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# Agents, robots, and us

How AI reshapes work and skills in Europe

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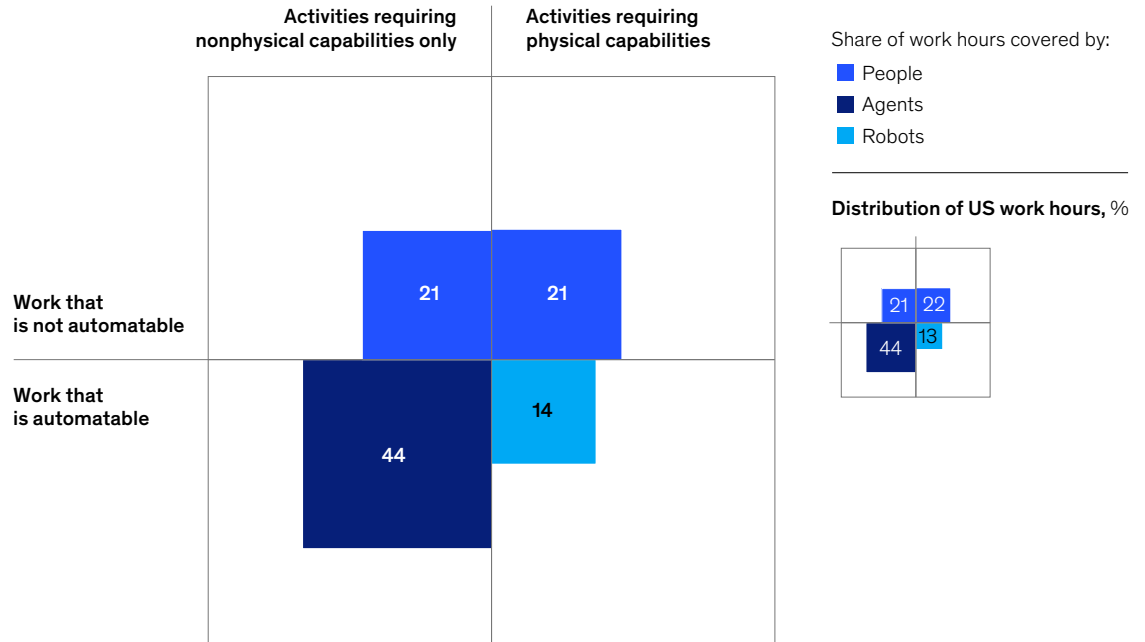
# At a glance

- **Work in Europe will increasingly involve collaboration among people, agents, and robots.** Across ten countries, 58 percent of current work hours could theoretically be automated using existing technologies—a share similar to that in the United States, though shaped by Europe's distinct mix of industries. This reflects technical feasibility, not a forecast of actual adoption or job losses.
- **In Europe, automation could unlock up to \$1.9 trillion in economic value by 2030, but how much is realized will hinge on the pace of adoption.** In a gradual scenario, significantly less value would be captured. Factors such as costs, regulation, and organizational readiness will shape adoption.
- **Most human skills will endure, even as they are applied differently.** Three-quarters of the skills sought by European employers today, including problem solving, writing, and research, are used in both automatable and non-automatable work. This overlap means they are more likely to be applied in collaboration with AI than replaced by it, at least in the near term.
- **Demand for AI-related skills is rising in Europe's workforce, but unevenly across countries.** Demand for AI fluency has increased fivefold since 2023 and now appears in job postings across occupations representing 5 percent of employment.
- **Leadership choices will shape how AI adoption unfolds across Europe.** Capturing the opportunity will require redesigning workflows, investing in skills, and supporting workers as they adapt to working alongside agents and robots.



# People, agents, and robots could all play significant roles in the workforce of the future.

Distribution of work hours in Europe, by technical automation potential,<sup>1</sup> 2024, %



Note: Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.  
<sup>1</sup>Automation potential is based on current capabilities of technology to perform human work. Automation potential shown is the late scenario of expert estimates. The early scenario of global technical automation potential ranges from 60% to 70% of current work hours.  
 Source: National statistical offices; O\*NET; McKinsey Global Institute analysis

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**Artificial intelligence and automation** are reshaping how work is done across advanced economies. In Europe, the stakes are particularly high. The region faces a shrinking and aging workforce, persistent labor shortages, and slower productivity growth than peers such as the United States.<sup>1</sup> Sustaining competitiveness and living standards will depend on the effective integration of people and technology.

Extending recent McKinsey Global Institute (MGI) research on the United States, *Agents, robots, and us: Skill partnerships in the age of AI*, this report turns the focus to Europe, examining how AI could reshape the skills that underpin work and, in turn, productivity and growth. We cover ten economies that together account for more than three-quarters of the region's labor force and GDP.<sup>2</sup>

Across these economies, some 58 percent of current work hours could theoretically be automated using existing technologies—AI-enabled agents for cognitive tasks, and robots for physical work.<sup>3</sup> This reflects what is technologically feasible today, not what is likely to be adopted in practice, and it does not imply widespread job loss. Rather, it signals a fundamental shift in how work is performed. As tasks within jobs become automated, roles will evolve and new activities will emerge, leading to profound changes in how workers across Europe apply their skills.

### Country dashboards

The dashboards below offer a country-level view of automation potential, demand for AI-related skills, and MGI's Skill Change Index (SCI), which measures how exposed skills are to automation. The full report follows.





## CHAPTER ONE

# Work will increasingly involve collaboration among people, agents, and robots

Automation potential offers a glimpse of how work could be reorganized in the years ahead. In the ten European countries analyzed, 58 percent of current work hours could theoretically be automated using existing technologies—44 percent by agents and 14 percent by robots. The remainder involves activities that require human capabilities, including complex judgment, adaptability in unpredictable environments, and contextual reasoning (Exhibit 1).<sup>4</sup>

Automation potential is broadly similar in Europe and in the United States, suggesting a comparable scale of transformation. These estimates reflect what is technically feasible today, not what will be adopted, and they do not capture how work itself may evolve as organizations adopt more agents, robots, and other automation technologies.<sup>5</sup>

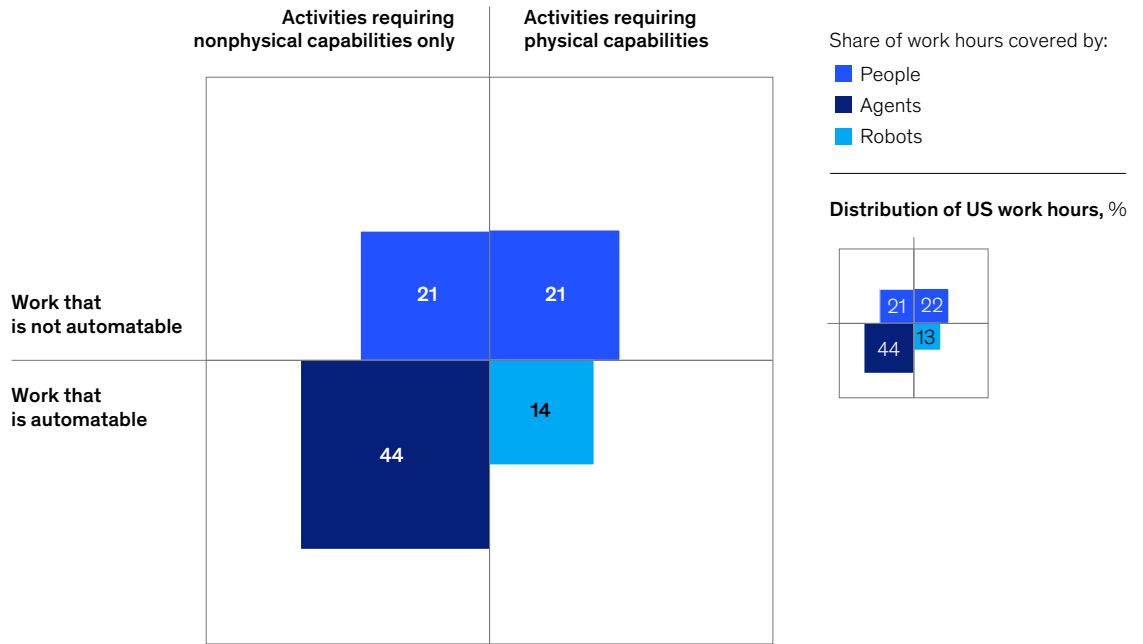
We use the umbrella terms “agents” and “robots” to describe machines that automate nonphysical and physical work, respectively. Many technologies perform these functions—some based on AI, including generative AI, and others not—and the boundaries between them are shifting.<sup>6</sup>



Exhibit 1

# People, agents, and robots could all play significant roles in the workforce of the future.

Distribution of work hours in Europe, by technical automation potential,<sup>1</sup> 2024, %



Note: Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.  
<sup>1</sup>Automation potential is based on current capabilities of technology to perform human work. Automation potential shown is the late scenario of expert estimates. The early scenario of global technical automation potential ranges from 60% to 70% of current work hours.  
 Source: National statistical offices; O\*NET; McKinsey Global Institute analysis

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## Europe’s mix of physical and nonphysical work shapes its automation pathway

Work comprises both physical and nonphysical activities. This mix varies significantly by sector, occupation, and region, influencing both the type and pace of automation.

Roughly two-thirds of total work hours in the ten European countries studied involve nonphysical activities, including information processing, analysis, and coordination (Exhibit 2). These are concentrated in occupations such as office and administrative support, business and financial operations, and computer and mathematical roles.

The remaining one-third of work hours require physical capabilities—operating equipment, handling materials, and performing manual tasks. Physical intensity is concentrated in occupations such as maintenance, installation and repair, and construction.



Exhibit 2

## Two-thirds of Europe's work hours require only nonphysical capabilities.

### Distribution of physical and nonphysical work in Europe, by occupation group<sup>1</sup>

■ Physical ■ Nonphysical

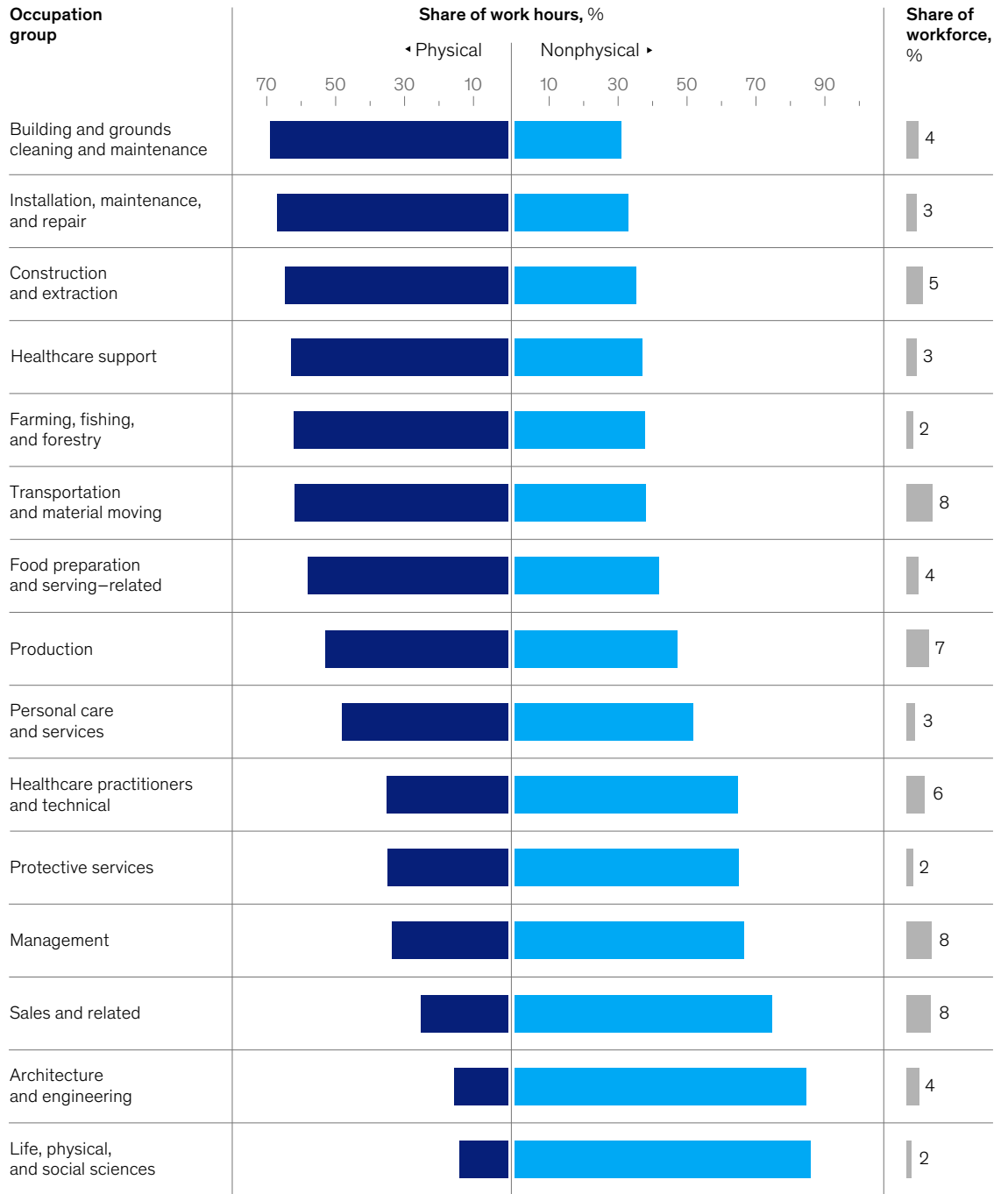


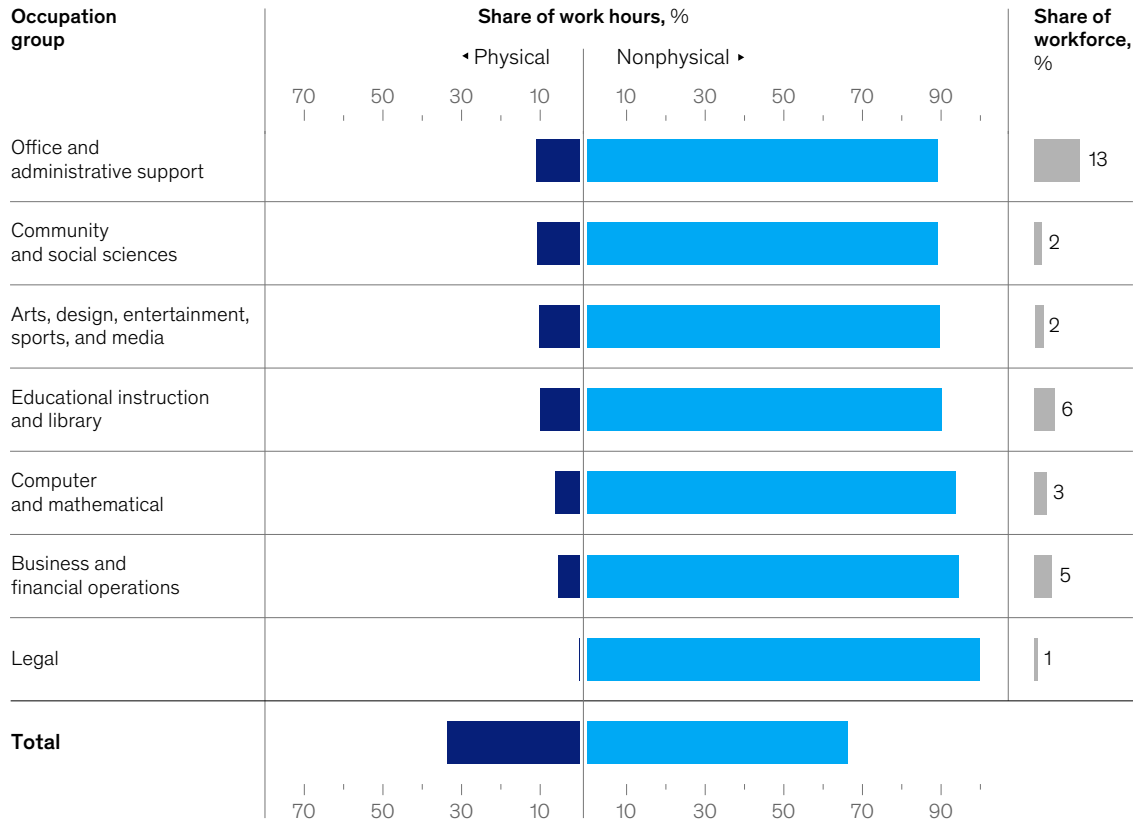


Exhibit 2 (continued)

## Two-thirds of Europe's work hours require only nonphysical capabilities.

Distribution of physical and nonphysical work in Europe, by occupation group<sup>1</sup>

■ Physical ■ Nonphysical



<sup>1</sup>Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom. Source: National statistical offices; O\*NET; McKinsey Global Institute analysis

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### Jobs fall into seven archetypes combining people, agents, and robots

Technology plays different roles in different types of work. Drawing on an analysis of roughly 800 occupations, we identify seven work archetypes—broad categories defined by the relative contributions of people, agents, and robots (Exhibit 3).

People-centric roles account for about 31 percent of employment in the ten European countries. These occupations rely heavily on human judgment, interpersonal interaction, and adaptability in unstructured physical or social environments. Examples include roles ranging from janitors to healthcare practitioners to general managers.

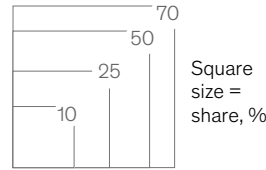
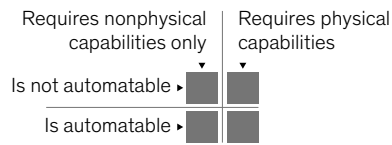


Exhibit 3

# Occupations fall into distinct archetypes based on the potential roles of people, agents, and robots.

## Distribution of European work hours across seven occupation archetypes, by technical automation potential, 2024, %

Share of hours on work that:



European work hours covered by:

■ People ■ Agents ■ Robots

Share of current workforce in archetype, %:



← Less automatable → More automatable

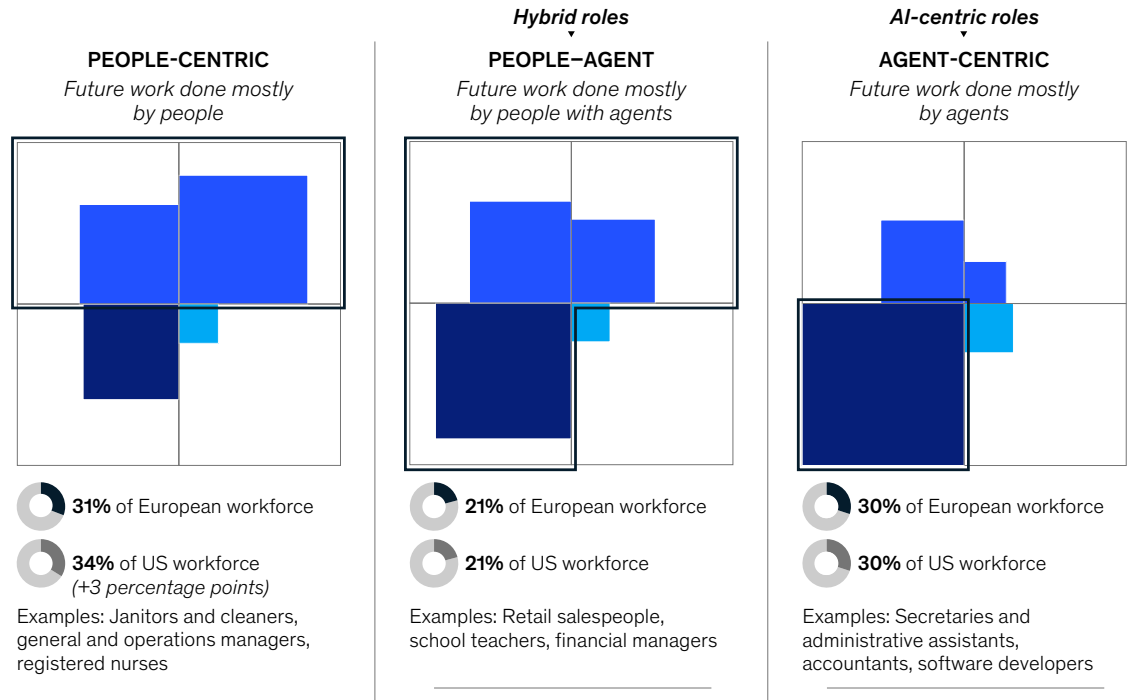


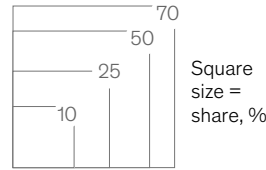
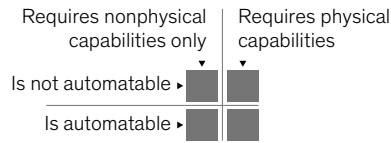


Exhibit 3 (continued)

### Occupations fall into distinct archetypes based on the potential roles of people, agents, and robots.

Distribution of European work hours across seven occupation archetypes, by technical automation potential, 2024, %

Share of hours on work that:



European work hours covered by:

■ People ■ Agents ■ Robots

Share of current workforce in archetype, %:

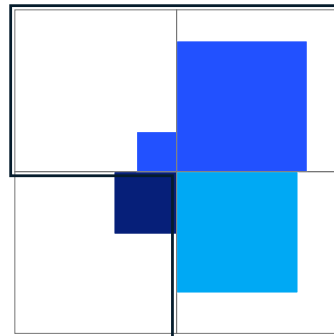


Less automatable ← → More automatable

#### Hybrid roles

##### PEOPLE-ROBOT

Future work done mostly by people with robots



1% of European workforce

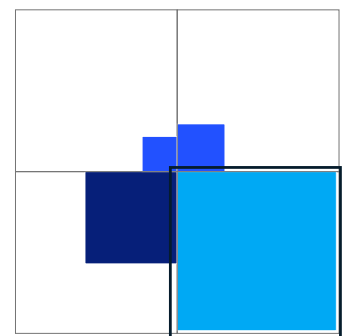
<1% of US workforce (-1 percentage point)

Examples: Drywall and ceiling tile installers, insulation workers

#### AI-centric roles

##### ROBOT-CENTRIC

Future work done mostly by robots



8% of European workforce

8% of US workforce

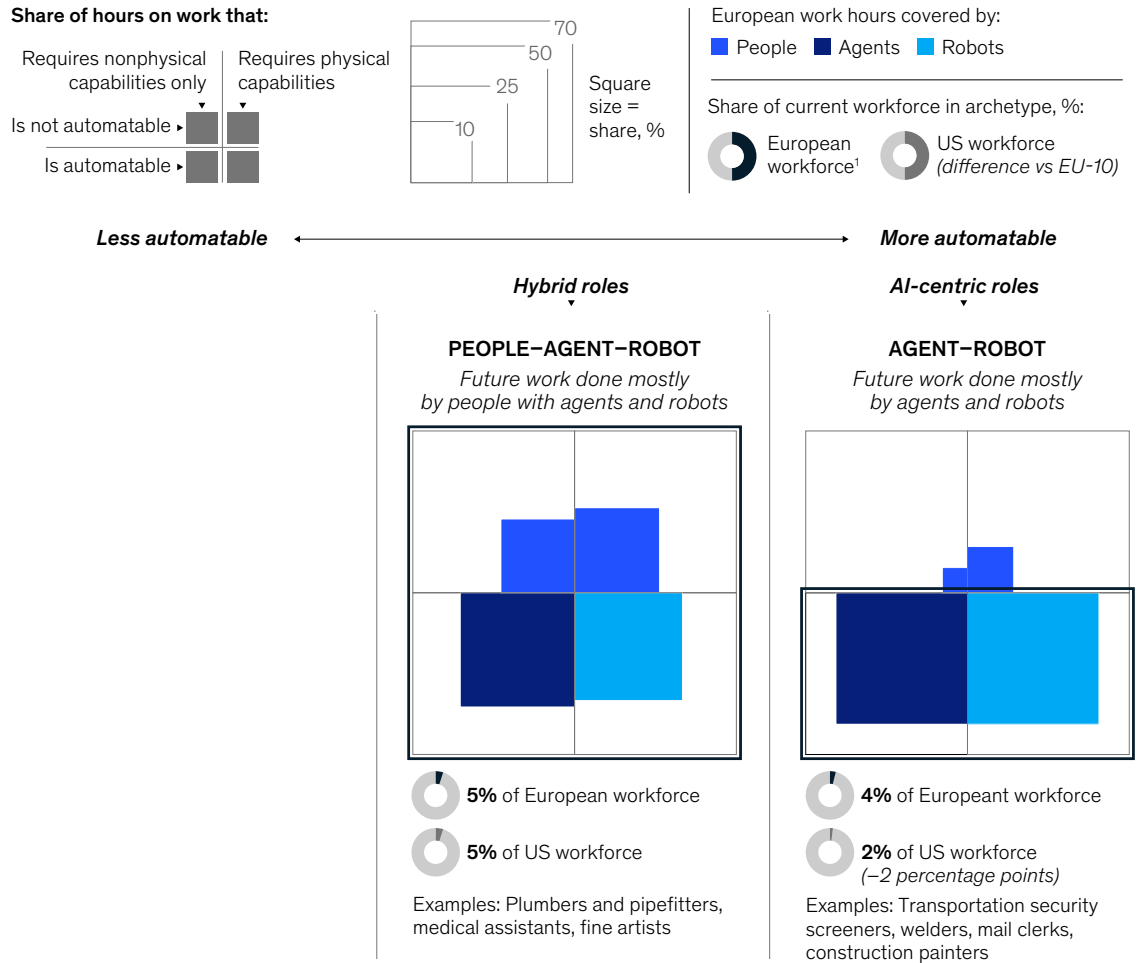
Examples: Packers and packagers, equipment operators, dishwashers, stockers



Exhibit 3 (continued)

### Occupations fall into distinct archetypes based on the potential roles of people, agents, and robots.

Distribution of European work hours across seven occupation archetypes, by technical automation potential, 2024, %



Note: Technical automation potential shown is in 2024, in the late scenario of expert estimates.  
<sup>1</sup>Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.  
 Source: National statistical offices; O\*NET; McKinsey Global Institute analysis

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Twenty-seven percent of employment falls into hybrid roles, in which people work alongside agents, robots, or both. In these occupations—such as salespeople, plumbers, and medical assistants—humans remain central, but workflows may shift so that people focus on higher-value activities while agents or robots handle more structured tasks.

The remaining 42 percent of employment is concentrated in occupations that could become AI-centric. These occupations tend to involve structured and codified tasks. Examples include accountants, equipment operators, and security screeners.

Differences in the mix of these occupational archetypes can lead to similar levels of automation potential across economies, even as the underlying drivers vary (see sidebar “How occupational archetypes shape automation potential in Europe and the United States”).

#### Sidebar

### How occupational archetypes shape automation potential in Europe and the United States

**Automation potential** is similar in Europe and the United States. In the ten European countries analyzed, 58 percent of current work hours are technically automatable using existing technologies, compared with 57 percent in the United States. In both regions, most of the potential lies in nonphysical activities suited to agents, which are common in both economies.

Differences in occupational archetypes help explain small differences in overall potential. Europe has a slightly lower share of people-centric roles—31 percent of employment in the ten countries, compared with 34 percent in the United States—which are generally less automatable. These roles, such as healthcare practitioners and managers, rely on context, decision-making,

and human engagement. Their smaller share in Europe contributes to its marginally higher automation potential, although this relationship is not one-to-one and is shaped by broader sector and task composition.

