

**CONSTRUCTION SKILLS NETWORK**

# The skills construction needs



**Scotland**

Five Year Outlook 2023-2027



# SCOTLAND

The volume of construction work in Scotland will grow, slightly below the UK forecast of 1.5% by an annual average rate of

↑ **1.0%**

Main sectors of demand

↑ **Infrastructure**      **Repair & maintenance work**  
**Private housing**

The occupations with the strongest additional recruitment requirement levels:

↑ **Labourers** (760 per year)  
**Other construction professionals and technical staff** (710 per year)  
**Electrical trades** (680 per year)

Scottish Water's capital investment plans for water and waste services, estimated between 2021 and 2027 to total more than

⊕ **£5bn**

⊕ **Offshore wind farms, such as Moray West** (882MW)



Key facts and figures

2022

2023

2024

2025

2026

2027

2028

2029

The annual recruitment requirement rate in Scotland of 1.7% per year is the same as the UK and means an extra 19,550 workers will need to be recruited from 2023 to 2027.



# UK Macroeconomic backdrop

Having bounced-back in 2021, with an annual increase in gross domestic product (GDP) of 7.5%, **the UK's economic growth in 2022 slowed** in the first half of the year, before declining by -0.2% in Q3. November's monthly data release points to the UK entering a recession by the end of 2022, when, as forecast, there will have been two consecutive quarters of declines in GDP.

The economic challenges were highlighted by monthly GDP at the end of September 2022 being 0.2% below its pre-pandemic level (February 2020), and in real terms, the UK is the only G7 economy where a shortfall relative to its pre-pandemic level exists. The S&P Global/CIPS Purchasing Managers Indices (PMI) shows business activity declining for three consecutive months as the UK composite index fell to 47.2 in October from 49.1 in September and 49.6 in August, with a reading of less than 50 indicating a decline.

Inflationary pressure on household budgets continues to drive up Consumer Price Index (CPI) inflation, which hit a 41-year high of 11.1% annually in October 2022. Inflation is expected to remain high well into the first half of 2023 and tackling this, while keeping mortgage rises down, is a priority for Government. However, as set out in the 2022 Autumn Statement, this requires difficult decisions to address Government debt and deficit through a combination of tax rises and controlling public sector spending.

The prevailing view of independent forecasters, the Bank of England (BoE), the Office for Budget Responsibility (OBR) and the UK's Chancellor when delivering his Autumn Statement in parliament, is that the UK is set to face a period of recession with GDP declines

through 2023 and possibly into 2024, before the economy then begins to pick up. However, the suggestion is that it will be a shallower recession when compared to the recent falls seen during 2020 and 2008.

While the UK economic conditions in 2022 were challenging, construction output held up better than expected. When GDP declined by -0.2% in Q3, construction output increased by 0.6% and is on track to show an annual increase of over 4% by the end of 2022, with new housing and repair and maintenance sectors being key contributors. However, growth has increasingly been driven by the backlog of work as new orders have fallen and are now at their weakest since June 2020.

It's unlikely that construction output will continue to outperform the economy, which is why we are expecting a decline in output during 2023 that picks up in 2024. The commercial, infrastructure and industrial sectors look set to weather this slightly better than new housing or housing repair and maintenance. Housing repair and maintenance work is likely to be squeezed as households reprioritise their spending, and there are signs of a slowdown in the housing market with fewer new buyer enquiries and a reduction in mortgage approvals.

We still see the construction industry having a long-term challenge when it comes to recruiting workers. Vacancy levels remained high throughout 2022, unemployment rates are low, inactivity due to ill health is rising, and construction will be competing against other industries to attract and retain the workers it needs.

Although the next five years will see a period of recession followed by slow growth, the UK construction industry will still account for at least 6% of UK GDP, have an annual output value of over £170bn and a workforce of over 2.6m. Recruiting and developing the workforce for the future will help to ensure that the industry is able to contribute to growth opportunities such as building the volume of homes the country needs, the infrastructure for energy and transport, and retrofitting the built environment to meet net zero targets.

**THE UK IS THE ONLY  
G7 ECONOMY WHERE A  
SHORTFALL RELATIVE  
TO ITS PRE-PANDEMIC  
LEVEL EXISTS.**

# Structure

The construction industry in **Scotland** has some significant differences to the UK structure.

