



Profile of the IFATE Maintenance, Installation & Repair pathway occupations in Cheshire and Warrington - May 2023

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South Cheshire Chamber as the lead employer representative body developing the Local Skills Improvement Plan (LSIP) have commissioned this work from Brennan Wilson Ltd. The work takes the qualification pathways that have been developed by the Institute for Apprenticeships and Technical Education, mapping different occupations against them and contextualises them for the Cheshire and Warrington economy.

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Introduction

The Maintenance, Installation & Repair pathway is one of three pathways that sit within the Engineering and manufacturing technical education route. There are 15 routes that span the range of technical education in England which have been developed by the Institute for Apprenticeships and Technical Education ([IFATE](#)). This profile¹ draws on work commissioned by IFATE from the Institute of Employment Research (IER) at Warwick University. This IER project maps the 15 routes, and their linked occupational maps, to the Standard Occupational Classification (SOC) at the 4-digit level.

Further work has been undertaken to disaggregate the IER SOC mapping to the IFATE pathways that sit below each route, to provide a 4-digit SOC mapping for each pathway. The group of SOC codes generated for each pathway has been used, in this instance, to generate the profile of the Maintenance, Installation & Repair pathway below. Data is from the Lightcast Analyst tool.

Profiles for other occupations can be found [here](#).

Occupational mapping

The table below sets out the (4-digit SOC) occupations that are supported in some way by the Maintenance, Installation & Repair pathway, and the volume of employment in Cheshire and Warrington that is associated with each of these occupations.

Some occupational areas are supported by more than one standard (eg Engineering technicians is a single SOC area supported by thirteen standards); some occupational areas in the table below will encompass jobs for which there are currently no standards or will be no standards (eg various types of mechanical engineers), and some of the roles within the occupational areas identified will fall out of scope of the Pathway (eg a number of roles classified as being Estimators, valuers and assessors will not sit within the Maintenance, Installation & Repair pathway).

This means that the 2023 employment numbers given in the jobs column below is the maximum possible ceiling of jobs in Cheshire and Warrington that will relate to currently developed IFATE standards in the Maintenance, Installation & Repair pathway.

On this basis, there are a maximum of c23k jobs in Cheshire and Warrington to which standards in the Maintenance, Installation & Repair Pathway relate. The occupations with more than 1,000 employed in 2023 in Cheshire and Warrington are:

- Vehicle technicians, mechanics and electricians
- Electricians and electrical fitters
- Metal working production and maintenance fitters
- Construction operatives n.e.c.
- Managers and directors in transport and distribution
- Estimators, valuers and assessors
- Engineering technicians
- Chemical and related process operatives
- Vehicle and parts salespersons and advisers
- Civil engineers
- Electrical and electronic trades n.e.c.

¹ Commissioned through Cheshire and Warrington LEP to support the LSIP process.

Jobs in Cheshire and Warrington in 2023 supported by standards in the IFATE Maintenance, Installation & Repair pathway

SOC2010 code	SOC2010 description	Jobs	Standard(s)
1161	Managers and directors in transport and distribution	1442	Road transport engineering manager
2121	Civil engineers	1134	Gas network craftsperson
2122	Mechanical engineers	902	Food and drink advanced engineer (integrated degree)
			Marine technical superintendent (degree)
2123	Electrical engineers	687	Electrical power protection and plant commissioning engineer
			Electrical power networks engineer
			Rail and rail systems principal engineer (integrated degree)
			Rail and rail systems senior engineer (integrated degree)
3113	Engineering technicians	1247	Science industry maintenance technician
			Utilities engineering technician
			Rail engineering advanced technician
			Rail engineering technician
			Rail engineering operative
			Maintenance and operations engineering technician
			Heritage engineering technician
			High speed rail and infrastructure technician
			Propulsion technician
			Compressed air and vacuum technician
			Healthcare engineering specialist technician
			Lead engineering maintenance technician
			Lift truck and powered access engineering technician
3531	Estimators, valuers and assessors	1320	Vehicle damage assessor
5221	Metal machining setters and setter-operators	862	Engineering operative
5223	Metal working production and maintenance fitters	3172	Lift and escalator electromechanic
			Stairlift, platform lift, service lift electromechanic
			Bicycle mechanic
			Construction equipment maintenance mechanic
			Commercial catering equipment technician
			Food and drink maintenance engineer