Across European countries, variation in automation potential, ranging from 54 to 64 percent, reflects differences in occupational and sector mix. Countries with a higher share of people-centric roles tend to show lower automation potential, while those with more routine or structured work tend to show higher potential.

As with occupational archetypes, patterns in workforce skills also shape how automation may unfold across Europe and the United States. Most of the skills currently demanded by employers are associated with both automatable and non-automatable activities—75 percent in Europe and 72 percent in the United States—indicating that workers in both regions will need to adapt to working alongside machines to a similar degree.

Demand for AI fluency skills has increased at a similar pace in Europe and the United States since 2023, growing fivefold in both regions and reflected in the rising share of occupations requiring AI-related skills, up 2.8 times in both regions.<sup>1</sup> Demand for technical AI skills, however, remains stronger in the United States, increasing by 2.1 times compared with 1.7 times in Europe.

AI and machine learning is the fastest-growing skill category in the United States but ranks only fifth in Europe, suggesting slower growth at the aggregate level. This masks wide variation between countries; in some, such as the United Kingdom, it ranks as high as second, while in others it does not appear in the top ten. Despite this slower growth, by late 2025 the share of occupations requiring AI and machine learning skills in many European countries was already comparable to or even greater than that in the United States, ranging from 11 percent in France to 27 percent in Sweden, compared with 22 percent in the United States.

<sup>1</sup> Growth is based on the fourth quarters of 2023 and 2025. In *Agents, robots, and us: Skill partnerships in the age of AI*, we compared May 2023 and 2025 for the United States.



## CHAPTER TWO

# Automation could unlock up to \$1.9 trillion in Europe—depending on the pace of adoption

Major new technologies have taken decades to scale, from electricity to industrial robotics to cloud computing, which is still expanding. The pace of AI and automation adoption will hinge on cost-benefit considerations, investment levels, and organizational readiness, as well as the time required to develop and deploy systems.

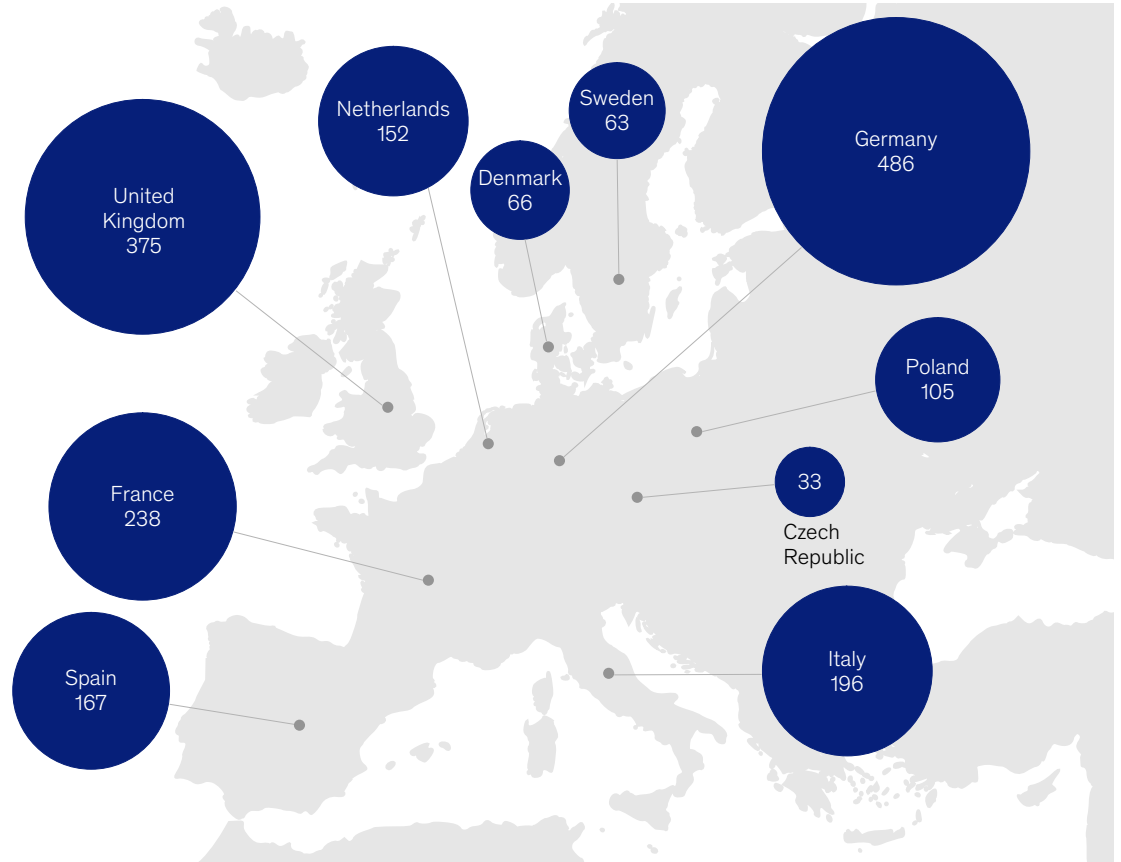
We model two scenarios based on historical patterns of technology diffusion. In our midpoint scenario, up to \$1.9 trillion of economic value could be unlocked from AI and automation in Europe by 2030 (Exhibit 4).<sup>7</sup> In a more gradual scenario, this value is closer to \$1.1 trillion—a substantial gap, reflecting how strongly outcomes depend on adoption speed.



Exhibit 4

### By 2030, European countries could unlock \$1.9 trillion in economic value from AI and automation.

Economic value of automation in select countries, 2030 midpoint scenario of adoption,<sup>1</sup> \$ billion



Note: Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.  
<sup>1</sup>Sized by multiplying occupation-level automation adoption (in the midpoint scenario of 2030) by number of full-time equivalents and annual wage in 2024.  
 Source: National statistical offices; O\*NET; McKinsey Global Institute analysis

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These estimates describe potential benefits at the organizational level rather than direct increases in GDP (see sidebar “How we estimate the economic value of automation adoption”).<sup>8</sup> They capture both the continued diffusion of established technologies such as robotics, already widely used in manufacturing and logistics, and the emergence of newer, AI-enabled agents.

AI-enabled agents account for about 82 percent of the total potential value from automation in Europe, with robotics making up the remainder (Exhibit 5). This reflects the prevalence of nonphysical work and the different economics of deployment: Robotics typically requires higher up-front investment and longer implementation timelines, while agent-based systems can be implemented and scaled more quickly. Even in physically intensive sectors, such as manufacturing, as much as 71 percent of projected 2030 value stems from agent-based systems in planning, quality control, procurement, and supply chain coordination.



## Sidebar

### How we estimate the economic value of automation adoption

**Economic value** estimates the value of work hours in Europe that could be automated by 2030 across sectors and functions. This ranges from \$1.9 trillion in a midpoint scenario to \$1.1 trillion in a more gradual mid-late scenario. We model two adoption scenarios to reflect different paces of uptake: The midpoint scenario represents the central estimate between early and late adoption, while the slower mid-late scenario reflects a trajectory between the midpoint and late adoption.

We begin by estimating technical automation potential, defined as the share of today's work that could be automated using existing technologies, a measure that increases as the technological frontier advances.

We then apply different adoption scenarios to model how this potential may be realized over time. Our model assigns \$700 billion to \$1.2 trillion of current potential to recent advances in generative AI, while the remaining \$400 billion to \$700 billion reflects earlier automation capabilities such as traditional machine learning.

Adoption typically lags behind what is technically possible and depends on factors such as integration time, the relative cost of technology and labor, and factors such as customer acceptance, labor laws, and workforce skills.

Our estimate covers paid work activities. Hours worked are time spent on specific activities in today's economy. We assume that 15 to 25 percent of current work hours will be automated by 2030 under the two scenarios, varying by sector from 18 percent in healthcare to 30 percent in manufacturing in the midpoint scenario.

For each occupation within a sector, we apply the adoption rate to today's hours worked and wages, then aggregate the results across sector-function intersections based on occupational composition. We allocate value between agents and robots, depending on the capabilities required for each activity. These estimates reflect direct time savings from automation adoption and exclude second-order effects. They do not assume that the hours saved are redeployed into higher-value activities, nor do they reflect ongoing operating or capital costs, or the potential effects of work performed outside current working hours.

In earlier research, we estimated economic potential solely based on technological feasibility, without reference to the time frame over which it might be realized. On that basis, total economic potential would reach as much as \$5.5 trillion across the ten European countries under the midpoint scenario.



## Exhibit 5

## Agents could contribute more than 80 percent of the economic value of AI and automation in Europe.

### Distribution of agents' and robots' economic value in Europe by sector, 2030 midpoint scenario of automation adoption<sup>1</sup>

■ Agents ■ Robots

Sector	Distribution, %	Value, \$ billion	Average automation adoption as share of current work hours, %
Finance and insurance	95	84	28
Educational services	94	139	23
Professional, scientific, and technical services <sup>2</sup>	93	179	26
Information	92	109	27
Real estate, rental, and leasing	92	20	25
Administrative support and government	89	218	25
Arts, entertainment, and recreation	84	32	25
Utilities	84	32	26
Other services (except government)	81	37	24
Transportation and warehousing	81	85	24
Retail and wholesale trade	81	220	24
Healthcare and social assistance	80	177	19
Mining	76	6	27
Agriculture, forestry, fishing, and hunting	73	27	23
Construction	71	126	26
Manufacturing	71	322	29
Accommodation and food services	66	67	27
<b>Total</b>	<b>82</b>	<b>1,880</b>	<b>27</b>

Note: Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.

<sup>1</sup>Economic potential calculated using 2024 nominal wage bill and 2030 automation adoption rate in the midpoint scenario.

<sup>2</sup>Includes management of companies and enterprises.

Source: National statistical offices; O\*NET; McKinsey Global Institute analysis

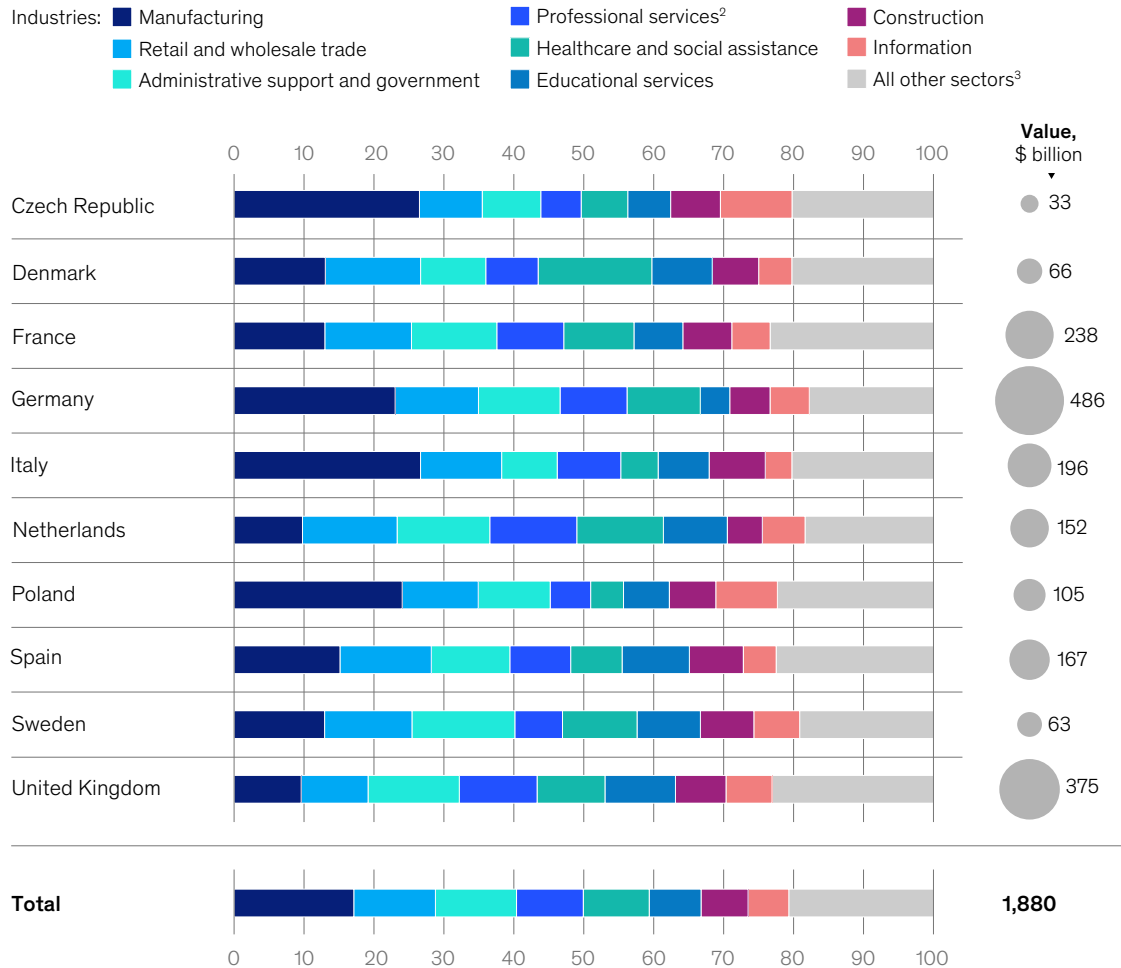


Sector composition shapes where potential value is distributed across economies. In most countries, value is spread across a range of sectors, while in others it is more concentrated—for example, manufacturing accounts for a larger share in the Czech Republic and Italy than elsewhere (Exhibit 6). How much is realized depends not only on adoption speed but also on how organizations reconfigure work to integrate these technologies.

Exhibit 6

### The concentration of economic value from AI and automation is largely driven by industry composition.

Distribution of economic value across industries in Europe by country, 2030 midpoint scenario of automation adoption,<sup>1</sup> % of country value



Note: Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.  
<sup>1</sup>Sized by multiplying occupation-level automation adoption (in the midpoint scenario of 2030) by number of full-time equivalents and annual wage in 2024.  
<sup>2</sup>Includes management of companies and enterprises.  
<sup>3</sup>Includes accommodation and food services, agriculture, arts and entertainment, finance and insurance, mining, real estate, transportation and warehousing, utilities, and other services.  
Source: National statistical offices; O\*NET; McKinsey Global Institute analysis



## Redesigning workflows is key to capturing value

Workflows—the multistep processes organizations use to complete work—are where value from automation is realized, but most were designed for a pre-AI environment. Applying AI to isolated tasks within legacy processes often yields limited benefits, since inefficiencies in the broader process remain. Incremental improvements at the task level rarely translate into meaningful gains. This may help explain why nearly 90 percent of companies report regularly using AI, yet fewer than 40 percent see measurable results.<sup>9</sup>

Redesigning workflows—collapsing handoffs, reducing coordination layers, and integrating activities fragmented across roles or systems—is what enables organizations to embed AI and automation into core processes.

Case studies of successful AI adoption show how these changes are starting to take shape. At a global technology company, for example, AI agents automate the early stages of the sales process, leaving more time for employees to focus on relationship management and strategic engagement. A pharmaceutical company uses AI to produce clinical documentation, shifting the medical writers' role from manual drafting to reviewing, refining, and ensuring accuracy and compliance.<sup>10</sup>

As workflows shift, the structure of roles changes. Tasks are redistributed between people and machines, reshaping how skills are applied in practice.



CHAPTER THREE

# Workers will increasingly apply their skills alongside agents and robots

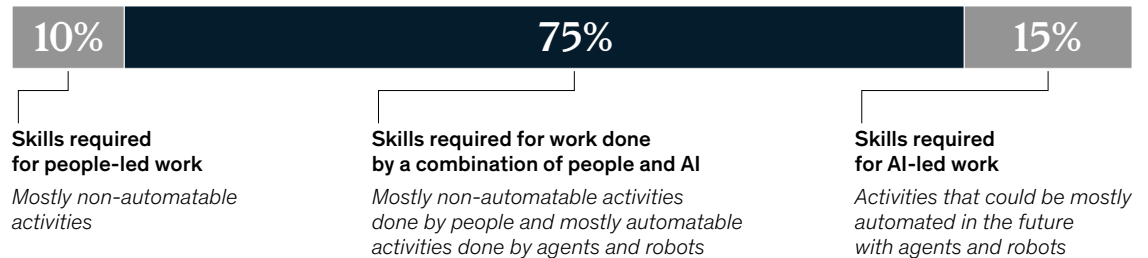
Our analysis finds that roughly 75 percent of skills currently demanded by employers in Europe are used in work activities that are both automatable and non-automatable (Exhibit 7; see sidebar “How we assess skill exposure to automation”).

Because most work processes combine automatable and non-automatable tasks, skills often cannot be cleanly divided between people and machines. Instead, they will be applied in collaboration with AI rather than replaced by it. As AI takes on more common and structured tasks, people will spend less time executing them directly and more time using automated systems.

Exhibit 7

**Most of the skills currently demanded by European employers are common to both automatable and non-automatable work activities.**

Distribution of ~10,500 skills by technical automation potential, 2024<sup>1</sup>



Note: Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom. "People-led" and "AI-led" skills are demanded in more than 80% of time spent on associated work activities.

<sup>1</sup>Based on technical automation potential in 2024. "People-led" skills are mostly used in non-automatable activities, "AI-led" skills are mostly used in automatable activities, and shared skills are common to both.

Source: Lightcast; national statistical offices; O\*NET; McKinsey Global Institute analysis

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Language competency, for example, may involve an AI agent drafting responses in multiple languages or translating documentation while a person ensures precision and calibrates cultural nuance. Similarly, quality assurance, which is common in manufacturing and service operations, may involve automated systems flagging defects or inconsistencies while a person makes corrections and ensures compliance with safety or regulatory standards. In both cases, the skill is shared: Machines flag patterns or issues, while people apply judgment and ensure accountability.

An additional 15 percent of skills are mainly associated with automatable activities. Over time, these skills are more likely to become embedded within agent-led or robot-enabled workflows. Examples include operating machinery in advanced industries, invoice processing and bookkeeping in financial operations, and language interpretation in call centers.

The remaining 10 percent of skills are mainly associated with non-automatable activities that rely on interpersonal interaction or contextual decision-making, including leadership, clinical judgment, negotiation, and conflict resolution.

This breakdown suggests that most skills could be reshaped through collaboration between people and AI rather than replaced outright.

The shift toward a hybrid human-machine workforce has already begun.

## **Employers are already demanding more AI-related skills**

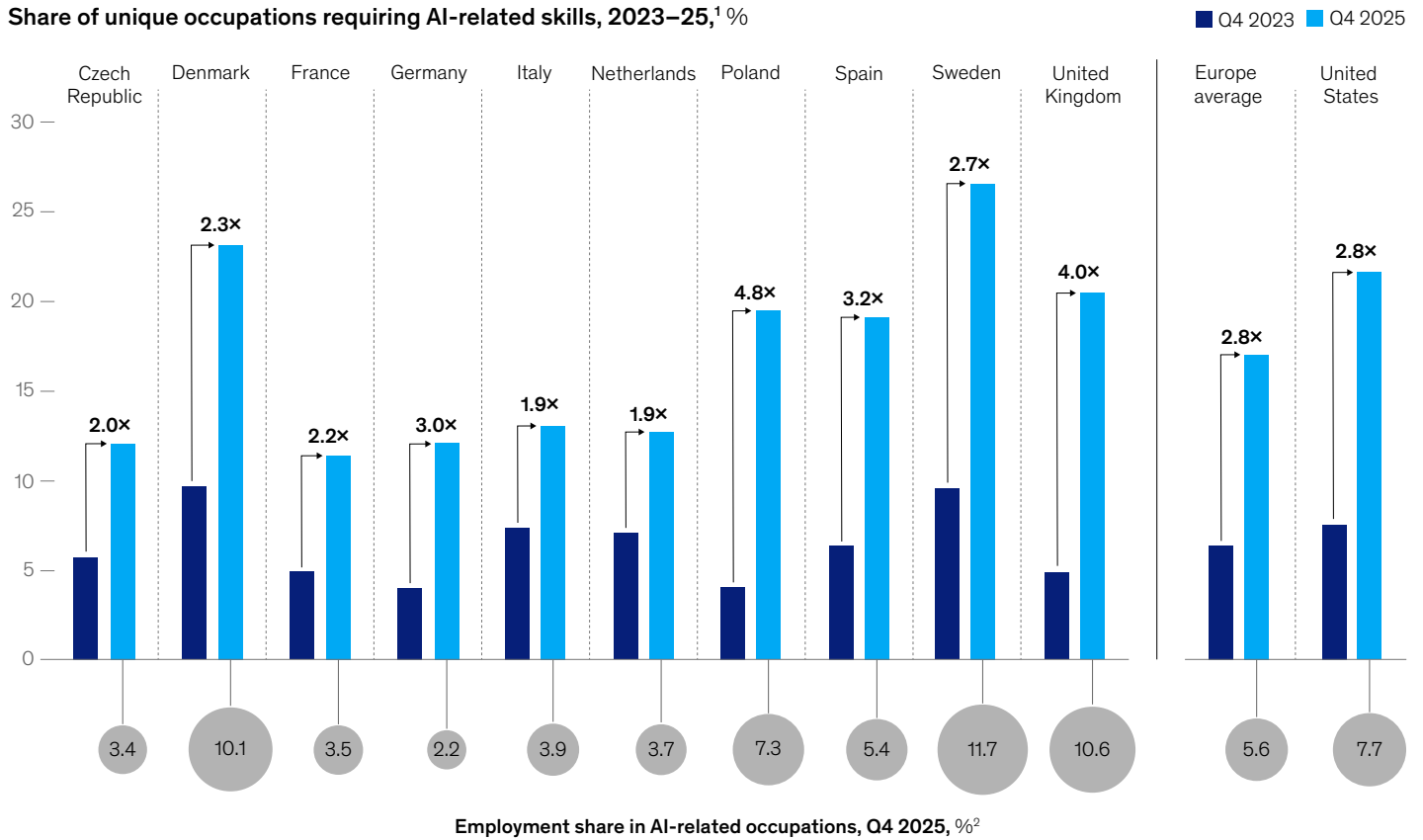
Job postings show the spread of AI-related skills across the workforce. Today, nearly one-fifth of occupations in Europe require AI-related skills, with the share having more than tripled since 2023 (Exhibit 8).



Exhibit 8

### Demand for AI-related skills has increased across countries.

Share of unique occupations requiring AI-related skills, 2023–25,<sup>1</sup>%



Note: Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.  
<sup>1</sup>Occupations refer to job categories made up of tasks or work activities. Examples include software developer, secondary school teacher, and construction manager. Our analyses include only occupations with 30 or more job postings in Q4 2025.  
<sup>2</sup>Share of total employment in occupations with at least 30 job postings where AI-related skills appear in at least 5% of postings. Total employment includes all occupations, including those with fewer than 30 job postings.  
 Source: Lightcast; McKinsey Global Institute analysis

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Demand for AI-related skills varies by country. Since 2023, job postings show employer demand increasing most rapidly in Poland and the United Kingdom, indicating broad-based diffusion in both emerging and mature labor markets.<sup>11</sup> In 2025, more than one-quarter of occupations in Sweden required AI-related skills, the highest level in the region, although faster growth elsewhere suggests that this lead may narrow over time.

Across the region, demand for AI fluency is growing much faster than demand for technical AI skills (see sidebar “What is AI fluency?”[JC1.1]). From the fourth quarter of 2023 to the fourth quarter of 2025, demand for AI fluency—the ability to use, manage, and increasingly create with AI systems—has increased fivefold and now appears in job postings across occupations representing about 5 percent of employment (Exhibit 9).<sup>12</sup> Demand for technical AI skills, which involve building and deploying those systems, grew a more modest 1.7 times.

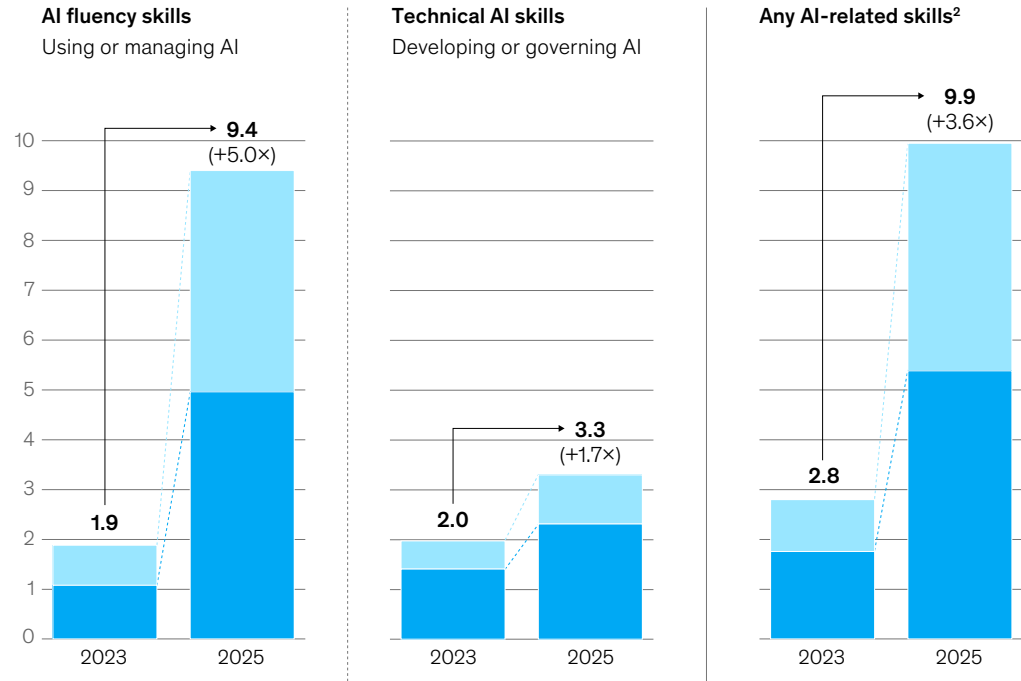


Exhibit 9

### Demand for AI fluency and technical AI skills rose between 2023 and 2025.

Employees in occupations with AI-related skills in at least 5% of postings, million

Occupation type: ■ STEM<sup>1</sup> ■ Non-STEM



Note: Our analyses include only occupations with 30 or more job postings in Q4 2025. Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.

<sup>1</sup>STEM roles include those in the following occupation groups: computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare.

<sup>2</sup>Occupations requiring any AI-related skills do not sum to those requiring AI fluency or technical AI skills because the categories overlap and occupations may be counted in multiple groups.

Source: Lightcast; national statistical offices; McKinsey Global Institute analysis

McKinsey & Company



## Sidebar

### What is AI fluency?

**AI fluency** is not AI expertise in the engineering sense. It is the practical ability to use and manage AI in day-to-day work. As tools and interfaces evolve, the requirements of AI fluency are also expanding beyond prompting to include integrating AI into workflows, interpreting outputs, and

applying judgment in how AI is used. This includes recognizing when results may be wrong and knowing when to escalate to human review, especially for higher-stakes decisions.

In practice, AI fluency shows up in tasks such as drafting and refining content, summarizing information, generating analytical options, and building lightweight prototypes using

low- or no-code tools. The pace of change means AI fluency increasingly requires complementary skills such as adaptability, continuous learning, and comfort operating in new human-machine environments. Because AI fluency applies across a broad range of occupations, while technical AI skills are concentrated in a narrower set of roles, demand for fluency affects a much wider share of the workforce.

By occupation, demand for AI skills is beginning to spread beyond a narrow set of roles. Seventy-five percent is concentrated in three occupation groups—computer and mathematical, management, and business and financial operations—which together account for roughly one-fifth of total employment. The remainder is distributed across a wide set of occupations (Exhibit 10).

