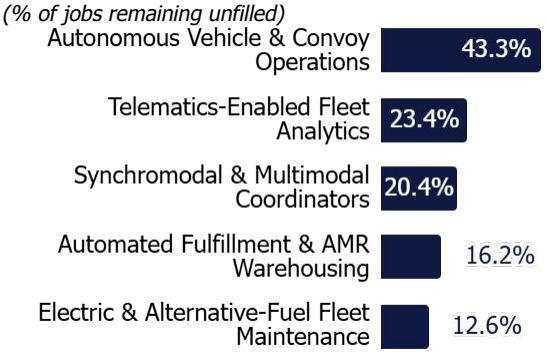
role level unfilled job rate - life science

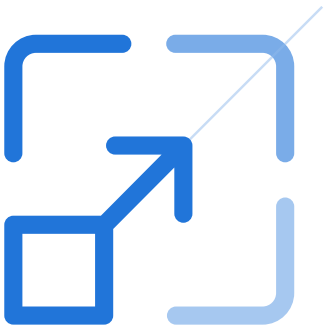
(% of jobs remaining unfilled)



role level unfilled job rate - transportation & logistics

(% of jobs remaining unfilled)





relative labour scarcity: low | medium | high

unfilled job rate score: 1% = less competitive / 2%-3% = moderate / >4% = most competitive

source: demand data modelled from aggregated and de-duplicated job posting data retrieved from job boards, networking sites, social media, agency postings and career sites. Data accurate 04-08-2026.

key industry competitiveness insights.

High-pressure hiring areas

Transportation & Logistics has the most competitive hiring market, across all three industries. Roles such as Autonomous Vehicle Operations & Convoy Coordinators (43.3%), Telematics-Enabled Fleet Analytics Specialists (23.4%) and Synchronized & Multimodal Coordination Specialists (20.4%) indicate significant shortages of talent as the sector adopts autonomous mobility and connected logistics technologies.

life sciences also faces growing hiring pressure, particularly for Bioprocess Operations & Advanced Therapy Technicians (30.1%) and Digital Twin & Simulation Specialists (20.9%), reflecting increasing investment in advanced biomanufacturing and digital production.

defence is the third-largest sector (out of 12) in terms of new collar skill transition, suggesting a growing risk of talent shortages as more organisations adopt these capabilities and absorb skilled workers.

Although adoption of AI, digital twins, additive manufacturing and autonomous technologies is still maturing within the defence sector, it currently exhibits a 40% less competitive hiring market than both life science and Transportation & Logistics. As adoption of these technologies expands, demand for these specialist skill sets is expected to increase, leading to greater competition for talent.

Disclaimer: A low job-to-vacancy ratio (unfilled job rate) does not necessarily indicate lower demand or that a skillset is easier to hire for. Instead, it may reflect that the skill is still emerging, with limited adoption among companies in the current European market. As adoption increases and the technology becomes more widespread, demand for these skills is expected to grow.

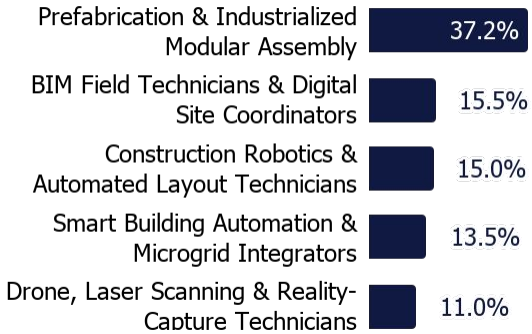
This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di

talent demand & market competitiveness.

market competitiveness for all industries presented in a role-level unfilled job rate score.

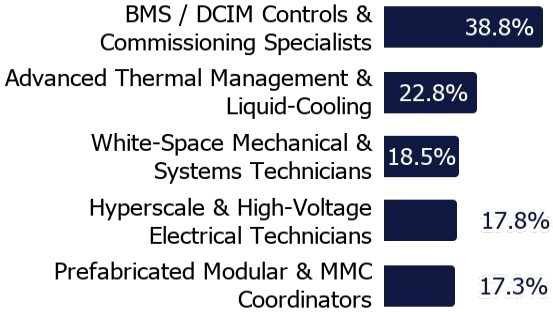
role level unfilled job rate - construction

(% of jobs remaining unfilled)



role level unfilled job rate - data centre

(% of jobs remaining unfilled)



relative labour scarcity low medium high

unfilled job rate score: 1% = less competitive / 2%-3% = moderate / >4% = most competitive

source: demand data modelled from aggregated and de-duplicated job posting data retrieved from job boards, networking sites, social media, agency postings and career sites. Data accurate 04-08-2026.

key industry competitiveness insights.

High-pressure hiring areas

Data centre construction faces greater competition for new collar talent than the broader construction sector. The highest hiring pressure is for BMS/DCIM Controls & Commissioning Specialists (38.8%), followed by Advanced Thermal Management & Liquid-Cooling Specialists (22.8%) and White Space Mechanical & Systems Technicians (18.5%). These roles require specialised expertise in mission-critical infrastructure, creating a more constrained talent market.

Construction sector shows selective talent shortages

Within the broader construction industry, Prefabrication & industrialised Modular Assembly Specialists (37.2%) experience the greatest talent scarcity, reflecting increasing adoption of industrialised construction methods.

.

While the integration of new collar technologies remains in its early stages across the broader construction industry, the data centre sector faces a 28% more competitive hiring landscape than traditional construction. This heightened demand is primarily driven by the need for specialised expertise in cooling, electrical systems, commissioning and mission-critical infrastructure.

Disclaimer: A low job-to-vacancy ratio (unfilled job rate) does not necessarily indicate lower demand or that a skillset is easier to hire for. Instead, it may reflect that the skill is still emerging, with limited adoption among companies in the current European market. As adoption increases and the technology becomes more widespread, demand for these skills is expected to grow.

Data centre construction records the highest transition to new collar skill sets across all 12 industries, reflecting the rapid pace of technology adoption and the strong influence of national data centre industry associations in driving workforce development. As investment and adoption continue to accelerate, demand for these specialised skills is expected to grow significantly, increasing the risk of talent shortages if workforce supply does not keep pace.

This document and any attached materials contain confidential information and are the sole property of Randstad Talent Advisory B.V..
They shall not be duplicated, reproduced, disclosed or appropriated in any manner without the prior written consent of Randstad Talent Advisory B.V..di



partner for talent.

randstad enterprise