5.2 Industry insights

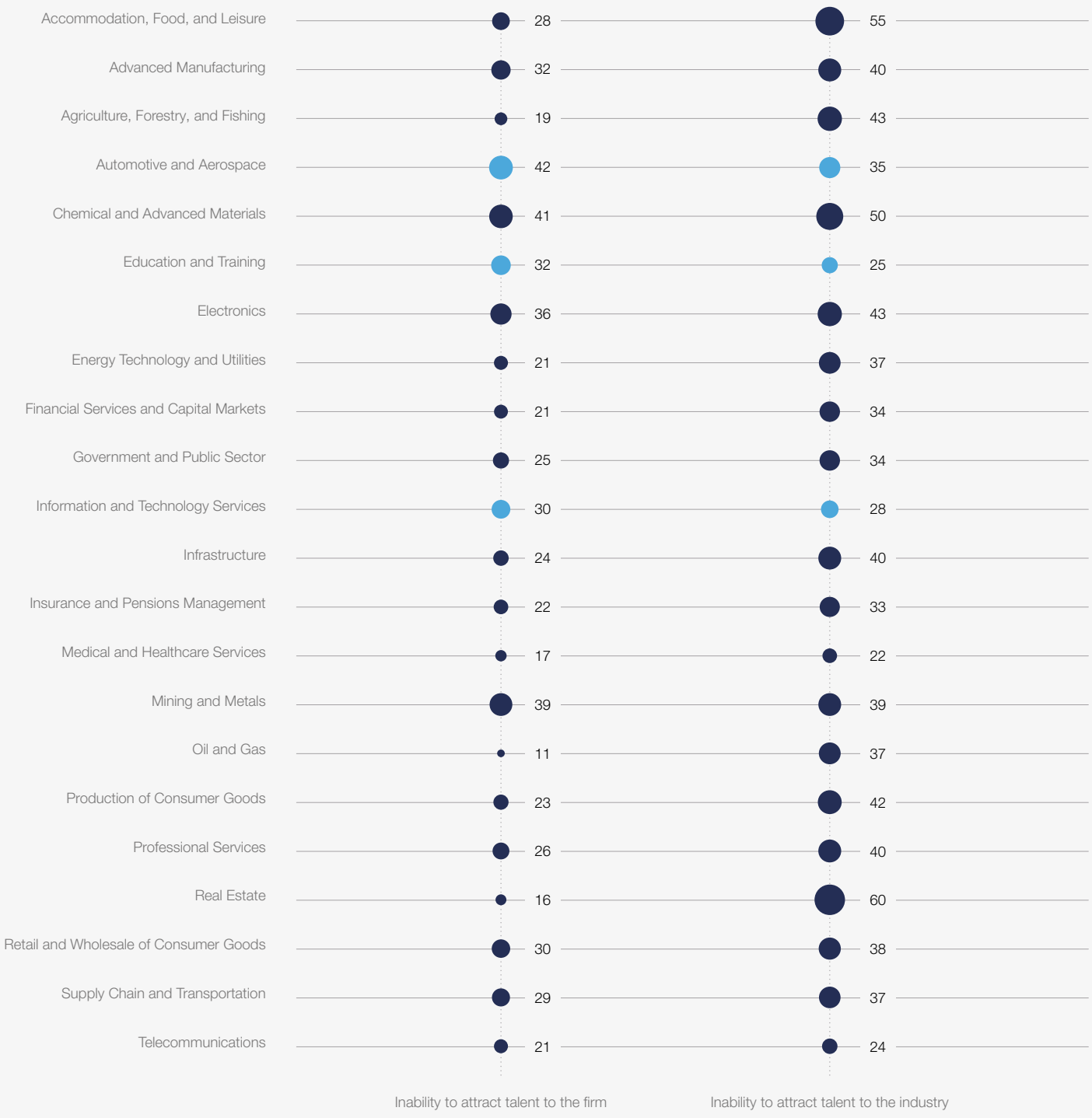
Cross-industry trends and scope for collaboration

The anticipated impact of macrotrends on the future of jobs is multi-faceted across both geographies and sectors. Specific industries are seeing points of convergence as well as distinct barriers to transformation and thus are prioritizing different workforce strategies in response to labour-market transformation by 2030. While 19 out of 22 global industries covered by the report identify skills gaps in the local labour market as the top barrier to industry transformation, each sector also anticipates distinct additional challenges in the next five years. In both the Government and Public sector and Medical and Healthcare sector, for example, organizational culture and resistance to change features as the most-selected barrier to transformation. In the Real Estate sector, inability to attract talent to the industry is seen as the key obstacle. Four sectors – Agriculture, Forestry, and Fishing; Information and Technology Services; Oil and Gas; and Retail and Wholesale of Consumer Goods – view data and technical infrastructure as one of the key barriers. As shown in Figure 5.1, most industries see talent attractiveness at the industry level as a bigger issue than at the firm level over the 2025-2030 period (with Automotive and Aerospace, Education and Training, and Information Technology being the three exceptions).