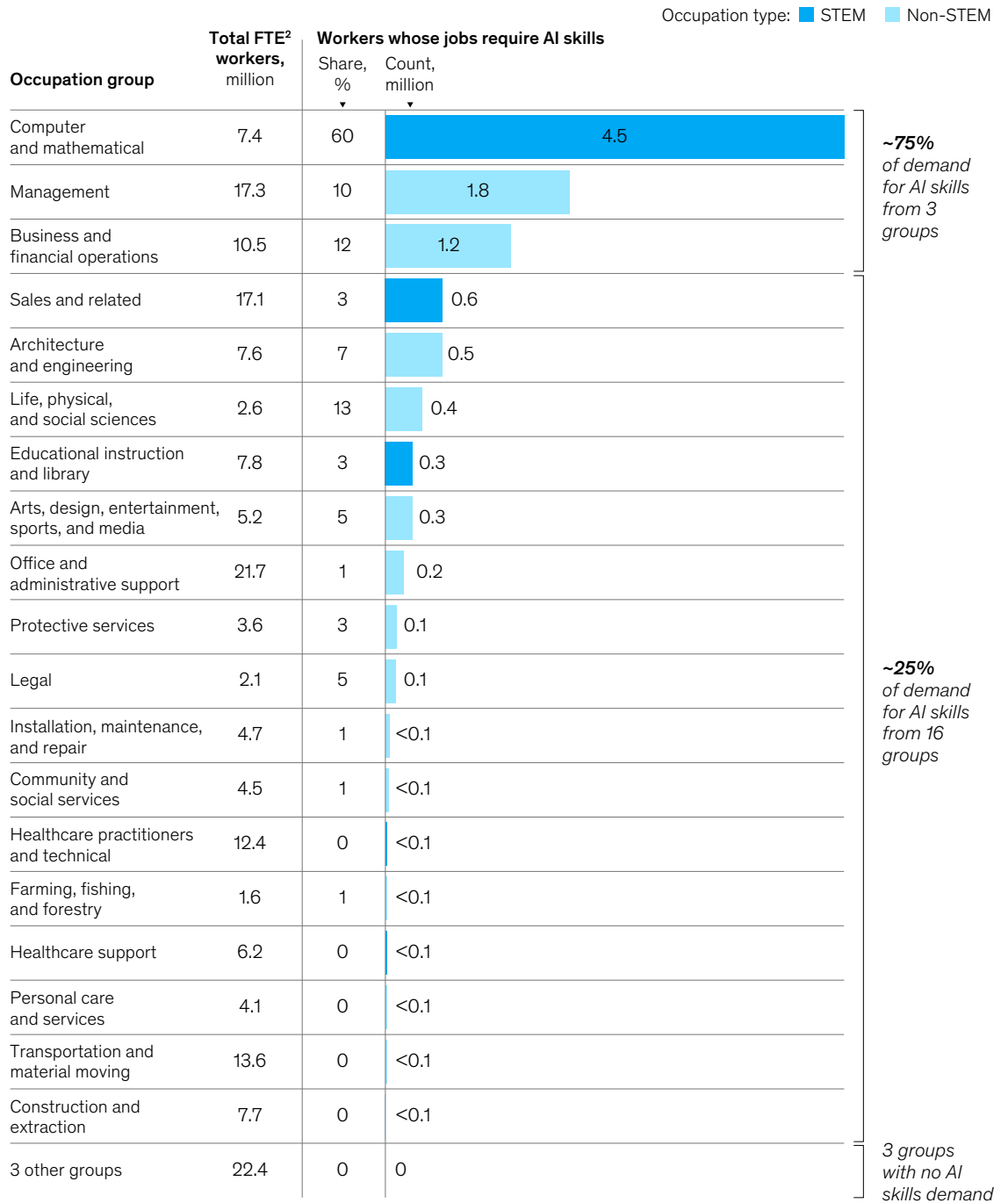
This diffusion is visible in nontechnical roles. Job postings for logistics coordinators, HR specialists, compliance officers, and many skilled trades increasingly call for familiarity with AI tools and analytics platforms. In these contexts, AI is not replacing domain expertise but changing how it is applied.



Exhibit 10

### Seventy-five percent of today's demand for AI skills comes from three occupation groups.

#### Employees in European occupations where an AI-related skill was listed in at least 5% of postings<sup>1</sup>



Note: Our analyses include only occupations with 30 or more job postings in Q4 2025. Includes only Czech Republic, Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.

<sup>1</sup>Includes only skills categorized by Lightcast as "artificial intelligence and machine learning" or "natural learning processing."

<sup>2</sup>Full-time equivalent.

Source: Lightcast; national statistical offices; McKinsey Global Institute analysis



Greater use of AI in business processes drives demand for complementary skills, including process improvement, business analysis, and quality assurance (Exhibit 11).<sup>13</sup>

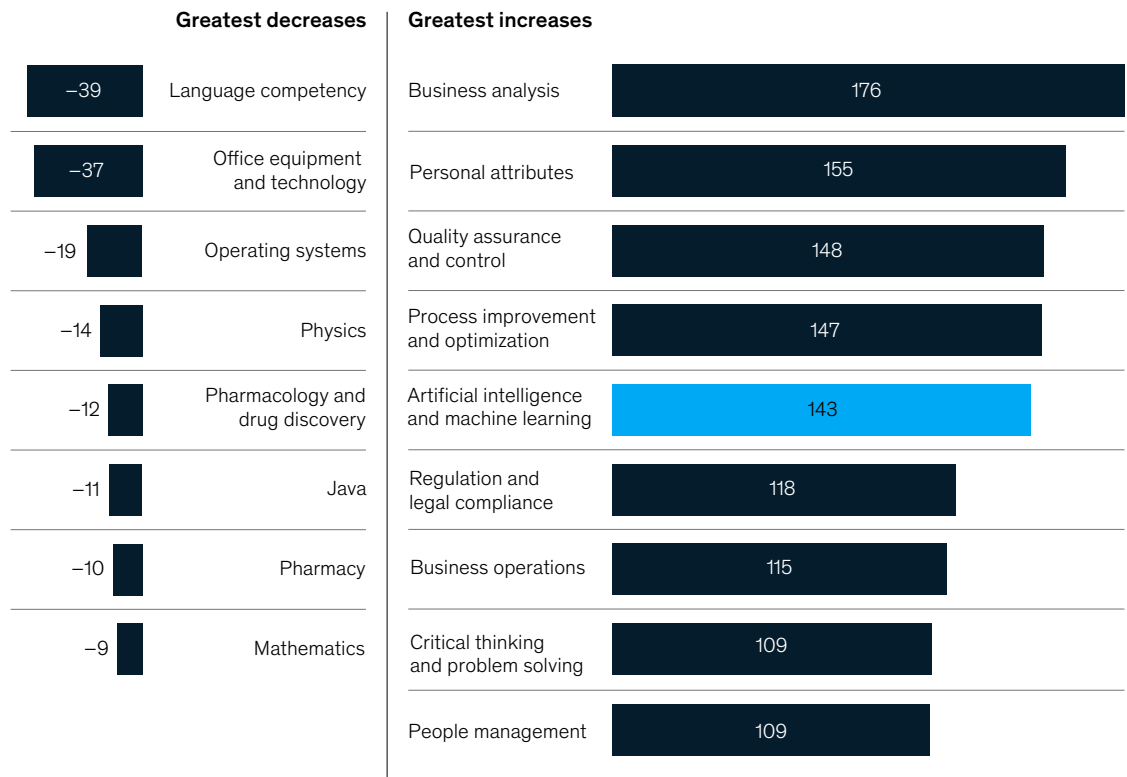
Overall, growing demand for AI-related and complementary skills signals the beginning of broader changes in how skills will be applied as AI adoption increases.

Exhibit 11

### Demand for AI-related skills is rising rapidly across Europe.

Change in occupations with job postings mentioning each skill subcategory, 2023–25<sup>1</sup>

Total unique occupations: ~1,800



Note: Includes only Denmark, France, Germany, Italy, Netherlands, Poland, Spain, Sweden, and United Kingdom.  
<sup>1</sup>At least one skill associated with the subcategory is listed in ≥5% of job postings for a given occupation; our analyses include only occupations with 30 or more job postings in Q4 2025.  
Source: Lightcast; McKinsey Global Institute analysis



### The Skill Change Index points to widespread shifts in skills by 2030

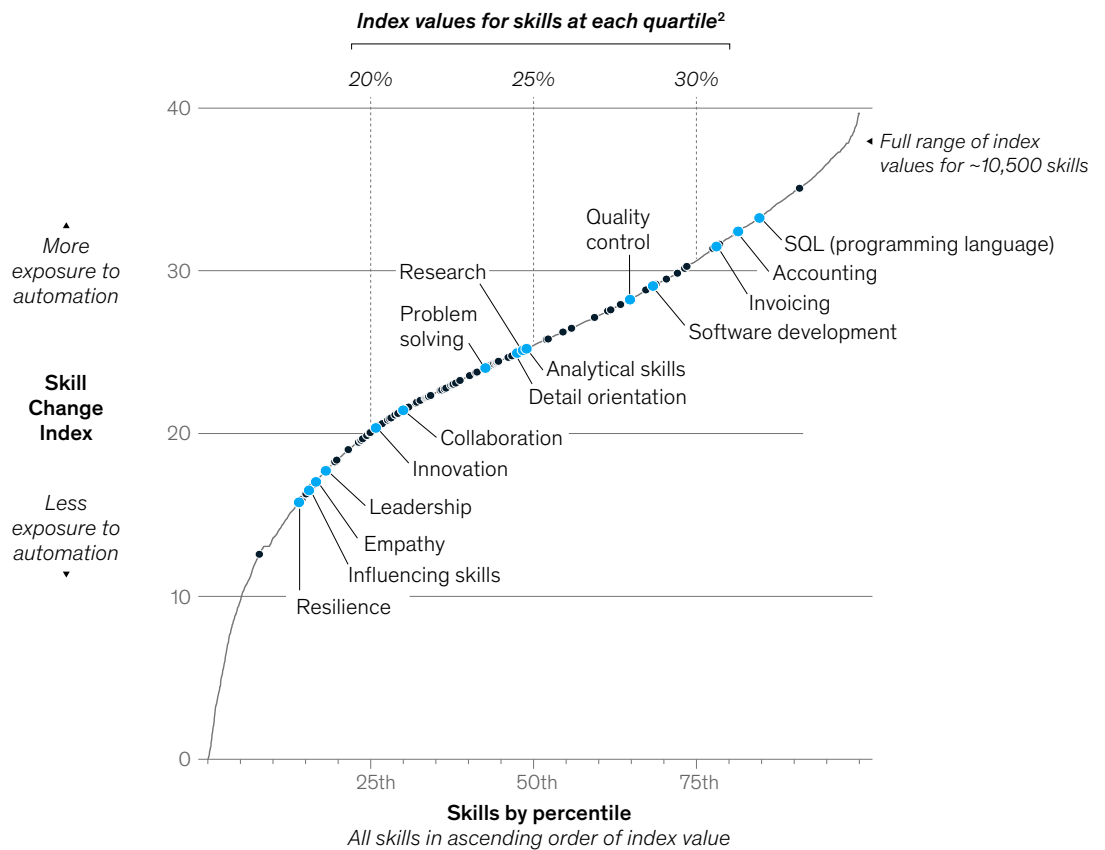
To gauge how skill demand may change, we apply the Skill Change Index (SCI) developed in earlier MGI research—a time-weighted measure of potential exposure to automation in different adoption scenarios (Exhibit 12; see sidebar “How we assess skill exposure to automation”). The SCI indicates most skills will be affected to some degree.

Exhibit 12

### Our Skill Change Index assesses how automation exposure varies across skills.

Skill Change Index,<sup>1</sup>% (0–100 scale)

● Circles = index values of top 100 skills



<sup>1</sup>Based on projected 2030 midpoint scenario of automation adoption of activities associated with skills, aggregated across occupations using employment-based weighting.

<sup>2</sup>Based on ~10,500 skills. We excluded skills that could not be linked to detailed work activities within occupations.  
Source: Lightcast; national statistical offices; McKinsey Global Institute analysis

McKinsey & Company



## Sidebar

### How we assess skill exposure to automation

**Our assessment** of how skills could change integrates four inputs: employment in various occupations, detailed work activities (DWAs) of each occupation, the skills relevant for each DWA, and the McKinsey automation adoption model estimating the automatability of each DWA.

Our model draws on full-time-equivalent (FTE) and average wage data for about 800 occupations from the US Bureau of Labor Statistics (BLS), data from O\*NET on about 2,000 DWAs linked to occupations, and data on roughly 34,000 skills linked to about 1,800 occupations from Lightcast.

For each country, we filtered the skills data set to include only those skills appearing in at least 5 percent of job postings for each of the approximately 1,800 Lightcast occupations. We also filtered out occupations with fewer than 30 job postings in the fourth quarter of

2025, narrowing the sample to about 10,500 skills across the ten European countries. We then mapped the BLS occupation, wage, and FTE data onto the Lightcast occupations.

Next, we mapped all skills to their corresponding DWAs within occupations. We leveraged the existing 3.4 million occupation–DWA–skill mappings from the US data and added 6.3 million additional mappings unique to Europe.

We used OpenAI's GPT-4o model through the asynchronous chat-completions endpoint. Each occupation–DWA–skill combination was processed as an individual API call with a standardized prompt to ensure consistent outputs. To verify quality, we first created a manually built 1,000-cell template for the generative model to replicate and infer from. We conducted iterative quality testing—spot-checking outputs, refining prompts, and rerunning samples—until the model produced reliable and consistent mappings.

To examine potential future implications of AI for skills, we used two lenses.

First, we classified the skills into three groups—people-led, AI-led, and shared—based on the technical automation potential of their associated work activities. For each skill in each country, we calculated the total time spent on these mapped DWAs and identified the share of that time associated with automatable versus non-automatable work. Skills with 55 percent or more of their time in non-automatable activities were classified as people-led, while those with 55 percent or more in automatable activities were classified as AI-led. All other skills were categorized as shared.

Second, we assessed the potential skill-change level by 2030, calculated from the average automation adoption projected for specific occupation–DWA combinations mapped to that skill, weighted by time spent. The analysis relies on the 2030 midpoint automation adoption rate for each DWA for each country, drawn from the latest (2025) update of the McKinsey automation model.

Digital and information-processing skills are among the fastest changing and most exposed skills, particularly programming languages and routine data entry. Examples from other sectors include invoicing, reconciliation, and transaction monitoring in financial services, and operating machinery and mechanical aptitude in advanced manufacturing.

Skills rooted in leadership, communication, and empathy are less exposed, meaning they are more likely to be augmented by AI rather than replaced. Clinical decision-making in healthcare, negotiation in professional services, and teaching in education are among the skills likely to change less even as AI plays a supporting role.

Most of the top 100 skills commonly demanded across our ten European countries face at least some exposure, indicating that skill change will be widespread.



---

Automation could unlock substantial economic value across Europe, but capturing that opportunity will depend on how organizations redesign work around people, agents, and robots. The transition underway represents more than the introduction of new tools; it signals a broader reorganization of tasks, workflows, and responsibilities.

Workers will shift from executing tasks themselves to orchestrating systems that perform them. As automation spreads, the most significant changes may lie in how human skills are applied within jobs.

Workers will need greater AI fluency, while businesses will need new workflows, governance models, and investments in the skills required to work effectively alongside AI systems.

This is not the first technological revolution. As with previous shifts, some roles and activities are likely to decline even as others emerge. Preparing people for these changes in roles and skills is a central challenge.

The outcomes are not fixed. Choices made now by companies, policymakers, and educators will shape how AI adoption unfolds and how workers adapt. Navigating this transition effectively is critical to raising productivity and sustaining competitiveness across Europe.



# Glossary

Concept	Definition
Adoption	The deployment of AI and automation technology into real work activities and workflows within an organization or labor-force context, determining how much of the automation potential is captured, how fast, and how broadly.
Agents	Machines that perform work in the digital world, augmenting or substituting a person's nonphysical capabilities (for example, natural language generation, social and emotional reasoning, creativity).
AI-powered agents	Agents with AI embedded, allowing them to act more autonomously and orchestrate workflows; also known as agentic AI.
AI-powered robots	Robots with AI embedded, allowing them to act more autonomously and orchestrate workflows.
Artificial intelligence (AI)	The ability of software to perform tasks that traditionally require human intelligence, potentially augmenting or substituting people's capabilities.
Capabilities	Physical or nonphysical abilities that support the application of skills, assessed based on human levels of performance required to perform work activities. Nonphysical capabilities include cognitive (for example, natural language, logical reasoning, creativity, navigation) and social and emotional capabilities.
Generative AI	Applications of AI that take unstructured data as inputs and generate unstructured data through foundation models (large artificial neural networks trained on vast amounts of varied data).
Nonphysical work	Work that involves cognitive or social/emotional capabilities rather than physical movement, such as problem solving, information processing, creating, and collaborating with others.
Occupations	A set of jobs that share similar tasks or work activities that can be described in terms of their skills, work contexts, and other qualifications. We use the United States' formal classification of occupations, maintained by the Bureau of Labor Statistics. Occupations can be synonymous with "roles" and are not to be confused with employment.
Physical work	Work that involves direct interaction with the physical world, requiring motion-based capabilities such as gross motor skills, fine motor skills, and mobility. These tasks typically include operating or moving objects, tools, or machinery; assembling or positioning materials; and performing actions that depend on human strength or dexterity.
Robots	Machines that perform work in the physical world, augmenting or substituting a person's physical capabilities (that is, gross motor skills, fine motor skills, or mobility).
Skills	Knowledge, competencies, and attributes that people deploy to perform work activities, often acquired through formal education, training, or work experience. Lightcast and ESCO provide market-driven classification systems for skills.
Technical automation potential	The share of work hours that theoretically could be automated with certain levels of technical capabilities. We assessed economies' technical automation potential through an analysis of the detailed work activities of each occupation, completed for about 800 occupations in each of the ten European countries.
Work activities	Observable work behavior that represents what people do to accomplish the objectives of an occupation. In the United States, activities are formally classified by O*NET into detailed work activities (DWAs).
Workflows	A structured sequence of work activities that collectively advance work toward a defined goal, guided by processes (for example, rules, dependencies, information flows) and involving people and technologies.



# Endnotes

- <sup>1</sup> “A new future of work: The race to deploy AI and raise skills in Europe and beyond,” McKinsey Global Institute, May 21, 2024; and “Time to place our bets: Europe’s AI opportunity,” McKinsey Global Institute, October 1, 2024.
- <sup>2</sup> Based on World Bank data for 2024. Europe includes the 27 EU member states plus Albania, Iceland, Montenegro, North Macedonia, Norway, Serbia, Switzerland, and United Kingdom.
- <sup>3</sup> Our analysis focuses exclusively on paid productive hours in the workforce, encompassing full-time and part-time work across industries, occupations, and skill levels. We assess only the share of time awake that is spent on work-related activities. Our analysis excludes time spent on unpaid tasks and leisure, but agents and robots could be used in related activities to support productivity and personal well-being.
- <sup>4</sup> Technical automation potential shown is the late scenario of expert estimates. In the early scenario, agents and robots could perform 60 to 70 percent of today’s global work hours.
- <sup>5</sup> Innovation has historically displaced some activities while also generating new categories of employment that were difficult to anticipate. Recent examples include AI trainers, AI content creators, human–AI collaboration leads, and responsible AI specialists.
- <sup>6</sup> Generative AI refers to systems that generate text, code, or other forms of content. Automation can take many forms beyond this, including robotic process automation, workflow management systems, industrial control systems, enterprise software integrations, and rule-based decision engines. Considering this broad spectrum allows us to assess the full potential of automation across work activities.
- <sup>7</sup> Values are expressed in nominal US dollars.
- <sup>8</sup> These estimates reflect potential gains at the level of individual organizations, through higher output in existing activities and new value created by freeing capacity from routine tasks. They do not necessarily translate directly into increases in national GDP, as many European firms operate across borders and value may be captured throughout global value chains or as consumer surplus, which is not measured in GDP. How much of this value European corporations realize will depend in part on how firms reinvest these gains.
- <sup>9</sup> “The state of AI in 2025: Agents, innovation, and transformation,” McKinsey, November 5, 2025.
- <sup>10</sup> “Agents, robots, and us: Skill partnerships in the age of AI,” McKinsey Global Institute, November 25, 2025.
- <sup>11</sup> We measure the diffusion of AI-related skills in the workforce using occupational penetration, defined as the share of occupations in which a given skill appears in at least 5 percent of job postings. Growth in this measure indicates that a skill is spreading across a broad range of roles.
- <sup>12</sup> We distinguish between two types of AI-related skills: AI fluency and technical AI skills. AI fluency refers to the ability to use and manage AI systems in day-to-day work, including integrating them into workflows, interpreting outputs, applying judgment, and iterating to improve performance. It also includes the ability to create and prototype solutions with AI tools, for example, through low- or no-code approaches, enabling nontechnical professionals to build simple applications, automations, or analyses with AI assistance. By contrast, technical AI skills involve the development, engineering, and governance of AI systems, including designing models, building underlying architectures, ensuring robustness and security, and managing deployment at scale.
- <sup>13</sup> These figures reflect mentions in job postings, not the actual skills of the people ultimately hired.



# Country dashboards

Czech Republic

Denmark

France

Germany

Italy

Netherlands

Poland

Spain

Sweden

United Kingdom

## Czech Republic

- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

# Czech Republic

The Czech Republic's technical automation potential is roughly 64 percent, among the higher levels in Europe. However, demand for AI-related skills has grown far more slowly than the regional average, suggesting a slower pace of adoption. Manufacturing accounts for about a quarter of the estimated \$33 billion that could be unlocked through automation by 2030.

**64%**

Share of current work hours technically automatable with existing technology

**\$33 billion**

Estimated economic value from automation adoption by 2030, midpoint scenario

**83%**

Share of human skills that will endure for people amid automation

**4.9x**

People in jobs requiring AI fluency in 2025 vs 2023

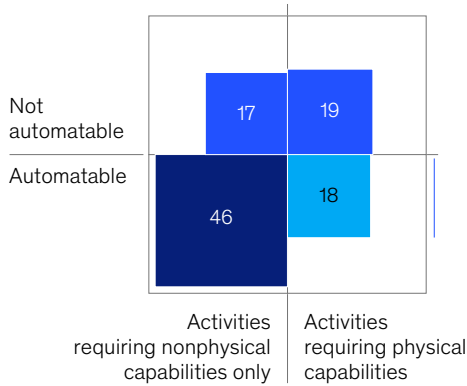
## Automation could change how work gets done in the Czech Republic.

### Distribution of work hours, 2024

Share of work that could be done by:

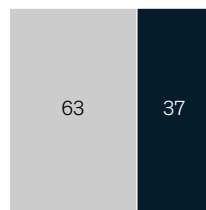
- People
- Agents
- Robots

### Hours by technical automation potential,<sup>1</sup>%



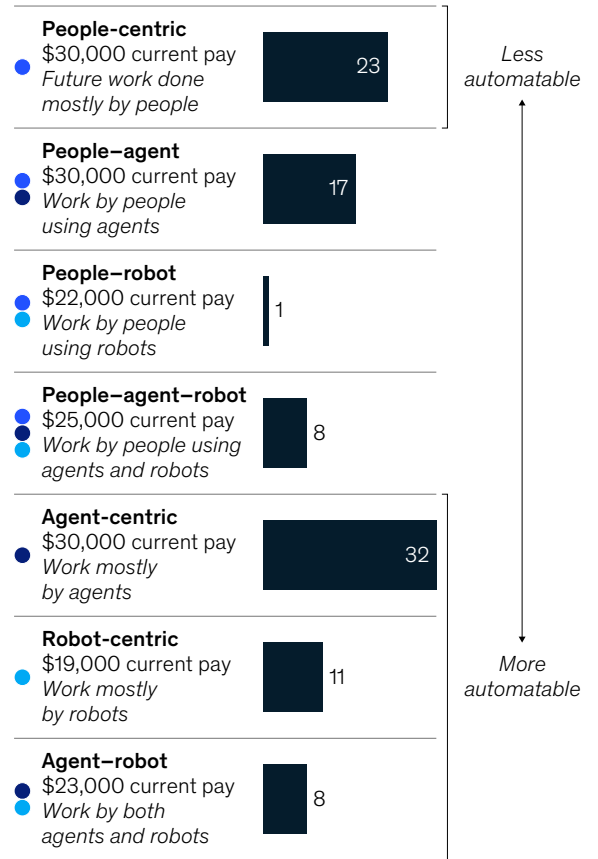
### Hours by capabilities required, %

- Nonphysical
- Physical



🕒 43% of workforce in more physical roles<sup>2</sup>

### Distribution of workforce across occupation archetypes, 2024, %

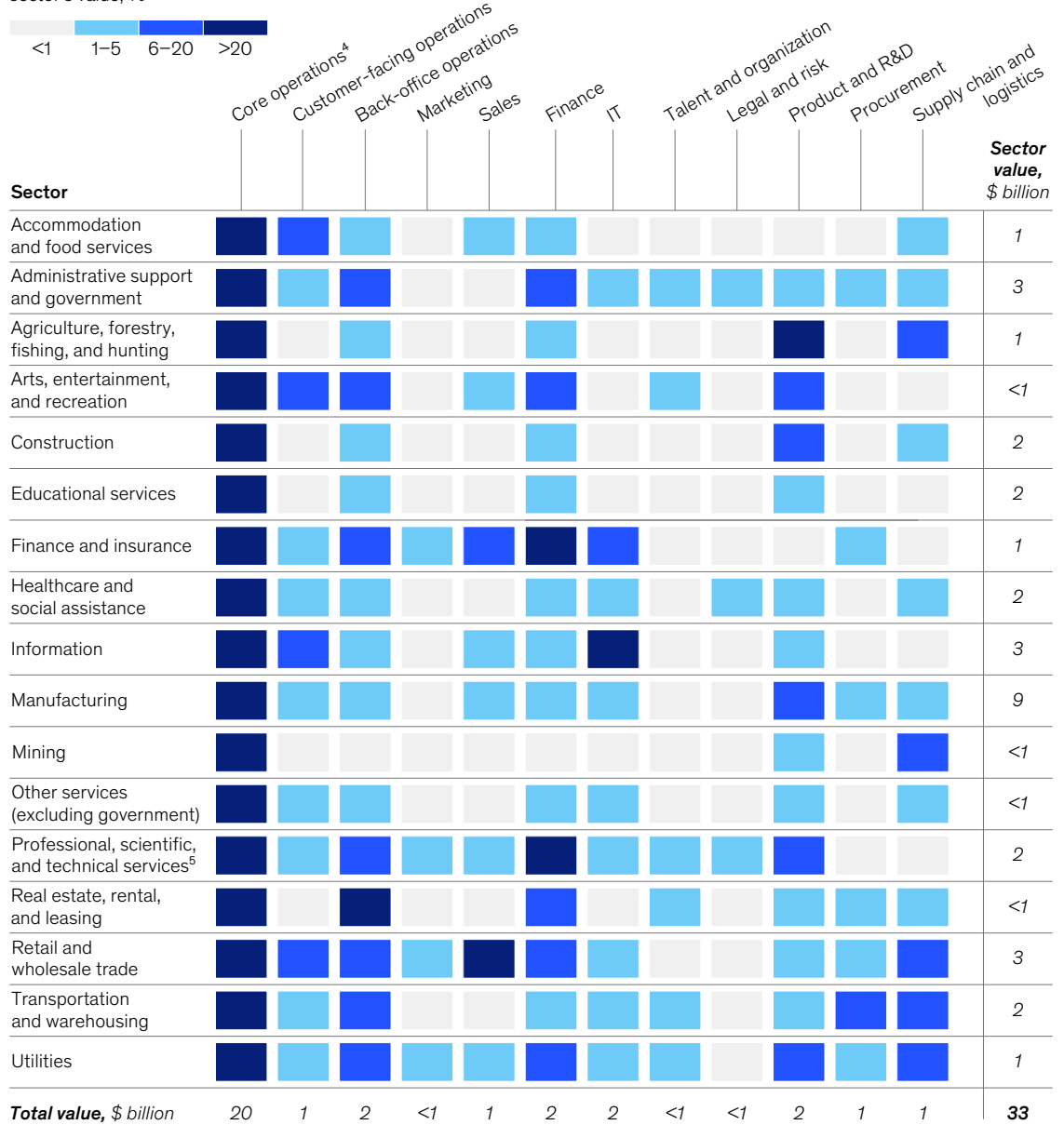


**Czech Republic**

- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

**Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>**

Domain's share of each sector's value, %



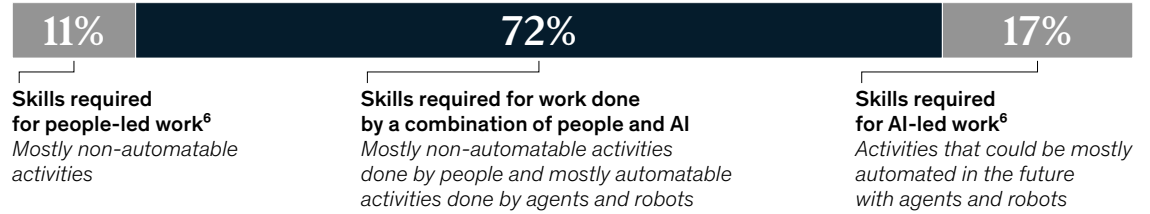


**Czech Republic**

- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

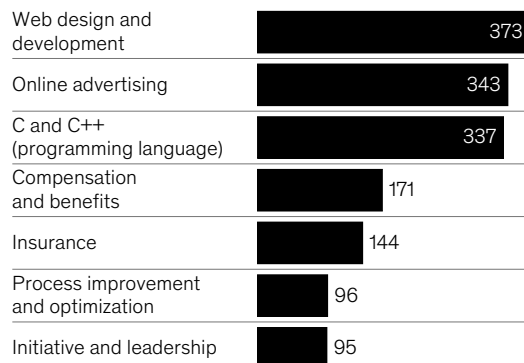
## AI will reshape skills in the Czech Republic's workforce.