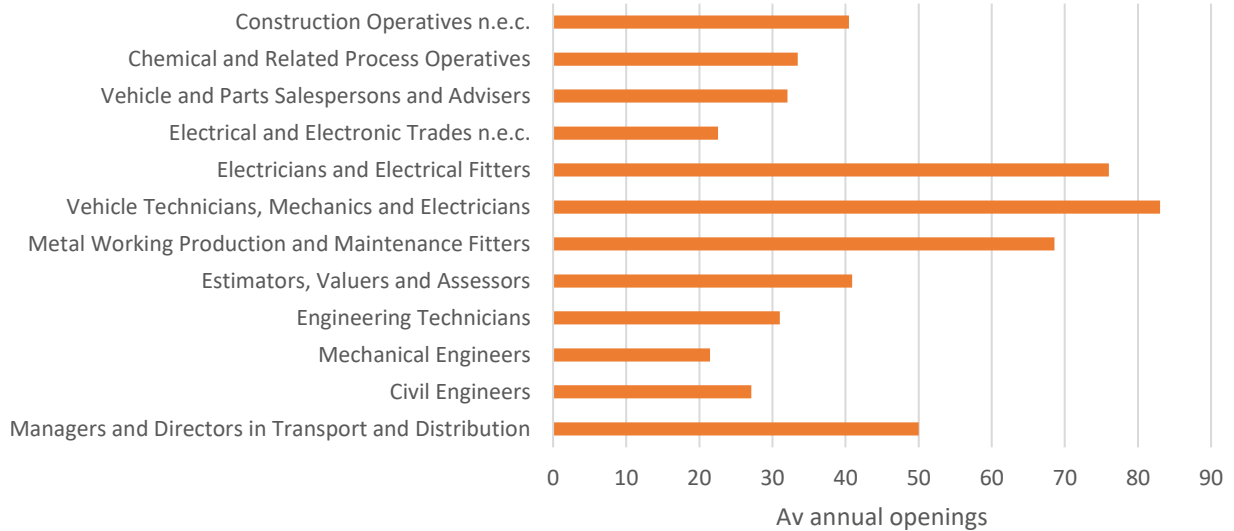
5231	Vehicle technicians, mechanics and electricians	3578	Motor vehicle service and maintenance technician (light vehicle)
			Motorcycle technician (repair and maintenance)
			Vehicle damage mechanical, electrical and trim (MET) technician
			Autocare technician
			Bus and coach engineering technician
			Heavy vehicle service and maintenance technician
5232	Vehicle body builders and repairers	491	Accident repair technician
5241	Electricians and electrical fitters	3495	Marine electrician
5249	Electrical and electronic trades n.e.c.	1077	Power network craftsperson
7115	Vehicle and parts salespersons and advisers	1139	Specialist tyre operative
8114	Chemical and related process operatives	1179	Gas network operative
8149	Construction operatives n.e.c.	1599	Water network operative
Source: Brennan Wilson Ltd analysis of IER and Lightcast data			

Occupational demand

In total, there are slightly less than 600 openings in these occupations each year, with the highest levels of demand each year being for:

- Metal Working Production and Maintenance Fitters
- Vehicle Technicians, Mechanics and Electricians
- Electricians and Electrical Fitters

Occupations linked to the Maintenance, installation and repair pathway with average annual openings >20 in Cheshire and Warrington



Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Analysis of Location Quotients (LQs) for occupations linked to the Maintenance, installation and repair pathway indicate that employment volumes in Cheshire and Warrington in these occupations is generally what might be expected from national employment levels, or slightly higher. The highest LQs are for:

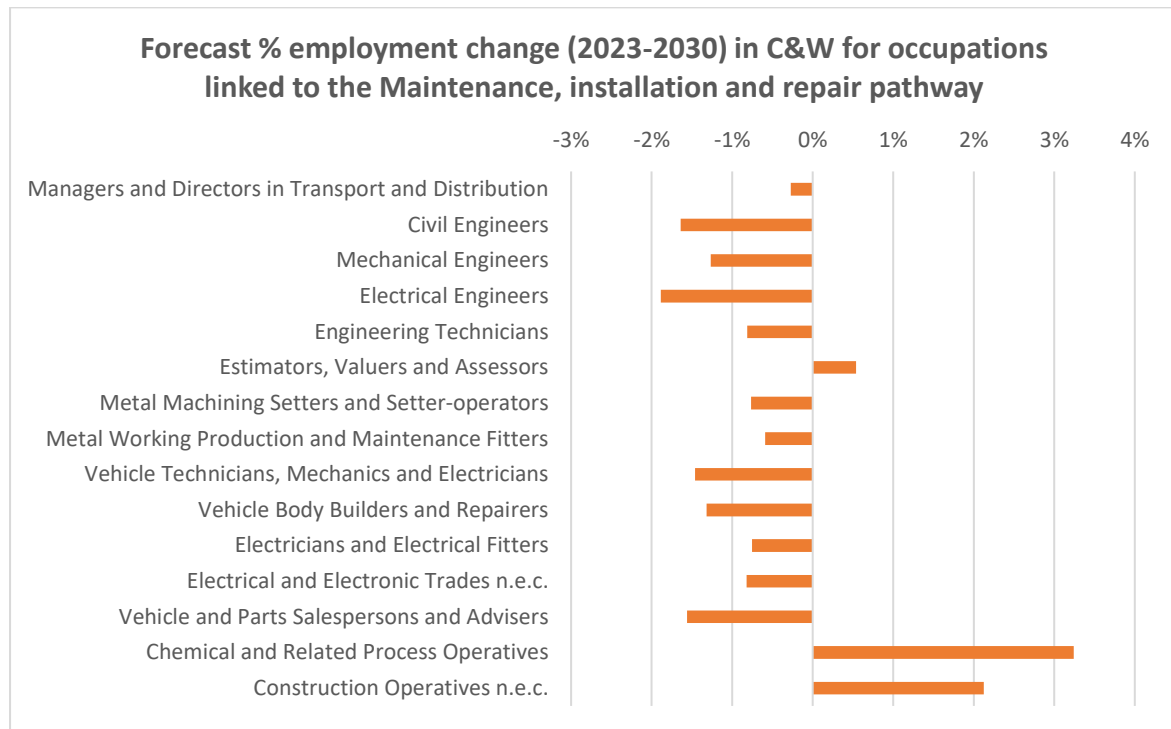
- Chemical and related process operatives (LQ 2.37)
- Vehicle Body Builders and Repairers (LQ 1.38) and
- Vehicle and Parts Salespersons and Advisers (LQ 1.35)

