

# Global Manufacturing and Engineering *Talent Report*

Talent strategies engineered for what's next



# Manufacturing and engineering: *What's happening in the industry and what's the impact on your talent strategy?*

**Strong investment activity and the accelerated adoption of advanced manufacturing technologies are driving steady, long-term growth across multiple industry segments.**

The last 12 months have been shaped by an enterprise-wide push for smart and digital technologies.

Automotive, electronics and semiconductors manufacturing remain the industry's largest segments, together accounting for nearly half of industry spend. North America has captured the largest share of new investment - driven by reshoring and energy transition activity - while Asia-Pacific countries continue to anchor global-scale production.

**But what does this momentum mean for your workforce strategy?**

With competing priorities, accelerating change and evolving talent models, many organisations are re-evaluating how their workforce strategies support long-term delivery as opposed to day-to-day operations.

Supply- and demand-side data shows why this shift is becoming increasingly urgent:

Supply-side dynamics

**40%**

of core skills in advanced manufacturing and supply chain **roles will change** by 2030.

Supply-side dynamics

**42%**

of employers believe that **talent availability will decline** in the next five years

Demand-side dynamics

**63%**

of employers believe that **skill gaps** are the primary barrier to organisational transformation.

Demand-side dynamics

**71%**

of US manufacturers struggle with **workforce stability**.

Moving forward with confidence starts with clear, data-led insights. That's why we've partnered with the Everest Group to produce a comprehensive report investigating the global manufacturing and engineering talent landscape.

You're currently reading the **'lite' version** - designed to highlight the most important trends, pressures and workforce implications shaping the industry today.

**This lite report covers:**

- The key forces reshaping the industry, from geopolitical fragmentation to the integration of AI.
- How manufacturing and engineering are evolving across major markets, including the US and Germany.
- Practical insights for building a future-ready workforce, balancing near-term pressures with long-term resilience.

For a deeper analysis of the industry, including additional trends, expanded country snapshots and further guidance on shaping your workforce strategy, contact your local Hays consultant to access the full report.

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# The forces setting manufacturing and engineering *in motion*

Nearly every industry is grappling with familiar workforce challenges, from shrinking talent pools and persistent skills mismatches.

But in the manufacturing and engineering sector, these pressures are intensified by the realities of long investment cycles, complex supply chains and increasingly advanced production environments. The result is a distinct set of forces shaping how organisations build, deploy and sustain talent.

## 01

### Advanced manufacturing is scaling up

- Enterprises are scaling net-new, capital-intensive manufacturing capacity in semi-conductors, EV batteries and defence-linked production, where speed-to-ramp, yield stability and compliance are critical.
- The acceleration is being driven by converging forces, including supply chain resilience, demand growth from AI compute and geopolitical risk mitigation.

**Talent Impact:** High



While capital is available, progress is increasingly limited by the lack of skilled roles such as process and automation engineers, maintenance specialists and production technicians.

## 02

### Supply-chain resilience drives localisation

- Organisations are redesigning supply networks to reduce single-country and single-supplier concentration risk, particularly for critical minerals and precision components.
- “In-market, for-market” manufacturing strategies are becoming more common to reduce exposure.

**Talent Impact:** High



As production shifts closer to end markets, regional manufacturing hubs are seeing rising demand for production technicians, supply chain planners and operations engineers.

## 03

### Geopolitical fragmentation and regulatory pressure

- Trade restrictions, tariffs and export controls are influencing where companies source materials, sell products and invest in new facilities, with rising tension making cross-border collaboration more complex.
- Differing approaches towards technology and data regulation are influencing where companies opt to locate specific ‘arms’ of the business, including R&D and digital engineering.

**Talent Impact:** Very High



Fragmentation is increasing demand for locally based engineers, AI and semiconductor specialists who can operate within national security and data compliance frameworks.

## 04

### Security, data sovereignty and workforce integrity

- Growing concerns around cyber risk and intellectual property are leading companies to strengthen data security, tightening verification and screening processes to reduce internal and external risk.
- Secure digital environments and zero-trust systems are becoming standard practice for protecting designs and data.

**Talent Impact:** Moderate



Security concerns are driving demand for roles like cybersecurity engineers, secure cloud and infrastructure specialists, data governance leaders and access management experts.

# The technology shifts that are *accelerating change*

While geopolitical friction and supply-chain resilience place distinct pressures on manufacturing and engineering, technology is a universal force shaping every industry. Our research shows that organisations are increasingly embedding next-generation technologies to improve workforce agility and maximise efficiency.



## Smart factories:

Combining the utility of IoT, AI and automation, smart factories are experiencing increased adoption, enabling real-time monitoring, self-optimising production and faster decision-making.



