

Women in STEM

Statistics and facts

(Reporting period 2012 - 2015)





56% of university students in the **UK are female**¹



50% of **STEM** enrolments, including medicine (postgraduate/undergraduate full-time & part-time)² are female, unevenly distributed by discipline e.g.

61.1% of biological sciences undergraduates

15.8% of engineering and technology undergraduates

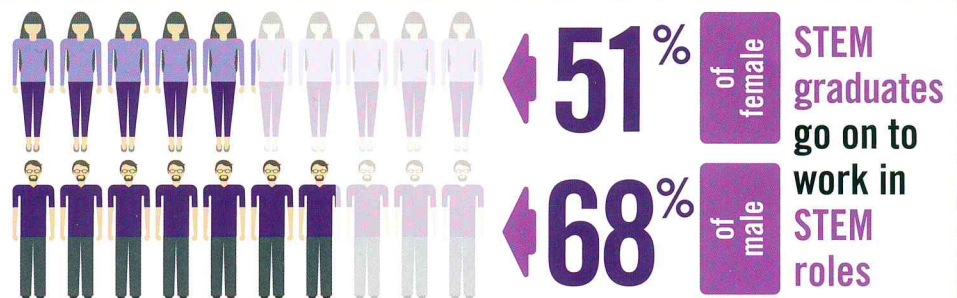
79.4% of medicine undergraduates

39.9% of physics undergraduates

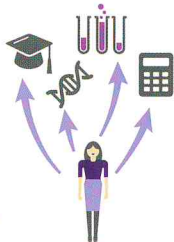
17.4% of computer science undergraduates

Female STEM graduates are more likely to find work quicker, but also more likely to find themselves in jobs that don't require a degree such as childcare, retail and business admin. **40% of female graduates** and **28% of male graduates** were in jobs classed as below professional level³

Men are also more likely to enter careers related to their degree⁴



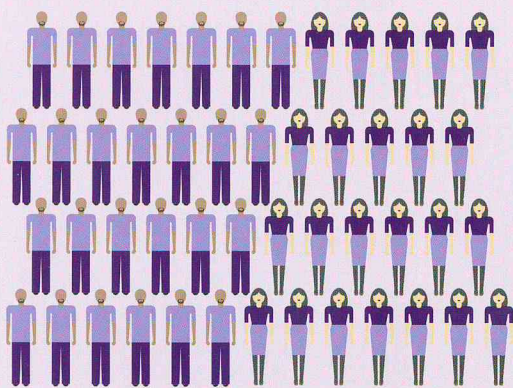
Popular occupations for men are IT and engineering while careers are more diverse for women with many taking roles as lab technicians, biochemists, teachers and financial analysts⁵



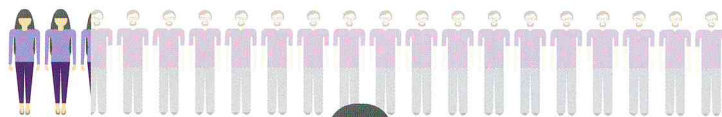
3% difference between male and female engineering graduates going into full-time employment⁶

Only **4%** of engineering apprentices are women⁷

Women represent **47%** of the UK workforce⁸



But only **13%** (693,000) of STEM workforce are women



an increase of **8.2%** on 2012⁹

27% of Science and Engineering Technicians

15% of ICT professionals and

5.5% of Engineering professionals are women⁹

28% of female employees...



compared to



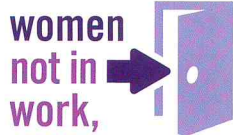
23% of male employees...



are members of trade unions¹⁰

Prospect has around 14,000 female members working in STEM¹¹

24m women not in work, want to work¹²



Potential contribution to the UK economy, if women were to participate more fully in STEM employment¹³

£2bn

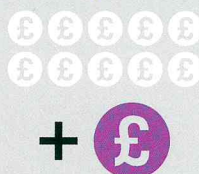


If all the women who wanted to work were employed,

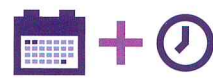
GDP growth would be

up to **10%**

higher by 2030¹⁴



1.3m women want to increase the number of hours they work¹⁵



In academia overall, in 2013 women only made up

14% of Vice Chancellors in UK universities¹⁶

Academia is a **significant STEM employer in the UK**¹⁷

Women account for **34%** of UK STEM postgraduates and are evenly distributed across discipline¹⁸

