TABLE 5.6 Impact of technology related trends, 2025-2030

Share of employers which expect technology related trends 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
AI and information processing technologies (big data, VR, AR etc.)	80	81	84	92	73	91	93	64	95	89	99	87	98	91	66	69	79	91	73	87	92	100
Biotechnology and gene technologies	13	22	41	6	18	7	7	3	3	11	9	3	13	63	3	0	14	7	4	5	6	5
Energy generation, storage and distribution	38	49	57	60	64	20	59	88	16	44	28	55	11	24	79	86	60	30	31	38	56	34
New materials and composites	20	63	30	52	76	11	28	36	9	19	11	57	2	24	66	51	61	22	42	33	31	16
Quantum and encryption	7	8	8	17	12	9	21	7	26	5	41	4	24	11	0	6	3	17	8	7	8	29
Robots and autonomous systems	53	68	59	73	48	55	69	48	53	58	48	58	51	59	48	40	71	50	38	71	66	58
Satellites and space technologies	7	7	14	25	3	11	10	2	5	21	20	8	9	7	0	3	8	6	0	3	17	39
Semiconductors and computing technologies	7	26	19	38	18	23	55	19	18	28	36	25	20	20	28	14	19	22	15	13	20	34
Sensing, laser and optical technologies	17	30	32	40	12	16	38	14	6	25	11	21	9	31	21	9	23	17	15	18	25	16

Share of employers

0 50 100

Source

World Economic Forum, Future of Jobs Survey 2024.

TABLE 5.7

Skill importance in 2025

Share of employers which consider skills to be core skills for their workers (%).

	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		
Environmental stewardship	21	24	26	26	28	10	12	27	15	39	12	21	17	8	50	25	34	21	17	15	33	21	Ethics	Attitudes
Global citizenship	17	18	22	15	14	16	8	16	14	23	17	12	22	14	5	3	15	19	9	14	12	10		
Curiosity and lifelong learning	38	53	56	56	48	54	44	41	61	34	66	52	83	43	55	44	46	44	52	61	37	48	Self-efficacy	
Dependability and attention to detail	45	42	37	41	24	32	44	29	37	48	46	39	33	38	30	31	29	30	52	48	50	24		
Motivation and self-awareness	38	64	52	62	52	48	60	49	58	52	55	42	64	43	45	63	54	40	48	64	53	62		
Resilience, flexibility and agility	53	73	56	67	66	66	68	67	73	57	70	59	94	65	55	81	65	44	52	73	67	66		
Empathy and active listening	40	49	48	56	38	42	52	39	55	45	53	46	69	51	35	47	48	53	61	68	43	55	Working with others	
Leadership and social influence	49	46	56	59	59	52	60	57	66	66	59	55	75	51	55	69	63	58	57	73	59	76		
Teaching and mentoring	19	24	37	28	17	50	16	24	23	32	30	20	33	5	25	31	30	28	26	20	27	38		
Analytical thinking	51	71	59	72	48	70	80	80	80	61	83	65	89	59	50	59	68	77	43	71	70	86	Cognitive skills	Skills, knowledge and abilities
Creative thinking	47	55	56	69	62	64	76	73	65	45	57	59	72	49	65	53	59	67	61	60	48	66		
Multi-lingualism	25	29	37	28	28	36	28	16	28	20	22	26	25	11	25	22	22	30	22	25	26	10		
Reading, writing and mathematics	11	27	26	15	17	24	32	16	22	25	28	23	28	16	20	22	20	21	17	24	20	21		
Systems thinking	38	42	63	38	31	50	40	47	42	27	50	39	36	57	65	31	51	42	35	44	45	38		
Marketing and media	15	18	15	15	17	34	24	10	19	25	18	18	17	24	20	13	29	14	17	27	22	28	Engagement skills	
Service orientation and customer service	42	42	41	36	28	36	40	31	51	57	47	39	58	43	25	38	53	58	48	54	51	55		
Quality control	40	40	44	46	38	30	24	33	31	25	25	44	19	32	50	34	48	42	39	28	40	31	Management skills	
Resource management and operations	25	49	41	51	41	24	32	47	33	59	29	41	33	24	50	53	51	42	30	44	56	34		
Talent management	38	44	37	59	35	42	36	37	54	46	49	46	61	46	25	53	57	30	39	59	49	55		
Manual dexterity, endurance and precision	15	25	26	15	10	2	12	12	8	18	9	11	8	11	25	3	24	12	0	15	17	14	Physical abilities	
Sensory-processing abilities	4	9	0	10	7	2	8	8	3	5	7	8	11	5	5	6	17	0	4	7	7	7		
AI and big data	26	35	33	54	34	56	44	31	61	50	66	39	58	51	25	31	42	37	43	41	44	66	Technology skills	
Design and user experience	11	22	15	31	21	36	16	22	32	27	39	27	33	16	5	16	26	16	26	28	27	48		
Networks and cybersecurity	19	13	19	26	24	22	24	20	38	39	37	30	31	16	0	22	18	30	13	19	34	48		
Programming	9	9	7	10	10	12	16	20	22	11	36	12	19	14	5	19	20	7	9	12	19	38		
Technological literacy	38	51	41	59	38	54	48	61	65	52	50	42	67	32	55	44	61	37	30	47	52	55		

