

## Skills challenges by occupation

Skills shortages occur in a tight labour markets when employers fight over a limited talent pool. With demand down and unemployment up, skills shortages are not the immediate concern for many FISSS members, indeed some expect recruitment pressure to ease. The challenge of Covid-19 recovery is in the medium term. In the case study brief FISSS members cite challenges of changing technology and demography amongst others. Our previous paper looked at skills challenges by industry and captures some of the medium term skills challenges faced by the economy. This paper updates the analysis by occupation. The metrics looked at are:

1. **Pay** - Hourly pay
2. **Automation** – Percentage chance of occupation being automated
3. **Covid-19 resilience** – Proportion of occupation occasionally working from home
4. **Ageing workforce** - Proportion of occupation over 50
5. **Immigration** – Proportion of occupation EU national
6. **Gender ratio** - Number of males for every female in occupation

**Table 1: Compendium of skills challenge data by occupation (3-digit SOC)**

- Darker colours indicate a bigger challenge for skills (Higher pay, immunity to automation, the inability to work from home, an ageing workforce, a high proportion of EU nationals, and a higher gender ratio)

Major group	SOC	Description	ASHE - hourly pay	% likelihood of Automation	Working from home occasionally	% Over 50	% EU (excl. UK)	Gender ratio
1: Managers, Directors And Senior Officials	111	Chief Executives and Senior Officials	£42.3	24.5%	69.2%	52.4%	5.3%	2.6
	112	Production Managers and Directors	£21.9	29.8%	46.2%	44.3%	6.4%	7.4
	113	Functional Managers and Directors	£29.9	28.3%	56.1%	34.0%	5.1%	1.5
	115	Financial Institution Managers and Directors	£24.8	30.3%	40.9%	21.5%	6.1%	1.5
	116	Managers and Directors in Transport and Logistics	£15.6	33.6%	23.6%	33.2%	7.3%	3.9
	117	Senior Officers in Protective Services	£25.6	23.3%	26.7%	24.3%	1.4%	4.1
	118	Health and Social Services Managers and Directors	£23.9	23.9%	57.0%	43.5%	2.7%	0.4
	119	Managers and Directors in Retail and Wholesale	£13.1	37.0%	35.3%	31.8%	5.1%	1.9
	121	Managers and Proprietors in Agriculture Related Srvcs	£13.6	36.0%	45.6%	54.8%	4.3%	2.6
	122	Managers and Proprietors in Hspilty and Leisure Srvcs	£12.3	36.8%	34.2%	29.7%	11.4%	1.1
	124	Managers and Proprietors in Health and Care Services	£16.6	30.0%	35.6%	35.7%	4.0%	0.3
	125	Managers and Proprietors in Other Services	£16.2	33.4%	46.9%	43.5%	4.7%	1.6
2: Professional Occupations	211	Natural and Social Science Professionals	£19.7	23.0%	43.4%	18.7%	13.9%	1.1
	212	Engineering Professionals	£20.7	28.4%	30.2%	29.1%	6.3%	9.4
	213	IT and Telecommunications Professionals	£22.4	27.0%	55.0%	19.4%	7.3%	5.0
	214	Conservation and Environment Professionals	£18.3	23.8%	44.0%	24.9%	6.6%	1.9
	215	Research and Development Managers	£25.5	22.2%	54.8%	22.2%	12.5%	1.6
	221	Health Professionals	£24.4	20.8%	29.0%	25.1%	7.9%	0.7
	222	Therapy Professionals	£18.8	22.5%	30.5%	31.8%	4.9%	0.3
	223	Nursing and Midwifery Professionals	£18.3	24.6%	11.1%	32.1%	6.3%	0.1
	231	Teaching and Educational Professionals	£23.2	22.4%	57.8%	28.4%	4.1%	0.5
	241	Legal Professionals	£26.2	23.4%	55.7%	29.8%	4.3%	0.9