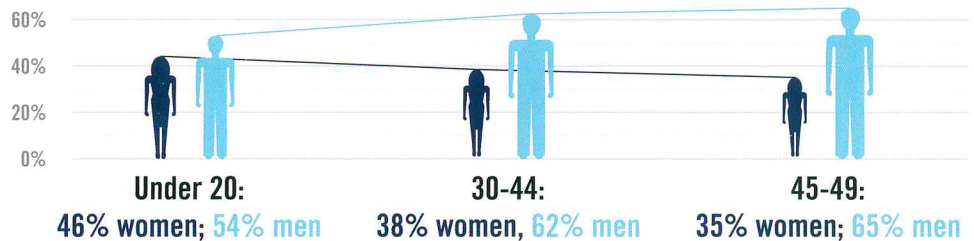
Just **1 in 8** jobs requiring advanced science, technology, engineering or maths (STEM) skills go to women²⁰

17% of full-time STEM professors are female compared to **26.7%** in non-STEM subjects¹⁹

PERFORMANCE AND PROGRESSION

Women are being put off careers in STEM because of pressures of family life combined with “biases” in the workplace²¹

The percentage of men and women in **management positions** in the UK by age²²



1/3 of UK managers are female²³

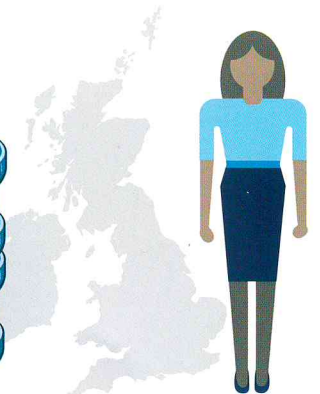
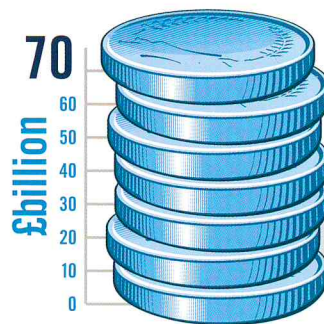
<1/10 (9.8%) of **STEM Managers**

are female²⁴

Just over **one in ten** (11%) STEM business owners are women



Compared to **one in three** (33%) who are owners of non-STEM businesses²⁵



Women led SMEs add around **£70bn** to the economy²⁶

FTSE 100 companies: 23% women Directors (up from 12.5%)²⁷

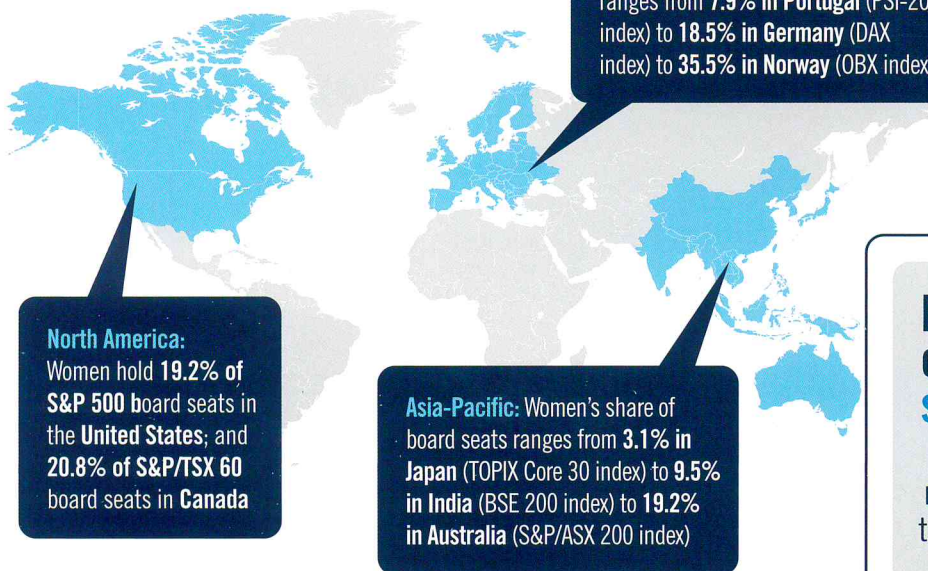
Of the FTSE 100 companies outside of STEM sectors each has at least one woman on their Board