Share of employers

0 50 100

Source

World Economic Forum, Future of Jobs Survey 2024.

TABLE 5.8 Skill evolution, 2025-2030

Net difference between the share of employers which consider skills to be increasing and decreasing in importance to their workers from 2025 to 2030 (%). The share of employers predicting skill stability is not used in the calculation.

	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		
Environmental stewardship	43	54	71	70	71	37	40	60	43	50	39	65	49	56	68	80	64	63	50	49	64	32	Ethics	Attitudes
Global citizenship	15	33	8	21	27	34	29	35	24	15	24	16	29	25	16	4	21	23	30	8	17	21		
Curiosity and lifelong learning	48	53	63	68	54	79	48	67	56	34	68	58	74	58	42	60	59	60	68	63	57	71	Self-efficacy	
Dependability and attention to detail	2	12	16	22	-11	13	12	0	11	8	16	7	6	0	5	-8	6	20	23	14	13	0		
Motivation and self-awareness	41	49	46	57	56	54	16	44	46	24	49	47	54	36	47	46	46	49	62	42	51	54		
Resilience, flexibility and agility	49	69	83	71	59	64	64	58	67	51	78	65	72	65	47	48	69	63	62	69	60	79		
Empathy and active listening	33	47	25	54	50	47	36	40	41	21	53	43	44	42	37	42	46	48	50	45	41	48	Working with others	
Leadership and social influence	56	56	48	68	59	64	60	62	56	33	65	52	50	66	32	52	57	49	52	54	49	69		
Teaching and mentoring	24	39	9	50	23	42	8	30	14	18	37	24	28	24	37	55	25	41	27	27	37	29		
Analytical thinking	28	55	44	66	50	70	40	46	59	44	54	58	61	58	37	42	59	46	59	53	68	67	Cognitive skills	Skills, knowledge and abilities
Creative thinking	50	69	65	66	54	79	48	59	67	53	73	59	86	76	53	62	63	69	73	62	69	75		
Multi-lingualism	18	29	16	19	36	41	-8	18	12	3	11	10	19	17	16	19	18	13	-14	6	12	7		
Reading, writing and mathematics	-13	15	-4	-6	11	-7	-12	-17	-8	-5	-14	-4	6	-8	6	-20	-12	-26	9	-6	-4	0		
Systems thinking	34	60	42	54	41	54	54	43	46	38	56	47	60	51	63	52	56	41	43	46	56	57		
Marketing and media	40	23	0	31	38	48	0	8	24	32	15	3	20	6	26	11	29	3	41	36	25	22	Engagement skills	
Service orientation and customer service	39	41	43	46	15	38	29	26	39	40	38	34	39	49	47	14	39	30	38	50	51	46		
Quality control	24	26	35	19	11	17	12	9	17	15	4	22	6	25	26	14	28	33	9	17	25	21	Management skills	
Resource management and operations	15	36	39	16	14	17	17	18	14	29	8	34	3	22	37	24	30	14	32	26	35	14		
Talent management	40	57	50	68	67	57	36	59	55	50	53	67	58	42	68	55	60	49	59	54	64	64		
Manual dexterity, endurance and precision	-13	-18	-22	-14	-40	-27	-36	-39	-27	-18	-46	-23	-31	-24	-22	0	-17	-35	-20	-37	-21	-33	Physical abilities	
Sensory-processing abilities	7	26	-5	41	19	9	16	18	10	12	17	7	17	17	39	15	16	25	29	7	21	0		
AI and big data	60	80	65	100	82	85	83	91	95	90	97	79	97	92	79	85	86	98	82	86	94	100	Technology skills	
Design and user experience	40	54	24	51	50	50	40	48	48	42	39	40	63	39	28	35	38	36	55	46	42	59		
Networks and cybersecurity	65	74	52	78	65	57	68	79	81	73	74	69	75	78	65	65	70	66	60	65	76	75		
Programming	27	25	4	33	27	20	20	35	41	36	15	29	32	19	25	30	24	26	10	26	33	29		
Technological literacy	52	71	67	81	48	74	48	67	84	70	62	63	81	81	55	72	66	70	45	68	77	46		