LQ of occupations in Cheshire and Warrington linked to the Maintenance, installation and repair pathway

	2023 Jobs	2023 Location Quotient
Managers and Directors in Transport and Distribution	1442	0.99
Civil Engineers	1134	1.01
Mechanical Engineers	902	0.90
Electrical Engineers	687	1.11
Engineering Technicians	1247	1.01
Estimators, Valuers and Assessors	1320	1.21
Metal Machining Setters and Setter-operators	862	1.04
Metal Working Production and Maintenance Fitters	3172	1.00
Vehicle Technicians, Mechanics and Electricians	3578	1.26
Vehicle Body Builders and Repairers	491	1.38
Electricians and Electrical Fitters	3495	0.99
Electrical and Electronic Trades n.e.c.	1077	0.87
Vehicle and Parts Salespersons and Advisers	1139	1.35
Chemical and Related Process Operatives	1179	2.37
Construction Operatives n.e.c.	1599	1.20

Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Employment in Cheshire and Warrington in occupations linked to the Maintenance, installation and repair pathway is forecast to remain relatively stable with all such occupations being +/- 3% in 2030 compared to 2023 levels.



Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Wages

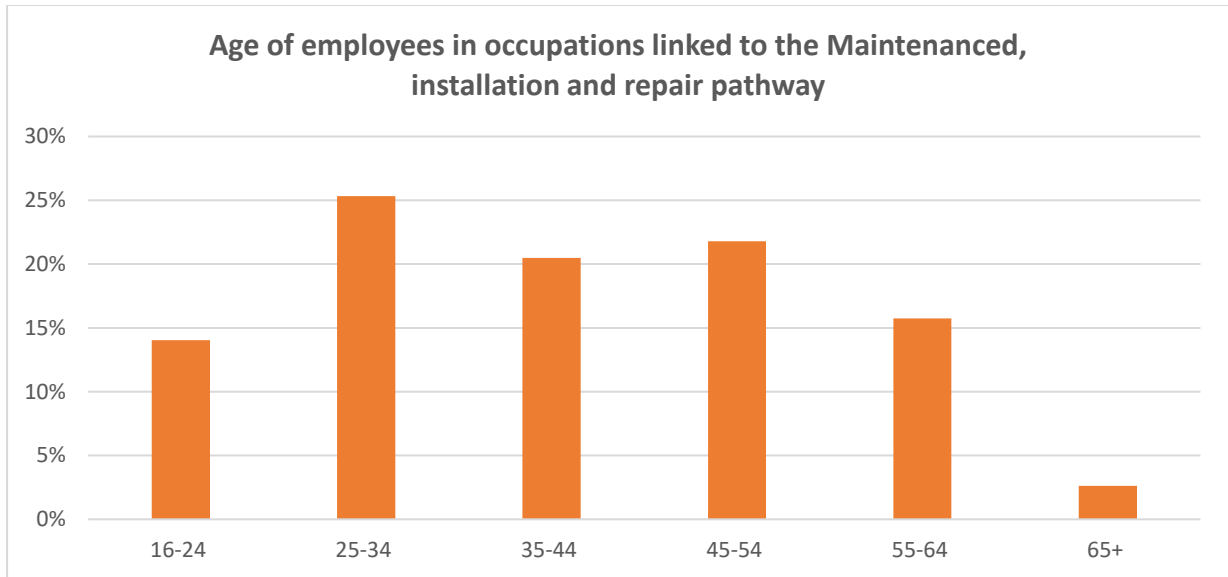
Most of the occupations linked to the Maintenance, installation and repair pathway pay median wages in excess of the median wages for all occupations in Cheshire and Warrington, which is £25.8k.

2023 Median wages in Cheshire and Warrington for occupations linked to the Maintenance, installation and repair pathway	
Managers and Directors in Transport and Distribution	£33,585
Civil Engineers	£34,138
Mechanical Engineers	£42,203
Electrical Engineers	£51,388
Engineering Technicians	£33,694
Estimators, Valuers and Assessors	£26,858
Metal Machining Setters and Setter-operators	£24,274
Metal Working Production and Maintenance Fitters	£31,388
Vehicle Technicians, Mechanics and Electricians	£27,280
Vehicle Body Builders and Repairers	£23,809
Electricians and Electrical Fitters	£30,932
Electrical and Electronic Trades n.e.c.	£34,003
Vehicle and Parts Salespersons and Advisers	£25,198
Chemical and Related Process Operatives	£29,890
Construction Operatives n.e.c.	£21,822