### Distribution of ~3,100 skills by technical automation potential, 2024

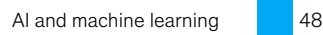


### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

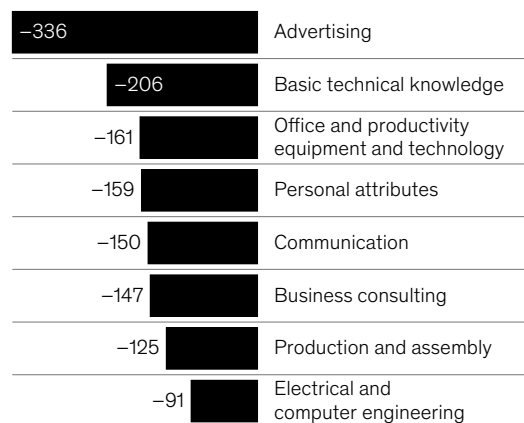
**Greatest increases**



*6 others*

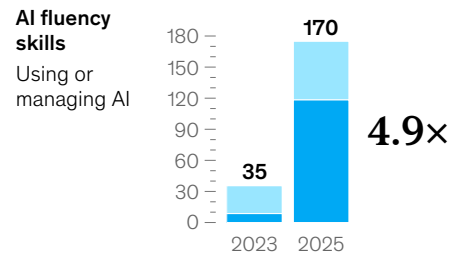


**Greatest decreases**



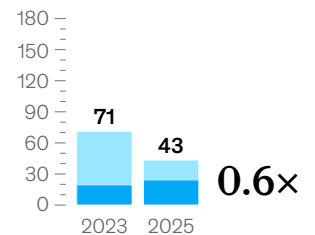
### Employees in occupations with AI-related skills in at least 5% of postings, thousand

Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM

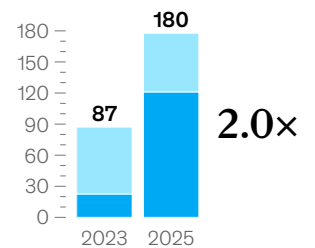


### Technical AI skills

Developing or governing AI



### Any AI-related skills<sup>9</sup>





**Czech Republic**

- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

**Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>**

Occupation type: ■ STEM ■ Non-STEM

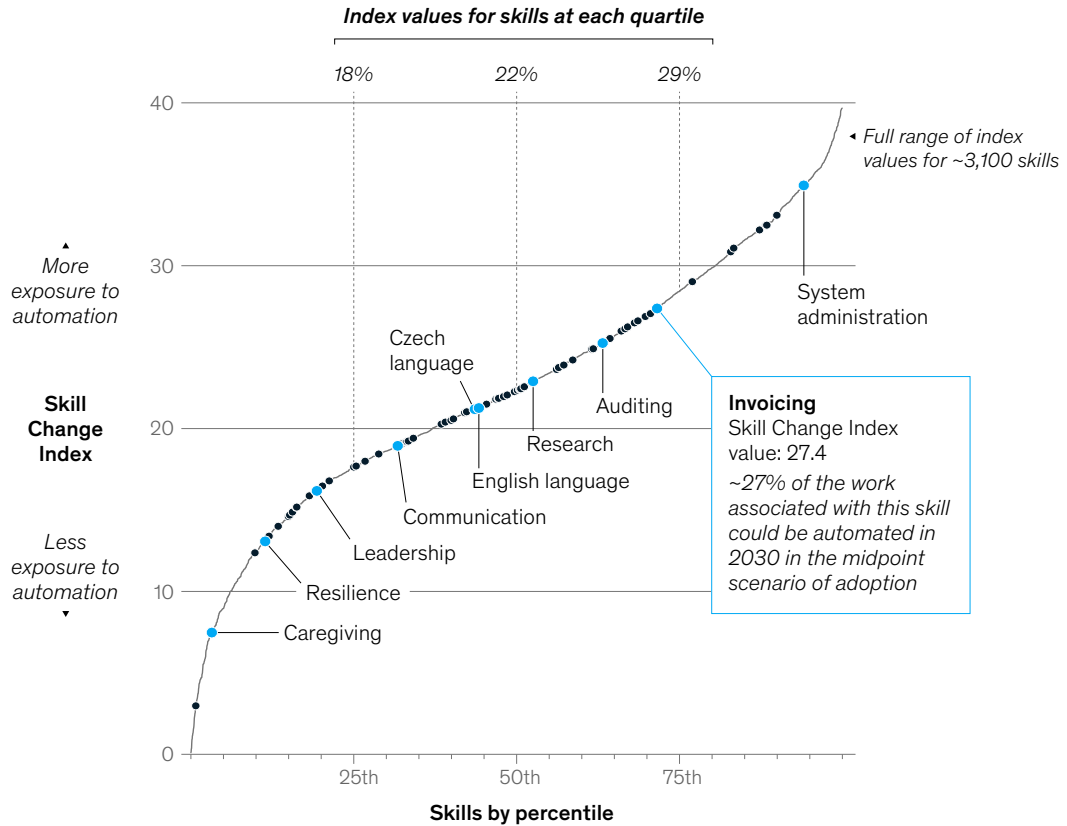
Occupation group	Total FTE workers, thousand	Workers whose jobs require AI skills		
		Share, %	Count	
Computer and mathematical	220	52	120,000	~75% of demand for AI skills from 2 groups
Business and financial operations	290	7	19,000	
Management	370	5	19,000	~25% of demand for AI skills from 7 groups
Arts, design, entertainment, sports, and media	130	6	8,000	
Office and administrative support	570	1	7,700	
Architecture and engineering	260	2	3,800	
Sales and related	500	1	3,000	
Life, physical, and social sciences	110	1	780	
Educational instruction and libraries	170	<1	300	
13 other groups	2,500	—	0	13 groups with no AI skills demand

**Czech Republic**

- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

**Skill Change Index,<sup>11</sup> % (0–100 scale)**

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>“People-led” and “AI-led” skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as “artificial intelligence and machine learning” or “natural language processing.” <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Czech Statistical Office; Eurostat, Lightcast, O\*NET; McKinsey Global Institute analysis

McKinsey & Company

Czech Republic

**Denmark**

France

Germany

Italy

Netherlands

Poland

Spain

Sweden

United Kingdom

## Denmark

At 58 percent, Denmark's technical automation potential is in line with the European average. The estimated \$66 billion that could be unlocked by 2030 is relatively evenly distributed, with healthcare and social services representing the largest share. Demand for AI-related skills is rising more slowly than the regional average: Since 2023, employer demand for AI fluency has tripled, while demand for technical AI skills has remained relatively flat.

**58%**

Share of current work hours technically automatable with existing technology

**\$66 billion**

Estimated economic value from automation adoption by 2030, midpoint scenario

**84%**

Share of human skills that will endure for people amid automation

**3.6x**

People in jobs requiring AI fluency in 2025 vs 2023

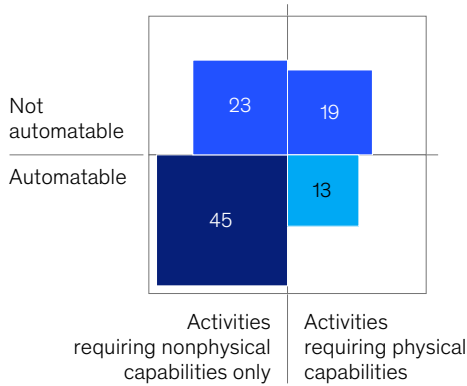
### Automation could change how work gets done in Denmark.

#### Distribution of work hours, 2024

Share of work that could be done by:

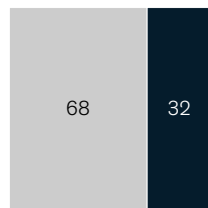
● People ● Agents ● Robots

#### Hours by technical automation potential,<sup>1</sup>%



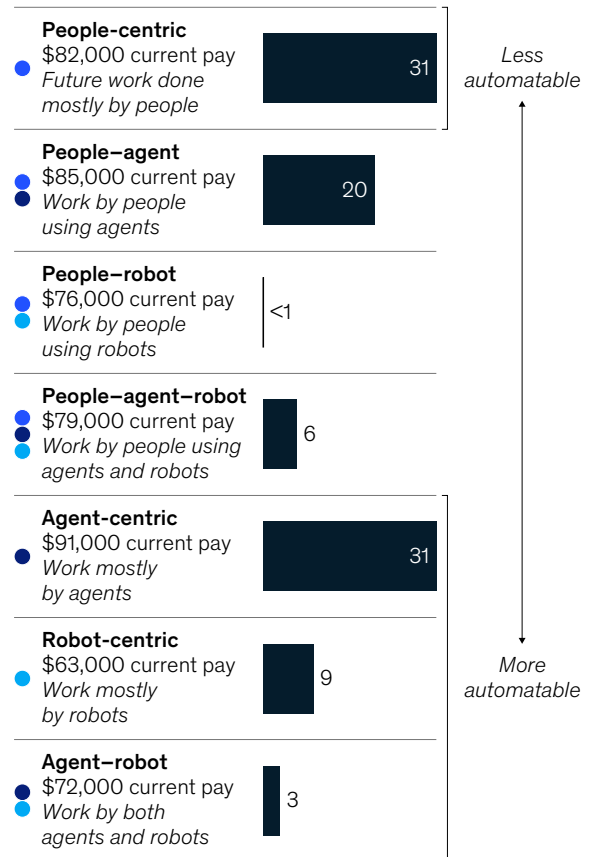
#### Hours by capabilities required, %

■ Nonphysical  
■ Physical



🔄 30% of workforce in more physical roles<sup>2</sup>

#### Distribution of workforce across occupation archetypes, 2024, %



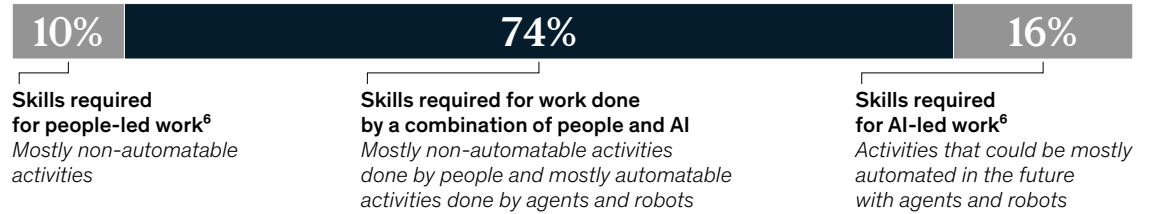
### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %



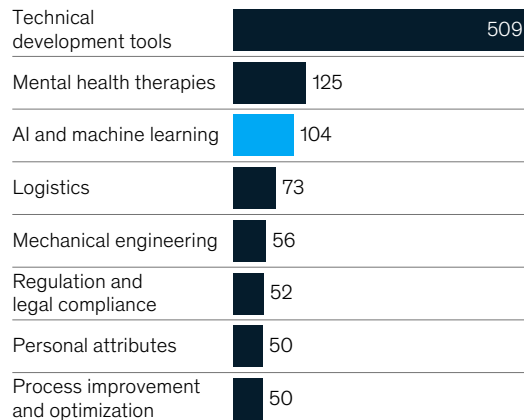
## AI will reshape skills in Denmark's workforce.

Distribution of ~4,200 skills by technical automation potential, 2024



### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

#### Greatest increases

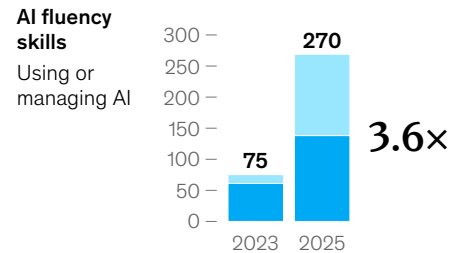


#### Greatest decreases



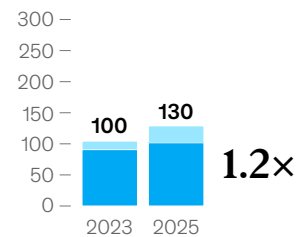
### Employees in occupations with AI-related skills in at least 5% of postings, thousand

Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM

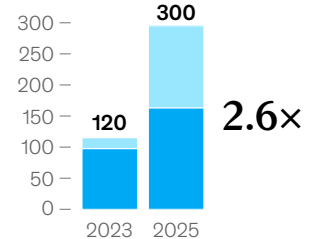


#### Technical AI skills

Developing or governing AI



#### Any AI-related skills<sup>9</sup>



Czech Republic

**Denmark**

France

Germany

Italy

Netherlands

Poland

Spain

Sweden

United Kingdom

## Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, thousand	Workers whose jobs require AI skills	
		Share, %	Count
Computer and mathematical	150	78	120,000
Legal	40	86	36,000
Architecture and engineering	180	15	28,000
Arts, design, entertainment, sports, and media	220	11	23,000
Sales and related	250	8	21,000
Management	130	16	20,000
Business and financial operations	170	11	19,000
Life, physical, and social sciences	150	11	16,000
Educational instruction and libraries	130	9	11,000
Office and administrative support	180	1	2,600
Healthcare practitioners and technical occupations	250	<1	240
11 other groups	1,100	—	0

~70% of demand for AI skills from 4 groups

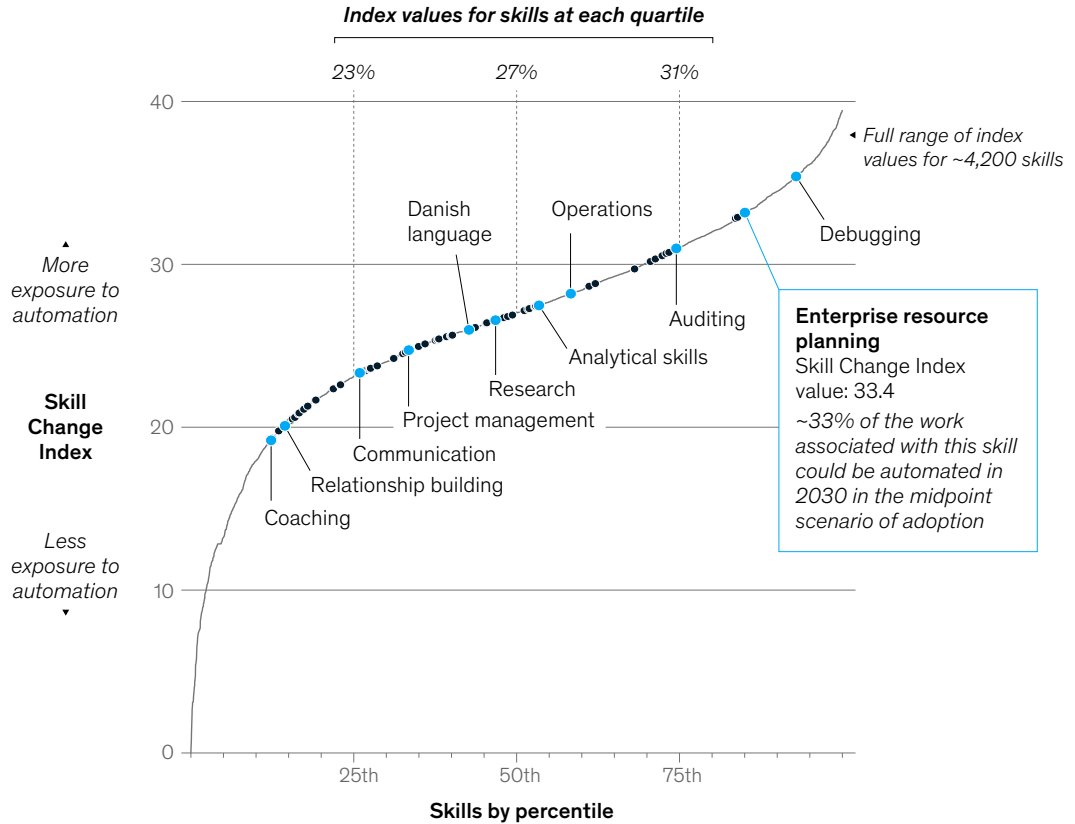
~30% of demand for AI skills from 7 groups

11 groups with no AI skills demand

- Czech Republic
- Denmark**
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

### Skill Change Index,<sup>11</sup> % (0–100 scale)

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>“People-led” and “AI-led” skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as “artificial intelligence and machine learning” or “natural language processing.” <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Eurostat; Lightcast; O\*NET; Statistics Denmark; McKinsey Global Institute analysis

McKinsey & Company

# France

In France, about 57 percent of work hours could be automated using existing technologies, close to the European average. Retail and manufacturing together account for roughly a quarter of the estimated \$238 billion that could be unlocked by 2030. Demand for AI-related skills is rising more moderately than in some other countries: Since 2023, employer demand for AI fluency has increased fourfold—less than the roughly fivefold growth seen across Europe—while demand for technical AI skills has grown close to the regional average.

**57%**

Share of current work hours technically automatable with existing technology

**\$238 billion**

Estimated economic value from automation adoption by 2030, midpoint scenario

**86%**

Share of human skills that will endure for people amid automation

**4.0×**

People in jobs requiring AI fluency in 2025 vs 2023

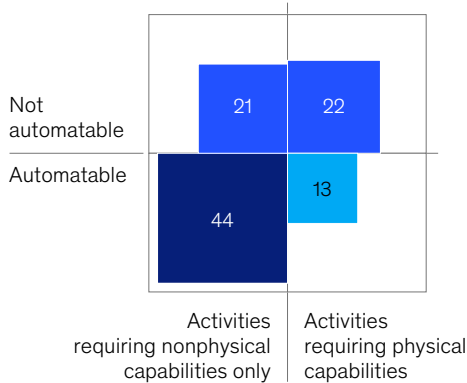
## Automation could change how work gets done in France.

### Distribution of work hours, 2024

Share of work that could be done by:

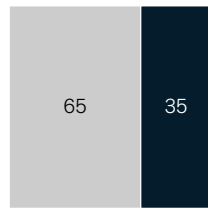
● People ● Agents ● Robots

### Hours by technical automation potential,<sup>1</sup>%



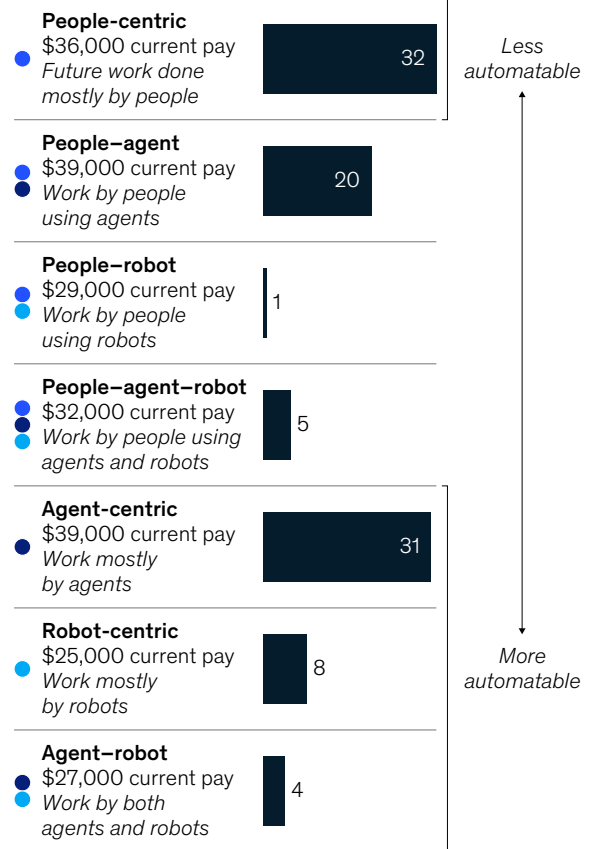
### Hours by capabilities required, %

■ Nonphysical  
■ Physical



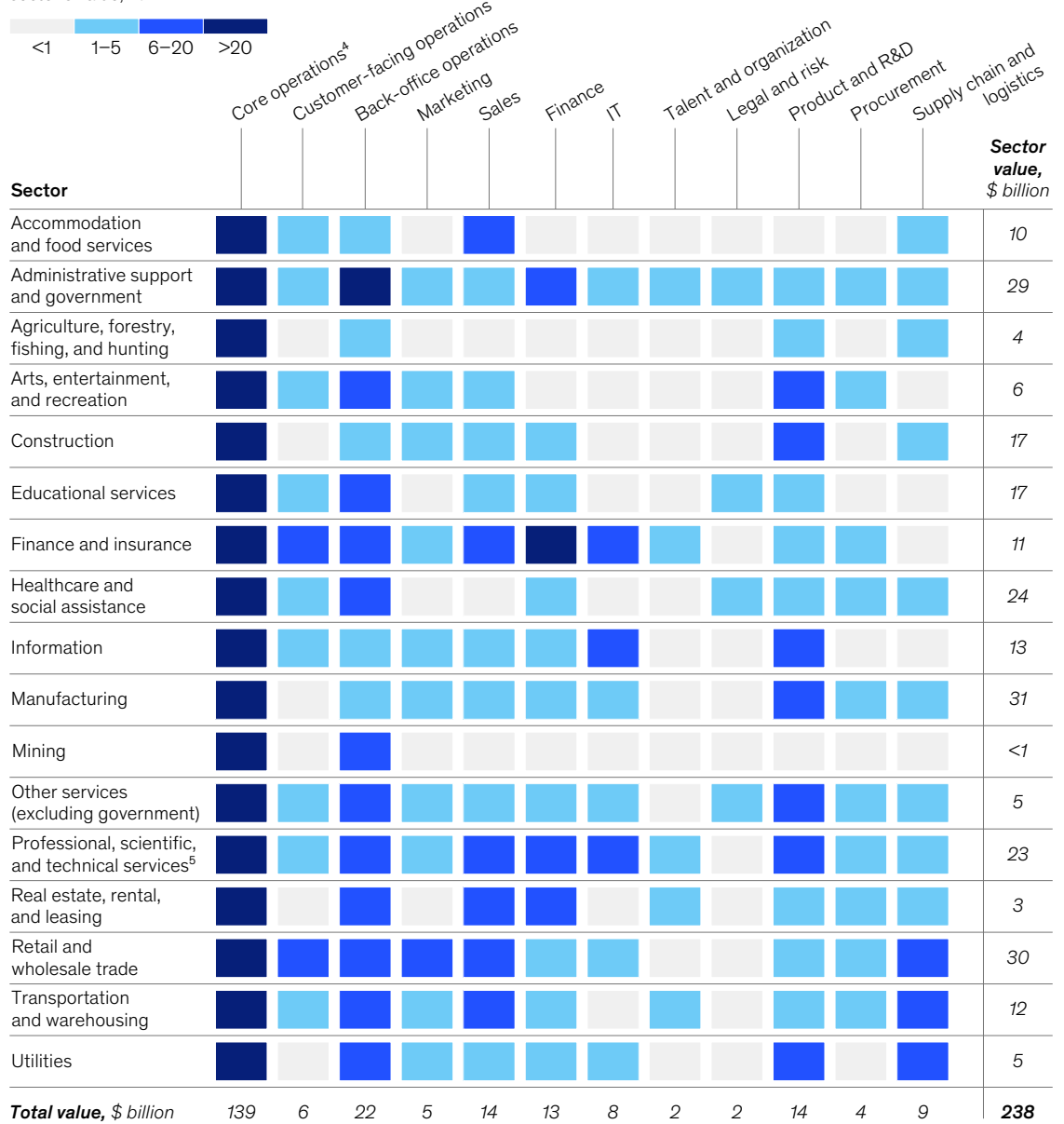
🔄 40% of workforce in more physical roles<sup>2</sup>

### Distribution of workforce across occupation archetypes, 2024, %



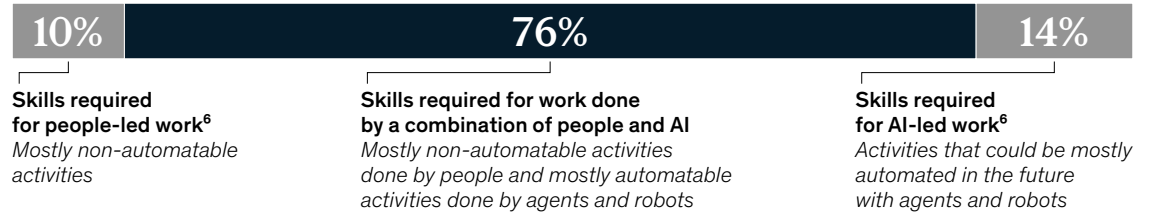
### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %



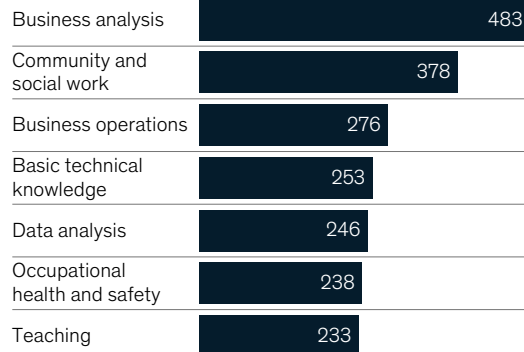
## AI will reshape skills in France's workforce.