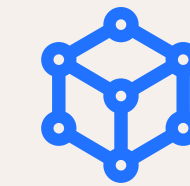
## AI-enabled robots and co-bots:

These bots automate assembly and material movement, augmenting human labour, addressing labour shortages and improving safety and production efficiency.



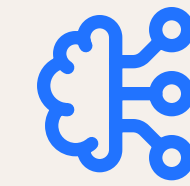
## AI-powered design tools:

Offering the ability to automate simulations and generate optimised component designs, these AI-tools can accelerate product development and reduce material usage.



## Digital twin adoption:

Adoption is increasing as the technology creates virtual replicas of products – and even entire factories – letting teams simulate scenarios, identify bottlenecks and optimise performance.



## Edge computing:

Enabling data to be processed at the factory, edge computing allows faster AI-driven decisions for quality control, safety and equipment reliability.

## How these technologies are impacting the talent landscape:

### Role creation:

New roles focused on AI-enabled production, automation systems and data-driven engineering across smart manufacturing environments.

### Roles impacted:

AI-enabled manufacturing engineers, automation & robotics engineers and digital twin specialists.

### Role change:

AI enhances productivity in planning, maintenance and quality functions.

### Roles impacted:

Production planners, maintenance technicians, quality engineers.

### Role consumption:

Automation of repetitive production, inspection and monitoring tasks which AI can perform with greater efficiency.

### Roles impacted:

Assembly operators, quality inspectors, material handling roles.

# In focus: *Talent challenges across industries*

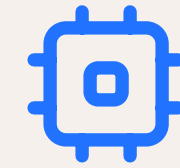


## Automotive

The move to electric vehicles, software-defined vehicles and battery scale-up is putting significant talent pressure on automotive companies, increasing the need for fast-reskilling, cross-domain hiring and structured workforce transitions.

### Sector-specific talent challenges:

- **Ageing workforce:** Retirements are driving a rapid loss of experienced manufacturing and vehicle engineers.
- **EV and software capability gap:** Electrification and software-defined vehicles demand skills not traditionally developed within automotive talent pipelines.
- **Workforce transition fatigue:** Continuous restructuring around EV, automation and digital programmes is straining workforce morale and engagement.



## Electronics and semiconductors

These organisations face sustained pressure from limited engineering pipelines and cross-industry competition. Long development cycles and specialised roles are pushing firms toward long-term talent rebuilding, early-career development and targeted mid-career hiring.

### Sector-specific talent challenges:

- **Shrinking talent pipeline:** Fewer graduates are entering chip-specific disciplines, limiting early-career hiring for design teams.
- **Cross-sector poaching drives retention challenges:** Skilled chip engineers are increasingly drawn to software, cloud and automotive technology roles.
- **Experience and leadership capacity gaps:** Large-scale retirements are eroding deep semiconductor process and fabrication expertise.



## Industrial equipment

Industrial equipment companies face a shortage of engineers with combined mechanical and digital skills and continue to battle outdated perceptions of the sector, driving the need for ongoing upskilling and stronger employer branding.

### Sector-specific talent challenges:

- **Critical knowledge loss as the workforce ages:** Retirements are eroding deep operational and engineering expertise faster than replacements are ready.
- **Sector perceptions discourage candidates:** Outdated perceptions are discouraging younger and diverse candidates from considering industrial careers.
- **Skills gaps hit advanced manufacturing hardest:** Rapid adoption is outpacing the availability of talent, limiting scalability and increasing operational risk.



## Chemicals and pharma

Chemicals and pharma companies are facing gaps in mid-level leadership, shortage of regulatory skills and location-based hiring constraints, increasing the need for faster leadership development, compliance upskilling and more flexible talent models.