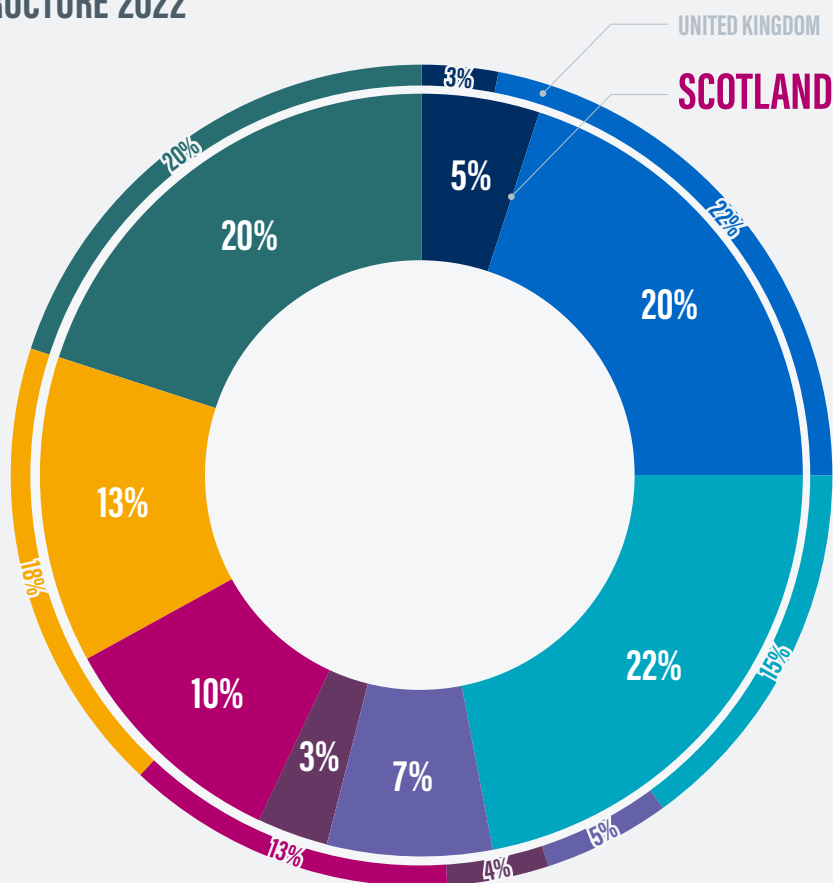
The construction industry in Scotland has 12,835 businesses<sup>1</sup> with more than one employee, which is 13% of all employers in Scotland. In 2022 the industry is estimated to have total output of nearly £15bn which is structured as shown in the chart. Scotland continues to have some notable difference to the UK view with infrastructure work accounting

for 22% of total output. Infrastructure work remains important for Scotland as it has been one of the leading sectors since 2015. As public housing and non-housing new build also account for higher shares of output, it highlights that Scottish Government capital investment plans will be important for these sectors.

Housing repair and maintenance work has stayed at 13% of total output, which is lower than the UK figure of 18%. Scotland saw a 30% drop in work for this sector during 2020, compared to a UK drop of nearly 14%, and it hasn't recovered in 2021 or 2022.

## CONSTRUCTION INDUSTRY STRUCTURE 2022 SCOTLAND VS UK

- Public housing
- Private housing
- Infrastructure
- Public non-housing
- Industrial
- Commercial
- Housing R&M
- Non-housing R&M



Infrastructure output

# 22%

# 2022 view

Total annual output 2022

**£14.9bn**

Total estimated output 2023

**£14.7bn**



In 2022, construction output in Scotland is expected to grow by 3.5%, stabilising from the 15% growth seen in 2021.

# 2022 view

There was a strong pick up in work during 2021 with output growing by just over 15% and ending the year slightly below pre-covid levels.

Growth continued into 2022, although at a slower rate, and we estimate that end of year figures for Scotland will show an increase in output of around 3.5%, which would be slightly above pre-covid levels. Private housing and growth in repair & maintenance work are the main contributors to the increase, while output levels in the infrastructure, commercial