Distribution of ~3,400 skills by technical automation potential, 2024

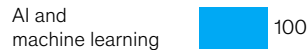


### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

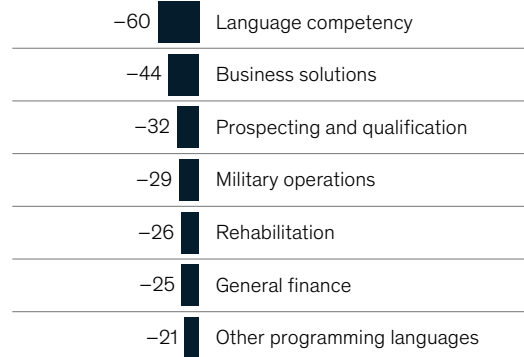
#### Greatest increases



19 others

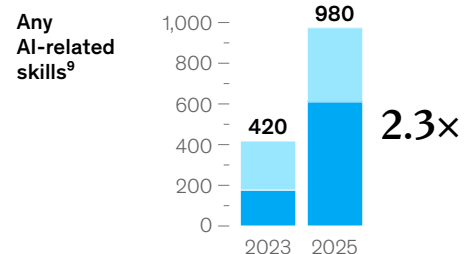
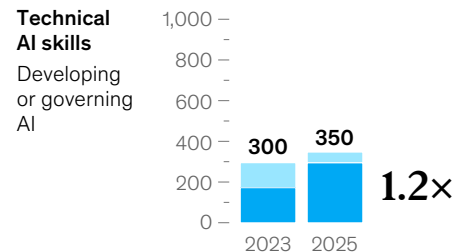
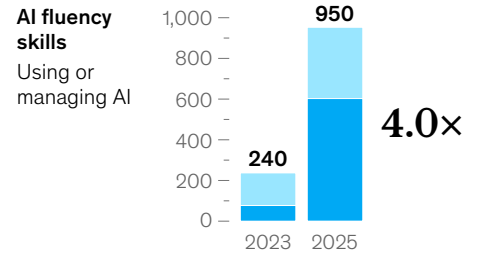


#### Greatest decreases



### Employees in occupations with AI-related skills in at least 5% of postings, thousand

Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM



### Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, million	Workers whose jobs require AI skills	
		Share, %	Count
Computer and mathematical	0.8	65	520,000
Management	3.0	7	200,000
Sales and related	2.8	3	93,000
Business and financial operations	1.3	5	59,000
Architecture and engineering	1.3	4	55,000
Life, physical, and social sciences	0.2	17	30,000
Legal	0.3	2	4,800
Arts, design, entertainment, sports, and media	1.0	<1	4,500
Healthcare practitioners and technical occupations	1.8	<1	2,700
Educational instruction and libraries	1.1	<1	2,400
Office and administrative support	3.0	<1	900
11 other groups	11.6	—	0

~75% of demand for AI skills from 2 groups

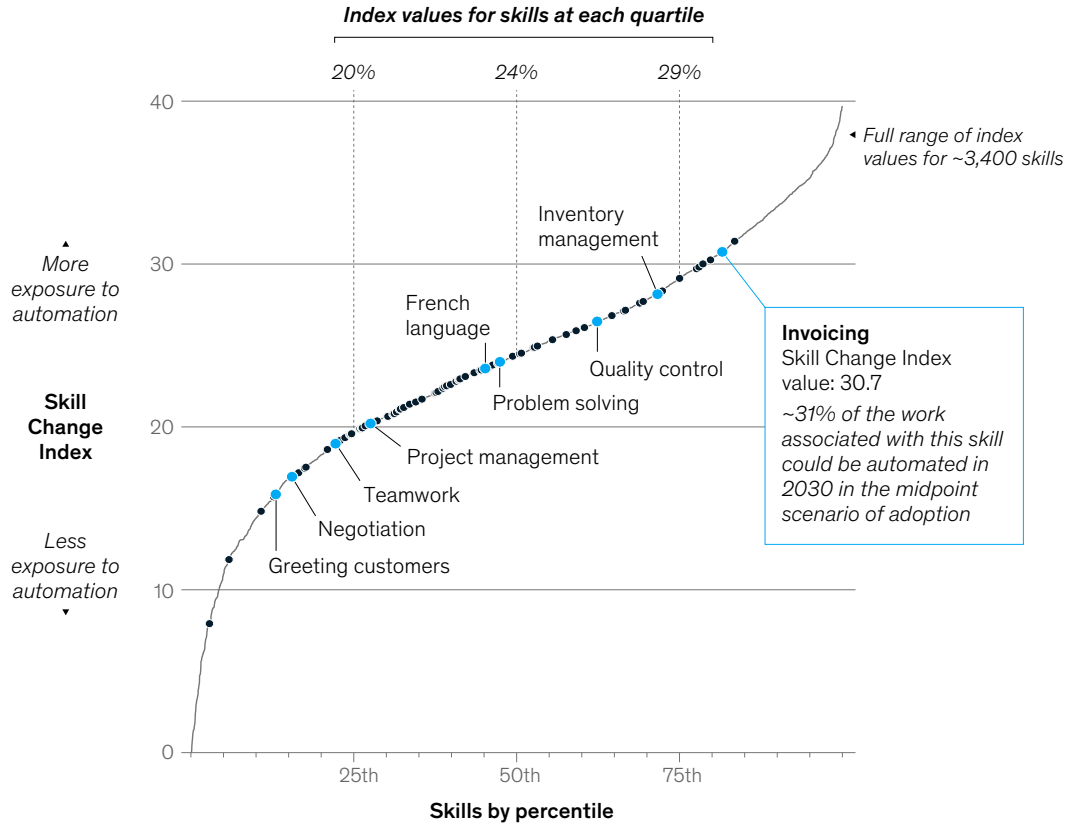
~25% of demand for AI skills from 9 groups

11 groups with no AI skills demand

- Czech Republic
- Denmark
- France**
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

### Skill Change Index,<sup>11</sup> % (0–100 scale)

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>“People-led” and “AI-led” skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as “artificial intelligence and machine learning” or “natural language processing.” <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Eurostat; France’s National Institute of Statistics and Economic Studies; Lightcast; O\*NET; McKinsey Global Institute analysis

McKinsey & Company

## Germany

At 59 percent, Germany's technical automation potential is roughly in line with the European average, with manufacturing accounting for about a quarter of the estimated \$486 billion that could be unlocked through automation by 2030. Demand for AI-related skills is rising quickly: Since 2023, employer demand for AI fluency has increased sixfold—greater than the regional average—while demand for technical AI skills has grown more moderately.

**59%**

Share of current work hours technically automatable with existing technology

**\$486 billion**

Estimated economic value from automation adoption by 2030, midpoint scenario

**86%**

Share of human skills that will endure for people amid automation

**6.1×**

People in jobs requiring AI fluency in 2025 vs 2023

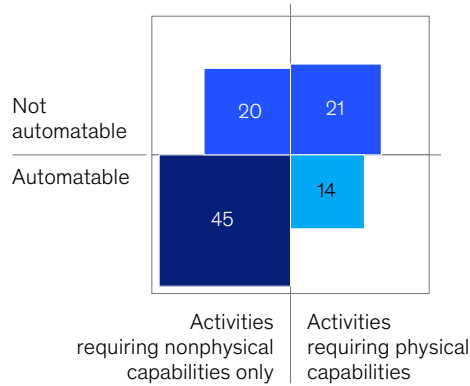
### Automation could change how work gets done in Germany.

#### Distribution of work hours, 2024

Share of work that could be done by:

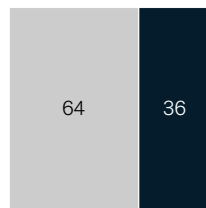
● People ● Agents ● Robots

#### Hours by technical automation potential,<sup>1</sup>%



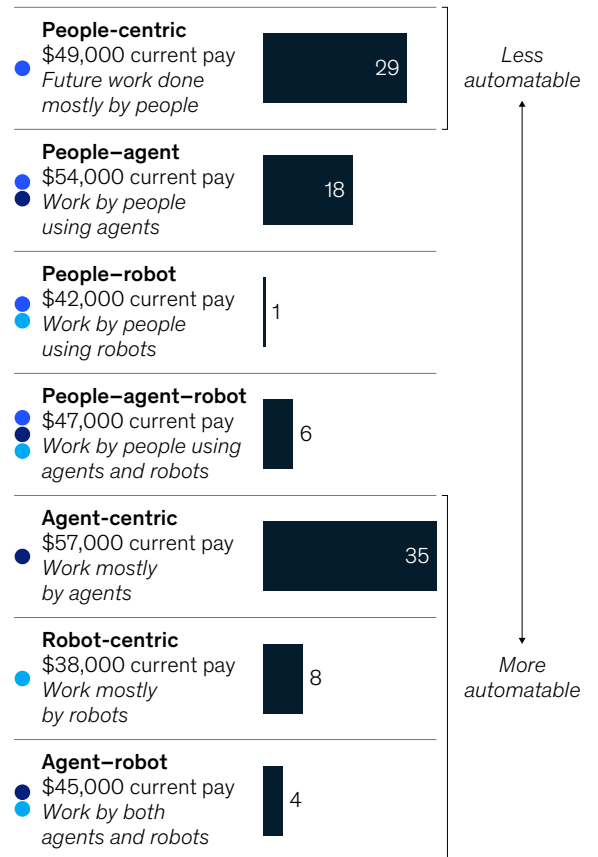
#### Hours by capabilities required, %

■ Nonphysical  
■ Physical



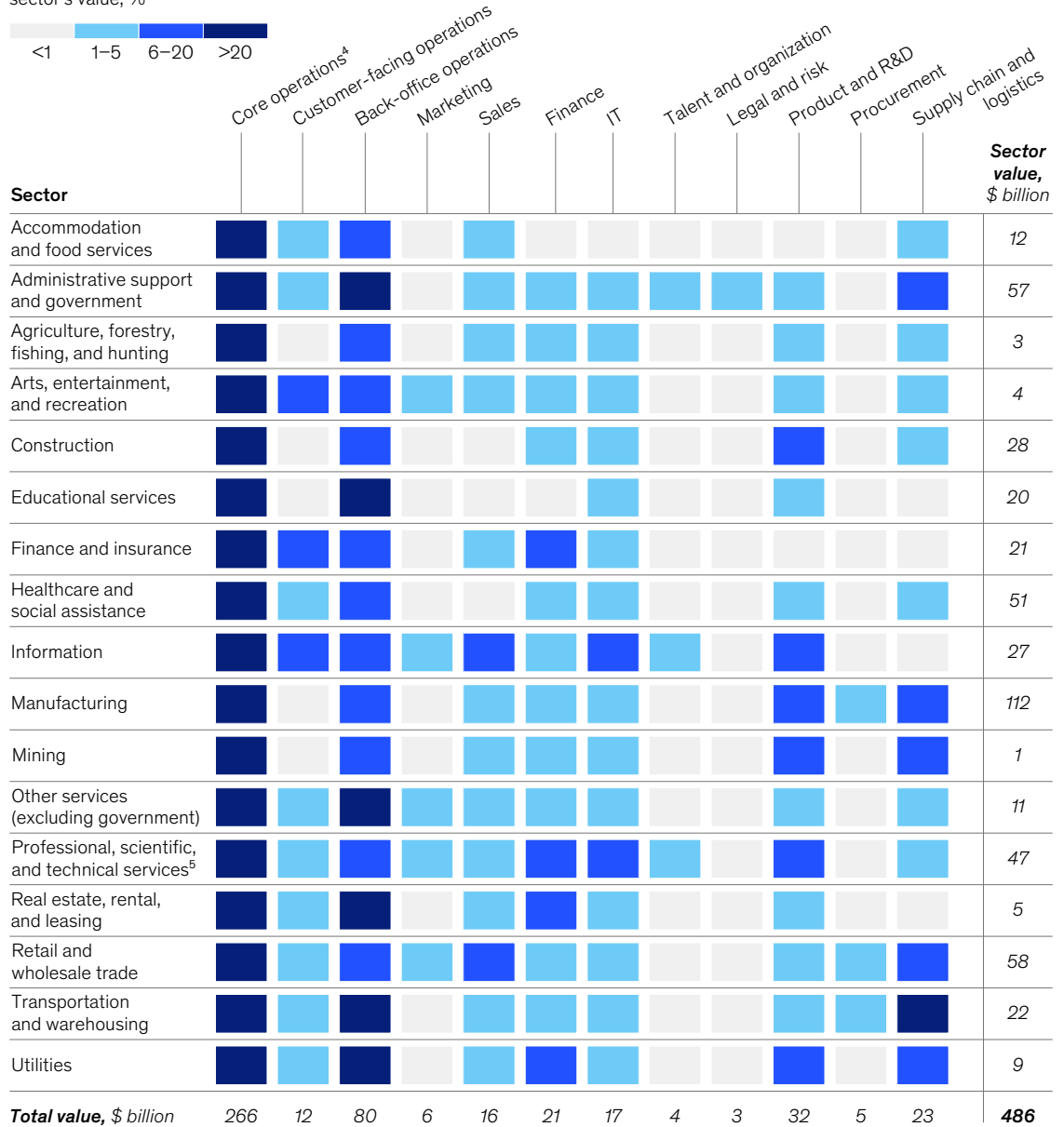
🕒 34% of workforce in more physical roles<sup>2</sup>

#### Distribution of workforce across occupation archetypes, 2024, %



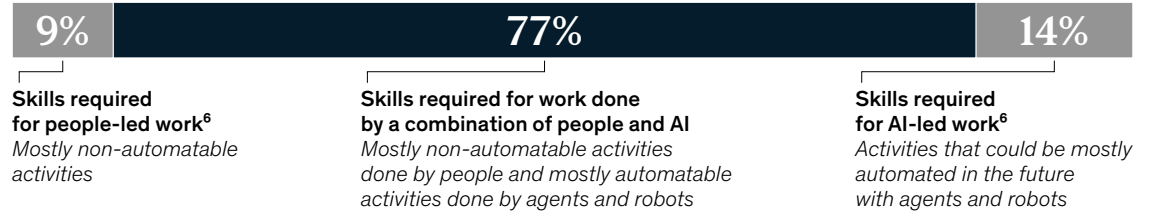
### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %



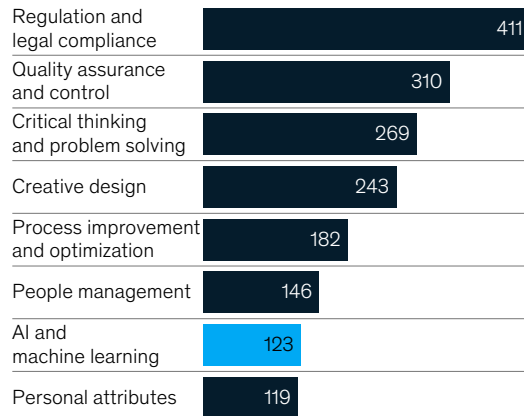
## AI will reshape skills in Germany's workforce.

### Distribution of ~3,900 skills by technical automation potential, 2024

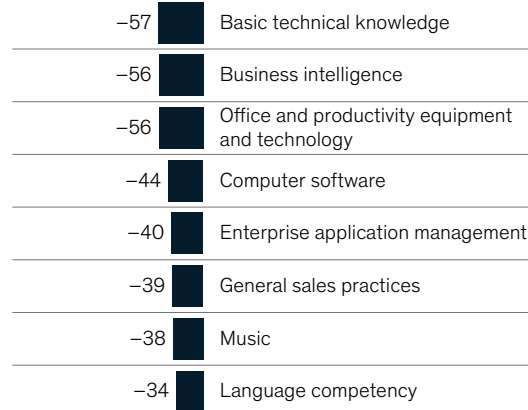


### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

#### Greatest increases

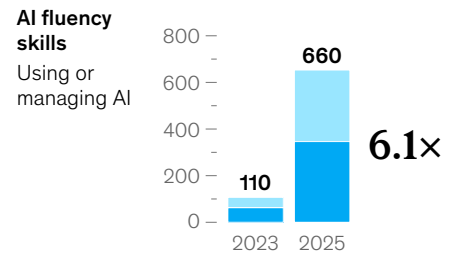


#### Greatest decreases



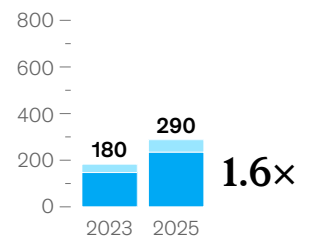
### Employees in occupations with AI-related skills in at least 5% of postings, thousand

Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM

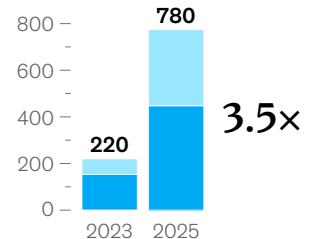


#### Technical AI skills

Developing or governing AI



#### Any AI-related skills<sup>9</sup>



## Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, million	Workers whose jobs require AI skills	
		Share, %	Count
Computer and mathematical	1.3	29	370,000
Sales and related	3.2	3	86,000
Business and financial operations	1.3	6	79,000
Management	1.5	5	77,000
Architecture and engineering	1.6	4	68,000
Educational instruction and libraries	1.1	6	62,000
Life, physical, and social sciences	0.5	3	12,000
Arts, design, entertainment, sports, and media	0.5	3	12,000
Transportation and material moving	3.6	<1	8,700
Office and administrative support	7.5	<1	1,800
Legal	0.1	1	620
Farming, fishing, and forestry	0.05	1	470
Protective services	0.3	<1	40
Healthcare practitioners and technical occupations	2.9	<1	30
8 other groups	9.6	—	0

*~80% of demand for AI skills from 4 groups*

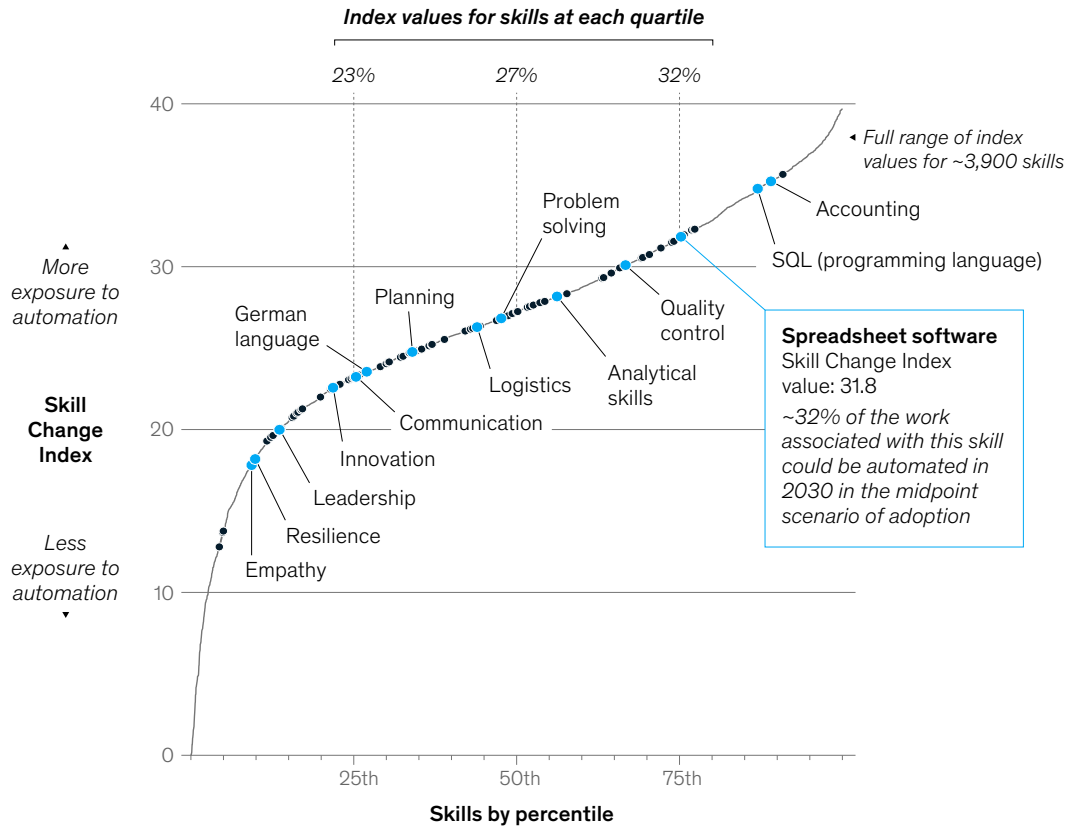
*~20% of demand for AI skills from 10 groups*

*8 groups with no AI skills demand*

- Czech Republic
- Denmark
- France
- Germany**
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

### Skill Change Index,<sup>11</sup> % (0–100 scale)

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>“People-led” and “AI-led” skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as “artificial intelligence and machine learning” or “natural language processing.” <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Eurostat; Germany’s Federal Statistical Office; Lightcast; O\*NET; McKinsey Global Institute analysis

McKinsey & Company

## Italy

Italy combines relatively high automation potential with uneven growth in AI-related skills. At about 60 percent, the share of work hours that could be automated is among the higher levels in Europe. Demand for AI-related skills is rising, but not uniformly: Since 2023, employer demand for AI fluency has doubled—less than the regional average.

**60%**

Share of current work hours technically automatable with existing technology

**\$196 billion**

Estimated economic value from automation adoption by 2030, midpoint scenario

**87%**

Share of human skills that will endure for people amid automation

**2.3x**

People in jobs requiring AI fluency in 2025 vs 2023

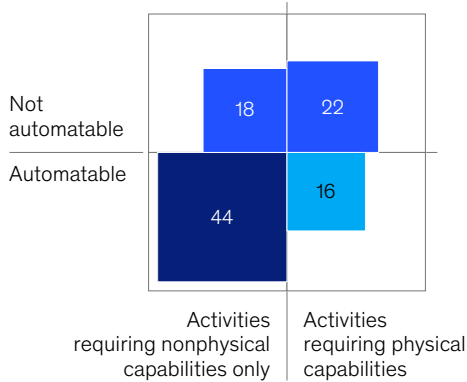
### Automation could change how work gets done in Italy.

#### Distribution of work hours, 2024

Share of work that could be done by:

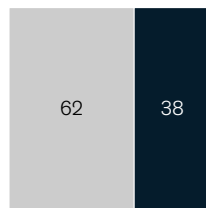
● People ● Agents ● Robots

#### Hours by technical automation potential,<sup>1</sup> %



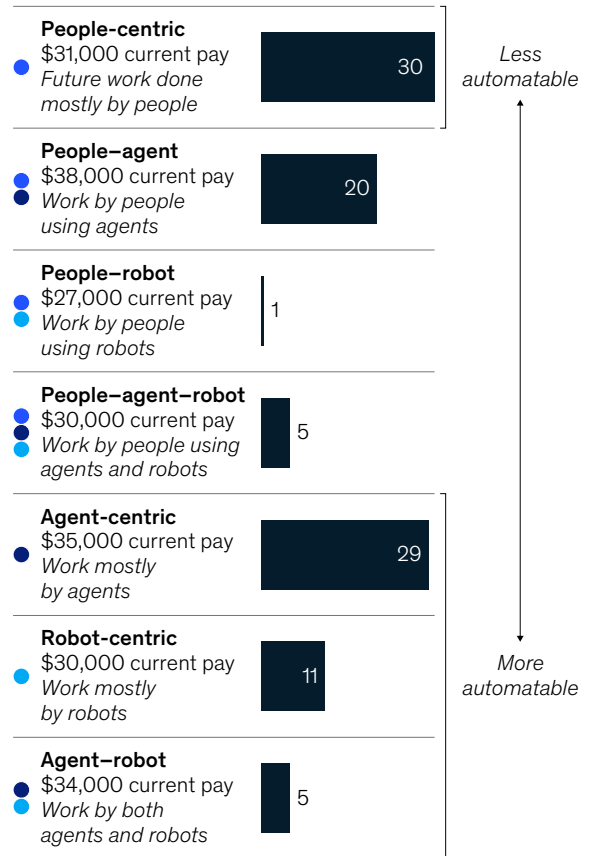
#### Hours by capabilities required, %

■ Nonphysical  
■ Physical



🕒 36% of workforce in more physical roles<sup>2</sup>

#### Distribution of workforce across occupation archetypes, 2024, %

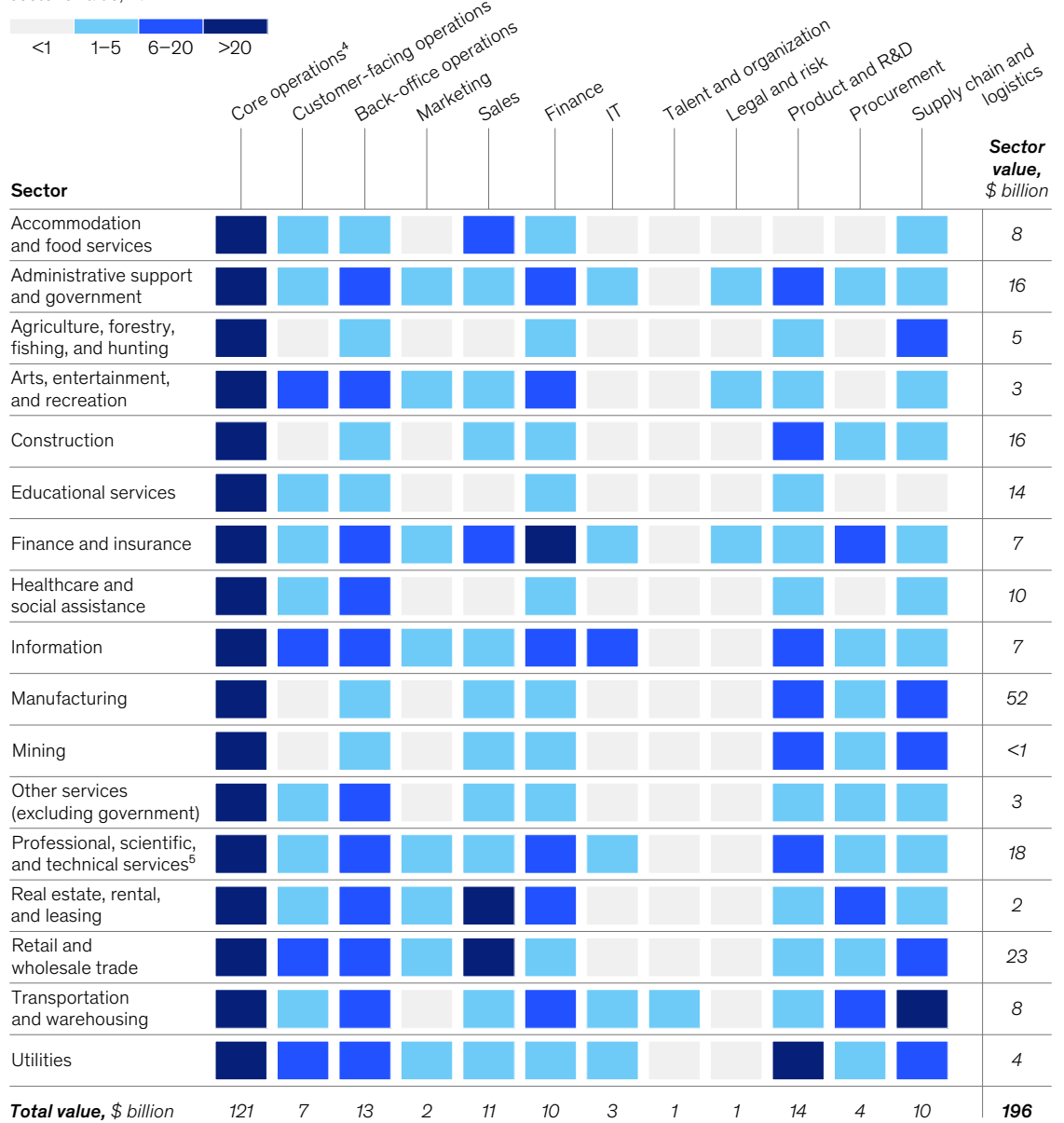




- Czech Republic
- Denmark
- France
- Germany
- Italy**
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

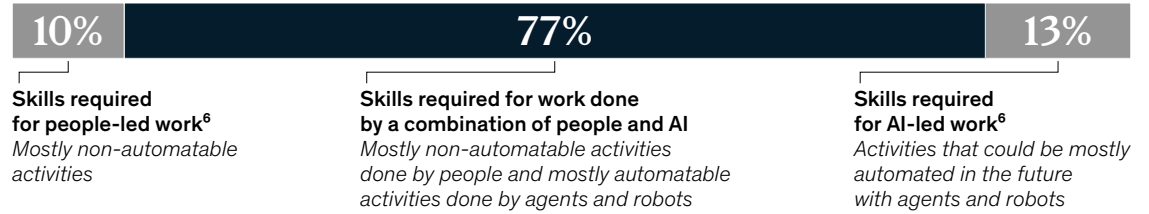
### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %



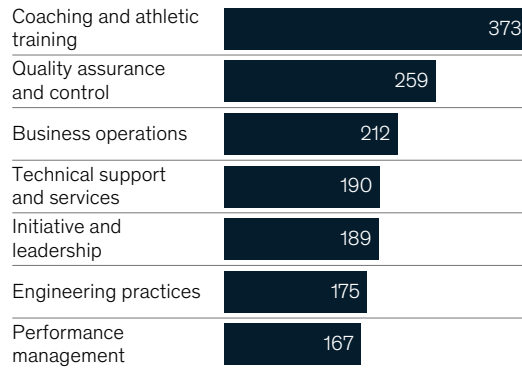
## AI will reshape skills in Italy's workforce.