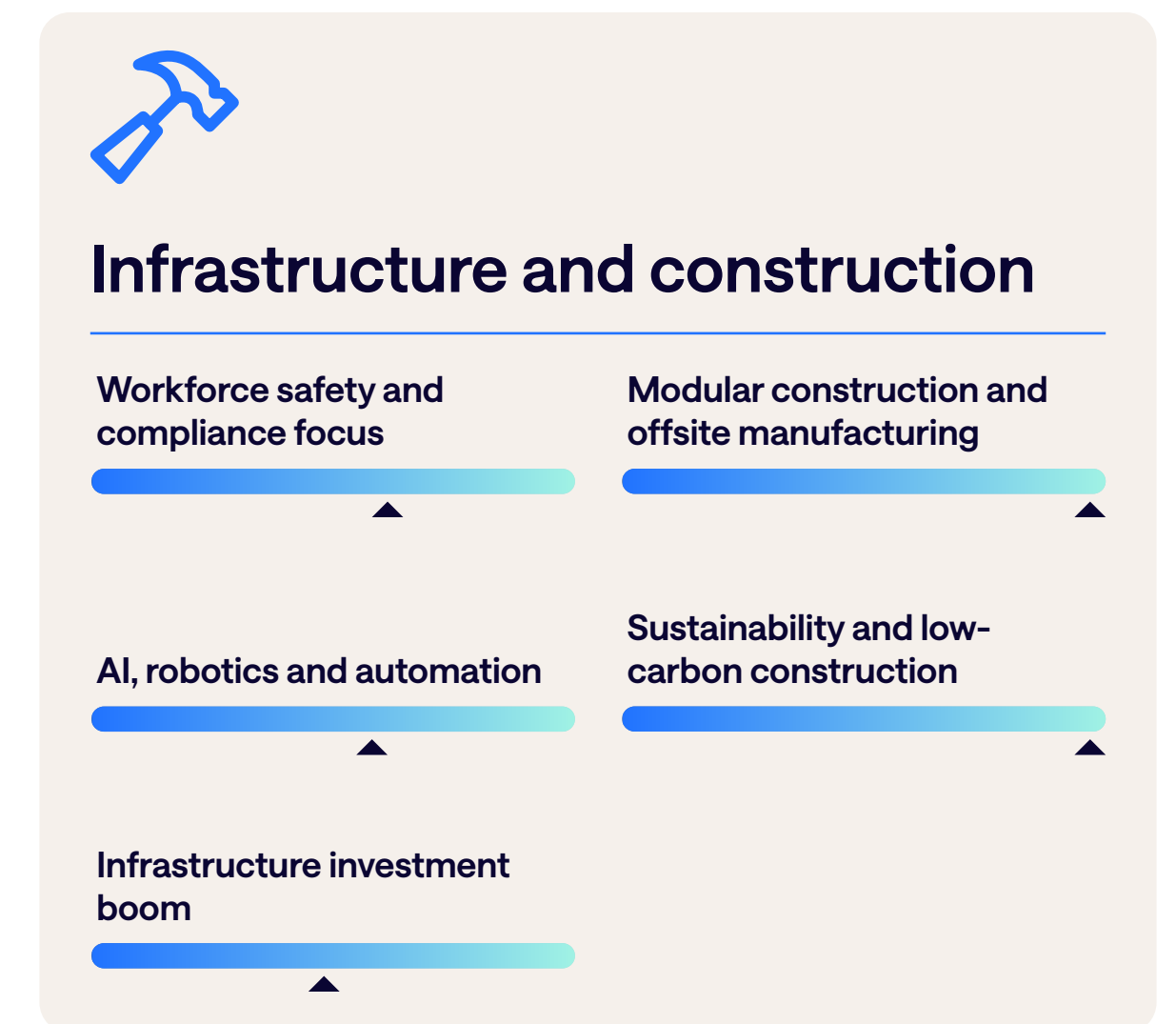
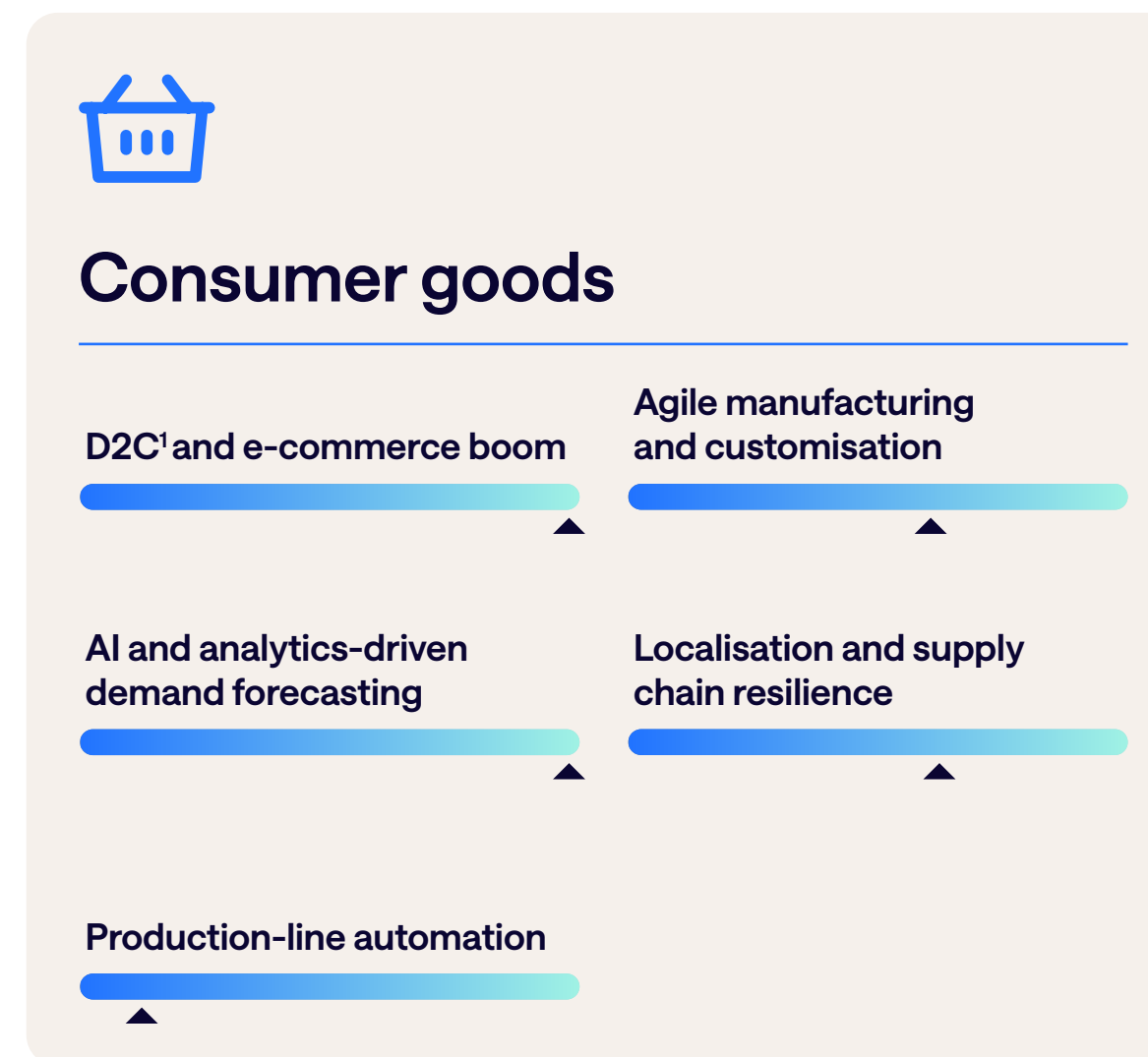