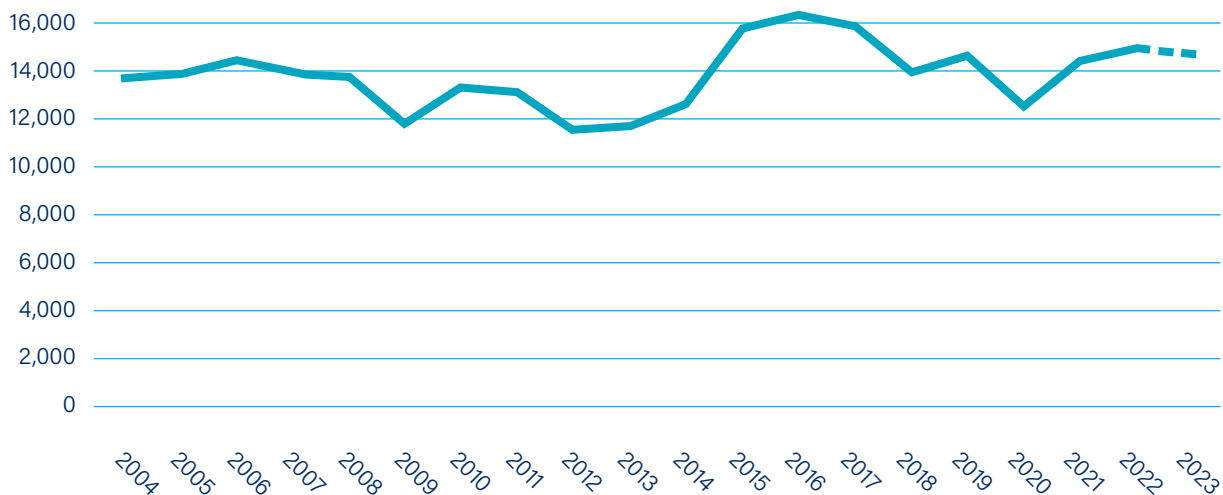
and housing repair & maintenance sectors have remained steady.

Looking forward into 2023, we're forecasting a slight drop in construction output due to the expected recession the UK and Scotland are facing.

## CONSTRUCTION OUTPUT 2004 - 2023 SCOTLAND

Source: ONS  
Ref: CSN explained, Section 4: Note 1

£m, constant 2019 prices



## OUTPUT FORECAST 2023 - 2027

The volume of work will grow by an annual average rate of 1.0% for Scotland, which is slightly below the UK rate of 1.5%<sup>2</sup> and a downward revision when compared to the previous 2022-2026 outlook. Long term growth rates are expected to be similar for new work and R&M, and although most sectors are expected to show some growth, it will be modest over the forecast. In general, 2023 and 2024

are likely to be challenging years for the construction industry, and especially for private housing and housing R&M work. From 2024, the industry returns closer to the longer-term growth trends that have been seen we move out of the expected recession.

Although the industrial sector has the highest annual average growth rate (2.6%), the higher volumes of work in the

infrastructure, private housing and R&M sectors means that they will contribute more towards in the gains in output.