### Distribution of ~3,900 skills by technical automation potential, 2024

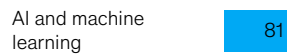


### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

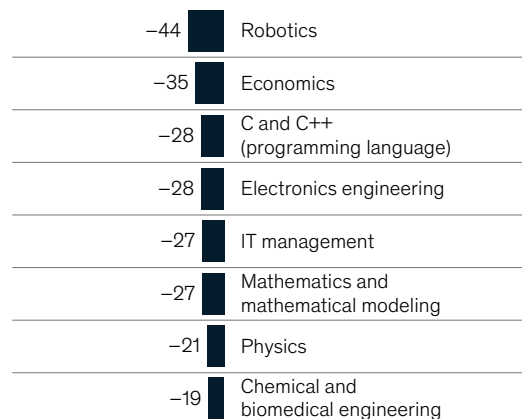
#### Greatest increases



12 others

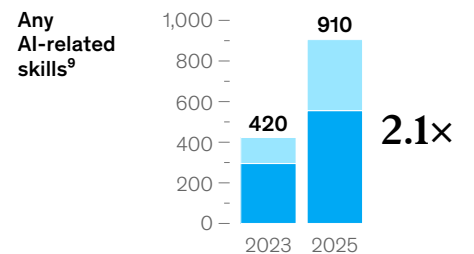
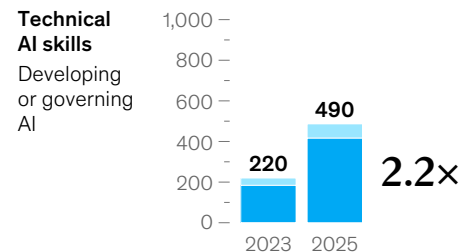
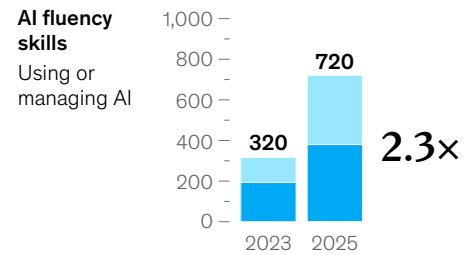


#### Greatest decreases



### Employees in occupations with AI-related skills in at least 5% of postings, thousand

Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM



### Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

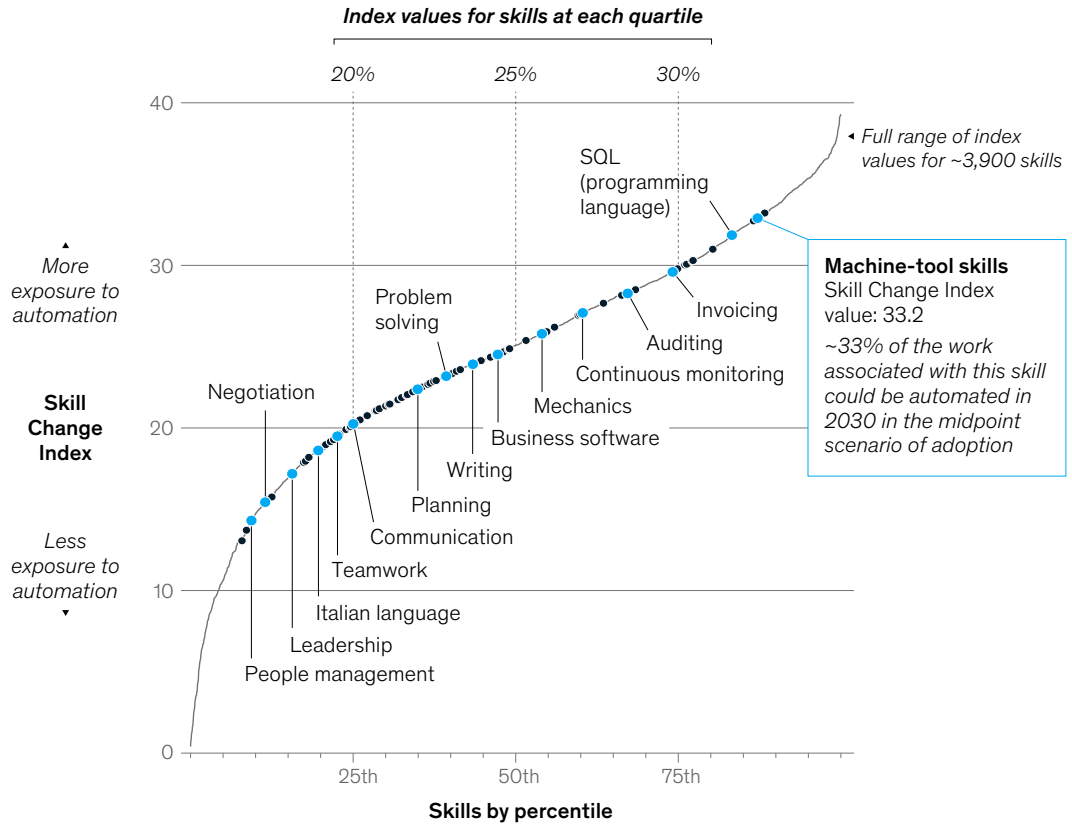
Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, million	Workers whose jobs require AI skills		
		Share, %	Count	
Computer and mathematical	0.7	52	350,000	~70% of demand for AI skills from 4 groups
Architecture and engineering	1.2	9	110,000	
Management	2.1	5	100,000	
Life, physical, and social sciences	0.3	27	90,000	
Business and financial operations	0.8	11	87,000	~30% of demand for AI skills from 8 groups
Sales and related	2.7	2	45,000	
Arts, design, entertainment, sports, and media	0.6	6	37,000	
Office and administrative support	2.3	1	29,000	
Legal	0.4	6	25,000	
Educational instruction and libraries	1.0	2	19,000	
Installation, maintenance, and repair	0.7	1	6,300	
Farming, fishing, and forestry	0.2	1	3,100	
10 other groups	10.1	—	0	10 groups with no AI skills demand

- Czech Republic
- Denmark
- France
- Germany
- Italy**
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom

### Skill Change Index,<sup>11</sup> % (0–100 scale)

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>“People-led” and “AI-led” skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as “artificial intelligence and machine learning” or “natural language processing.” <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Eurostat; Italian National Institute of Statistics; Lightcast; O\*NET; McKinsey Global Institute analysis

McKinsey & Company

# Netherlands

In the Netherlands, nearly 70 percent of work hours are concentrated in nonphysical activities, reflecting a strong orientation toward services and trade. At about 57 percent, automation potential is slightly lower than the regional average. Demand for AI-related skills is growing more slowly than in most other countries: Since 2023, employer demand for both AI fluency and technical AI skills has remained broadly flat.

<p><b>57%</b> Share of current work hours technically automatable with existing technology</p>	<p><b>\$152 billion</b> Estimated economic value from automation adoption by 2030, midpoint scenario</p>	<p><b>85%</b> Share of human skills that will endure for people amid automation</p>	<p><b>1.8x</b> People in jobs requiring AI fluency in 2025 vs 2023</p>
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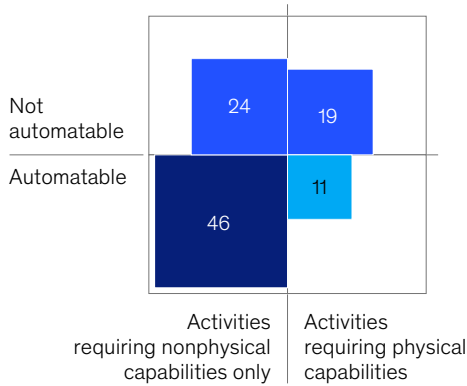
## Automation could change how work gets done in the Netherlands.

### Distribution of work hours, 2024

Share of work that could be done by:

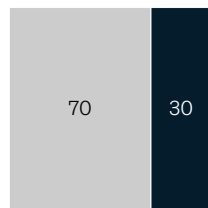
- People
- Agents
- Robots

### Hours by technical automation potential,<sup>1</sup>%



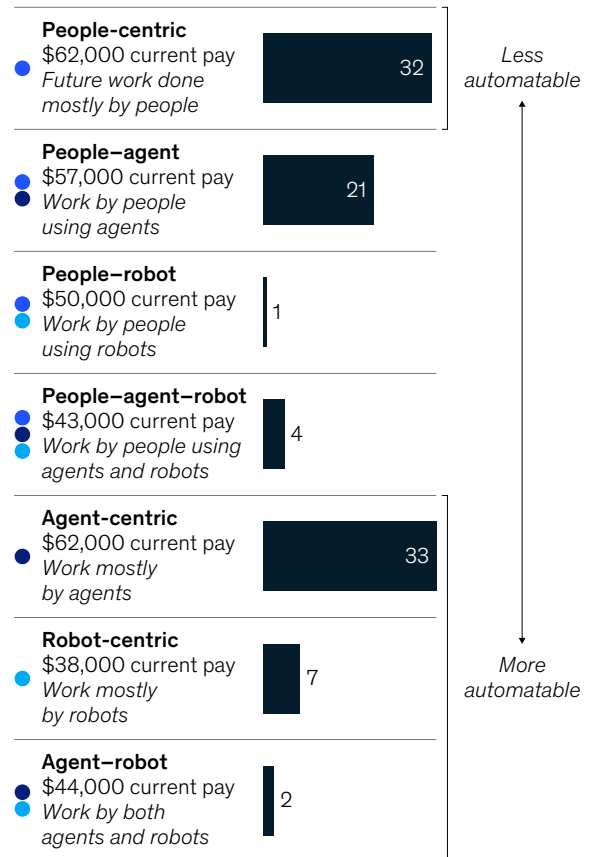
### Hours by capabilities required, %

- Nonphysical
- Physical



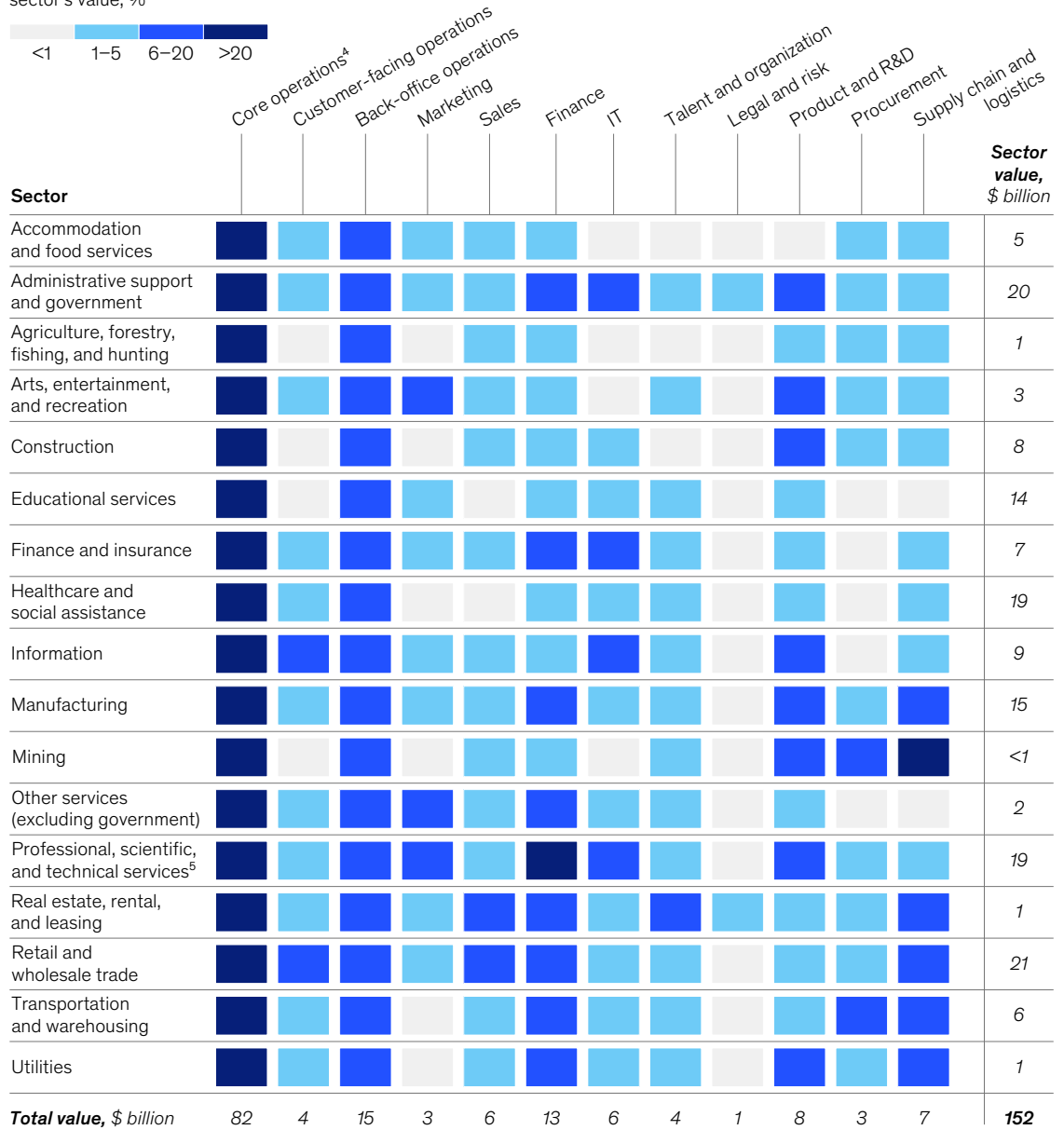
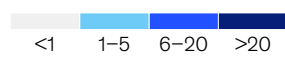
🕒 28% of workforce in more physical roles<sup>2</sup>

### Distribution of workforce across occupation archetypes, 2024, %



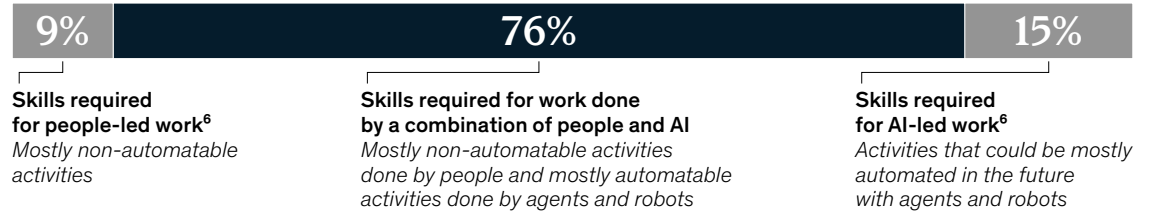
### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %



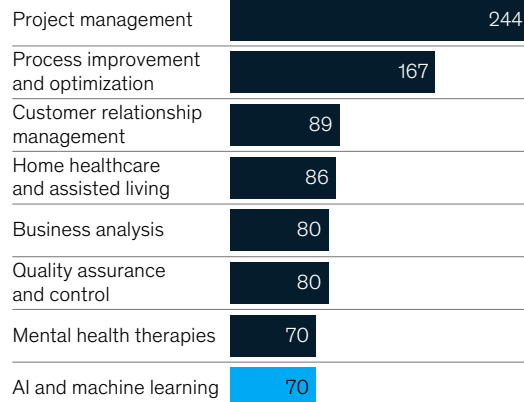
## AI will reshape skills in the Dutch workforce.

### Distribution of ~3,500 skills by technical automation potential, 2024



### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

#### Greatest increases

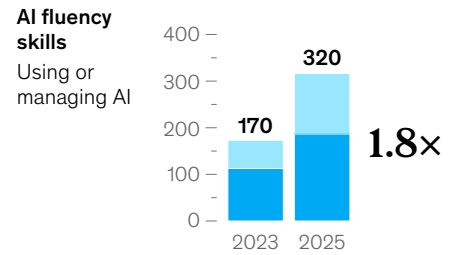


#### Greatest decreases



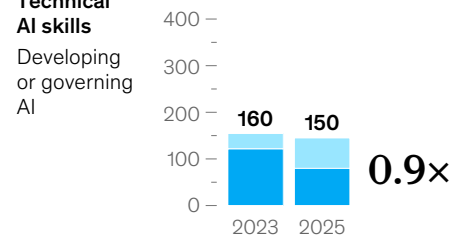
### Employees in occupations with AI-related skills in at least 5% of postings, thousand

Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM

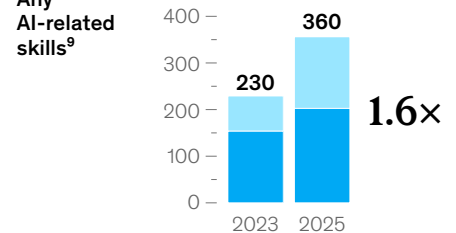


#### Technical AI skills

Developing or governing AI



#### Any AI-related skills<sup>9</sup>



## Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

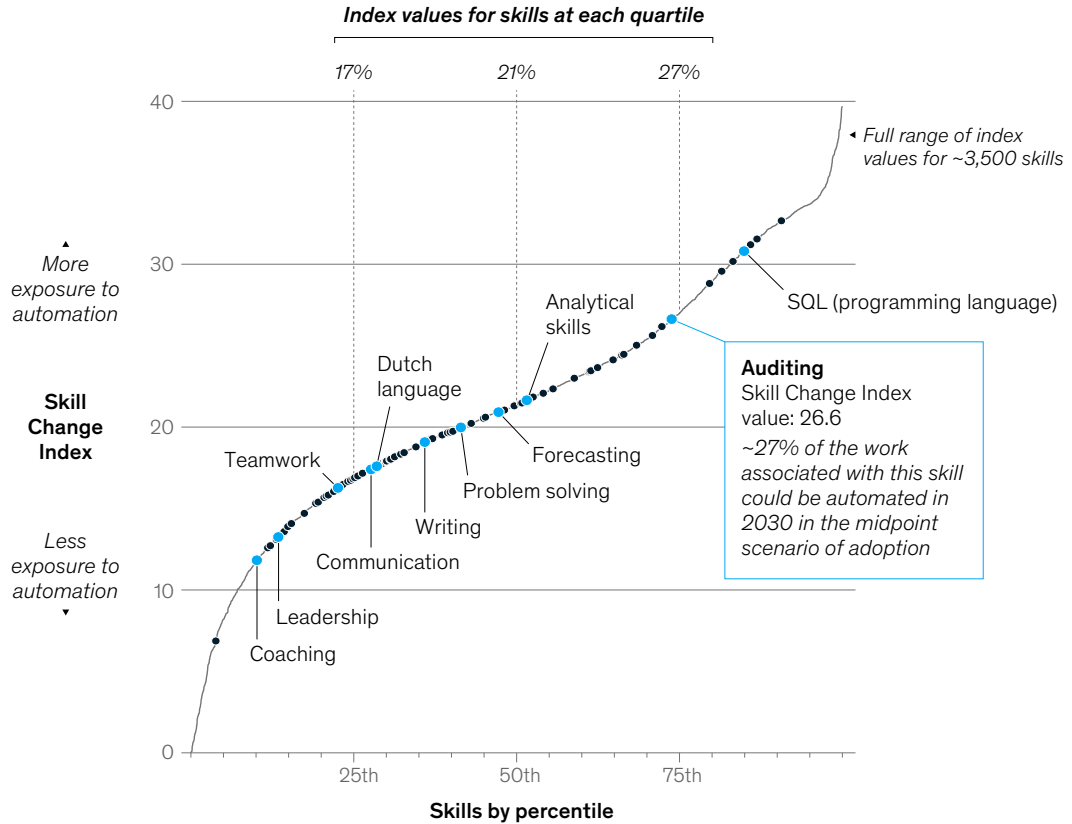
Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, thousand	Workers whose jobs require AI skills		
		Share, %	Count	
Computer and mathematical	560	31	175,000	~75% of demand for AI skills from 4 groups
Management	760	6	44,000	
Business and financial operations	1,020	4	42,000	
Arts, design, entertainment, sports, and media	510	3	18,000	
Educational instruction and libraries	380	4	16,000	~25% of demand for AI skills from 9 groups
Life, physical, and social sciences	120	14	16,000	
Sales and related	860	1	13,000	
Architecture and engineering	250	5	12,000	
Installation, maintenance, and repair	180	5	8,900	
Office and administrative support	970	1	7,600	
Personal care and services	290	1	2,300	
Legal	130	1	1,300	
Construction and extraction	300	<1	790	
9 other groups	3,330	—	0	9 groups with no AI skills demand

- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands**
- Poland
- Spain
- Sweden
- United Kingdom

### Skill Change Index, <sup>11</sup> % (0–100 scale)

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>“People-led” and “AI-led” skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as “artificial intelligence and machine learning” or “natural language processing.” <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Eurostat; Lightcast; O\*NET; Statistics Netherlands; McKinsey Global Institute analysis

McKinsey & Company

# Poland

Poland combines high automation potential with rapid growth in demand for AI-related skills. A heavy focus on manufacturing and logistics means that production and operational roles are likely to be most affected. Manufacturing alone accounts for roughly a quarter of the estimated \$105 billion that could be unlocked through automation by 2030. Demand for AI-related skills is rising rapidly: Since 2023, demand has grown at nearly twice the regional average, driven by increases in both AI fluency and technical AI skills.

**61%**

Share of current work hours technically automatable with existing technology

**\$105 billion**

Estimated economic value from automation adoption by 2030, midpoint scenario

**85%**

Share of human skills that will endure for people amid automation

**7.5x**

People in jobs requiring AI fluency in 2025 vs 2023

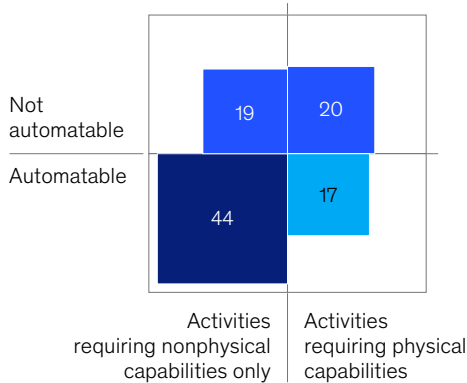
## Automation could change how work gets done in Poland.