FIGURE 5.1

Attracting talent to the firm and to the industry

Share of employers surveyed expecting an inability to attract talent to their firm or an inability to attract talent to their industry will hinder their organizational transformation, by industry.



Source

World Economic Forum, Future of Jobs Survey 2024.

Note

Industries in which a larger or equal proportion of companies identify firm-level talent attraction as a greater challenge than industry-level talent attraction are displayed in dark blue. Industries in which industry-level talent attraction is identified as a greater challenge than firm-level talent attraction are displayed in light blue.

The fact that Future of Jobs Survey respondents predominantly evaluate talent availability challenges as industry-level issues points to potentially untapped opportunities for industry stakeholders to collaborate and implement customized intra-industry or cross-industry solutions. However, employers across industries often exhibit different preferences over workforce strategies.

Reaching close to a consensus view, upskilling is selected as the top workforce strategy in 20 industries and ranks second in the remaining two: Electronics and Insurance and Pensions Management. Oil and Gas (96%) and Telecommunications (96%) are the industries most committed to upskilling, while a still significant 73% of Education and Training industry employers plan to focus on this strategy.

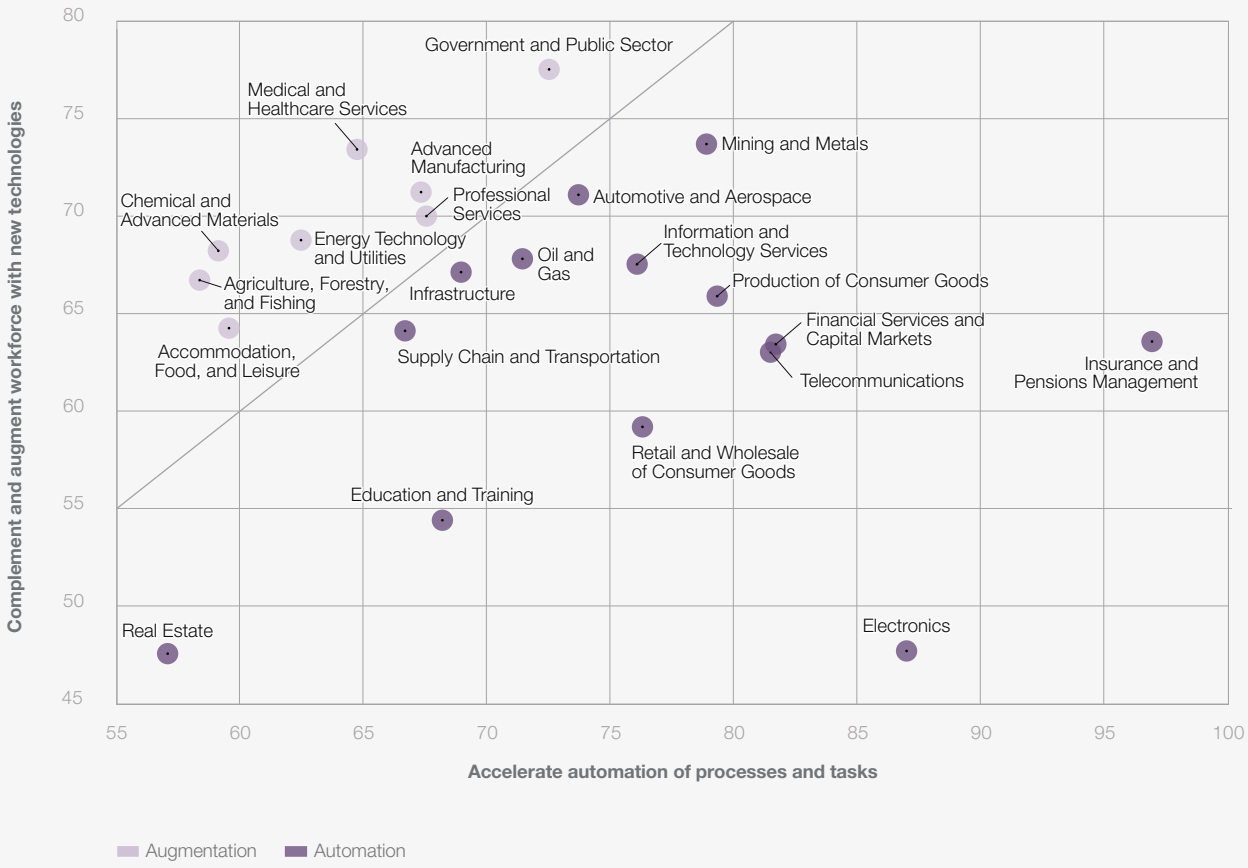
There exist more notable industry differences with regard to anticipated use of technologies to either fully automate processes and tasks or complement and augment the human workforce, as shown in Figure 5.2. While most industries aim to pursue a balance of both automation-focused and augmentation-focused workforce strategies over the 2025-2030 period, 87% of respondents in Electronics expect to focus on automating tasks, whereas only 48% plan to focus on workforce augmentation. Industries including Insurance and Pensions as well as Telecommunications exhibit a similar automation-to-augmentation gap. By contrast, sectors such as Healthcare, Agriculture, and Government report a higher preference for augmentation over automation.