Average growth rate for Scotland

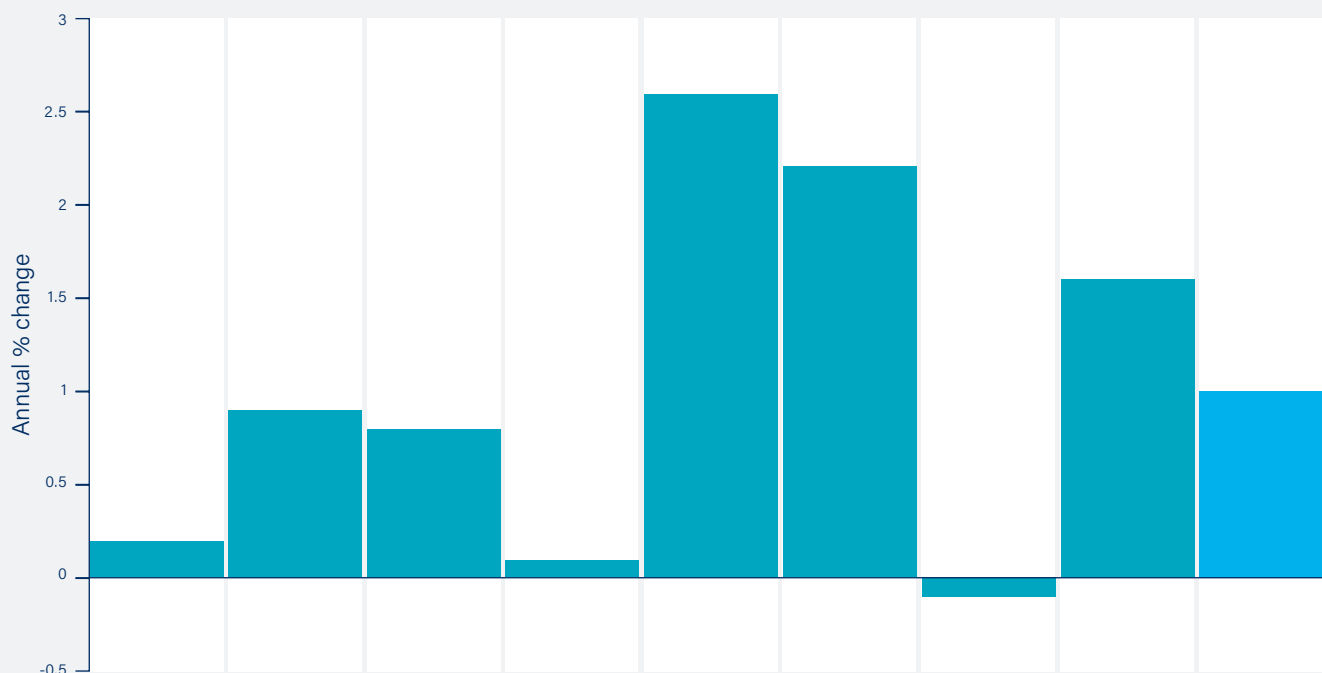
**1.0%**

# Forecast

## ANNUAL AVERAGE OUTPUT GROWTH BY SECTOR 2023-2027 SCOTLAND

Source: Experian  
Ref: CSN Explained, Section 4, Note 2

Public housing	Private housing	Infrastructure	Public non-housing	Industrial	Commercial	Housing R&M	Non-housing R&M	Total work
<b>0.2%</b>	<b>0.9%</b>	<b>0.8%</b>	<b>0.1%</b>	<b>2.6%</b>	<b>2.2%</b>	<b>-0.1%</b>	<b>1.6%</b>	<b>1.0%</b>



## CONSTRUCTION OUTPUT - SCOTLAND (£ MILLION, 2019 PRICES)

Source: Experian  
Ref: CSN Explained, Section 4, Note 2

	Forecast	Forecast (Annual % change, real terms)					Annual average
	2022	2023	2024	2025	2026	2027	2023-2027
Public housing	730	-5.8%	1.1%	1.7%	2.1%	2.1%	0.2%
Private housing	2,917	-0.8%	0.8%	1.4%	1.6%	1.7%	0.9%
Infrastructure	3,278	-0.9%	1.2%	1.7%	0.9%	0.8%	0.8%
Public non-housing	981	-4.6%	0.6%	1.0%	1.7%	1.9%	0.1%
Industrial	477	6.3%	3.8%	0.5%	1.2%	1.2%	2.6%
Commercial	1,547	1.8%	1.9%	2.4%	2.4%	2.3%	2.2%
<b>New work</b>	<b>9,930</b>	<b>-0.8%</b>	<b>1.3%</b>	<b>1.6%</b>	<b>1.5%</b>	<b>1.5%</b>	<b>1.0%</b>
Housing R&M	1,963	-3.4%	-0.2%	0.5%	1.3%	1.5%	-0.1%
Non-housing R&M	3,007	0.0%	1.4%	2.5%	1.9%	2.0%	1.6%
<b>Total R&amp;M</b>	<b>4,970</b>	<b>-1.3%</b>	<b>0.8%</b>	<b>1.7%</b>	<b>1.7%</b>	<b>1.8%</b>	<b>0.9%</b>
<b>Total work</b>	<b>14,900</b>	<b>-1.0%</b>	<b>1.1%</b>	<b>1.6%</b>	<b>1.6%</b>	<b>1.6%</b>	<b>1.0%</b>

The annual average growth rate is the rate of growth between the end of 2022 and the end of 2027, i.e., a five-year period.



# Infrastructure activity continues to provide a steady stream of work for Scotland for both new work along with repair & maintenance activity.

There is a range of projects such as the new River Clyde Bridge, improvements to the A83 at Rest & Be Thankful, dual carriageway improvements to the A9, offshore wind developments such as Moray West, Scottish Water's £5bn capital investment plans, £200m towards Scottish Gas Networks mains replacement and the £25m project to develop a hydrogen demonstration network in Fife.


In terms of private housing, the re-development of a key site on Leith Walk in Edinburgh began in July 2022. The first phase of construction will see the construction of 110 build-to-rent apartments which are due to be completed by spring of 2024. In East Ayrshire, the local council has approved the Strategic Housing Investment Plan 2021-26, totalling £154m, with plans to deliver up to 1,200 affordable homes for East Ayrshire Council, as well as registered social landlord partners throughout the area. In August 2022, work began on a development in Bridgehousehill in Kilmarnock where 101 new affordable homes will be built.

For other sectors, work began in July on Fife College's new Dunfermline campus, located on a 58-acre purpose-built low carbon site in the eastern expansion area and is due to open in time for the 2024/25 academic year. The build is part of the proposed Dunfermline Learning Campus – a venture to relocate Fife College's Dunfermline Campus, St Columba's RC High School and Woodmill High School to a purpose-built new campus, at a cost of £220m.


NHS Ayrshire & Argyll have chosen Kier to deliver a £16m new mental health inpatient facility at Ayrshire Central Hospital in Irvine. The facility will be a medium secure adolescent inpatient service for young people aged 12-18 and the first of its kind in Scotland.