Source: Brennan Wilson Ltd analysis of IER and Lightcast data

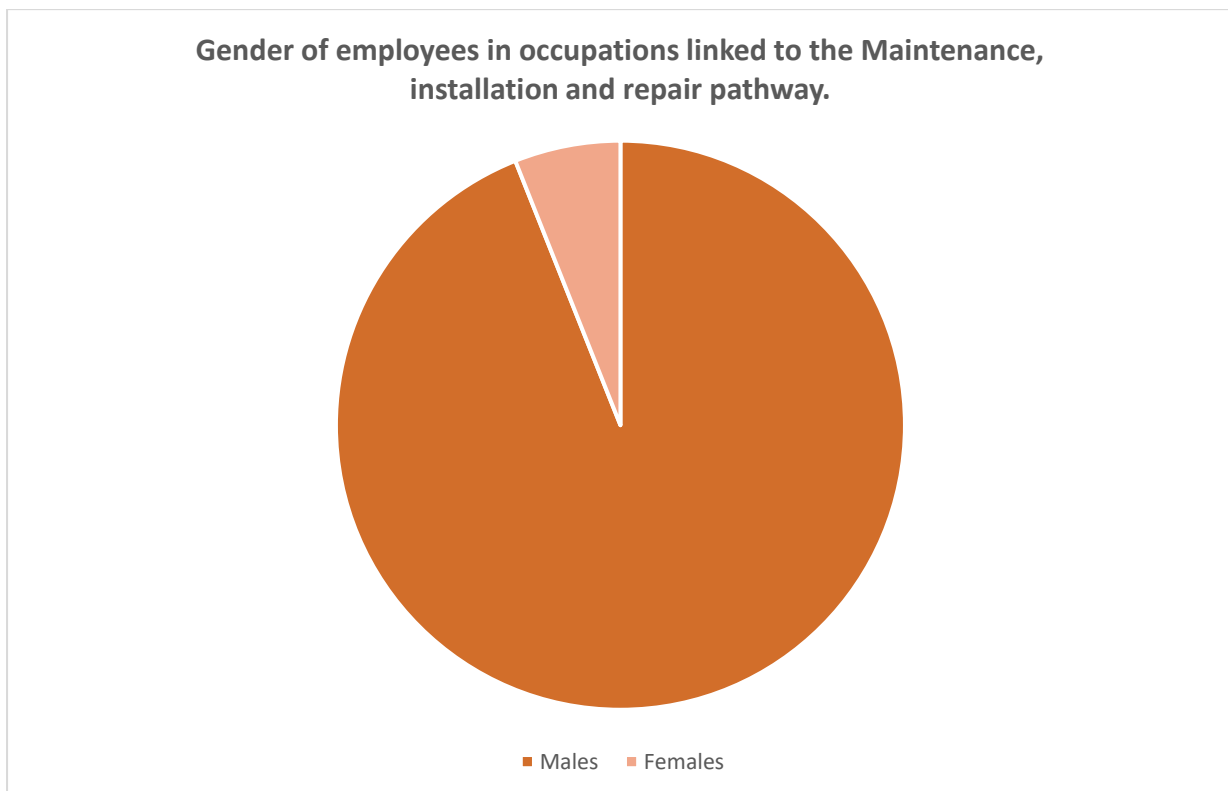
Age and gender

Nationally, 39% of those employed in occupations linked to the Maintenance, installation and repair pathway are aged 34 or below, just less than 20% are aged 55 or above.



Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Employment is significantly skewed to males. Nationally, almost 19 in 20 (94%) of all employment in occupations linked to the Maintenance, installation and repair pathway is of males.



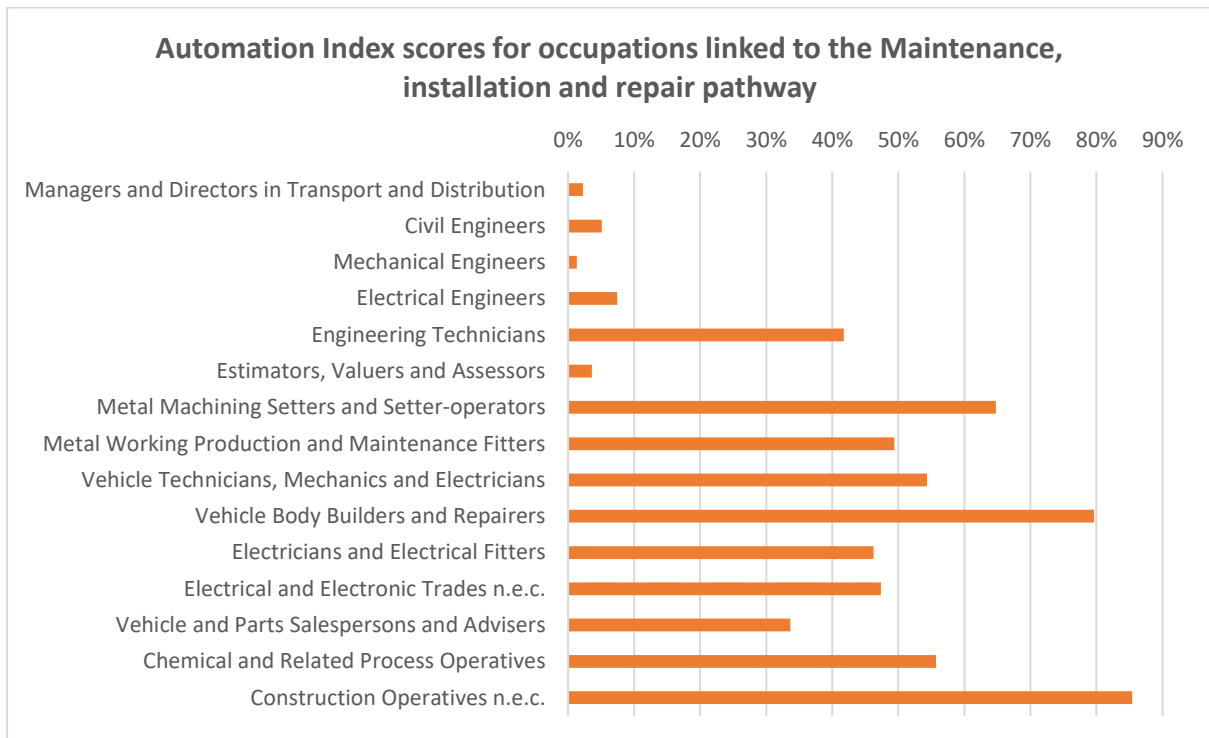
Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Automation Risk

