

# Trends in women in the engineering workforce between 2010 and 2021

Marie Horton  
Senior Research Analyst  
EngineeringUK

# Introduction

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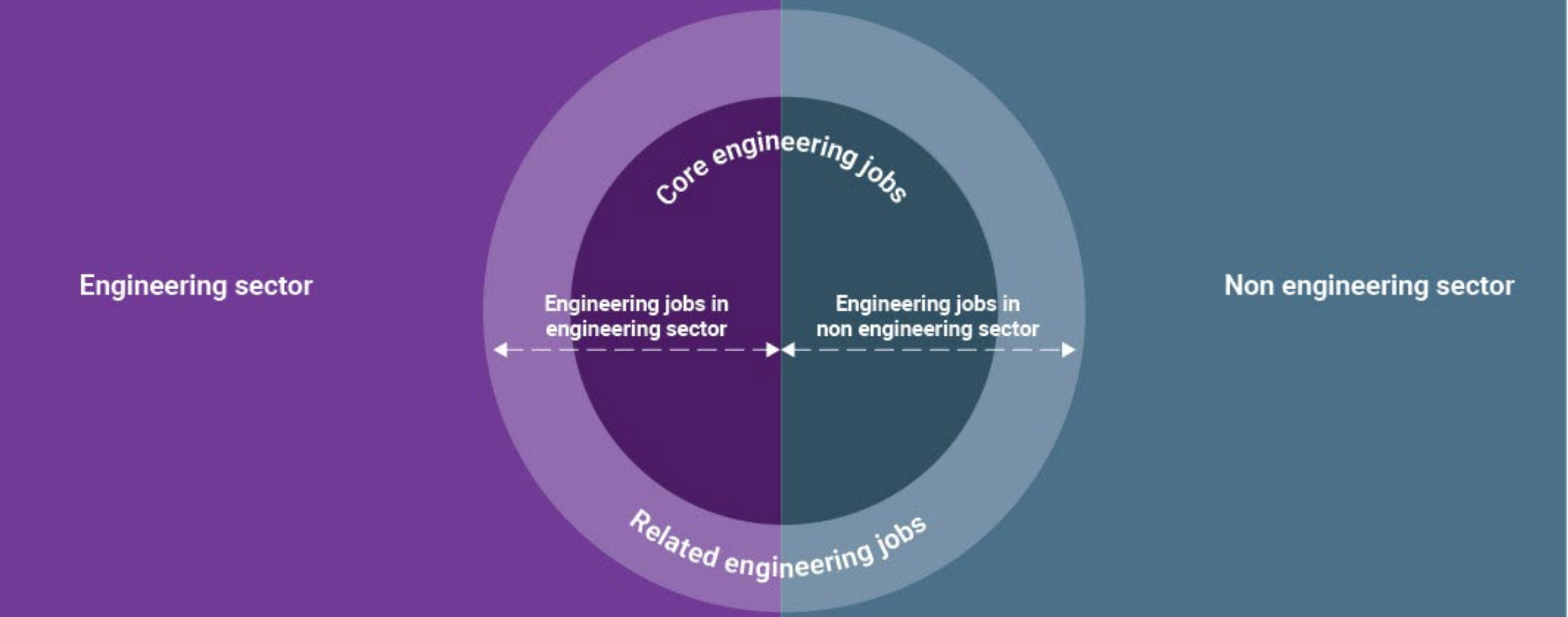