 Scottish Water's capital investment plans

**£5bn**

 Affordable homes for East Ayrshire Council

**£154m**

 Dunfermline's new purpose-built campus

**£220m**

# Workforce<sup>3</sup> forecast

The construction workforce in Scotland isn't expected to change that much over the next five years.

The low level of output growth in Scotland means that the construction workforce isn't expected to change that much over the next five years, with a very marginal average decline of -0.1%. This is a pattern we're seeing in other nations and regions of the UK, and the UK is expected to show a very marginal increase of +0.1% for average workforce growth over the next five years.

We estimate that Scotland's construction workforce will increase slightly in 2022 to 231,400 before dropping to 230,700 in 2023 and remaining around this level through to 2027. This very slight variance is best viewed as the workforce levels staying static over the forecast.

## TOTAL WORKFORCE BY OCCUPATION - SCOTLAND

	Actual	Estimate	Forecast	
	2021	2022	2023	2027
Senior, executive, and business process managers	14,400	14,400	14,400	14,500
Construction project managers	3,900	3,900	3,900	3,900
Other construction process managers	15,800	15,600	15,000	16,100
Non-construction professional, technical, IT, and other office-based staff	34,700	34,800	34,700	35,500
Construction trades supervisors	3,900	4,000	4,000	4,100
Wood trades and interior fit-out	20,700	21,000	21,100	20,200
Bricklayers	5,100	5,400	5,400	5,100
Building envelope specialists	3,700	3,800	3,900	3,700
Painters and decorators	7,500	7,500	7,400	7,000
Plasterers	3,500	3,500	3,500	3,400
Roofers	4,100	4,000	3,900	3,900
Floorers	3,100	2,900	2,800	2,700
Glaziers	1,900	1,900	1,900	1,900
Specialist building operatives nec*	3,800	3,700	3,600	3,400
Scaffolders	3,300	2,800	2,700	2,800
Plant operatives	4,400	4,700	4,700	5,100
Plant mechanics/fitters	4,100	4,100	4,200	4,100
Steel erectors/structural fabrication	2,600	2,700	2,700	2,700
Labourers nec*	11,400	11,600	11,700	11,800
Electrical trades and installation	20,300	20,300	20,500	19,900
Plumbing and HVAC Trades	10,400	10,000	9,900	9,900
Logistics	2,300	2,300	2,400	2,200
Civil engineering operatives nec*	2,900	3,000	3,000	3,100
Non-construction operatives	3,600	3,700	3,700	3,700
<b>Total (SIC 41-43)</b>	<b>191,400</b>	<b>191,800</b>	<b>191,000</b>	<b>190,800</b>
Civil engineers	6,700	7,000	7,000	7,300
Other construction professionals and technical staff	22,500	22,100	22,000	21,600
Architects	3,200	3,300	3,400	3,500
Surveyors	7,200	7,200	7,300	7,200
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>231,000</b>	<b>231,400</b>	<b>230,700</b>	<b>230,500</b>

Source: ONS, CSN, Experian  
Ref: CSN Explained, Section 4, Notes 5 and 6

# Annual Recruitment Requirement (ARR)

While the workforce levels are remaining static, there is still a need for the construction industry in Scotland to increase its recruitment of new workers. In a typical year, Scotland's construction industry would recruit between 14,000 – 18,500 workers, the usual the movement of people into and out of the industry or workforce churn. When looking at the future recruitment demand, we recognise that a level of churn will always take place and take this into account to producing the ARR figure.

Scotland's ARR value of 3,910 workers per year, represents 1.7% of the 2022 workforce, which is the same rate seen in the UK. With output levels dropping and the workforce remaining static, it's to be expected that the ARR value would reduce when compared to the 2022-2026 outlook, however, it also shows that the industry will have to increase recruitment to maintain its level.

**The following occupations have some of the strongest recruitment requirements values:**

- Labourers (760 per year)
- Other construction professionals and technical staff (710 per year)
- Electrical trades (680 per year)

## ARR BY OCCUPATION – SCOTLAND

	ARR as % of 2022 workforce	ARR value per year
Senior, executive, and business process managers	-	-
Construction Project Managers	-	-
Other construction process managers	1.7%	270
Non-construction professional, technical, IT, and other office-based staff	0.5%	190
Construction Trades Supervisors	-	-
Wood trades and interior fit-out	-	-
Bricklayers	-	-
Building envelope specialists	-	-
Painters and decorators	-	-
Plasterers	-	-
Roofers	5.0%	200
Floorers	-	<50
Glaziers	4.2%	80
Specialist building operatives nec*	-	-
Scaffolders	3.6%	100
Plant operatives	-	-
Plant mechanics/fitters	-	-
Steel erectors/structural fabrication	-	-
Labourers nec*	6.6%	760
Electrical trades and installation	3.3%	680
Plumbing and HVAC Trades	-	-
Logistics	4.3%	100
Civil engineering operatives nec*	-	-
Non-construction operatives	-	-
<b>Total (SIC 41-43)</b>		<b>2,380</b>
Civil engineers	6.1%	430
Other construction professionals and technical staff	3.2%	710
Architects	5.2%	170
Surveyors	3.0%	220
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>1.7%</b>	<b>3,910</b>