### Distribution of work hours, 2024

Share of work that could be done by:

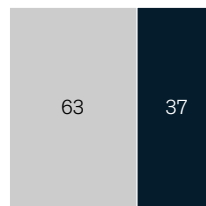
- People
- Agents
- Robots

### Hours by technical automation potential,<sup>1</sup>%



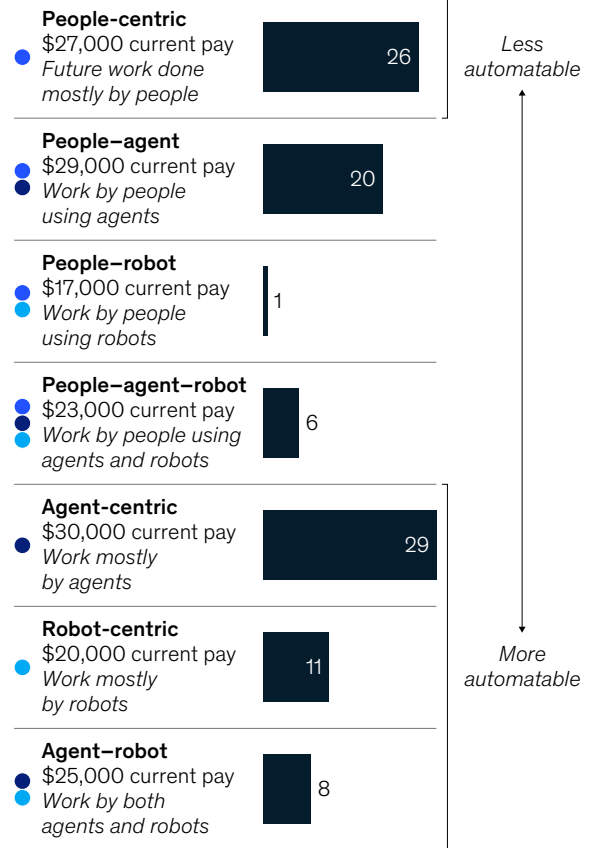
### Hours by capabilities required, %

- Nonphysical
- Physical



41% of workforce in more physical roles<sup>2</sup>

### Distribution of workforce across occupation archetypes, 2024, %

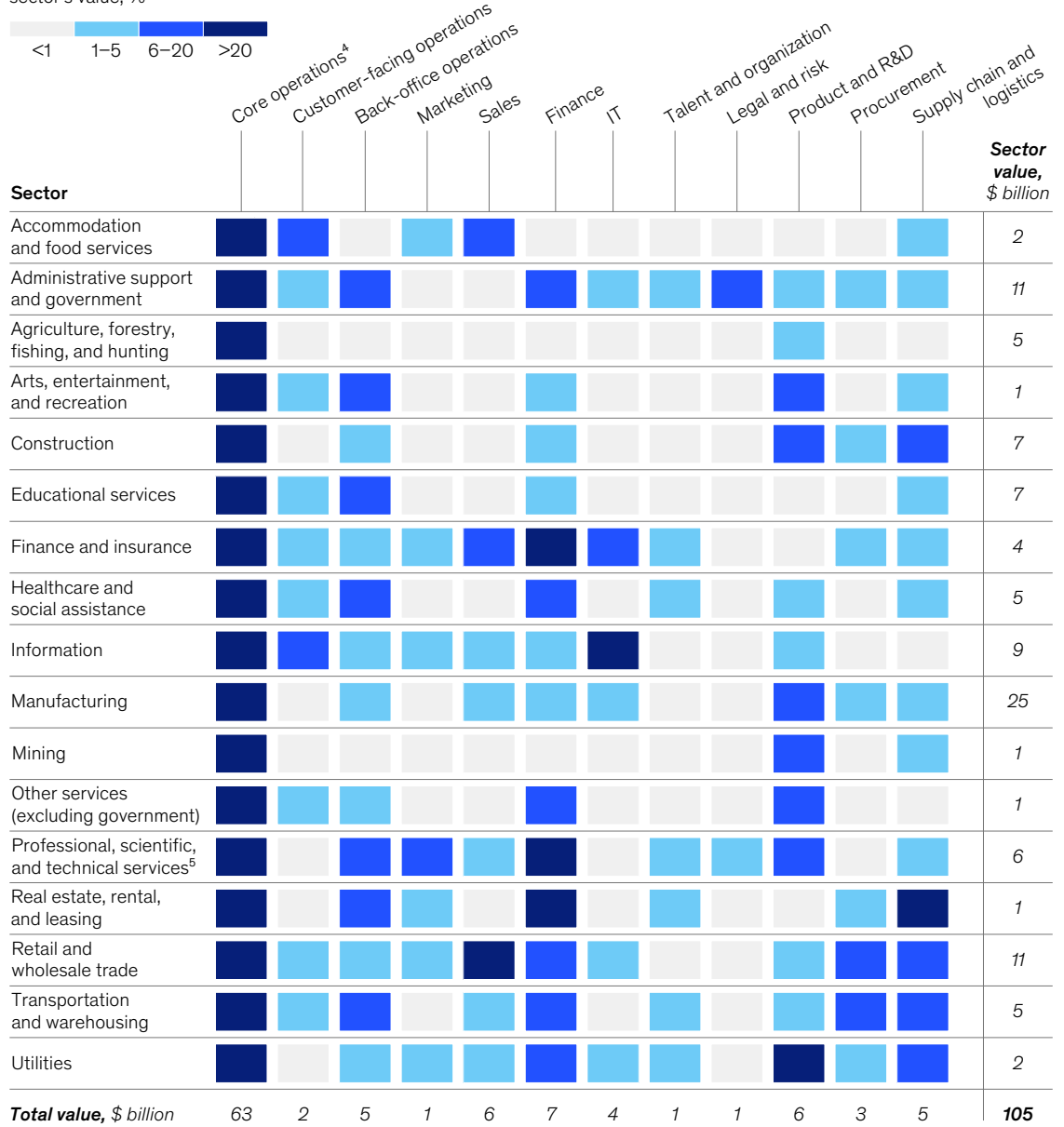


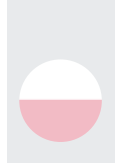


- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland**
- Spain
- Sweden
- United Kingdom

### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %

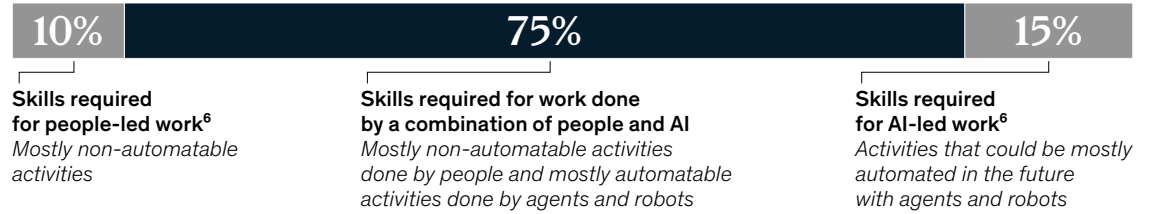




- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland**
- Spain
- Sweden
- United Kingdom

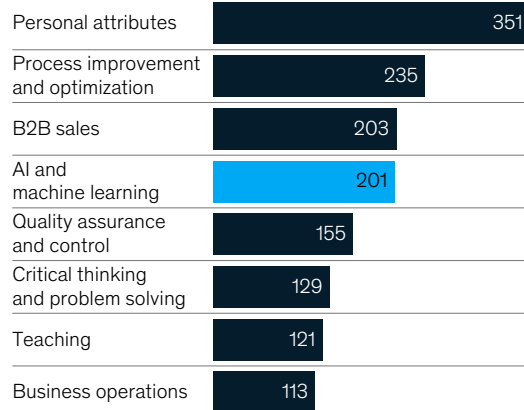
## AI will reshape skills in Poland's workforce.

Distribution of ~4,000 skills by technical automation potential, 2024

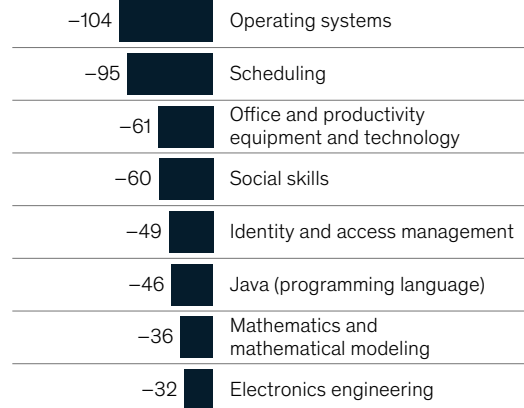


### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

#### Greatest increases

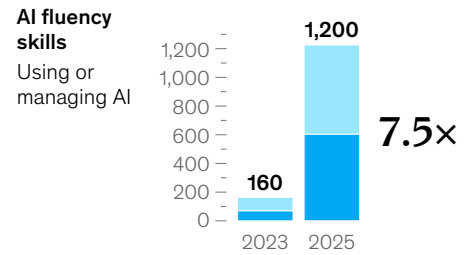


#### Greatest decreases

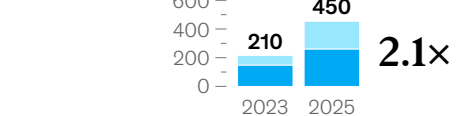


### Employees in occupations with AI-related skills in at least 5% of postings, thousand

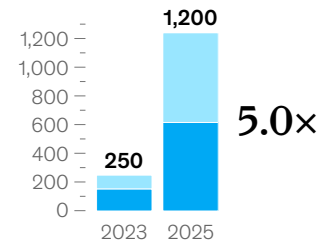
Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM



#### Technical AI skills



#### Any AI-related skills<sup>9</sup>





- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland**
- Spain
- Sweden
- United Kingdom

### Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

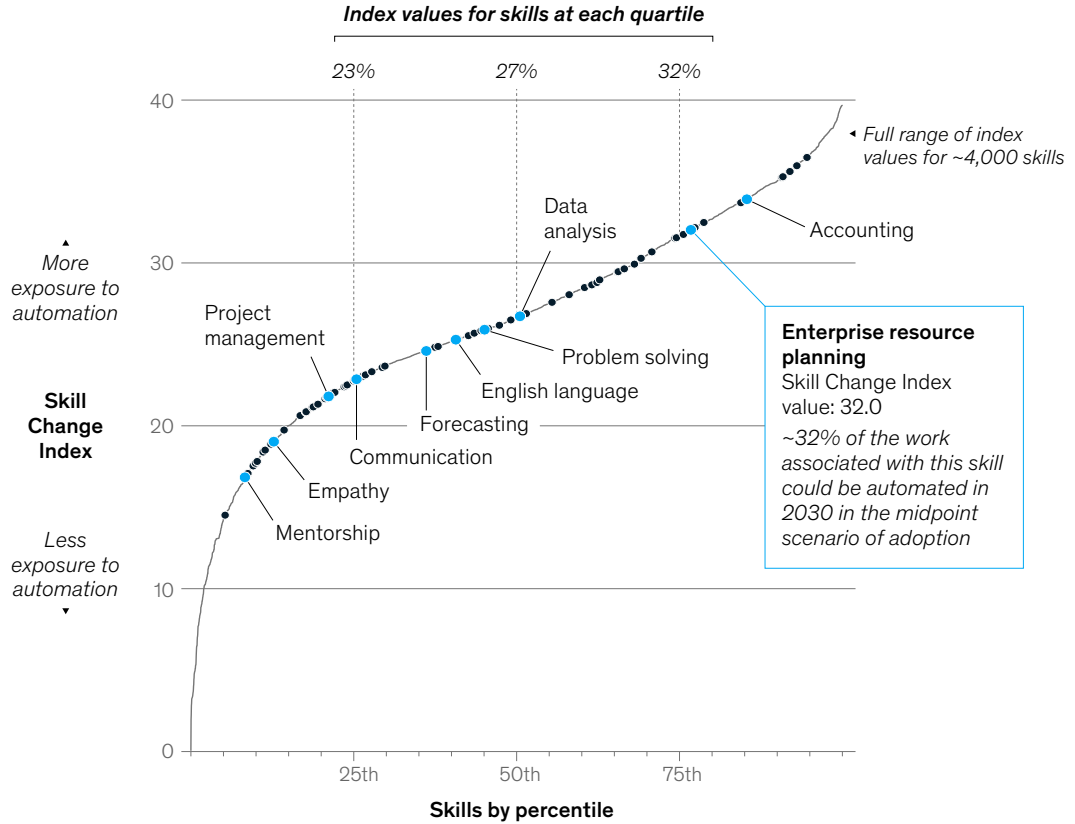
Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, thousand	Workers whose jobs require AI skills		
		Share, %	Count	
Computer and mathematical	600	90	540,000	~85% of demand for AI skills from 3 groups
Business and financial operations	1,330	24	320,000	
Management	1,790	12	214,000	
Architecture and engineering	770	9	73,000	~15% of demand for AI skills from 8 groups
Sales and related	1,970	2	43,000	
Arts, design, entertainment, sports, and media	430	5	21,000	
Educational instruction and libraries	840	2	19,000	
Legal	240	3	6,800	
Life, physical, and social sciences	360	1	5,100	
Office and administrative support	1,310	<1	1,700	
Installation, maintenance, and repair	510	<1	20	
11 other groups	6,890	—	0	11 groups with no AI skills demand

- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland**
- Spain
- Sweden
- United Kingdom

### Skill Change Index,<sup>11</sup> % (0–100 scale)

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>“People-led” and “AI-led” skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as “artificial intelligence and machine learning” or “natural language processing.” <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Eurostat; Lightcast; O\*NET; Statistics Poland; McKinsey Global Institute analysis

McKinsey & Company

# Spain

Spain's technical automation potential is 59 percent, broadly in line with the European average. Since 2023, employer demand for AI fluency has increased fourfold while demand for technical AI skills has roughly doubled, in line with the broader trend. The estimated \$167 billion that could be unlocked by 2030 is distributed widely across sectors, with retail, manufacturing, and government-related services making the largest contributions.

**59%**

Share of current work hours technically automatable with existing technology

**\$167 billion**

Estimated economic value from automation adoption by 2030, midpoint scenario

**85%**

Share of human skills that will endure for people amid automation

**4.4x**

People in jobs requiring AI fluency in 2025 vs 2023

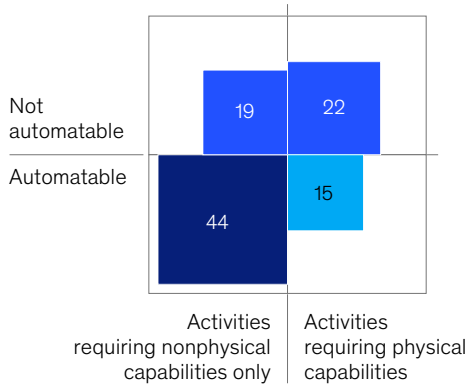
## Automation could change how work gets done in Spain.

### Distribution of work hours, 2024

Share of work that could be done by:

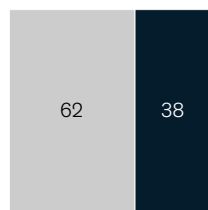
● People ● Agents ● Robots

Hours by technical automation potential,<sup>1</sup> %



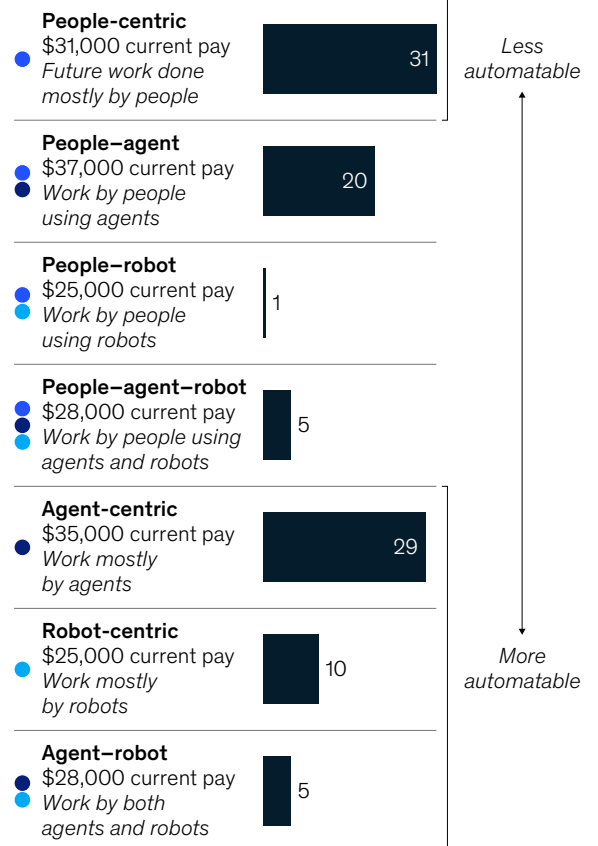
Hours by capabilities required, %

■ Nonphysical  
■ Physical



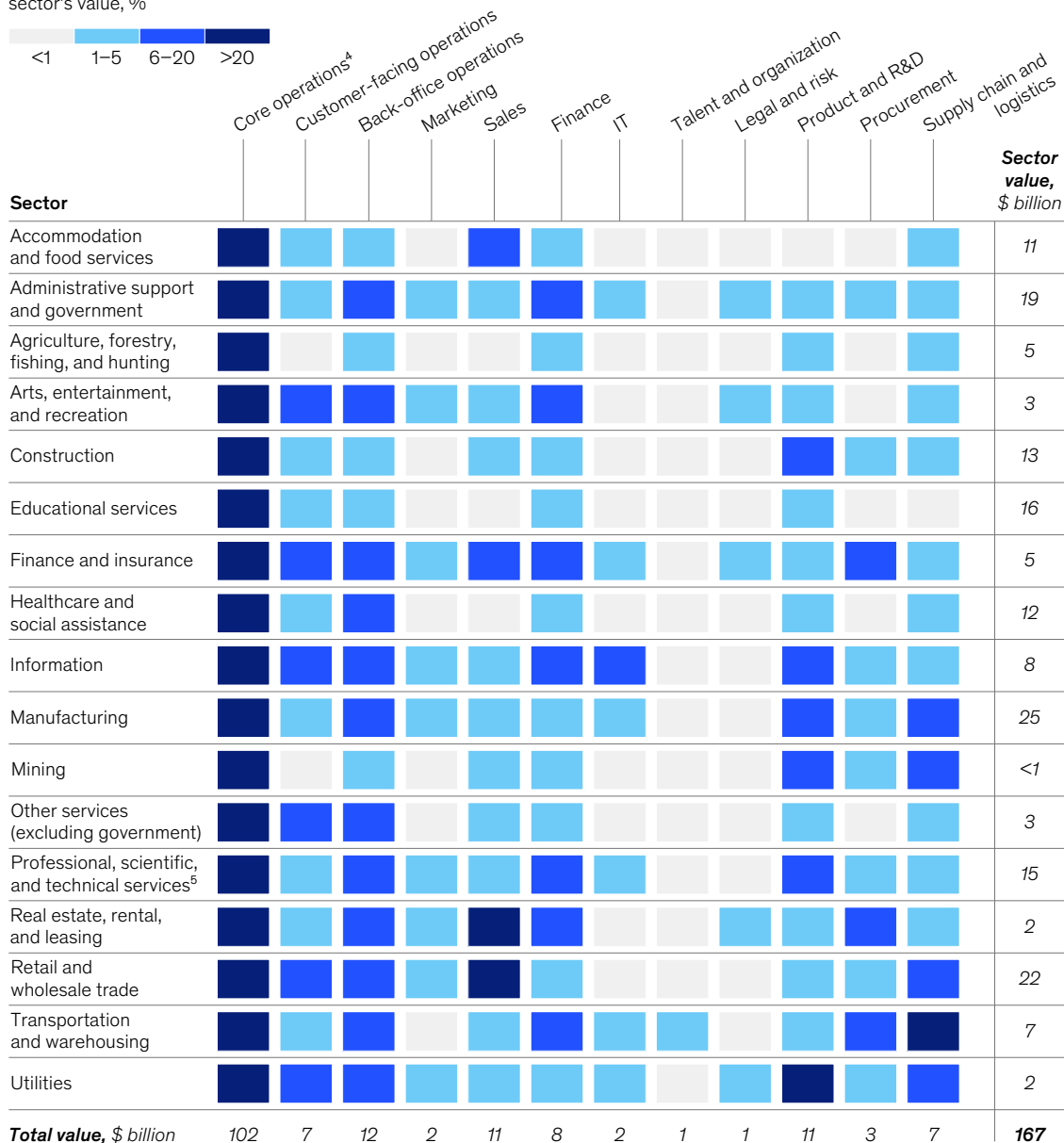
🕒 35% of workforce in more physical roles<sup>2</sup>

### Distribution of workforce across occupation archetypes, 2024, %



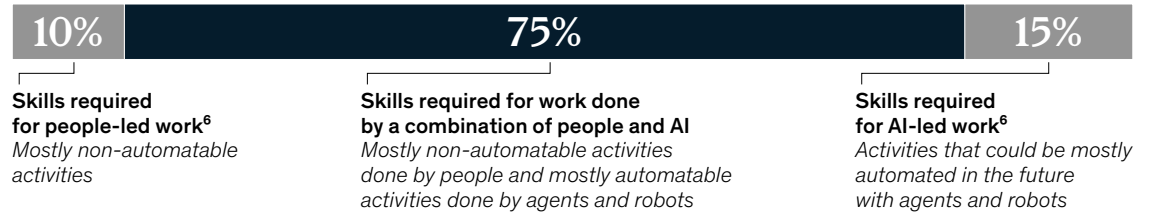
### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %



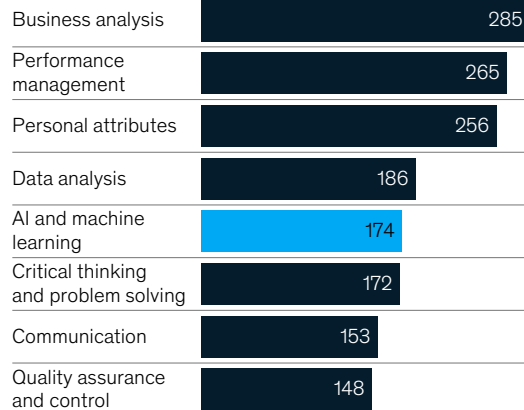
## AI will reshape skills in Spain's workforce.

Distribution of ~4,300 skills by technical automation potential, 2024



### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

#### Greatest increases

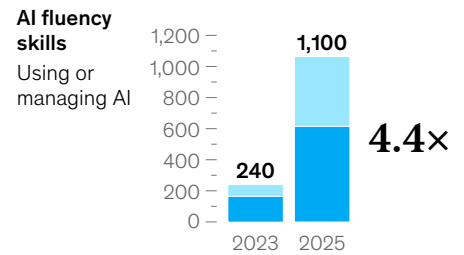


#### Greatest decreases

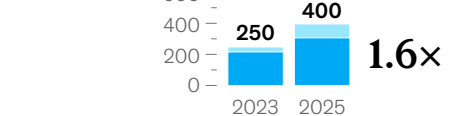


### Employees in occupations with AI-related skills in at least 5% of postings, thousand

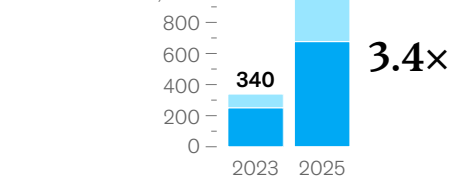
Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM



### Technical AI skills



### Any AI-related skills<sup>9</sup>



## Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

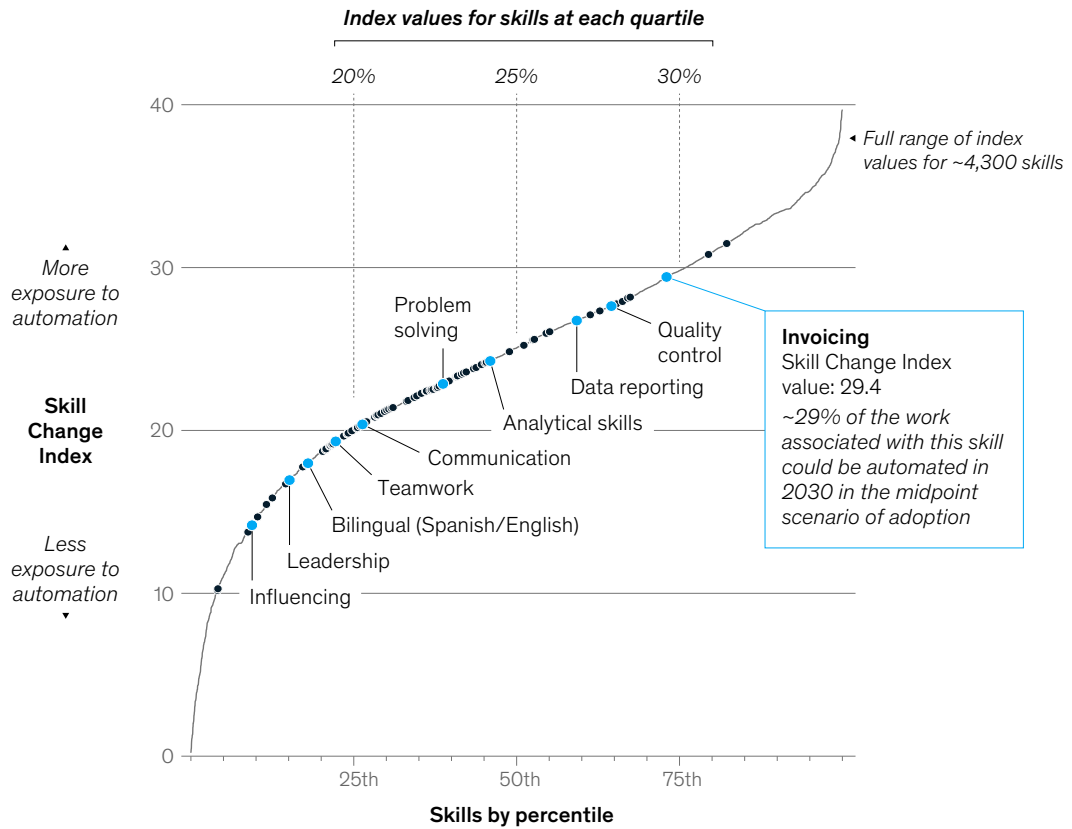
Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, million	Workers whose jobs require AI skills		
		Share, %	Count	
Computer and mathematical	0.7	71	490,000	~75% of demand for AI skills from 4 groups
Management	1.9	8	160,000	
Business and financial operations	0.7	15	110,000	
Architecture and engineering	1.0	10	98,000	
Life, physical, and social sciences	0.3	31	89,000	~25% of demand for AI skills from 8 groups
Sales and related	2.5	3	73,000	
Educational instruction and libraries	1.1	4	46,000	
Office and administrative support	2.1	2	33,000	
Arts, design, entertainment, sports, and media	0.6	5	28,000	
Legal	0.4	3	9,900	
Installation, maintenance, and repair	0.6	<1	830	
Construction and extraction	0.9	<1	750	
10 other groups	8.4	—	0	10 groups with no AI skills demand

- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain**
- Sweden
- United Kingdom

### Skill Change Index,<sup>11</sup> % (0–100 scale)

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>“People-led” and “AI-led” skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as “artificial intelligence and machine learning” or “natural language processing.” <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Eurostat; Lightcast; O\*NET; Spain's National Statistics Institute; McKinsey Global Institute analysis

McKinsey & Company

# Sweden

Sweden's technical automation potential is about 56 percent, close to the European average. Since 2023, employer demand for AI-related skills has increased slightly faster than the regional average, with above-trend growth for technical AI skills. AI-related skills are also more widely embedded across occupations than in other European countries, indicating a higher level of integration into everyday work.

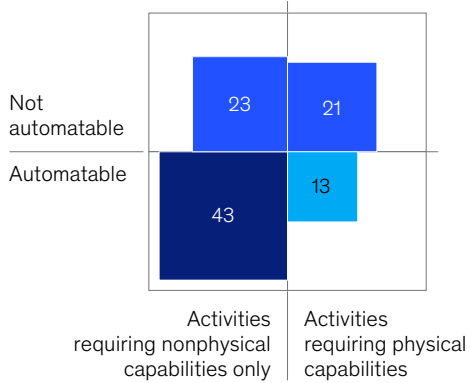
<p><b>56%</b> Share of current work hours technically automatable with existing technology</p>	<p><b>\$63 billion</b> Estimated economic value from automation adoption by 2030, midpoint scenario</p>	<p><b>85%</b> Share of human skills that will endure for people amid automation</p>	<p><b>4.1×</b> People in jobs requiring AI fluency in 2025 vs 2023</p>
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## Automation could change how work gets done in Sweden.