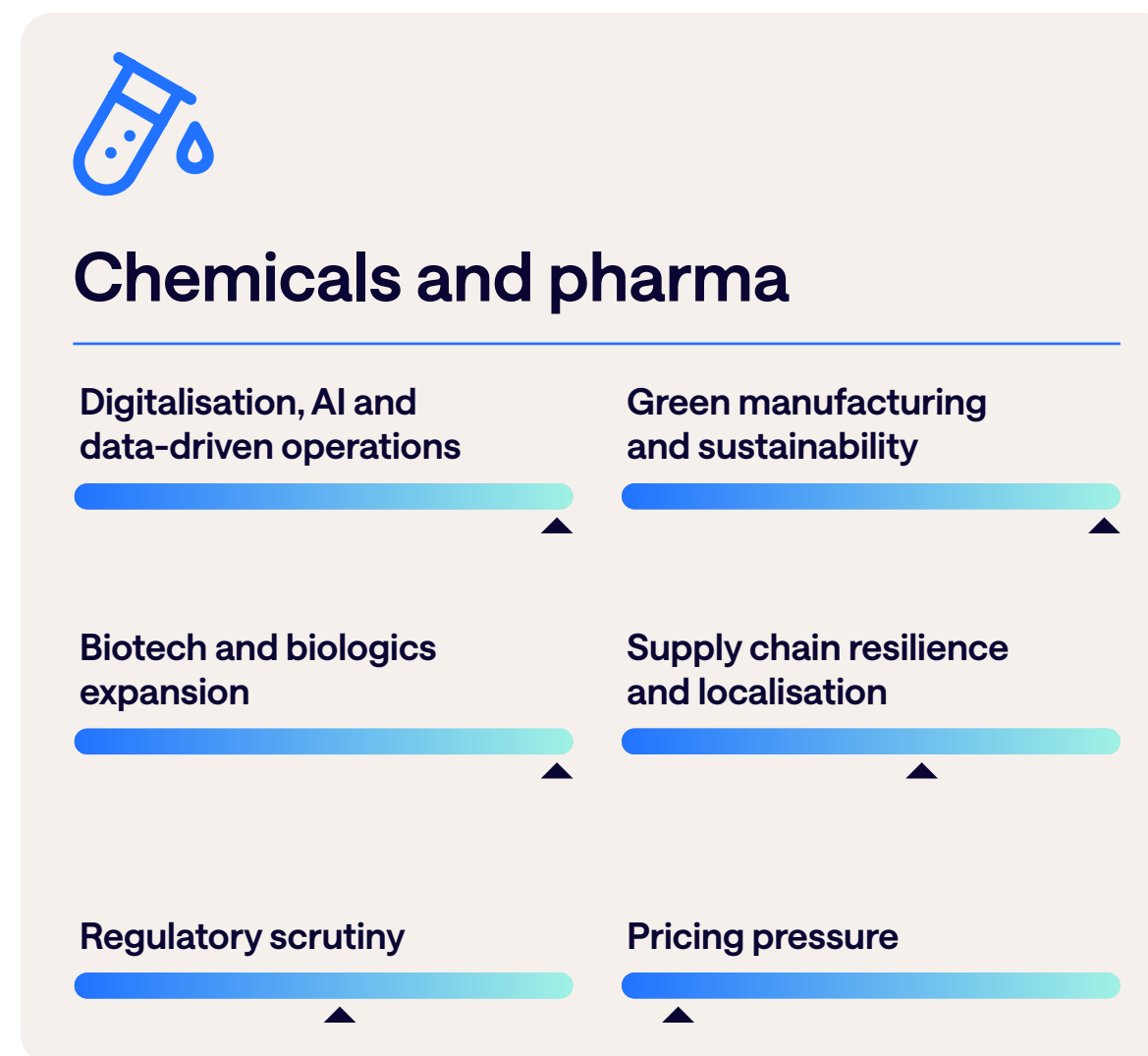