Source: ONS, CSN, Experian  
Ref: CSN Explained, Section 4, Notes 5 and 6

However, there would also be pressure on civil engineers, architects and roofers where demand is high compared to their workforce level. For occupations that have no ARR value on the table, indication is that recent levels of recruitment will be able to meet future need if they are maintained.

When looking at the workforce and ARR forecasts it is important to note that in 2022, Scotland, like other areas of the UK has continued to see a high level of construction job vacancies, with companies having difficulty in finding suitably skilled workers. This has led to skills shortages being reported over a range of occupations and wage rates increasing as companies look to attract workers.

While there are indications of a drop in construction vacancies towards the end of 2022, levels are still well above what was reported at the end of 2019/start of 2020, therefore we expect the labour market will continue to be highly competitive for the foreseeable future.



To fill vacancies and recruit new staff, construction companies can look at several routes such as:

**Attracting skilled workers who are already working elsewhere** in the construction industry, although this obviously moves existing workers around rather than meet overall industry need

**Attracting skilled workers who have left the industry** back into construction. This would be either those who have left to work in other industries or those that have become unemployed/inactive

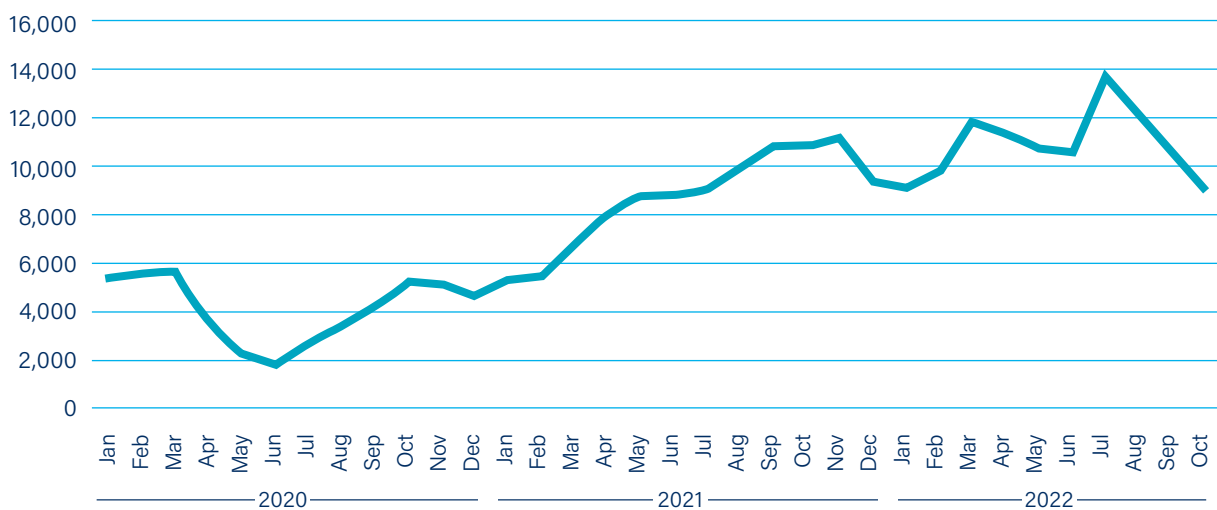
**Recruiting and training new entrants into construction** from those leaving school, further education, higher education or migration

**Improving the retention of workers** within the industry

Looking at **how productivity can be improved.**

## MONTHLY UNIQUE ONLINE JOB POSTINGS - SCOTLAND

Source: Lightcast, main construction occupations, Scotland



Responding to the skills shortage is likely to require a mix of options, as the continued strength of the jobs market, and relatively low levels of unemployment means competition for workers.

The strength of the jobs market has been influenced by relatively low levels of unemployment (3.3%) and an increasing proportion of people who are classed as being economically inactive. This shift in people being economically inactive looks to be focused on a few areas with a noticeable increase in people over 50 years of age becoming inactive along with an increase in people with long-term illness. The net effect is that the pool of available workers that all industries are looking to recruit within has been squeezed, leading to increased competition.