Major group	SOC	Description	ASHE - hourly pay	% likelihood of Automation	Working from home occasionally	% Over 50	% EU (excl. UK)	Gender ratio
	242	Business, Research and Administrative Professionals	£21.9	25.7%	54.8%	27.3%	5.7%	1.4
	243	Architects, Town Planners and Surveyors	£20.0	25.0%	44.7%	28.5%	6.6%	4.8
	244	Welfare Professionals	£18.1	25.0%	46.2%	41.4%	4.0%	0.6
	245	Librarians and Related Professionals	£14.4	25.9%	41.2%	41.3%	3.5%	0.3
	246	Quality and Regulatory Professionals	£20.7	27.6%	45.6%	33.0%	8.2%	1.2
	247	Media Professionals	£17.9	26.0%	58.1%	24.6%	6.5%	1.1
3: Associate Professional And Technical Occupations	311	Science, Engineering and Production Technicians	£13.6	39.5%	15.9%	27.1%	7.5%	3.3
	312	Draughtspersons and Related Architectural Technicians	£14.8	37.1%	31.8%	27.8%	12.2%	3.9
	313	Information Technology Technicians	£15.4	38.4%	35.7%	22.0%	5.3%	2.5
	321	Health Associate Professionals	£15.4	37.0%	18.1%	34.3%	6.8%	0.4
	323	Welfare and Housing Associate Professionals	£12.8	37.8%	28.3%	32.0%	3.3%	0.3
	331	Protective Service Occupations	£18.7	34.5%	15.9%	18.2%	1.6%	2.9
	341	Artistic, Literary and Media Occupations	£15.8	35.5%	57.8%	29.3%	8.0%	1.2
	342	Design Occupations	£13.9	37.8%	44.4%	19.7%	5.6%	1.2
	344	Sports and Fitness Occupations	£11.7	45.3%	23.8%	16.0%	5.3%	1.2
	351	Transport Associate Professionals	£36.8	29.9%	11.5%	30.4%	4.0%	14.1
	352	Legal Associate Professionals	£15.0	38.6%	32.8%	26.3%	3.4%	0.6
	353	Business, Finance and Related Associate Professionals	£17.4	36.9%	40.2%	24.5%	5.9%	1.4
	354	Sales, Marketing and Related Associate Professionals	£18.2	39.1%	45.6%	20.0%	5.8%	1.1
	355	Conservation and Environmental Assct Professionals	£11.5	34.8%	36.3%	33.4%	0.0%	3.4
356	Public Services and Other Associate Professionals	£15.7	37.1%	40.0%	32.4%	4.0%	0.8	
4: Administrative And Secretarial Occupations	411	Administrative Occupations: Gvrnmnt and Related Orgs	£12.6	51.1%	22.1%	40.1%	1.6%	0.4
	412	Administrative Occupations: Finance	£12.0	56.8%	22.4%	31.3%	5.4%	0.4
	413	Administrative Occupations: Records	£11.2	56.8%	14.9%	28.3%	8.6%	0.7
	415	Other Administrative Occupations	£11.1	58.8%	18.1%	32.0%	5.0%	0.3
	416	Administrative Occupations: Office Mngrs and Sprvsrs	£14.9	47.3%	34.8%	34.1%	5.0%	0.4
	421	Secretarial and Related Occupations	£10.2	59.1%	16.2%	42.5%	5.1%	0.1
5: Skilled Trades Occupations	511	Agricultural and Related Trades	£10.2	34.1%	32.0%	47.3%	2.4%	6.0
	521	Metal Forming, Welding and Related Trades	£12.6	55.0%	2.3%	35.6%	10.0%	62.2
	522	Metal Machining, Fitting and Instrument Making Trades	£14.3	52.4%	10.4%	32.6%	6.7%	27.0
	523	Vehicle Trades	£12.8	54.6%	8.4%	22.6%	5.9%	48.0
	524	Electrical and Electronic Trades	£15.5	49.8%	21.2%	26.8%	4.6%	35.7
	525	Skilled Metal, Electrical and Electronic Trds Sprvsrs	£16.3	42.7%	11.5%	34.8%	3.0%	12.4
	531	Construction and Building Trades	£13.1	52.2%	20.1%	30.6%	10.5%	55.0
	532	Building Finishing Trades	£11.8	54.5%	17.9%	35.5%	9.3%	20.0
	533	Construction and Building Trades Supervisors	£16.2	42.3%	15.5%	36.5%	9.6%	147.6
	541	Textiles and Garments Trades	£10.4	56.7%	21.0%	48.0%	11.0%	1.1
	542	Printing Trades	£11.6	51.6%	17.4%	36.3%	7.3%	4.6