Additionally, while hiring staff with new skills to meet emerging business needs features among the top three workforce strategies in 17 out of 22 sectors – possibly precipitating strong intra- and inter-industry competition over talent over the next five years – upskilling and transitioning existing staff from declining to growing job roles appears as an untapped opportunity: only the Automotive and Aerospace, Electronics, and Real Estate sectors currently aim to prioritize such job transitions as one of their top three workforce strategies by 2030.

FIGURE 5.2

Workforce strategy: automation or augmentation, by industry

Share of employers surveyed planning to adopt the stated workforce strategies



Source

World Economic Forum, Future of Jobs Survey 2024.

Industry-level findings

By 2030, transformation of the **Accommodation, Food, and Leisure** industry is expected to be shaped by rising cost of living and a greater focus on labour and social issues. Increased digitalization – while still relevant for a significant 51% of respondents – appears as less central than in other industries. The focus placed by the industry on human experience and social issues is reflected in the human-technology frontier, as companies anticipate continued reliance on humans to predominantly deliver 43% of total work tasks over the next five years, higher than the global industry average. However, talent availability is a growing concern, with 59% of employers expecting hiring challenges to worsen. To respond to these emerging trends, firms are scaling up upskilling efforts, hiring for emerging skills and augmenting workforce with new technologies, while also aiming to improve the industry's attractiveness by supporting employee health and well-being, improving wages and talent progression. About one third of companies is investing in diversity, equity and inclusion efforts, focusing particularly on young talent (69%, compared to the 52% global industry average) and migrant workers (33%, compared to 20% globally).

The **Advanced Manufacturing** sector expects to undergo transformation shaped by increased investments to reduce carbon emissions and adapt to climate change and rising cost of living. Companies are anticipating the adoption of AI (81%), robotics (69%), and new materials and composites (63%, almost twice as many as in other industries). The industry predicts increasing demand for AI and big data skills, creative thinking, networks and cybersecurity skills, but also systems thinking, design and user experience, and resource management. To prepare for these changes, employers expect to be able to upskill 29% of workers in their current role, while they foresee a need for 15% of workers to be reskilled and re-deployed in the next five years. Fifty percent of firms are planning to tap into diverse talent pools to ease labour shortages, and 55% (more than in most other industries) plan to focus their diversity, equity and inclusion efforts on workers aged 55 years and above.

Skills gaps are seen as the key barrier to transformation for businesses in the **Agriculture**, **Forestry**, **and Fishing** industry by 2030 (selected by 68% of respondents), followed by outdated regulations (51%, compared to the 39% global industry average) and insufficient data infrastructure (46%, compared to 32% globally). Climate mitigation and adaptation are key challenges highlighted by the industry, alongside rising cost of living. As employers address these challenges, they are planning to upgrade their workforce strategies by emphasizing upskilling and reskilling, hiring for new skills, and augmenting their workforce with technology. The top three skills on the rise are predicted to be resilience, flexibility and agility, technological literacy, and environmental stewardship, while skills related to AI and big data, networks, and cybersecurity are growing more slowly than in other industries. One-third of firms in the industry do not have a diversity, equity and

inclusion programme, while 63% expect wages to account for a growing share of employers' total revenues, with 92% intending to align wages with productivity and 46% aiming to reduce wage inequalities.