Source

World Economic Forum, Future of Jobs Survey 2024.

Conclusions

The transformation of the jobs and skills landscape anticipated by this year's Future of Jobs Survey respondents will have significant impacts on businesses, industries, governments and workers worldwide. It is crucial to develop nuanced forecasts, identify appropriate workforce and talent strategies, and make informed decisions on managing disruptions to jobs and skills for employers and workers alike.

This edition of the *Future of Jobs Report* presents a mixed picture with regard to the 2025-2030 outlook for the global labour market. On the one hand, amid newly emerging drivers such as increasing geoeconomic fragmentation, rising cost of living and the widespread adoption of AI tools in the workforce, global macrotrends create an ever-more complex environment for policy-makers, employers and workers to navigate, and uncertainty remains high. On the other hand, the report finds a strongly net-positive global employment outlook, with a continuing decrease in the rate of skills obsolescence, as reskilling, upskilling and redeployment initiatives implemented in recent years begin to register in the data and materialize their global workforce impact.

Employers across all industries and geographies demonstrate greater awareness and willingness than in previous editions of the report to proactively engage in addressing workforce and talent challenges, and to do so by pragmatically leveraging innovative approaches such as skills-based hiring policies and a more strategic focus on diversity, equity and inclusion.

However, skills gaps remain the predominant barrier to transformation across most industries and economies, and this year's edition of the *Future of Jobs Report* captures some early signals of likely future priority areas for constructive multistakeholder engagement, including a need for proactive and dynamic job transitions across a wider and growing range of job roles and questions concerning the appropriate future balance between deeper automation and broader augmentation.

This last point reflects a core tenet of the *Future of Jobs Report* since its inception: that the future of work can be shaped for better outcomes and that it is the policy, business and investment decisions made by leaders today that will determine these outcomes and the future space for action. The World Economic Forum is actively supporting the building of a future-ready, inclusive workforce through its two human capital flagship initiatives: The Reskilling Revolution and The Jobs Initiative. We hope that this report will contribute to an ambitious multistakeholder agenda to better prepare workers, businesses, governments, educators and civil society, empowering them to build a better future of jobs for all.