Major group	SOC	Description	ASHE - hourly pay	% likelihood of Automation	Working from home occasionally	% Over 50	% EU (excl. UK)	Gender ratio
	543	Food Preparation and Hospitality Trades	£9.7	54.2%	11.0%	22.9%	15.3%	1.8
	544	Other Skilled Trades	£11.3	54.2%	32.0%	35.8%	8.6%	2.6
6: Caring, Leisure And Other Service Occupations	612	Childcare and Related Personal Services	£9.6	50.5%	19.8%	27.6%	3.9%	0.1
	613	Animal Care and Control Services	£9.8	53.8%	24.6%	22.8%	6.0%	0.3
	614	Caring Personal Services	£10.0	51.3%	9.9%	33.8%	6.3%	0.2
	621	Leisure and Travel Services	£10.1	51.5%	10.4%	23.2%	9.1%	0.8
	622	Hairdressers and Related Services	£8.5	58.8%	17.9%	15.8%	5.5%	0.1
	623	Housekeeping and Related Services	£9.8	51.2%	9.2%	52.2%	12.1%	1.0
	624	Cleaning and Housekeeping Managers and Supervisors	£9.6	47.4%	16.1%	32.9%	23.4%	0.3
7: Sales And Customer Service Occupations	711	Sales Assistants and Retail Cashiers	£8.8	63.4%	3.1%	23.3%	5.4%	0.5
	712	Sales Related Occupations	£10.0	53.6%	24.0%	30.3%	5.1%	1.3
	713	Sales Supervisors	£10.1	47.9%	8.8%	19.7%	7.4%	0.9
	721	Customer Service Occupations	£10.0	54.3%	9.4%	21.0%	6.0%	0.6
	722	Customer Service Managers and Supervisors	£13.9	41.4%	35.9%	19.8%	4.8%	1.0
8: Process, Plant And Machine Operatives	811	Process Operatives	£10.0	63.5%	5.1%	29.1%	29.4%	2.2
	812	Plant and Machine Operatives	£11.3	61.9%	4.1%	30.9%	14.3%	8.9
	813	Assemblers and Routine Operatives	£10.8	63.1%	10.0%	27.7%	18.1%	1.9
	814	Construction Operatives	£12.1	59.6%	7.1%	31.0%	8.6%	78.2
	821	Road Transport Drivers	£10.9	63.0%	6.6%	43.0%	12.7%	16.8
	822	Mobile Machine Drivers and Operatives	£11.8	63.3%	3.1%	31.6%	22.2%	58.6
	823	Other Drivers and Transport Operatives	£19.0	56.3%	7.8%	32.2%	8.0%	11.0
9: Elementary Occupations	911	Elementary Agricultural Occupations	£9.4	67.4%	18.9%	41.1%	7.1%	2.5
	912	Elementary Construction Occupations	£10.3	63.2%	8.4%	21.6%	10.2%	63.2
	913	Elementary Process Plant Occupations	£9.4	65.7%	2.6%	28.3%	28.6%	1.9
	921	Elementary Administration Occupations	£12.3	61.4%	5.0%	40.7%	5.7%	2.8
	923	Elementary Cleaning Occupations	£8.7	67.2%	4.7%	39.8%	18.6%	0.4
	924	Elementary Security Occupations	£9.5	59.3%	5.3%	37.4%	5.1%	1.4
	925	Elementary Sales Occupations	£9.0	71.4%	5.1%	28.5%	6.9%	1.3
	926	Elementary Storage Occupations	£9.8	63.4%	3.3%	25.3%	21.2%	3.9
	927	Other Elementary Services Occupations	£8.3	70.0%	2.3%	14.3%	10.7%	0.6

## Sources

Metric	Source
<b>% of jobs at risk of automation</b>	ONS. (2019) <a href="#">Which occupations are at highest risk of being automated?</a>
<b>Hourly Pay</b>	Annual Survey of Hours and Earnings, 2019, Table 14.5a Hourly pay - Gross (£) - For all employee jobsa: United Kingdom, 2019  ONS (2019) <a href="#">Earnings and hours worked, industry by two-digit SIC: ASHE Table 4</a>
<b>% ever work from home</b>	ONS (2020) <a href="#">Homeworking in the UK labour market</a>
<b>% EU workers</b>	These last three metrics used the most recent Annual Population Survey data.
<b>% over 50</b>	
<b>Female to Male ratio</b>	