The **Automotive and Aerospace** sector stands out for its expectation regarding the significant impact that both climate mitigation and geoeconomic fragmentation might have on the industry in the next five years: 54% of respondents identify rising geopolitical tensions (compared to 34% across other industries) and 46% highlight increasing trade restrictions (compared to 23% in other industries) as key drivers of change. About one-fourth of industry players are evaluating options to reshore, nearshore or friendshore, and 16% to offshore – suggesting the possibility of greater supply chain re-organization than in other industries. These trends point to considerable transformation for most companies, with skills gaps in labour markets, organizational cultures and resistance to change identified as top barriers, alongside difficulties to attract talent to the industry (highlighted by 42% of respondents, compared to 37% in other industries) and limited access to investment capital (40%, compared to 26% in other industries). Employers are prioritizing workforce strategies that focus on upskilling, automating processes, and transitioning staff from declining to growing roles. Jobs on the rise are predicted to include Robotics Engineers and Data Analysts and Scientists.

In the **Chemical and Advanced Materials** sector, industry transformation is foreseen to be heavily influenced by investments in the green and digital transitions, leading to a projected increase in job roles for AI and Machine Learning Specialists and Business Development Professionals by 2030. The industry also anticipates a need for more AI and big data as well as environmental stewardship skills. However, the human factor is expected to pose a significant barrier for the industry, with skills gaps in the labour markets and talent attraction to the industry identified as the top two obstacles to industry transformation. To improve industry attractiveness, companies are planning to focus on talent progression and promotion processes, supporting employees' health and well-being and offering higher wages. Employers suggest governments should support upskilling and reskilling and improve education systems, as well as provide wage subsidies and greater flexibility in wage setting. Nine in 10 companies in the industry plan to align wages closely with productivity while only 9% plan to review wage costs as part of cost-reduction exercises in the next five years.

Broadening digital access, increased focus on labour and social issues, and slower economic growth are expected to drive the transformation of the **Education and Training** sector by 2030. AI and big data skills as well as creative thinking are foreseen to grow in importance. Emerging job roles within the industry are anticipated to include AI and Machine Learning Specialists and Digital Transformation Specialists. Employers also place greater emphasis than in other industries on curiosity and lifelong learning, marketing and media skills and multilingualism. The industry is less focused than other sectors on upskilling and reskilling its own workforce (73%, compared to the 85% global industry average), while employers aim to improve attractiveness through better talent progression and promotion processes, higher wages, and supporting employee well-being.

By 2030, the landscape of the **Electronics** sector is expected to be shaped by increased climate mitigation efforts, continued digitalization of the economy, and aging and shrinking workforces, while the industry appears less concerned about economic cycles: only 25% of respondents anticipate significant impact from slower economic growth, compared to 42% across all sectors. With AI, robotics and energy technologies targeted for adoption, industry job growth is predicted for AI and Machine Learning Specialists and Electrotechnology Engineers. Talent availability is seen as a concern, with 61% of employers expecting hiring challenges to worsen but only 9% worried about talent retention (compared to 19% global industry average). Workforce strategies are planned to focus on automation, upskilling, and transitioning staff to growing roles. Other than public policy support on reskilling and upskilling, firms also call for improved transport infrastructure to enhance talent availability.

Over the next five years, climate mitigation is foreseen to be at the centre of the **Energy Technology and Utilities** sector, as companies plan to invest in greener technologies for energy generation, storage and distribution. As a result, Environmental Engineers, AI and Machine Learning Specialists and Renewable Energy Engineers are among the expected top-growing job roles in the sector. As employers aim to transform their business, industry players are particularly concerned about skills gaps in the labour market (81%, compared to 63% across all industries), alongside outdated or unflexible regulations (44%), organizational culture and resistance to change, and the industry's capacity to attract talent (37%). To improve talent availability and industry attractiveness, businesses are planning on improving talent progression and promotion processes and investing in reskilling and upskilling programmes, for which respondents see a role for increased financial support from the public sector.