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Appendix: Report Methodology

This report is based on an analysis of the results of the edition of an extensive survey of Chief People, Chief Learning Officers, Chief Strategy Offices and Chief Executive Officers of leading global employers. Established in 2015, the Future of Jobs Survey has been instrumental in providing insights into the evolution of jobs and skills and the future labour market. It is a pioneering measurement tool that enables companies and governments to map their workforce planning for the next five years. Survey data is collected across economies and industries, providing a compass for private- and public-sector leaders who strive to ensure a better future of work for all.

Survey design

The Future of Jobs Survey 2024 builds on the methodology from the previous survey editions. Following survey best practices and informed by literature review, several questions were refined and new questions were added.

The survey consists of five interrelated parts. **Business Trends 2024-2030** focuses on the macrotrends and technology adoption. It also examines the organizations' transformation barriers. **Occupation Trends 2024-2030** identifies the roles and how these are expected to evolve up until 2030. It also studies how the macrotrends and technology trends contribute to the job growth and decline. **Skill Trends 2024-2030** analyses the skills in demand and collects information on training programmes and employee reskilling needs and efforts. **Workforce Practices 2024-2030** explores the talent strategies and talent-management practices in organizations. **People and Technology** assesses the automation and augmentation level at the job and task level, as well as companies' approach to enabling people and technology working together.

The survey is comprised of 38 questions and was made available in 12 languages: Arabic, Bahasa Indonesia, Chinese (simplified), French, Hebrew, Japanese, Portuguese, Russian, Serbian, Spanish, Turkish and Vietnamese. The survey collection process was conducted via Qualtrics, with data collection spanning a four-month period from May to September 2024.

Representativeness

The survey set out to represent the current strategies, projections and estimates of global businesses, with a focus on large multinational companies and more localized companies which are of significance due to their employee or revenue size. As such, there are two areas of the future of jobs that remain out of scope for this report: the future of jobs as it relates to the activities of small enterprises and as it relates to the informal sector.

The Future of Jobs Survey was distributed through collaboration between the World Economic Forum and its regional survey partners, amplified by the World Economic Forum's extensive network and its constituents. The survey is also the result of cross-departmental coordination within the World Economic Forum. The Forum's Global Industries Team supported the report team's efforts to collect relevant samples. For key partners in the survey distribution process, please refer to both the Survey Partners and Acknowledgements sections.

Detailed sample design specifications were shared with survey partners, requesting that the sample of companies targeted for participation in the survey should be drawn from a cross-section of leading companies that make up an economy or region's economy. The target companies were specified as the largest multinational and national companies, significant in terms of revenue or employee size. The threshold was set at companies with 500 employees or more as questions concerning job and skill outlook are most relevant for larger companies with a significant share of employment.

The final sub-selection of economies with data of sufficient quality to be featured in the report was based on the overall number of responses from companies with a presence in each economy. The survey has arrived at a sample in which more than half of the companies surveyed operate in more than one economy, and a reasonable range of companies maintained a focused local or regional presence. The final sub-selection of industries was included based on the overall number of responses by industry, in addition to a qualitative review of the pool of named companies represented in the survey data. The final sub-selection of regions and income groups was included based on the headquarter locations of the companies.

After relevant criteria were applied, the sample was found to be composed of 22 industry clusters and 55 economies. Industry clusters include: 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; and Telecommunications. Refer to Table A1 for the list of industry clusters. Economies include Argentina, Australia, Austria, Bahrain, Belgium, Brazil, Canada, China, Colombia, Czechia, Denmark, Egypt, Estonia, France, Germany, Greece, Hong Kong SAR, China, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Republic of Korea, Latvia, Lithuania, Malaysia, Mexico, Morocco, Netherlands, Nigeria, Norway, Philippines, Poland, Portugal, Romania, Saudi Arabia, Serbia, Singapore, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, Tunisia, Türkiye, United Arab Emirates, United Kingdom, United States of America, Uzbekistan, Viet Nam and Zimbabwe. Collectively, these economies represent 88% of global GDP.