## Women in engineering

Trends in women in the engineering workforce between 2010 and 2021

Extended analysis

# The Engineering Footprint



# The dataset

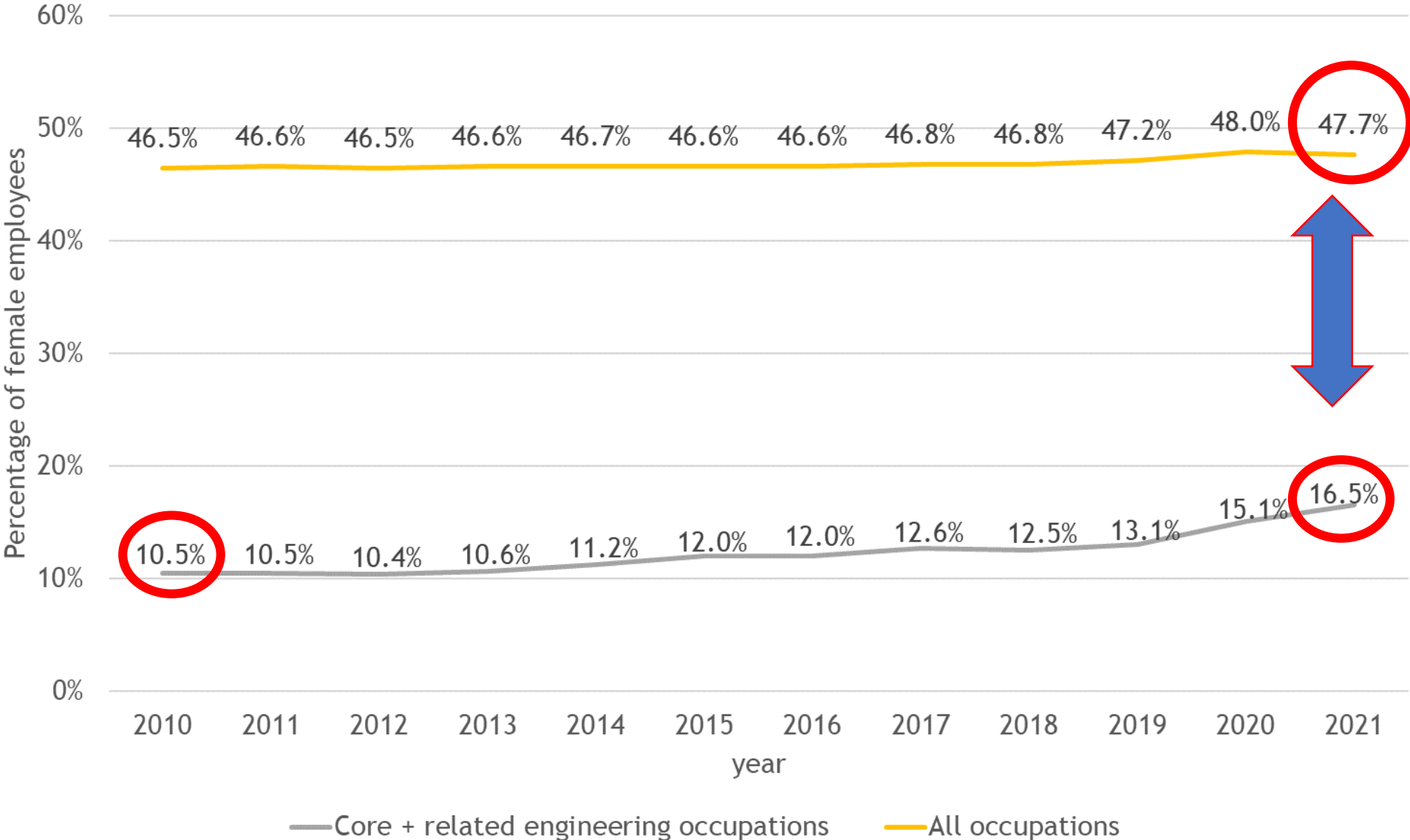
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For each of the data points shown throughout:

- four quarters of LFS data were collated to create an annual dataset
- only waves 1 and 5 of the data used (to avoid counting respondents who would appear in more than one quarter of the data in different waves)
- weights were recalculated

# Trends in the percentage of women in the workforce

In 2010, just over 1 in 10 (10.5%) of those working in engineering roles were women. By 2021, this had risen to 16.5%.