Increased digitalization is seen as the primary driver of transformation in the **Financial Services and Capital Markets** sector over the next five years, alongside adaptation to climate change and slower economic growth. The sector also anticipates being particularly exposed to AI, with only 5% of employers expecting no significant adoption of the technology by 2030 (compared to 14% across all industries). As a result, AI and big data skills, technological literacy and cybersecurity skills are estimated to be in high demand and the industry anticipates creation of new job roles for

Big Data Specialists, AI and Machine Learning Specialists, and Security Management Specialists. To improve talent availability, the industry is planning on investing in reskilling and upskilling (71% of employers), supporting employees' well-being (64%) and improving promotion processes (61%). Remote and hybrid work is also seen as a strategy to stay attractive for 58% of companies in the industry, and one out of two respondents is calling for changes to labour laws that support remote work (compared to 36% in other sectors). The industry is particularly advanced in its plans to remove degree requirements in favour of skills-based hiring approaches (28%, compared to 19% across all industries).

Employers in the **Government and Public Sector** identify organizational culture and resistance to change as the top barrier to transformation by 2030, as the sector plans to continue investing in digital and green transformation over the next five years. In line with global trends, AI and big data, Networks and cybersecurity and Technological literacy are the skills with highest perceived increasing importance, followed by Environmental stewardship and creative thinking skills. Skills gaps in the labour market and outdated regulatory frameworks are seen as potentially slowing down transformation of the sector. Overall, public employers are positive about future talent availability, with 52% of respondents expecting improvements in the next five years. To increase sector attractiveness and strengthen the sector talent base, 80% of employers are planning on enhancing talent progression and providing reskilling and upskilling programmes in the next five years.

Information and Technology Services companies are heavily focused on adopting advanced technologies by 2030, with anticipated near-universal uptake of AI and information processing (99%, compared to the 86% global industry average) and a strong focus also on quantum and encryption technologies (41%, compared to 12% globally). Growing job roles in the sector are foreseen to include Digital Transformation Specialists, Software and Applications Developers, and Sales and Marketing Professionals. Alongside AI and cybersecurity skills, the industry expects stronger emphasis on resilience, flexibility, and agility than most other sectors, while more employers expect demand for programming and design and user experience skills to decline than in other industries. Workforce strategies aim to prioritize upskilling and hiring talent with new skills to address emerging needs, alongside a higher tendency to reduce staff with less relevant skills (49%, compared to 41% in other industries) and offshore segments of the workforce (17%, compared to 8%).

By 2030, transformation of the **Infrastructure** sector is foreseen to be driven by a need to increase investments in carbon reduction, climate adaptation and digitalization. As a result, new job roles are expected to be created for Big Data Specialists and Organizational Development

Specialists. Top skills on the rise are anticipated to be linked to AI and big data as well as networks and cybersecurity, and talent management skills are expected to grow in demand at a faster rate than the global industry average. Twenty-seven percent of employees in the sector are anticipated to be able to upskill in their current roles, with an additional 17% projected to be reskilled and redeployed. Almost 70% of respondents expect reskilling and upskilling to improve talent retention and enhance competitiveness and productivity of their company, with 50% planning to increase talent mobility through training programmes.

Over the next five years, evolution of the global economic outlook, and population dynamics across the world are predicted to drive industry transformation in the **Insurance and Pensions Management** sector. Continued adoption of digital technologies is also foreseen to transform the industry, with 97% of employers planning to accelerate automation of processes and tasks, which is significantly above the global industry average. The sector also expects higher-than-average levels of workforce augmentation, with 41% of total work tasks projected to be completed by human-technology collaboration by 2030. AI and big data, creative thinking, and technological literacy are seen as the top skills on the rise. While 42% of employers predict talent availability at the point of hiring to worsen, the industry is strongly focused on upskilling and reskilling: 91% of employers plan to upskill their workforce to adapt to evolving needs and – as a result – 82% expect talent development to improve in the next five years.

The digital transition, higher cost of living and an increasingly aging population are among the key drivers of transformation anticipated for **Medical and Healthcare Services** over the 2025-2030 period. In particular, aging population is highlighted as a key factor by 59% of companies in the industry, compared to 40% across all sectors. As they aim to adapt to these trends, firms cite challenges in terms of their own organizational culture and resistance to change, alongside outdated regulations and skills gaps in the labour market. Emerging job roles in the industry are expected to include Data Analysts and Scientists and AI and Machine Learning Specialists, with significant emphasis on AI and big data and technological literacy as the top skills increasingly in demand. While prioritizing business practices that support employee health and well-being (57%), providing effective reskilling and upskilling (63%), and offering competitive wages (49%) are seen as key workforce strategies, the industry also increasingly plans to tap into diverse talent pools.