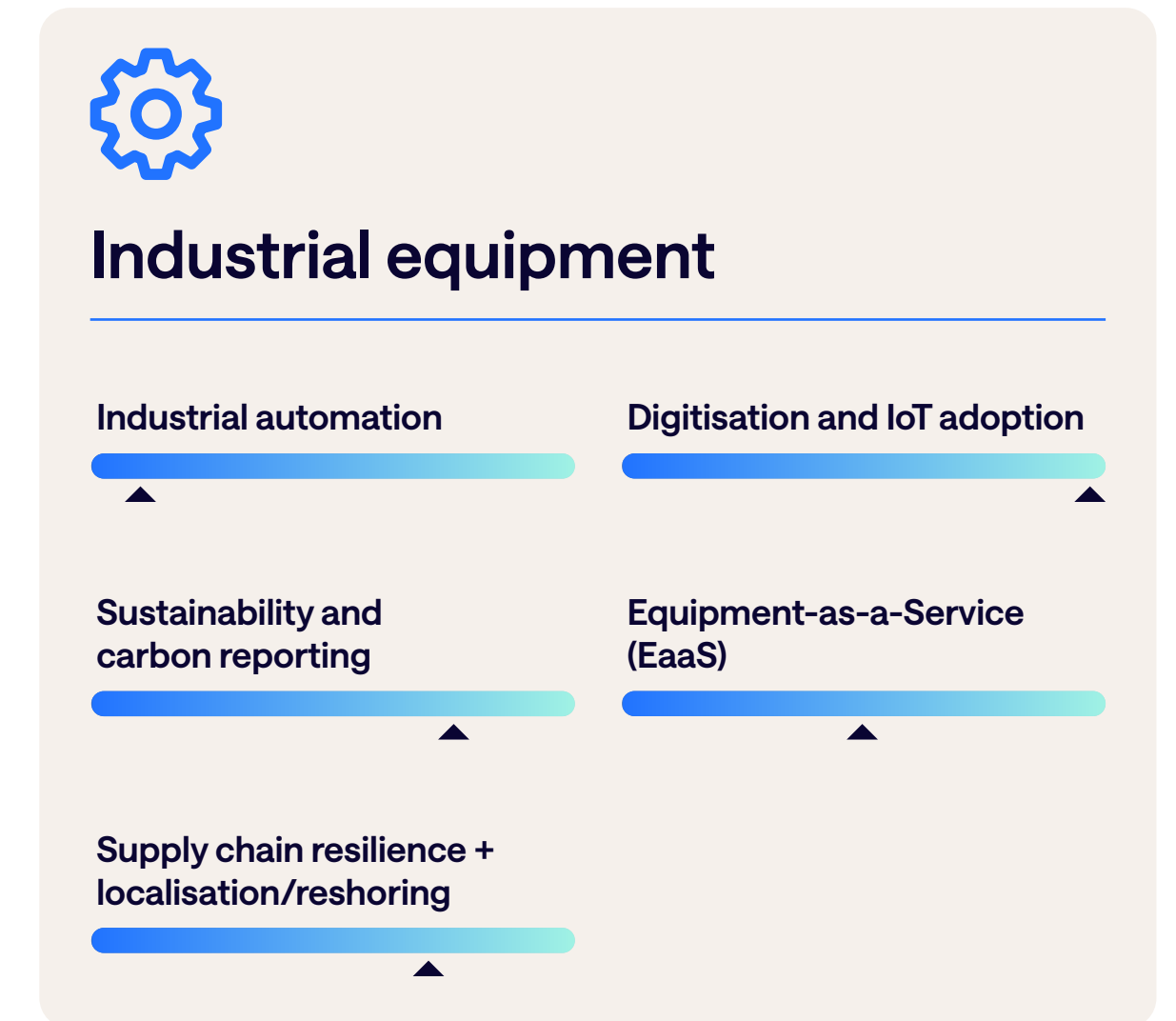
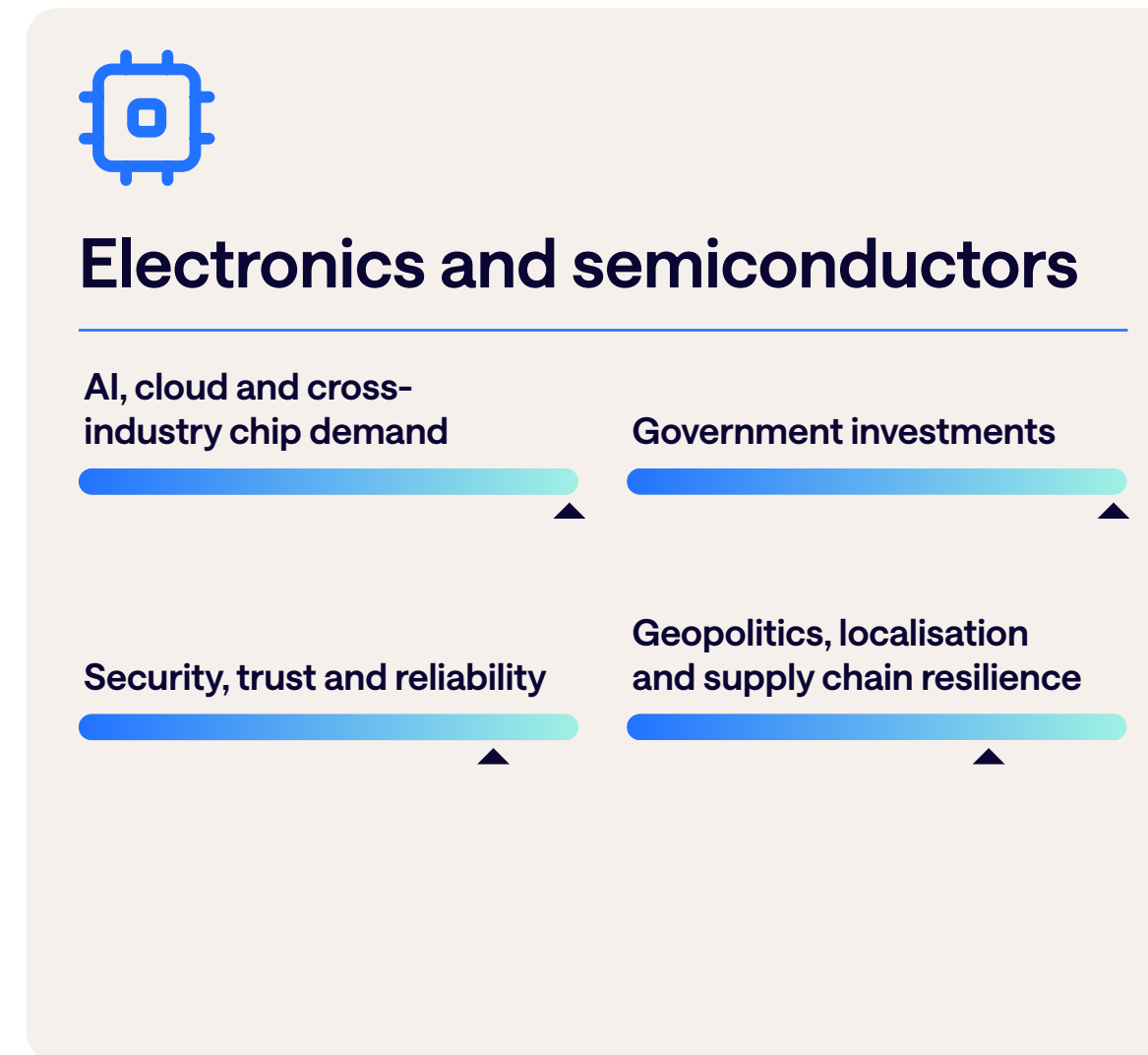