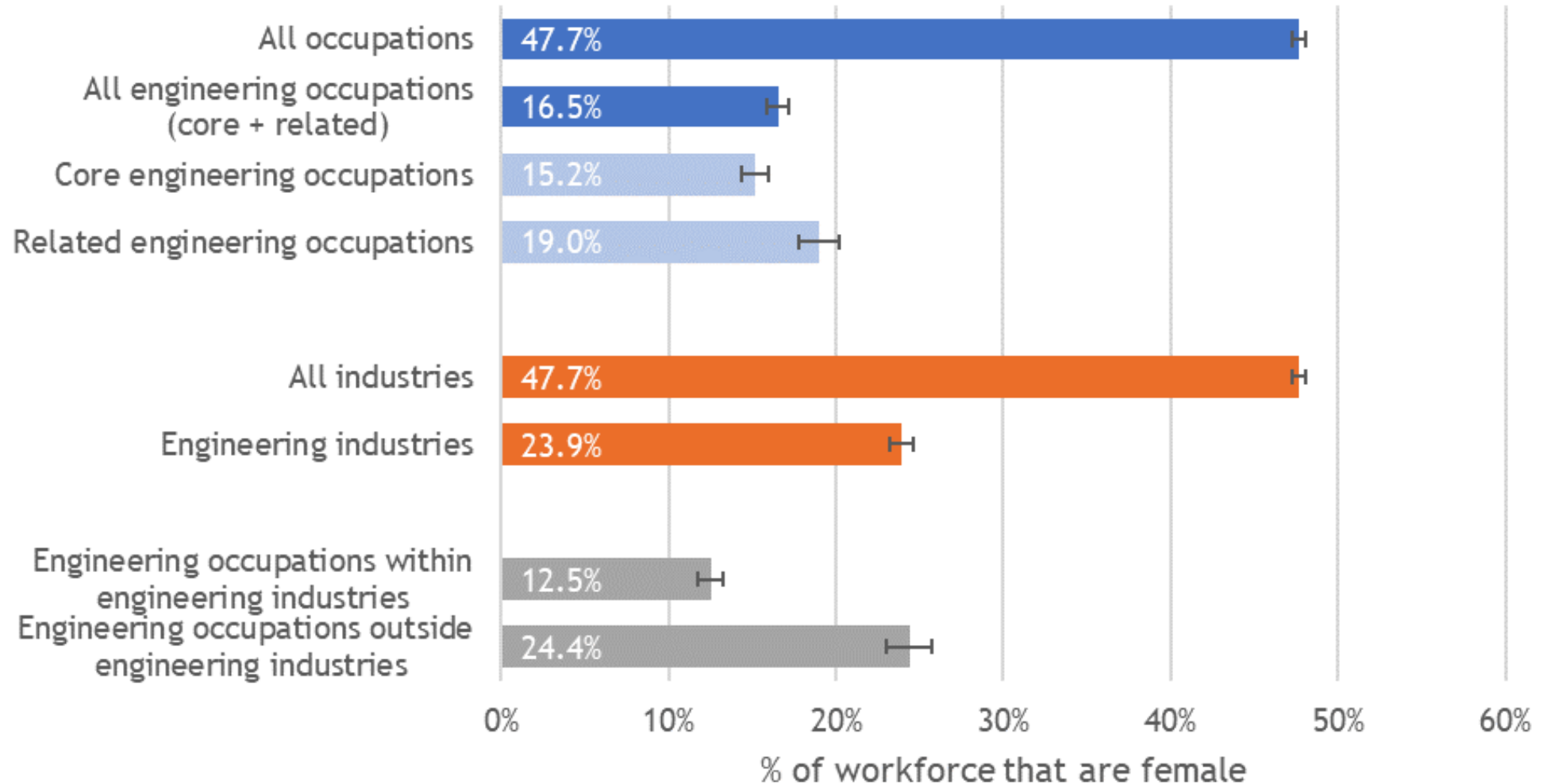
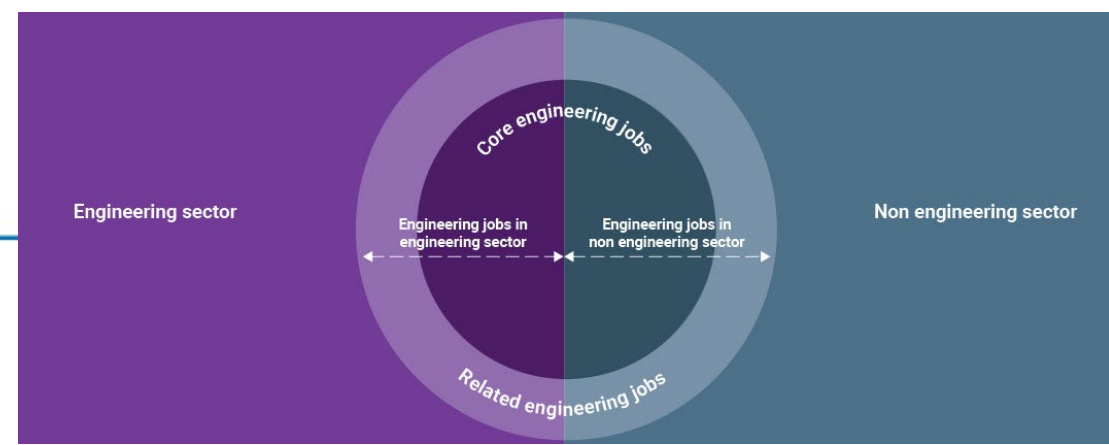
# Trends in the numbers of women in the workforce