The Lightcast UK Automation Index uses data from different sources to assess the proportion of working time spent in each occupation performing tasks which are at “high risk” of disruption through automation and other technological change anticipated over the next 20 to 30 years. Estimates of how much time is spent performing those tasks are constructed using the frequencies for different Work Activities in the US ONET database, and mapped across to UK SOC. The relationship between different 38 task categories and Frey and Osborne’s estimates of the “probability of computerisation” is used to classify each task category as high, middle, or low risk, depending on the significance and direction of that relationship.

The index is directly applicable as the amount of working time which could be disrupted by technological change; it ranges between 0% (no working time spent performing tasks at high risk) to 100% (all working time spent performing tasks at high risk).

The Automation Index scores for occupations linked to the Maintenance, installation and repair pathway are set out in the chart below. The majority of occupations linked to this pathway have Automation index scores greater than 40%.



Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Industry sectors

Three quarters (74%) of jobs in the occupations linked to the Maintenance, installation and repair pathway are in four industrial sectors:

- Manufacturing
- Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles
- Construction
- Professional, Scientific and Technical Activities

More than 1 in 10 of the jobs in the following sectors are in the occupations linked to the Maintenance, installation and repair pathway:

- Manufacturing
- Water Supply; Sewerage, Waste Management and Remediation Activities
- Electricity, Gas, Steam and Air Conditioning Supply
- Construction

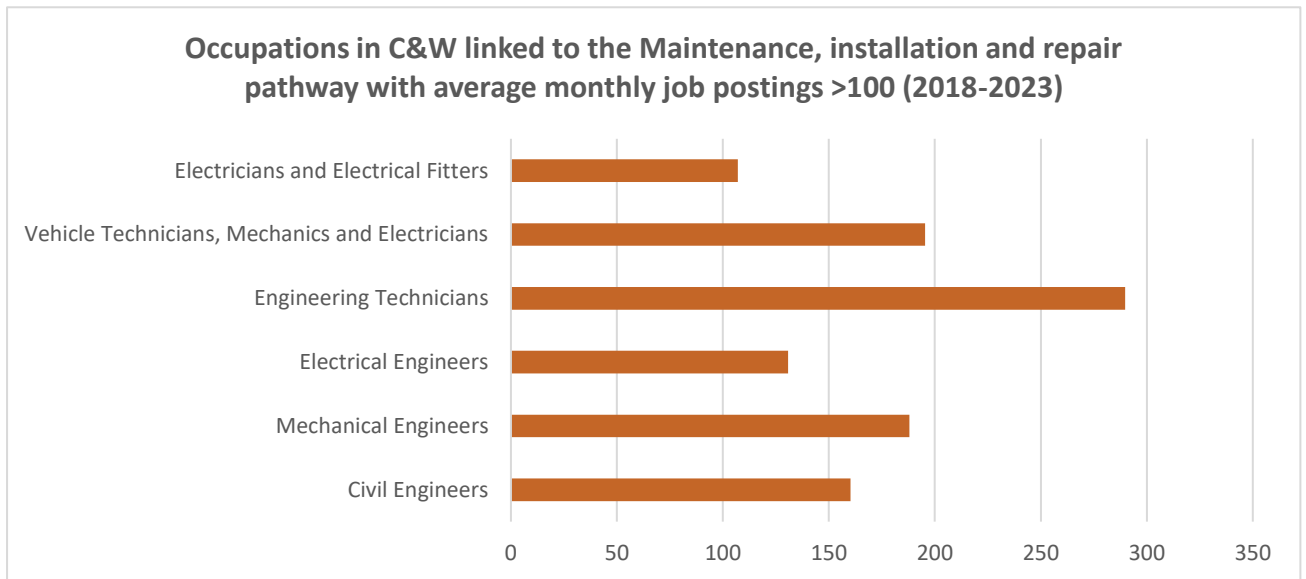
Distribution of occupations in C&W linked to the Maintenance, installation and repair pathway across industry sectors			
Industry	Volume of linked occupations in Industry	% of linked occupations in Industry (2021)	% of Total Jobs in Industry (2021)
Manufacturing	6885	29%	16%
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	4974	21%	6%
Construction	3039	13%	15%
Professional, Scientific and Technical Activities	2456	11%	4%
Transportation and Storage	1502	6%	6%
Administrative and Support Service Activities	1440	6%	3%
Water Supply; Sewerage, Waste Management and Remediation Activities	583	2%	14%
Financial and Insurance Activities	518	2%	2%
Human Health and Social Work Activities	375	2%	1%
Electricity, Gas, Steam and Air Conditioning Supply	335	1%	17%
Real Estate Activities	298	1%	4%
Public Administration and Defence; Compulsory Social Security	232	1%	1%
Other Service Activities	172	1%	2%
Education	131	1%	0%
Information and Communication	128	1%	1%
Accommodation and Food Service Activities	119	1%	0%
Arts, Entertainment and Recreation	95	0%	1%
Agriculture, Forestry and Fishing	25	0%	1%
Mining and Quarrying	15	0%	4%
Source: Brennan Wilson Ltd analysis of IER and Lightcast data			