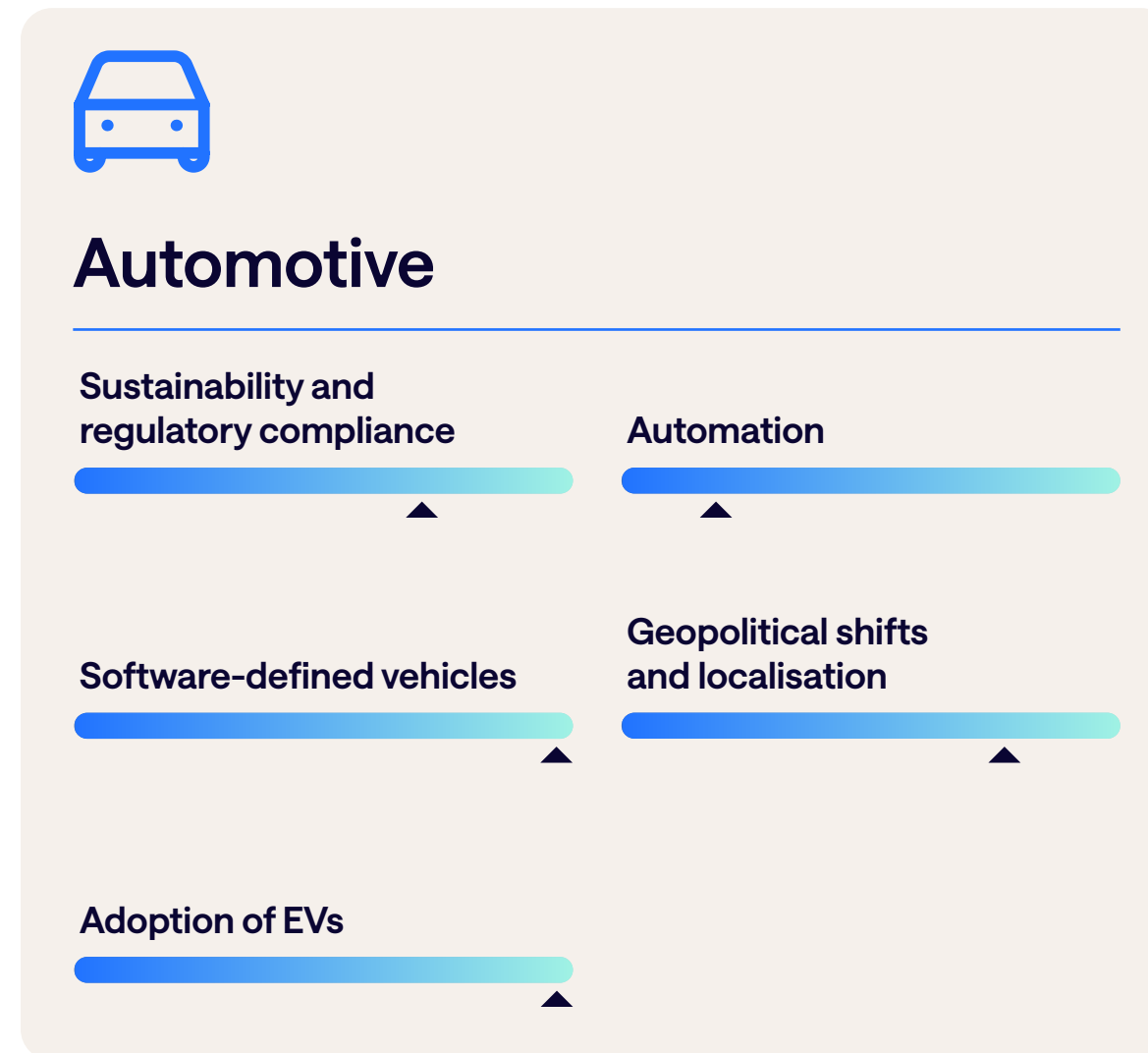