In total, the report's dataset contains 1,043 unique responses by global companies, collectively representing more than 14.1 million employees worldwide.

Classification frameworks for jobs and skills

This year's report employed the Occupational Information Network (O*NET) framework, cross-walked with the International Standard Classification of Occupations (ISCO). O*NET was developed by the US Department of Labour in collaboration with its Bureau of Labour Statistics' Standard Classification of Occupations (SOC) and remains the most extensive and respected classification of its kind. ISCO is a classification system developed by the International Labour Organization (ILO) to organize information on jobs and labour. It is a part of the UN's classification system for social and economic purposes. The list of roles used in the report has been enhanced with roles which were consistently added to previous editions of the report and refer to the emerging roles from data partner collaborations.

Both the Future of Jobs survey and the Future of Jobs report use the World Economic Forum's Global Skills Taxonomy to categorize skills (Table A2). Built on a foundation of data insights and ongoing inputs from our network of partners, the taxonomy focuses on the skills that are needed by workers across sectors and regions in a fast-changing labour market. It is designed to serve as a "universal adapter" between data presented in the language of the many region and industry specific skills taxonomies in use. You may view the Global Skills Taxonomy on the Reskilling Revolution webpage. New data from the Future of Jobs Survey is presented in Chapter 3.

TABLE A1 **Taxonomy of industry categories**

Industry cluster	Industry
Accommodation, Food and Leisure	Accommodation, Food and Leisure Services
	Rental, Reservation and Leasing Services
Agriculture and Natural Resources	Agriculture, Forestry and Fishing
Automotive and Aerospace	Automotive and Aerospace
Care, Personal Services and Wellbeing	Care and Social Work Services
	Personal Care, Wellbeing and Repair Services
Education and Training	Education and Training
Energy and Materials	Chemical and Advanced Materials
	Energy Technology and Utilities
	Mining and Metals
	Oil and Gas
Financial Services	Financial Services and Capital Markets
	Insurance and Pensions Management

TABLE A1 | Taxonomy of industry categories

Industry cluster	Industry
Government and Public Sector	Government and Public Sector
Health and Healthcare	Medical and Healthcare Services
Information Technology and Digital Communications	Information and Technology Services
	Telecommunications
Infrastructure	Engineering and Construction
	Water and Waste Management
Manufacturing	Advanced Manufacturing
	Electronics
	Production of Consumer Goods
Media, Entertainment and Sports	Arts, Entertainment and Recreation
	Media and Publishing
Non-Governmental and Membership Organizations	Extraterritorial Organizations and Bodies
	Non-Profit Organizations, Professional Bodies and Unions
Professional Services	Business Support and Premises Maintenance Services
	Employment Services
	Research, Design and Business Management Services
Real Estate	Real Estate
Retail and Wholesale of Consumer Goods	Retail and Wholesale of Consumer Goods
Supply Chain and Transportation	Supply Chain and Transportation

Metrics

Statistical samples presented in this report correspond to organizations' self-reported economies and industries of operation. Each organization which responded to the Future of Jobs Survey was permitted to associate itself with up to 10 economies and up to three industries of operation.

Most metrics presented in this report are shares of respondents identifying their organization with a business strategy/impact or the mean value of a metric relating to business operations which was directly estimated by respondents. A small number of metrics relating to labour markets and skills are derived from information provided in different formats. These are described below.

Net growth in employment and labour-market churn

This edition of the Future of Jobs Report continues to estimate growth and labour-market churn in the next five years. Net growth represents the forecast increase or decrease in the size of a workforce, either as a fraction of its current size, or in millions of employees. Labour-market churn represents the sum of job losses and created jobs in a workforce as a fraction of its initial size. In this report both concepts are applied to roles in the jobs taxonomy (see Table A3) and industries in the industry taxonomy (see Table A1). The figures correspond to changes forecast by survey respondents for a five-year period between 2025 and 2030, with the survey being administered from May to August 2024. Metrics relating to both concepts reflect forecast structural changes in employment across

companies, economies, industries and roles. Turnover induced by employees moving between jobs for personal reasons is not included.