With industry transformation by 2030 seen as predominantly shaped by climate adaptation and climate mitigation trends, the **Mining and Metals** sector is also mindful of growing restrictions on global trade and investment, with 55% of firms identifying this as a key trend (compared to 23% in other industries). Considering the green transition, 79% of industry players expect transformative impact from energy technologies, while AI is anticipated to be less ubiquitous (66%) than in other sectors. The use of autonomous technology to complete work tasks is projected to increase faster than in other industries. AI and Machine Learning Specialists and Mining, Petroleum and Other Extraction Workers are expected to see growing demand in the industry in the next five years, with AI and big data and environmental stewardship seen as leading skills on the rise. To attract and retain talent, firms are planning on prioritizing employee health and well-being (79%) and workplace safety (53%), as well as better articulating business purpose and impact (63%).

By 2030, the **Oil and Gas** sector expects to evolve and transform to reduce carbon emissions and adapt to climate change. According to 40% of respondents from the industry, industrial policy and government subsidies will also impact companies' strategies in the next five years. As companies plan to adopt cleaner technologies they see increasing demand for skills in environmental stewardship,

alongside AI and big data and technological literacy. New job roles are expected to be created for AI and Machine Learning Specialists and Data Analysts and Scientists. Anticipated workforce strategies in the sector are oriented toward upskilling, with 96% of firms planning on investing in workforce development (compared to 85% across all industries), as well as accelerating automation and augmenting their human workforce with new technologies.

Industry transformation in the **Production of Consumer Goods** sector is foreseen to be influenced in particular by rising cost of living and increased investments in carbon reduction over the next five years. Additionally, the industry predicts a need to take into account growing focus on emerging labour and social issues (highlighted by 58% of firms, compared to the 46% global industry average). Companies are anticipating actively adopting advanced technologies, with higher-than-average uptake of robots and autonomous systems (71%, compared to 58% across all sectors) and new materials and composites (61%, compared to 30%). However, 56% of employers expect talent availability to become more difficult in the next five years. To address talent shortages, companies are planning on supporting workers' health and well-being (73%) and improving working hours (52%), while they see potential in public policy support with regard to flexibility in hiring and firing, flexibility in setting wages, and reforming immigration laws.

By 2030, firms in the **Professional Services** sector expect continued digitalization, rising cost of living and increased focus on labour and social issues to impact industry transformation. Workforce strategies anticipated for the sector emphasize upskilling, hiring talent with emerging skills, and augmenting the human workforce with new technologies. There is also expected to be a higher focus on reducing job roles with outdated skills, with 48% of companies envisaging prioritizing this approach (compared to 40% across all industries). One in five employers plan to move operations closer to their headquarter location through re-shoring or near-shoring. Big Data Specialists and AI and Machine Learning Specialists are among the job roles with the larges projected industry demand, while AI and big data, technological literacy, creative thinking, and cybersecurity are leading the list of skills seen as increasingly in use over the next five years.

Business cycle uncertainty, in terms of both economic growth and inflation, are expected to particularly impact the transformation of the **Real Estate** industry in the next five years. To react to an evolving landscape, companies plan to adapt their workforce strategies, prioritizing upskilling and reskilling and hiring new talent with relevant skills. Emerging job roles in the industry are foreseen to include AI and Machine Learning Specialists and Business Development Professionals. Demand for AI and big data skills, creative thinking, and curiosity and lifelong learning is projected to grow across all industry roles. Sixty percent of employers highlight the sector's inability to attract talent as a key barrier to transformation by 2030. To increase industry attractiveness, a majority of companies intends to support employee health and well-being and provide better training opportunities, as only 34% of

employees in the industry have currently undergone reskilling or upskilling, compared to a global industry average of 50%. One-third of employers are planning to offer higher wages and one in five plan to leverage diversity, equity and inclusion programmes: both shares are below the global industry averages of 50% and 39%, respectively.