Job postings

There were six occupations linked to the Maintenance, installation and repair pathway that averaged more than 100 unique job postings per month in Cheshire and Warrington in the five years to March 2023. These were:

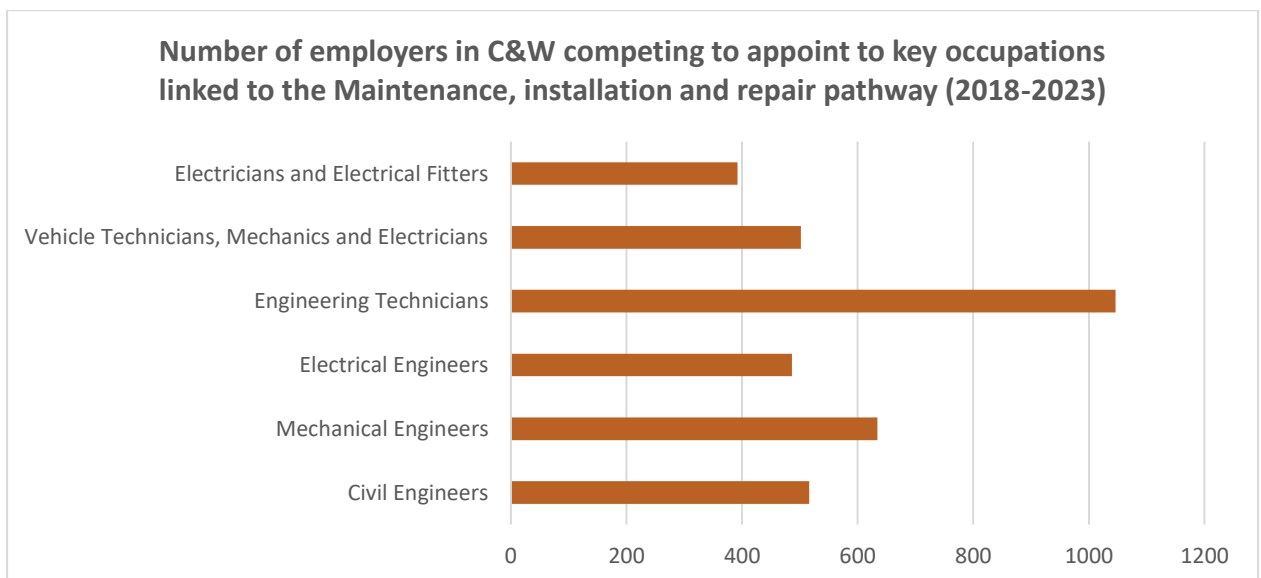
- Civil Engineers
- Mechanical Engineers

- Electrical Engineers
- Engineering Technicians
- Vehicle Technicians, Mechanics and Electricians
- Electricians and Electrical Fitters



Source: Brennan Wilson Ltd analysis of IER and Lightcast data

The number of employers in Cheshire and Warrington competing to appoint to these key occupations over this time ranged from 1046 for Engineering Technicians to 392 for Electricians and electrical fitters.