This represents an increase from 562,000 women working in engineering roles in 2010 to 936,000 in 2021.



# Sub-sections, 2021

Suggests that industries not traditionally associated with engineering - such as health, arts, entertainment and recreation - are more successful in attracting female engineers into the workforce.





# Percentage of women in engineering by occupation type

Percentage of women in engineering roles by SOC code and total number of employees in engineering roles between 2010 and 2021, UK

SOC	FEMALE % OF ENGINEERING WORKFORCE			
	2010	2015	2019	2021
11 Corporate Managers and Directors	11.2	11.1	12.9	15.0
12 Other Managers and Proprietors	12.3	24.0	11.8	15.7
21 Science, Research, Engineering and Technology Professionals	13.6	15.6	15.5	21.1
24 Business, Media and Public Service Professionals	14.7	22.5	26.0	29.4
31 Science, Engineering and Technology Associate Professionals	18.8	21.4	21.2	28.1
34 Culture, Media and Sports Occupations	65.2	62.8	62.3	65.0
35 Business and Public Service Associate Professionals	25.2	21.9	23.8	16.9
52 Skilled Metal, Electrical and Electronic Trades	1.8	1.7	2.9	3.8
53 Skilled Construction and Building Trades	0.9	1.5	1.5	0.8
81 Process, Plant and Machine Operatives	17.7	18.3	19.8	20.7
82 Transport and Mobile Machine Drivers and Operatives	0.0	0.0	0.0	7.4
Total	10.5	12.0	13.1	16.5

# Changes in female employment by occupation

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## Increases in female employment

- 61 of the 97 roles saw an increase in the percentage of female workers between 2010 and 2021
- In 19 of these roles the increases exceeded 10%p
- In all but 7 of these 61 roles, the increase has been both in proportional and absolute terms
- For 27, it has coincided with an expansion of roles overall in that occupation
- There are also cases where the rise in women has been amidst an overall contraction of the workforce.

# Changes in female employment by occupation

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## Decreases in female employment

- 23 roles have seen a decrease in the proportion of women since 2010
- In 9 of these the change was 5%p or more
- For all but 5 of the 23 roles, it also represented a decrease in absolute terms
- In the following the number of women between 2010 and 2021 grew - just simply not at the same rate as men.
  - engineering professionals not elsewhere classified
  - IT and telecommunications directors
  - quality assurance technicians
  - planning process and production technicians
  - environmental professionals

# Occupations with few or no women

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For 13 of the roles included in the engineering footprint, the proportion of women has remained at 0%

- Rail and rolling stock builders and repairers
- Moulders, core makers, and die casters
- Metal plate worker sand riveters
- Pipe fitters
- Tool makers, tool fitter, and markers-out
- Air conditioning and refrigeration engineers
- Boat and ship builders and repairers
- Steel erectors
- Roofers, roof tilers and slaters
- Coal mine operatives
- Quarry workers and related operative
- Tyre, exhaust and windscreen fitters
- Rail construction and maintenance operatives

# Discussion

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- The numbers of women are increasing but there is more work to do
- Engineering employers need to understand their own workforce
- Identify and promote practices that help to increase the appeal, recruitment, retention, and progression of women in engineering
- Continue to research ‘what works’ in terms of encouraging more girls into engineering