Fractional metrics

Respondents aggregated roles included in the jobs taxonomy to six groups:

- Main roles in the organization with a growing employment outlook for the next five years
- Main roles in the organization with a declining employment outlook for the next five years
- Main roles in the organization with a stable employment outlook for the next five years
- Roles that are relatively small presently but strategically important and with a growing employment outlook for the next five years

Respondents allocated up to five roles from the jobs taxonomy to each of the four groups. One of the five roles in the presently relatively small but strategically important and with a growing employment outlook could be specified by a free-text field. Free-text fields were subsequently allocated to jobs in the jobs taxonomy where possible. Metrics on roles are only published in the report when they meet statistical criteria in a given sample.

Respondents subsequently allocated workforce fractions to each of the above groups of jobs at present, and estimated the growth and decline of the main roles with growing outlook, main roles with declining outlook, and relatively small roles presently with growing outlook. These workforce fractions were used to calculate two metrics: estimated net growth between 2025 and 2030 and estimated structural labour-market churn from 2025 to 2030, for the labour forces pertaining to roles in the jobs taxonomy. In the calculation of net growth, for a specific role, a simple mean of the growth and decline was first calculated based on projection from the respondents who have selected this role, while the growth of the roles identified as stable outlook is zero. The net growth draws on weighted averages of the growth and decline weighted on the number of respondents who consider this role as growing and stable, with the numerator reflecting the weighted shares of anticipated workforce increases and decreases and the denominator aggregating total workforce shares across all anticipated states (growing, declining and stable). The churn metric, similarly, adopts absolute values for workforce decreases. These methodologies aim to present an objective, scalable perspective on workforce transformations at the role and industry level.

Reweighted metrics

International Labour Organization (ILO) data were then used to translate the forecast fractional net growth for each role into estimates of the number of jobs that will be created or displaced between 2025 and 2030. ILO estimates of the number of employees in each occupational category of ISCO08 level 2 were used as a basis for the number of employees working at the time of publication. To account for the absence of China-specific data in the ILO's employment-by-occupation dataset, a China employment multiplier was calculated based on the share of China's employment figure in global employment figure and applied under the assumption that China's labour market structure aligns with global patterns. To approximate the number of employees in each occupation of the jobs taxonomy used in the Future of Jobs Survey, the jobs taxonomy (a modified and extended version of the O*NET SOC occupational classification) was mapped to the ISCO08 occupational taxonomy used in the ILO data by modifying and extending the map developed by the U.S. Bureau of Labor Statistics, which connects SOC level 4 and ISCO08 level 4. Estimates of present employment were then multiplied by the fractional net growth estimates obtained from the survey, to estimate net growth worldwide in units of millions of employees.

Using this method, the Future of Jobs dataset described in Chapter 2 corresponds to 1.18 billion employees. By comparison, the ILO dataset used in the analysis accounts for 2.18 billion employees, and 2.76 billion employees upon applying the China multiplier. The remaining 1.58 billion employees correspond to roles for which the Future of Jobs Survey did not collect sufficient data to reliably estimate net growth. Data on employees rather than general employment was used as organizations responding to the Future of Jobs Survey maintain workers in formal rather than informal employment.

The estimates of the number of employees per sector which can be found in the Industry Profiles are based on the full dataset of 2.18 billion employees worldwide. This calculation is described in the user guide to the profiles.

Attribution to jobs

To analyze the impact of specific trends on job growth and decline, survey respondents attributed the growth and decline of roles to macrotrends and technology trends. Respondent's weighted attribution was used to allocate a fraction of job changes to specific trends. These were then mapped to ILO occupation data to calculate the absolute number of jobs created and destroyed per occupation in the next five years.