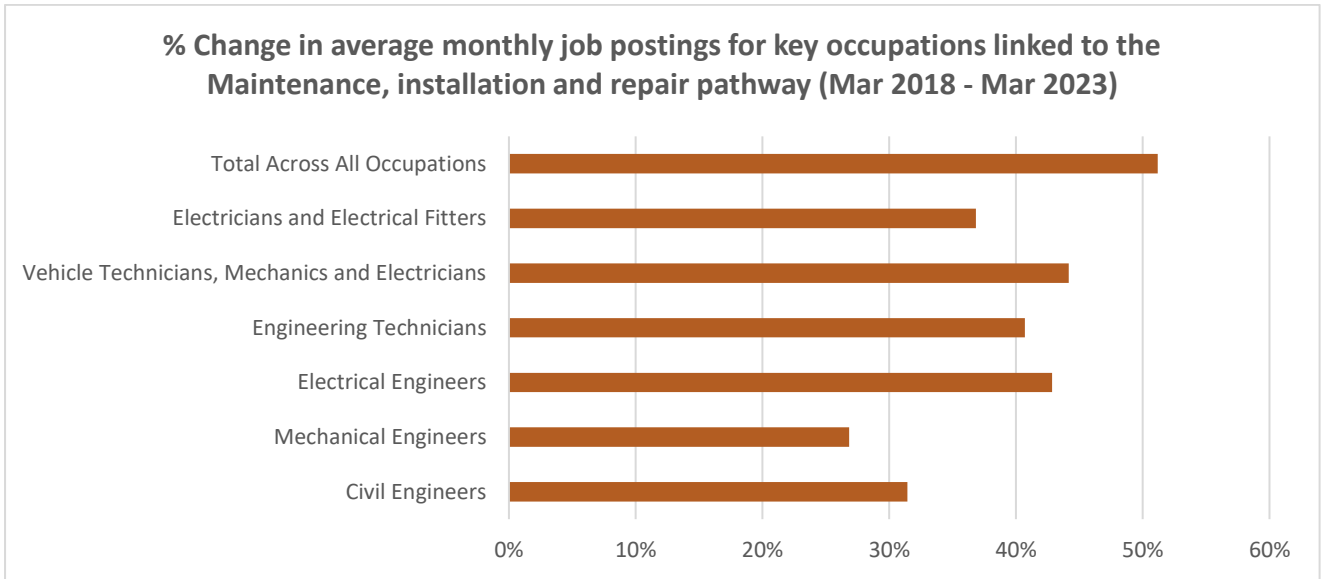


Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Overall there was an increase of 51% in the unique monthly postings for occupations linked to the Maintenance, installation and repair pathway over 5 years. Every linked occupation saw an increase over this time. Of the linked occupations with the highest employment volumes in Cheshire and Warrington, three occupational areas saw increases above 40% in this time:

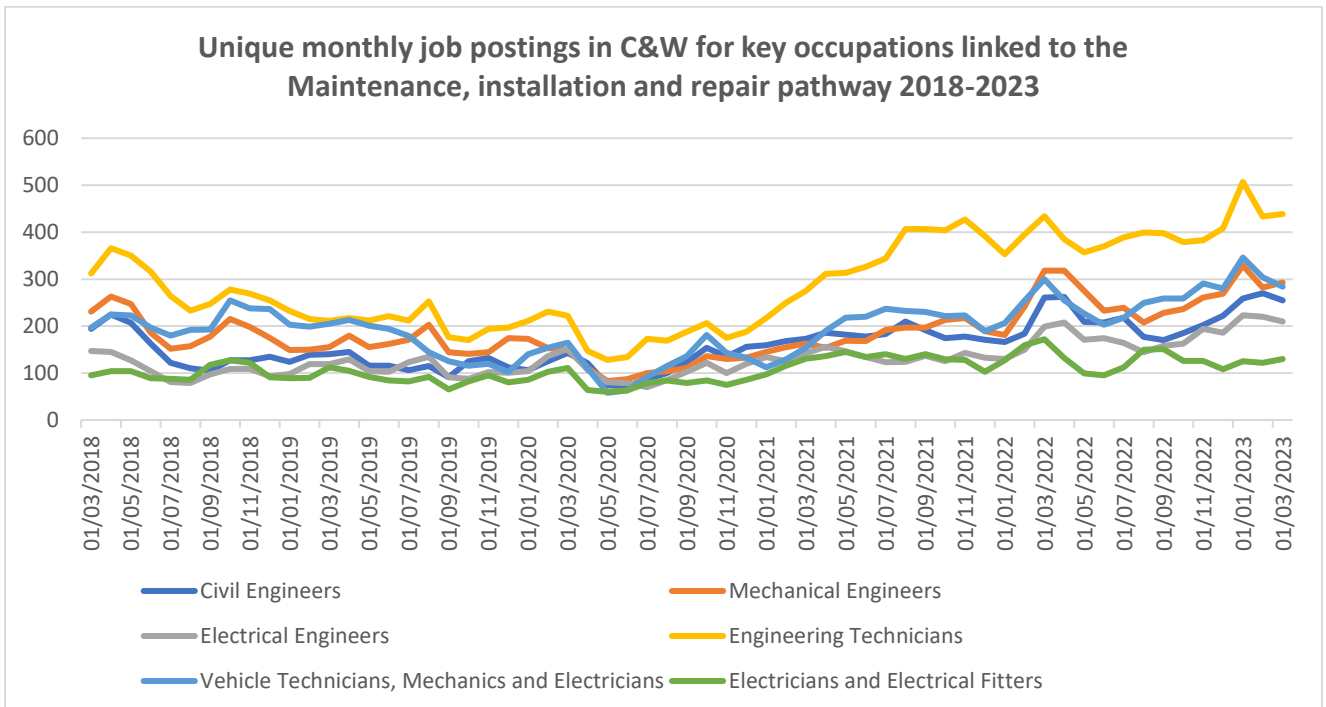
- Electrical Engineers

- Engineering Technicians
- Vehicle Technicians, Mechanics and Electricians



Source: Brennan Wilson Ltd analysis of IER and Lightcast data

The trend chart below shows a steady increase in demand for key occupations linked to the Maintenance, installation and repair pathway following the pandemic.



Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Specialised skills

The table below shows the top specialised skills sought by employers in job postings for occupations linked to the Maintenance, installation and repair pathway. The three most sought after specialised skills were:

- Mechanical Engineering
- Electrical Engineering
- Maintenance Engineering

There was generally a higher demand in Cheshire and Warrington than nationally for specialised skills, with the following skills having the highest location quotients:

- Mechanical Engineering
- AutoCAD
- Engineering Design Process
- Programmable Logic Controllers
- Vehicle Maintenance
- Control Systems
- Automation