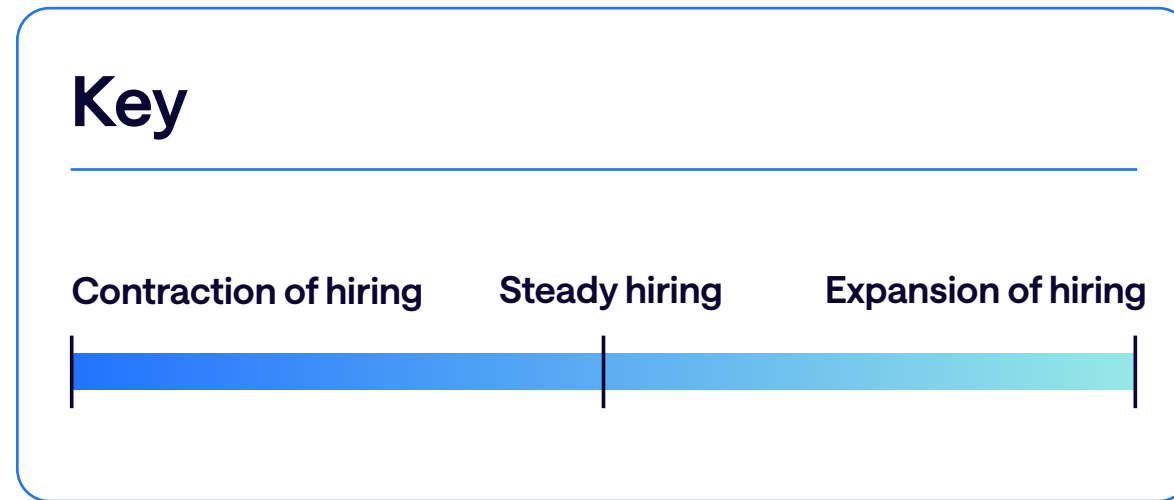
### Sector-specific talent challenges:

- **Mid-career capability gaps create execution risk:** The sector is battling a limited availability of experienced professionals capable of running complex plants and driving innovation.
- **Complex compliance drives talent shortages:** The growing complexity of global regulations is outpacing talent availability, slowing product approvals.
- **Location becomes a determining factor:** Remote manufacturing locations are restricting access to young, digitally skilled professionals.

Discover specific solutions for each talent challenge and deeper insights across additional industries *in the full report.*

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# Industry focus: *Key trends and their impact on hiring activity*



# How talent challenges differ by market

While industry trends and sector dynamics shape demand, talent availability is often defined at a local level.

Differences in migration policies, education systems and workforce mobility mean organisations face different challenges, depending on where they operate. In this section, we explore how talent pressures are playing out across key manufacturing and engineering markets.



Access the full report for deeper insights into the talent dynamics of these markets and those of:

Austria, France, Italy, Japan, Poland, Spain, Switzerland, UK and Ireland.

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## United States

### Key talent trends:

- **Hi-tech manufacturing roles demand longer hiring cycles:** In response, organisations are starting searches earlier, funding co-ops and partnering with education providers to secure future skills.
- **Workforce models are focused on internal capability building:** Upskilling, internal mobility and earn-and-learn models are increasingly popular as organisations prioritise learning agility over perfect matches.

### Talent Demand by vertical:

Vertical	Talent Demand
Automotive	●●●●●
Electronics and semiconductors	●●●●●
Industrial equipment	●●●●●
Aerospace and defence	●●●●●
Chemicals and pharma	●●●●●
Consumer goods	●●●●●
Infrastructure and construction	●●●●●

## Germany

### Key talent trends:

- **Hiring behaviour has become more defensive and anticipatory:** Manufacturers are increasingly hoarding skilled engineers and retaining surplus capacity.
- **Speed and flexibility now shape outcomes:** Long hiring cycles are clashing with a candidate-driven market where top engineers exit processes quickly.

### Talent Demand by vertical:

Vertical	Talent Demand
Automotive	●●●●●
Electronics and semiconductors	●●●●●
Industrial equipment	●●●●●
Aerospace and defence	●●●●●
Chemicals and pharma	●●●●●
Consumer goods	●●●●●
Infrastructure and construction	●●●●●

## Australia and New Zealand

### Key talent trends:

- **Critical talent remains scarce:** Employers face longer fill times and rising costs, with organisations exploring adjacent skills and semi-qualified candidates.
- **Migration constraints are limiting supply recovery:** Although skilled migration has rebounded, visa delays and global competition is forcing firms to prioritise local talent development.

### Talent Demand by vertical:

Vertical	Talent Demand
Automotive	●●●●●
Electronics and semiconductors	●●●●●
Industrial equipment	●●●●●
Aerospace and defence	●●●●●
Chemicals and pharma	●●●●●
Consumer goods	●●●●●
Infrastructure and construction	●●●●●

# Laying the foundation for *future-ready* workforces

As automation, electrification and capital-intensive programmes accelerate, organisations must shift from operational firefighting to building resilient, execution-ready talent models. Here's a snapshot of the workforce strategies that organisations are beginning to explore:

Short-term

Long-term

01

## Expand your hiring channels

- Build direct sourcing capabilities to reduce time-to-hire and lower costs.
- Adopt skills-based hiring and 'technician-to-engineer' pathways to unlock mid-career talent with proven operational experience.

02

## Hire for adjacent skills and implement training

- Widen the talent pool by looking beyond 'exact fit', providing structured post-hire training and on-the-job learning to build role-specific capabilities.

03

## Build AI-ready early-career pipelines

- Partner with universities and technical institutions to align curricula with software-defined, AI-enabled manufacturing needs.

04

## Invest in your employer branding

- Link meaningful careers, competitive rewards and flexible work to building advanced, sustainable and AI-enabled production systems that drive real-world impact.

**This lite report brings a focused view of selected workforce strategies.**

The full report expands the lens, layering in additional approaches and deeper insight into how leading organisations are building future-ready manufacturing and engineering workforces.

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# The manufacturing and engineering industry is *moving forward*.

## Is your workforce strategy engineered to keep pace?

### About us

Businesses need more than talent; and talent needs more than opportunity. What's needed is insight, reach and a trusted partner with the vision to anticipate what's next.

As the leading Recruitment and Workforce Solutions specialist, Hays is that partner for millions of people and organisations around the world.

Speak to our industry experts and together, we'll shape talent strategies that keep pace with emerging trends.

Speak to our team *today*. 



### Read the full report

Searching for more insights? There's more data, a deeper analysis of key countries and an overview of external workforce spend across the globe in the full report.

[Click here](#) and contact your local Hays team to access your free copy.

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