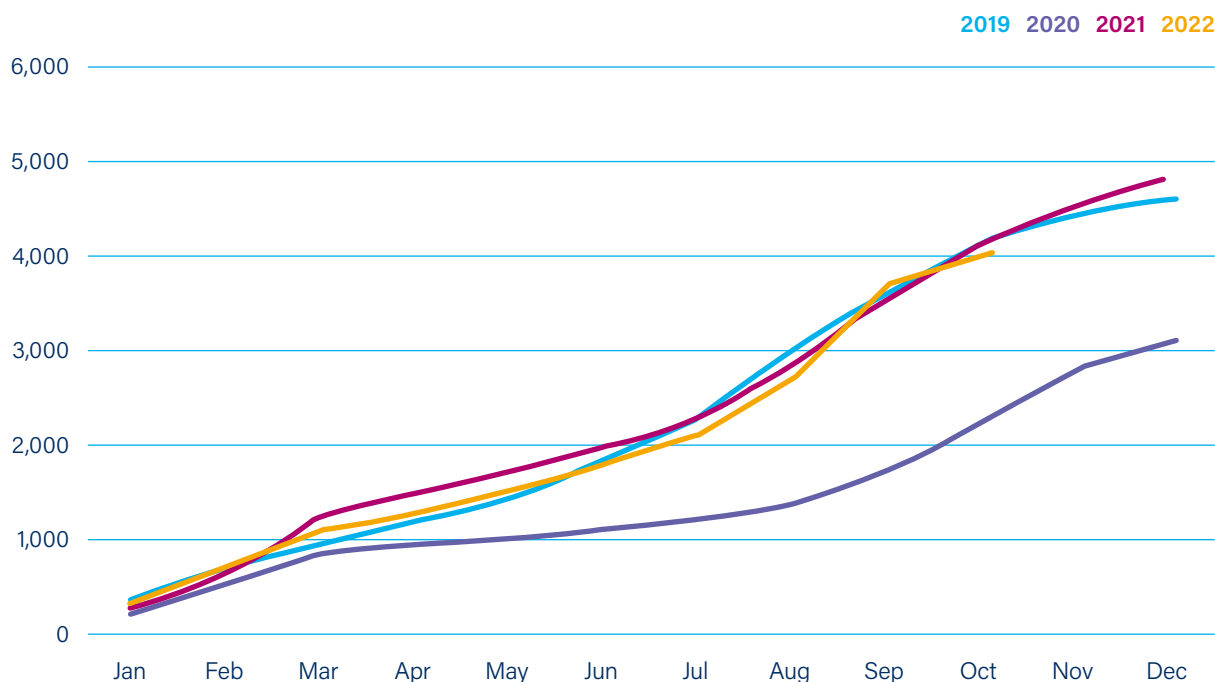
As highlighted in CITB's *Rethinking Recruitment* report, construction companies in Scotland, and across the UK in general will have to look for new ways to attract, recruit and develop the workers they need both now, and in the future, and in a way that maximises the diverse pool of people looking for work.

One of the main routes for people into the construction industry is through apprenticeships, and in Scotland, construction accounts for around a third of all Modern Apprentices that are in training.

Recent trends in apprenticeship starts are positive with numbers in 2021 recovering well above what was seen in 2020 and showing an increase over pre-pandemic starts in 2019. Starts in 2022 have kept pace with 2021 and 2019, although they could be starting to dip slightly as we move to the end of 2022, probably due to the economic uncertainty seen in the second half of 2022 and the cost-of-living crisis having an impact.

## SCOTLAND CUMULATIVE MONTHLY CONSTRUCTION APPRENTICESHIP STARTS, JANUARY 2019 - OCTOBER 2022

Source: MA Online, CITB



# CITB support to the construction industry in Scotland

CITB Scotland **will continue to support industry** through various initiatives in 2023 such as trialing a condensed Work Experience model called Work Tasters to bring industry and college leavers closer together.

CITB's Scottish Academy for Construction Opportunities (SACO) commission is progressing with two successful bids, awarding a total of £1.3m across the Highlands and Islands. This investment will directly help address the construction industry's skills gap, increase employment retention, and provide vital support to new starters at the beginning of their construction careers. Over the course of three years, the SACO projects will support individuals to overcome any initial challenges they may face as they begin their career in construction, while also providing in-work support to improve retention and importantly, progression.

CITB Scotland is committed to supporting all construction employers with attracting, recruiting, and retaining apprentices, particularly the small and

micro sized construction companies, who make up more than 90% of Scotland's construction industry, and struggle with this. CITB provides information on the financial support available to employers, how to recruit an apprentice, and how to find the right training provider, to help businesses to find, recruit, and train the ideal candidates.

To respond to future challenges CITB is supporting companies with grants and funding to help the development of Leadership & Management and digital skills, in addition to helping companies by developing training opportunities in areas where there is limited provision.