Top specialised skills sought in job postings in C&W for occupations linked to the Maintenance, installation and repair pathway			
	C&W Postings	National Average	LQ
Mechanical Engineering	4207	3045	1.38
Electrical Engineering	2943	2525	1.17
Maintenance Engineering	2821	2709	1.04
Machinery	2788	2723	1.02
AutoCAD	1662	1226	1.36
Engineering Design Process	1608	834	1.93
Field Service Management	1495	1713	0.87
Risk Analysis	1277	1055	1.21
Commissioning	1261	996	1.27
Programmable Logic Controllers	1234	661	1.87
Vehicle Maintenance	1211	897	1.35
Civil Engineering	1191	1203	0.99
Hydraulics	1134	944	1.20
Electrical Wiring	1109	1102	1.01
Mechanical Design	1097	984	1.11
Construction	1093	950	1.15
Control Systems	1069	708	1.51
Automation	1065	784	1.36
Project Engineering	1025	851	1.20
Electrical Systems	929	743	1.25
Source: Brennan Wilson Ltd analysis of IER and Lightcast data			

Common skills

The table below shows the top common skills sought by employers in job postings for occupations linked to the Maintenance, installation and repair pathway. The three most sought after common skills were:

- Communications
- Management
- Customer service

There was a generally higher demand in Cheshire and Warrington than nationally for common skills, with the following skills having the highest location quotients:

- Self-Motivation
- Leadership
- Innovation
- Mentorship
- Willingness To Learn

Top common skills sought in job postings in C&W for occupations linked to the Maintenance, installation and repair pathway

	C&W Postings	National Average	LQ
Communications	7089	6440	1.10
Management	4560	3922	1.16
Customer Service	3975	3658	1.09
Problem Solving	2564	2241	1.14
Planning	2350	1967	1.19
Self-Motivation	2204	1686	1.31
Operations	2133	1987	1.07
Detail Oriented	2074	1952	1.06
Sales	1595	1583	1.01
Leadership	1505	1089	1.38
Mathematics	1257	997	1.26
Innovation	1239	889	1.39
Enthusiasm	1189	936	1.27
Interpersonal Communications	1131	885	1.28
Organizational Skills	1104	908	1.22
Microsoft Office	1078	824	1.31
Computer Literacy	1064	920	1.16
Mentorship	919	667	1.38
Willingness To Learn	903	688	1.31
Time Management	900	804	1.12

Source: Brennan Wilson Ltd analysis of IER and Lightcast data

Software skills

The table below shows the top software skills sought by employers in job postings for occupations linked to the Maintenance, installation and repair pathway. The three most sought after software skills were:

- Microsoft Excel
- Microsoft Office
- AutoCAD

There was a higher demand in Cheshire and Warrington than nationally for many software skills. The software skills with the highest location quotients were:

- AutoCAD
- Microsoft Office
- SAP Applications
- Windows Servers
- Profibus
- Aruba (Network Management Software)
- Tekla (BIM Software)

Top software skills sought in job postings for occupations linked to the Maintenance, installation and repair pathway			
	Unique Postings	National Average	LQ
AutoCAD	1662	1226	1.36
Microsoft Office	1078	824	1.31
Microsoft Excel	851	737	1.15
Microsoft Outlook	504	401	1.26
SolidWorks (CAD)	406	506	0.80
Autodesk Revit	393	306	1.28
SAP Applications	375	276	1.36
Windows Servers	338	247	1.37
Active Directory	317	257	1.23
Microsoft PowerPoint	307	284	1.08
Microsoft Azure	276	296	0.93
Microsoft Word	263	225	1.17
Design Software	242	239	1.01
Microsoft Office 365	227	195	1.16
Operating Systems	215	212	1.01
Firewall	193	161	1.20
Profibus	182	48	3.76
Aruba (Network Management Software)	156	70	2.23
Tekla (BIM Software)	155	114	1.36
Amazon Web Services	149	172	0.87
Source: Brennan Wilson Ltd analysis of IER and Lightcast data			

Spatial demand

The table below sets out the volume of job postings in Cheshire and Warrington between March 2018 and March 2023, by place, for occupations linked to the Maintenance, installation and repair pathway. Warrington, Chester, and Crewe all saw in excess of 4,000 unique postings for these types of occupation.

Places with the highest volume of job postings for occupations linked to the Maintenance, installation and repair pathway, 2018-2023			
City	Total Postings	Unique Postings	Median Posting Duration
Warrington	35151	12802	32 days
Chester, Cheshire West and Chester	16321	6383	32 days
Crewe, Cheshire East	11210	4383	31 days
Ellesmere Port, Cheshire West and Chester	4719	2043	33 days
Macclesfield, Cheshire East	4125	1787	31 days
Knutsford, Cheshire East	3557	1393	32 days
Northwich, Cheshire West and Chester	2545	1031	31 days
Winsford, Cheshire West and Chester	2335	870	32 days
Congleton, Cheshire East	1460	594	33 days
Wilmslow, Cheshire East	1259	570	32 days
Nantwich, Cheshire East	1171	481	31 days
Middlewich, Cheshire East	1073	471	34 days
Sandbach, Cheshire East	716	295	34 days
Frodsham, Cheshire West and Chester	281	131	32 days
Alderley Edge, Cheshire East	238	123	36 days
Poynton, Cheshire East	226	117	32 days
Lymm, Warrington	225	81	31 days
Neston, Cheshire West and Chester	114	56	30 days
Malpas, Cheshire West and Chester	52	40	27 days
Tarporley, Cheshire West and Chester	59	39	31 days
Great Sankey, Warrington	73	37	16 days
Disley, Cheshire East	57	18	30 days
Latchford, Warrington	22	13	34 days

Source: Brennan Wilson Ltd analysis of IER and Lightcast data