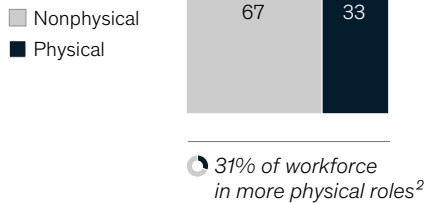
### Distribution of work hours, 2024

Share of work that could be done by:  
● People ● Agents ● Robots

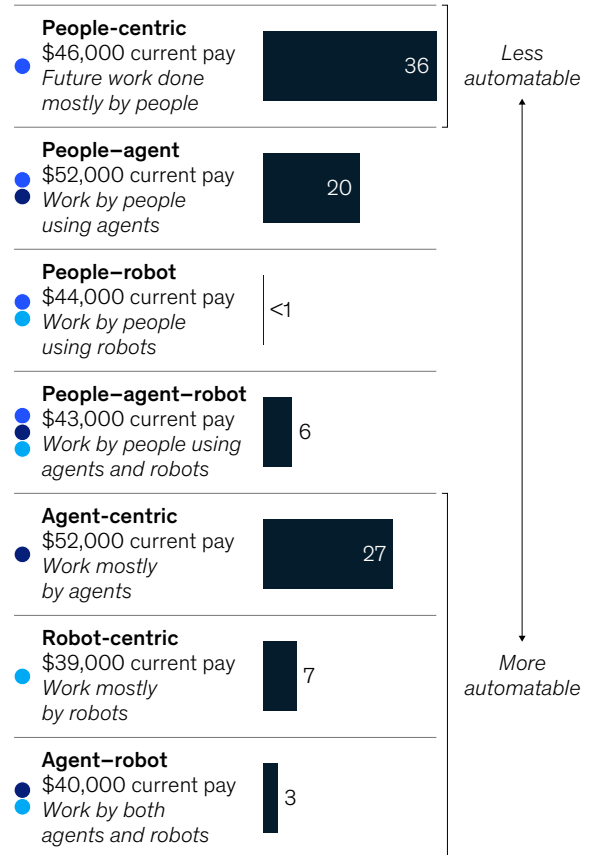
### Hours by technical automation potential,<sup>1</sup> %



### Hours by capabilities required, %



### Distribution of workforce across occupation archetypes, 2024, %

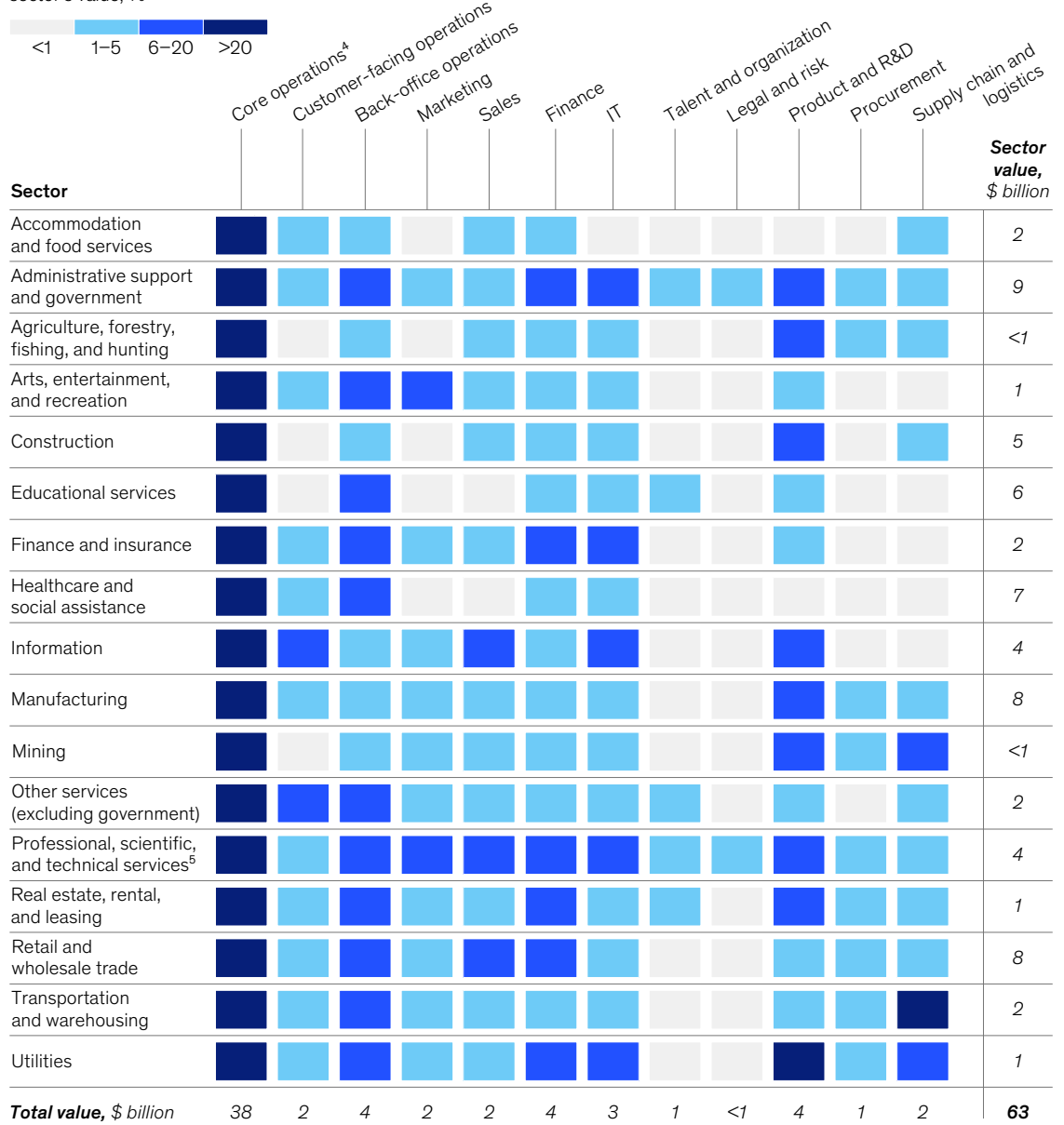




- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden**
- United Kingdom

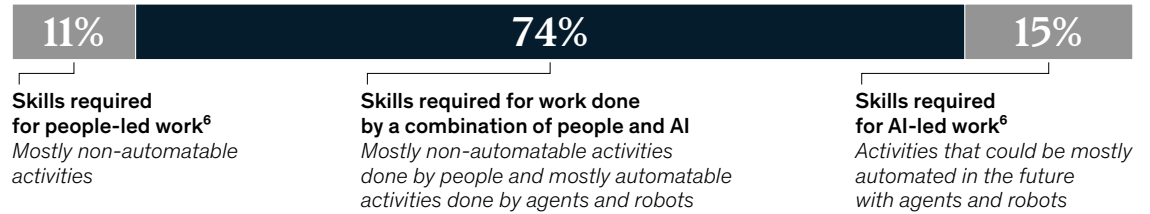
### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %



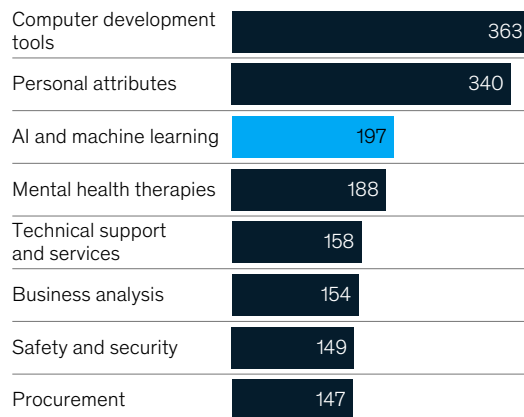
## AI will reshape skills in Sweden's workforce.

Distribution of ~4,400 skills by technical automation potential, 2024

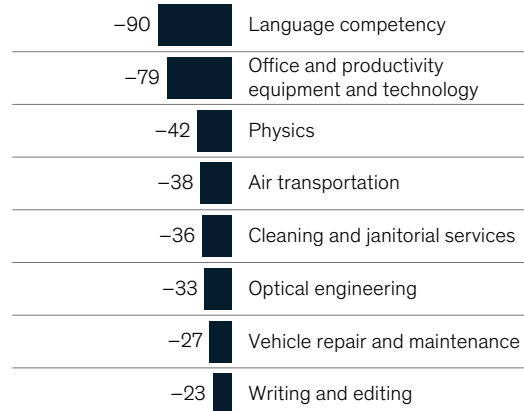


### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

#### Greatest increases

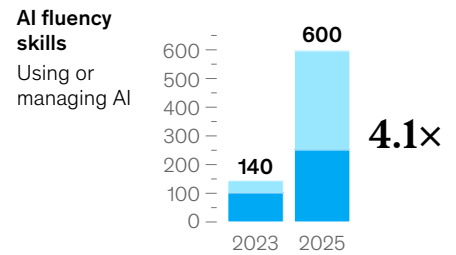


#### Greatest decreases



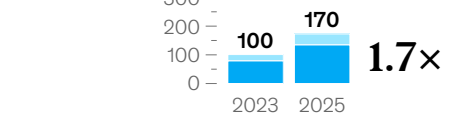
### Employees in occupations with AI-related skills in at least 5% of postings, thousand

Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM

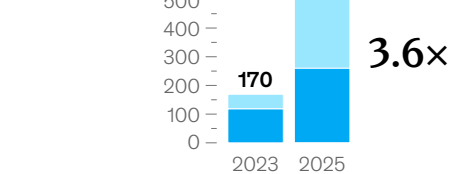


#### Technical AI skills

Developing or governing AI



#### Any AI-related skills<sup>9</sup>



## Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

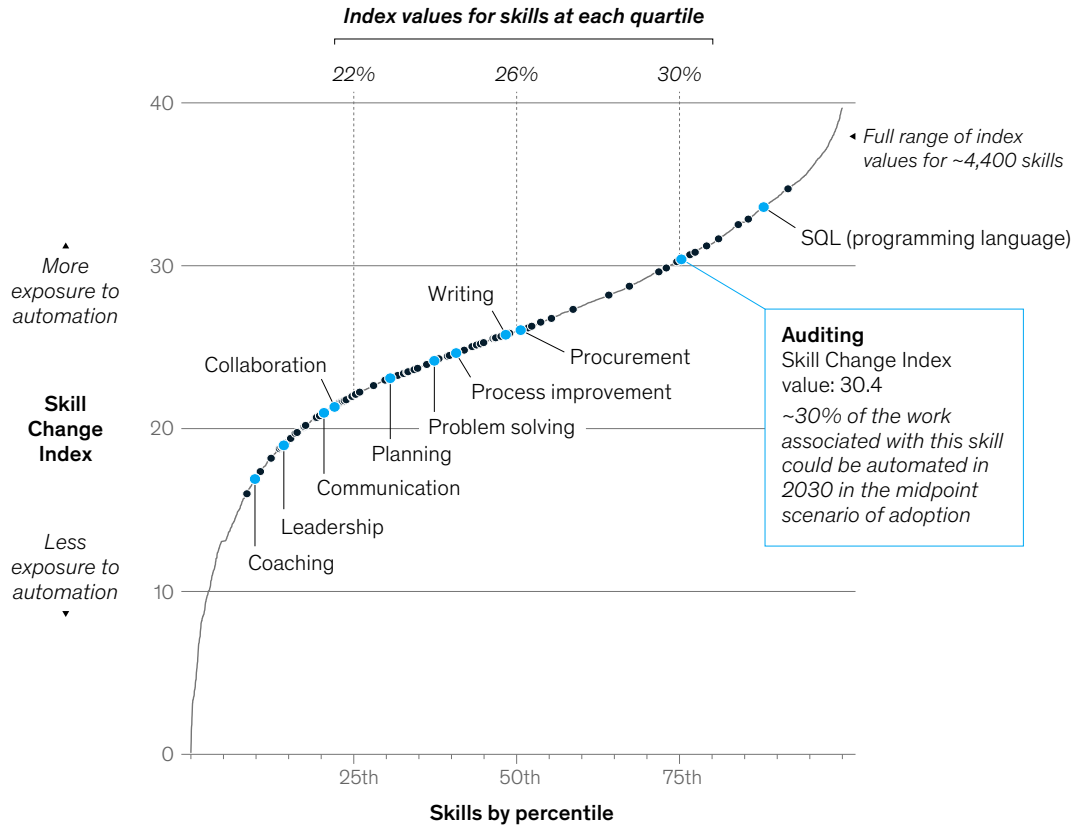
Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, thousand	Workers whose jobs require AI skills		
		Share, %	Count	
Computer and mathematical	287	71	202,000	~70% of demand for AI skills from 3 groups
Business and financial operations	427	38	161,000	
Management	403	19	75,000	
Office and administrative support	467	13	60,000	~30% of demand for AI skills from 13 groups
Architecture and engineering	237	15	35,000	
Sales and related	400	3	13,000	
Educational instruction and libraries	361	3	12,000	
Healthcare support	547	2	12,000	
Arts, design, entertainment, sports, and media	157	7	11,000	
Legal	37	22	8,300	
Life, physical, and social sciences	69	8	5,500	
Healthcare practitioners and technical occupations	294	1	4,300	
Personal care and services	183	1	1,900	
Transportation and material moving	227	1	1,900	
Installation, maintenance, and repair	80	2	1,400	
Farming, fishing, and forestry	26	4	1,100	
6 other groups	954	—	0	6 groups with no AI skills demand

- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden**
- United Kingdom

### Skill Change Index,<sup>11</sup> % (0–100 scale)

● Circles = index values of top skills



Note: Values are in nominal US dollars. Figures may not sum to 100% due to rounding. Exhibits analyzing AI-related skills demand include only occupations with 30 or more job postings in Q4 2025. <sup>1</sup>Automation potential reflects technological capabilities to perform work. Estimates shown represent the late scenario of expert assessments. In an early scenario, global technical automation potential ranges from 60% to 70% of current work hours. <sup>2</sup>Defined as occupations in which at least 40% of work hours require physical capabilities. <sup>3</sup>Estimated by multiplying occupation-level automation adoption in the 2030 midpoint scenario by full-time equivalents and 2024 wages. <sup>4</sup>Includes customer-facing domains directly involved in delivering products or services. Excludes support domains, except where these constitute core operations within a given sector, for example, finance professionals in the finance and insurance industry. <sup>5</sup>Includes management of companies and enterprises. <sup>6</sup>"People-led" and "AI-led" skills are defined as those used in more than 80% of time spent on associated work activities. <sup>7</sup>At least 1 skill in the subcategory appears in ≥5% of job postings for a given occupation. <sup>8</sup>STEM roles include computer and mathematical; architecture and engineering; life, physical, and social sciences; and healthcare occupations. <sup>9</sup>Employees in jobs requiring AI-related skills may need AI fluency, technical AI skills, or both; totals may not sum. <sup>10</sup>Includes only skills Lightcast categorizes as "artificial intelligence and machine learning" or "natural language processing." <sup>11</sup>Based on the projected 2030 midpoint scenario of automation adoption, aggregated across occupations using employment-based weighting. We exclude skills that could not be linked to work activities within occupations.

Source: Eurostat; Lightcast; O\*NET; Statistics Sweden; McKinsey Global Institute analysis

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# United Kingdom

In the United Kingdom, about 54 percent of work hours could be automated using existing technologies, less than the European average. Employer demand for AI fluency has risen much faster than the regional average, increasing ninefold since 2023. Demand for technical AI skills has grown broadly in line with the regional trend. Automation could unlock an estimated \$375 billion by 2030, with roughly half coming from sectors including government and professional services, education, and retail.

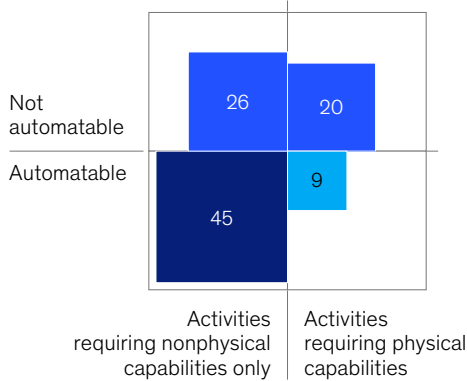
<p><b>54%</b> Share of current work hours technically automatable with existing technology</p>	<p><b>\$375 billion</b> Estimated economic value from automation adoption by 2030, midpoint scenario</p>	<p><b>87%</b> Share of human skills that will endure for people amid automation</p>	<p><b>8.9x</b> People in jobs requiring AI fluency in 2025 vs 2023</p>
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## Automation could change how work gets done in the United Kingdom.

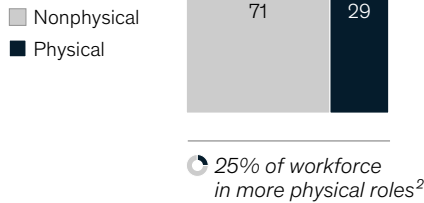
### Distribution of work hours, 2024

Share of work that could be done by:  
 ● People ● Agents ● Robots

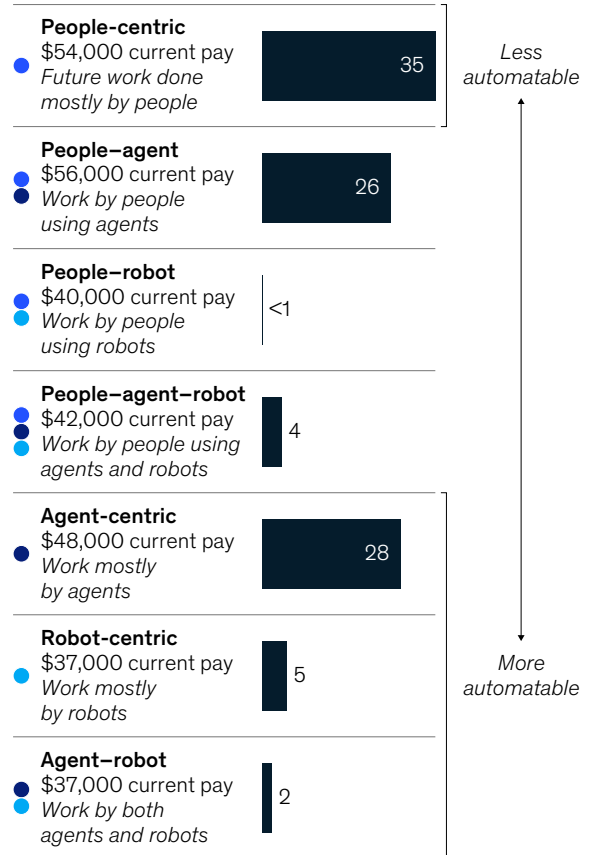
#### Hours by technical automation potential,<sup>1</sup> %



#### Hours by capabilities required, %



### Distribution of workforce across occupation archetypes, 2024, %

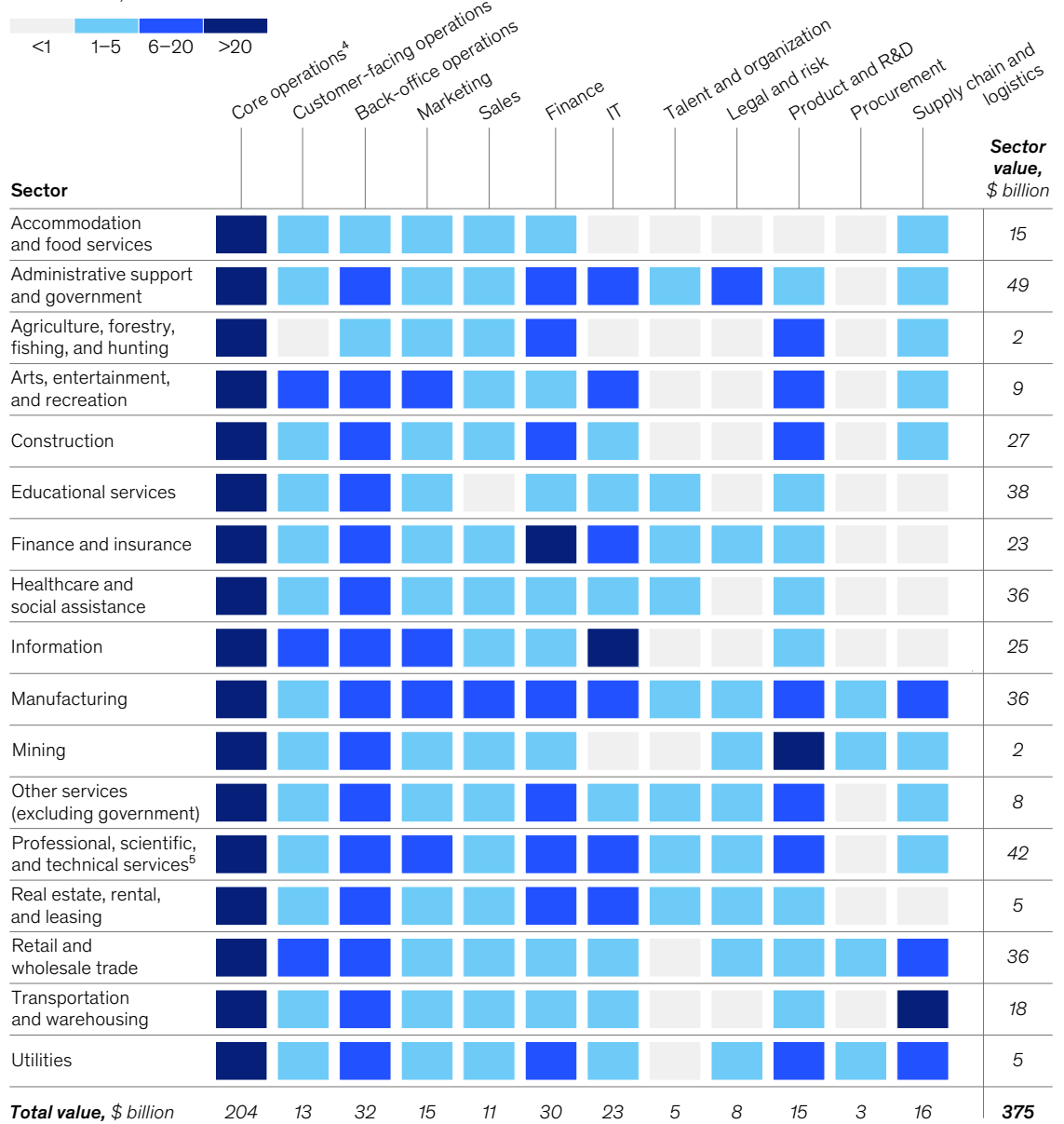




- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom**

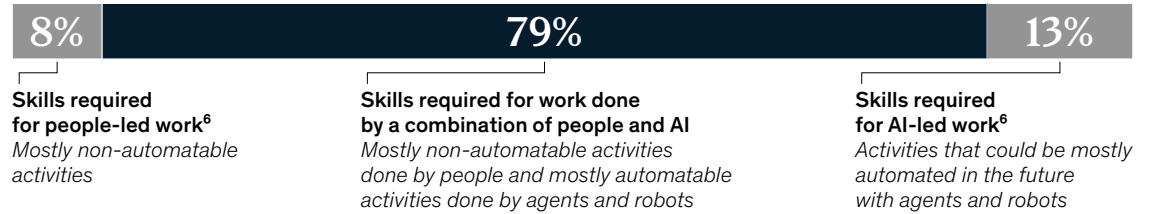
### Economic value of sectors and domains, 2030 midpoint scenario of automation adoption<sup>3</sup>

Domain's share of each sector's value, %



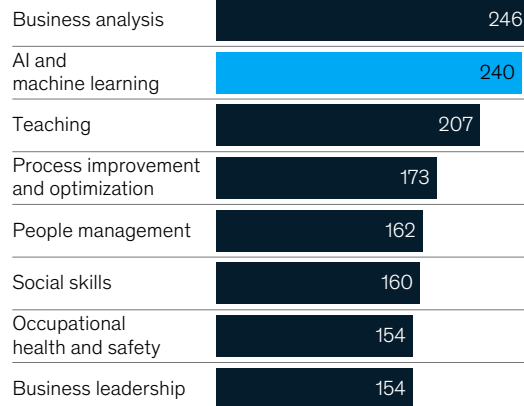
## AI will reshape skills in the United Kingdom's workforce.

### Distribution of ~5,000 skills by technical automation potential, 2024



### Change in occupations with postings mentioning each skill subcategory, 2023–25<sup>7</sup>

#### Greatest increases

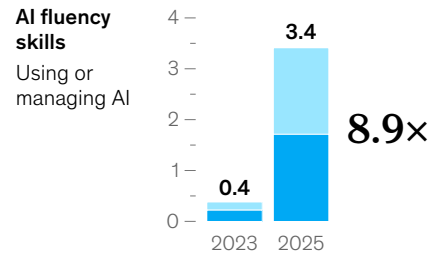


#### Greatest decreases



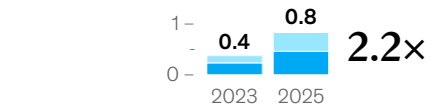
### Employees in occupations with AI-related skills in at least 5% of postings, million

Occupation type: ■ STEM<sup>8</sup> ■ Non-STEM

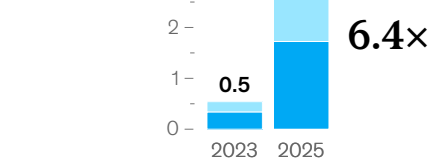


### Technical AI skills

Developing or governing AI



### Any AI-related skills<sup>9</sup>



## Employees in occupations with AI-related skills in at least 5% of postings<sup>10</sup>

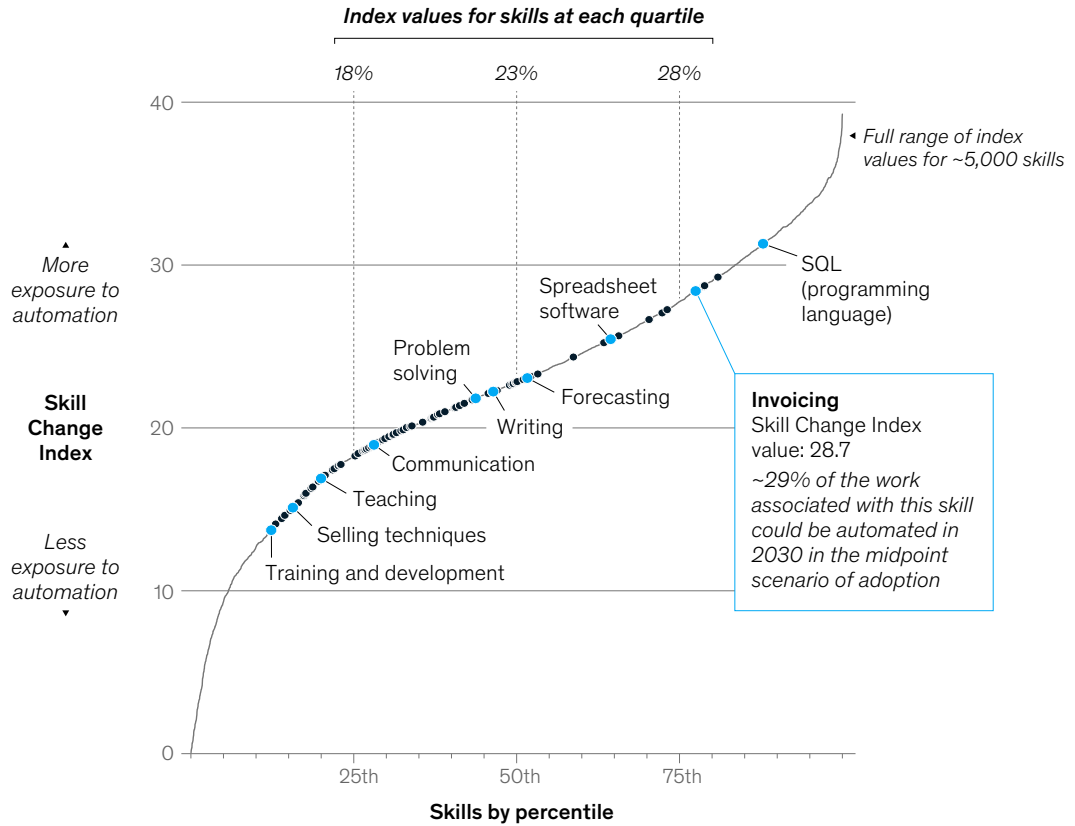
Occupation type: ■ STEM ■ Non-STEM

Occupation group	Total FTE workers, million	Workers whose jobs require AI skills		
		Share, %	Count	
Computer and mathematical	2.1	74	1,600,000	~75% of demand for AI skills from 3 groups
Management	5.3	16	880,000	
Business and financial operations	3.1	10	320,000	
Sales and related	2.0	8	170,000	~25% of demand for AI skills from 13 groups
Protective services	0.7	14	104,000	
Arts, design, entertainment, sports, and media	1.0	9	95,000	
Life, physical, and social sciences	0.6	16	89,000	
Educational instruction and libraries	1.7	4	76,000	
Architecture and engineering	0.8	8	63,000	
Community and social services	0.7	4	31,000	
Office and administrative support	3.3	1	28,000	
Installation, maintenance, and repair	0.8	3	24,000	
Farming, fishing, and forestry	0.1	16	10,000	
Healthcare practitioners and technical occupations	2.3	<1	8,400	
Personal care and services	0.6	1	6,800	
Legal	0.4	1	2,700	
6 other groups	7.1	—	0	6 groups with no AI skills demand

- Czech Republic
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kingdom**

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Source: Eurostat; Lightcast; O\*NET; UK Office for National Statistics; McKinsey Global Institute analysis

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