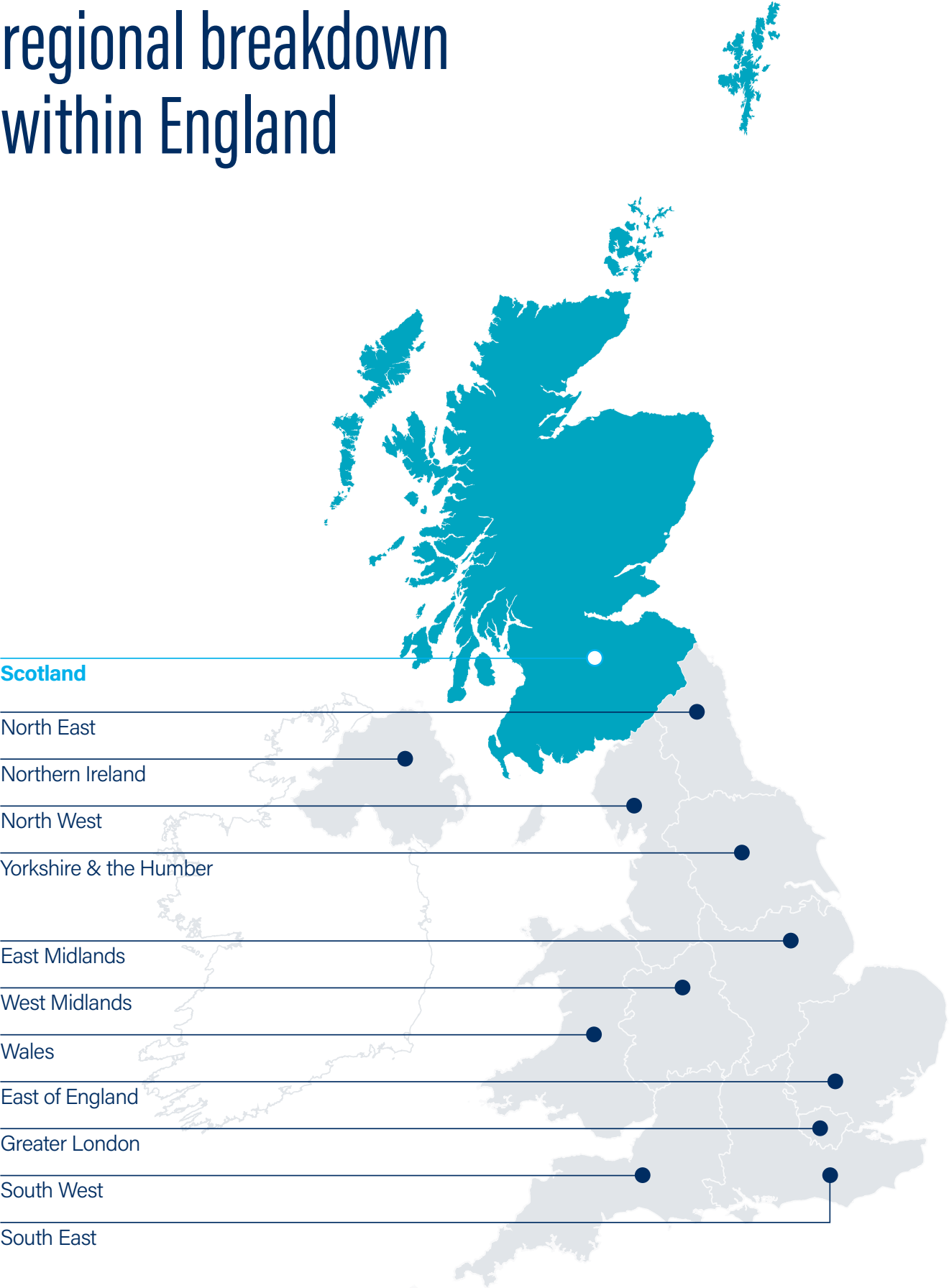
However, overcoming skills shortages in a more competitive labour market at a time when the economy will be in a recession requires combined action from

CITB Scotland, construction companies and the Scottish Government. Having a workforce that is competent and trained to make the most of the future opportunities is vital to ensuring Scotland has the volume of energy efficient homes it needs, the infrastructure to ensure the economy thrives, and to tackle the retrofit of the built environment to meet net zero targets. As the report sets out, construction in Scotland over the next five years will continue to support around 230,000 workers and contribute over £15bn worth of output each year from an industry that accounts for 13% of all business that employ people in Scotland.

The construction industry will continue to contribute over

**£15bn**

# Overview of the UK and regional breakdown within England



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