Over the next five years, companies in the **Retail and Wholesale of Consumer Goods** sector expect industry transformation to be impacted by rising cost of living (68%, compared to 50% across all industries) and increased focus on labour and social issues (64%, compared to 46%). Talent shortages are seen as pronounced in the sector, with 58% of employers expecting talent availability to become more difficult by 2030 and 28% anticipating declines in talent retention. To adapt workforce strategies, companies are planning on prioritizing upskilling and reskilling of current workers, automation of tasks, and recruitment of talent with emerging skills. Forty-one percent of employers are considering transitioning existing staff from declining job roles to growth areas, presenting an under-utilized opportunity for the industry to invest in job transitions. Emerging job roles in the industry are anticipated to include AI and Machine Learning Specialists, Digital Marketing and Strategy Specialists, and Big Data Specialists.

With 37% of on-the-job skills used today expected to change by 2030, the **Supply Chain and Transportation** industry reports having already put significant effort into reskilling and upskilling, with 57% of employees having completed training programmes, above most other industries. As the industry transforms in response to increased digital access, climate mitigation and adaptation, and rising cost of living, growing job roles in the industry are foreseen to include Light Truck or Delivery Services Drivers; Client Information and Customer Service Workers; and Car, Van and Motorcycle Drivers. Companies see increasing demand in skills such as AI and big data, technological literacy, and networks and cybersecurity. Analytical thinking is also identified as a priority, with 79% of firms expecting increasing its use, a higher share than in other industries. However, a majority of respondents regards the industry's inability to attract talent as a potential risk that could stall transformation.

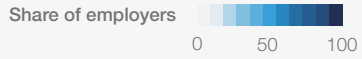
As digital access and connectivity continue to increase globally, they are expected to drive industry transformation in the **Telecommunications** sector over the next five years. Adoption of AI is anticipated to play a strong role in the future of the industry, while 40% of companies are also preparing to make greater use of space and satellite technologies. Growing job roles in the industry are expected to include AI and Machine Learning Specialists, Big Data Specialists, and Data Analysts and Scientists. To enable industry transformation, 96% of employers plan to upskill and reskill their workforce and 82% intend to increase automation of tasks within work processes. To attract talent, 48% of companies – twice the global industry average – plan to offer remote work across borders, while 22% of respondents are evaluating options for moving operations closer to their homebase through reshoring or nearshoring.

TABLE 5.5

Impact of macrotrends, 2025-2030

Share of employers which expect macrotrends to drive transformation in their organization (%).

	Accommodation, food, and leisure	Advanced manufacturing	Agriculture, forestry, and fishing	Automotive and aerospace	Chemical and advanced materials	Education and training	Electronics	Energy technology and utilities	Financial services and capital markets	Government and public sector	Information and technology services	Infrastructure	Insurance and pensions management	Medical and healthcare services	Mining and metals	Oil and gas	Production of consumer goods	Professional services	Real estate	Retail and wholesale of consumer goods	Supply chain and transportation	Telecommunications
Ageing and declining working-age populations	43	47	43	31	29	29	50	26	37	49	35	41	62	59	38	23	44	43	42	43	44	24
Broadening digital access	51	48	46	63	50	75	57	55	79	60	74	51	78	61	48	26	53	67	58	59	56	81
Growing working-age populations	21	18	24	21	18	27	21	26	23	28	20	21	40	30	28	14	27	26	31	24	26	30
Increased efforts and investments to adapt to climate change	22	49	57	50	65	30	29	53	53	56	31	54	47	43	62	43	47	26	19	30	50	32
Increased efforts and investments to reduce carbon emissions	43	60	57	71	65	16	64	55	34	54	37	61	33	41	69	66	60	37	35	41	66	41
Increased focus on labour and social issues	54	44	41	48	35	54	39	31	33	49	43	42	42	44	52	34	58	52	31	64	44	35
Increased geopolitical division and conflicts	30	45	43	54	44	36	43	34	36	30	36	36	38	35	41	31	31	37	27	25	43	32
Increased government subsidies and industrial policy	13	33	30	29	29	20	18	28	19	30	26	29	16	20	31	40	15	13	15	18	29	16
Increased restrictions to global trade and investment	11	33	22	46	41	11	32	28	28	26	21	17	20	15	55	29	29	20	15	27	36	14
Rising cost of living, higher prices or inflation	63	53	57	56	38	41	46	33	47	39	45	50	67	50	28	37	61	44	58	68	50	46
Slower economic growth	43	34	30	48	47	45	25	29	50	32	45	41	64	30	41	49	46	41	54	47	40	41
Stricter anti-trust and competition regulations	8	16	19	27	15	18	18	16	23	7	22	16	22	24	28	6	14	17	4	17	20	24



Source

World Economic Forum, Future of Jobs Survey 2024.