One in five STEM companies in the FTSE 100 have no women on their Board

50%

of UK female managers reported self-doubt about job performance and careers, while less than 30% of men gave similar responses²⁸

By comparison:



1 out of 7 Research Councils have ever had a female CEO²⁹

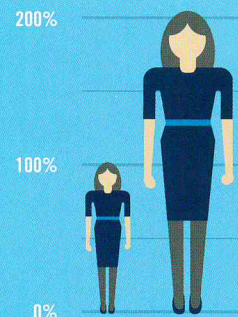
Early academic STEM careers often involve short-term contracts

Women are more likely than men to end their STEM career at this early stage³⁰

Studies have found a connection between gender diversity on corporate boards and financial performance:

- Companies with the most women board directors (WBD) outperform those with the least on ROS by 16%
- Companies with the most WBD outperform those with the least on ROIC by 26%
- Companies with sustained high representation of WBD, defined as those with three or more WBD in at least four of five years, significantly outperformed those with sustained low representation by 84 percent on ROS, by 60 percent on ROIC, and by 46 percent on ROE³¹

Women professional engineers have doubled in number (an increase of 13,255) since 2012³²

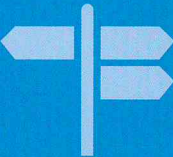
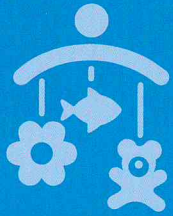


however... the UK has the lowest % of female engineering professionals in Europe at less than 10% (Latvia, Bulgaria and Cyprus lead with 30%) (2007 data)³³

Females represent 6% (7,500) of registered engineers and technicians in the UK³⁴

70%

of women feel anxious about taking a career break³⁵



Women working in **science** are **less likely** to take **career breaks** than women who work in other occupations.³⁶

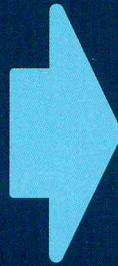
Women commonly experience a **change in their work and career** trajectory when returning to the workplace **after having children**, with about one third facing a downward shift in status.³⁷

Cost of childcare cited by women as a **barrier to progression in to senior roles** and a disincentive for working longer hours.³⁸

Once in work, many female engineers **report high job-satisfaction**, although there are still problems within the industry regarding the retention of women. For example, **two-thirds of female engineers do not resume their engineering jobs after taking maternity leave.**³⁹

Cost of childcare and **inflexible working hours** were cited as the **main barriers** faced by women hoping to return to their STEM careers.⁴⁰

Progression: there is a clear link between **flexible working** and levels of **women in management positions**⁴¹



Top quartile of organisations for flexible working: **47.5%** female managers

Top quartile had an average of: **38%** female managers



Women and BAME employees are **less likely** to be identified as **'high potential'** (12.2% of women, 15.4% of men, 10% of BAME employees)⁴²

Appraisal mechanisms feeding into **leadership** are **more likely** to rate **women and BAME** employees **less favourably**⁴³



Less than half of organisations (**44%**) regularly monitor **starting salaries** for gender bias⁴⁴



Unconscious bias continues to be present during application stage as **fewer BAME and women** selected⁴⁵



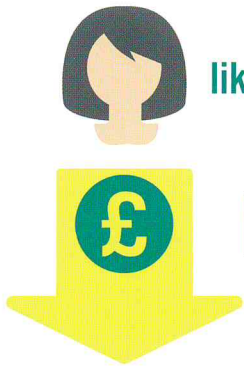
Women considering parenthood

1/5 female respondents said their employer is **not supportive of working mothers**, while a further **18%** say the same about their colleagues.

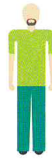


Two in three female non-parents told us they feel women with **no children** are **expected to work longer hours** than those with children, compared to **40%** of mothers⁴⁶

EARNINGS



Female graduates are **more likely** to have chosen subjects **which lead to lower earnings** as opposed to subjects such as **STEM** which are **known to be more rewarding careers**⁴⁷



The UK gender pay gap in favour of men in 2014 is

9.4%

based on **median hourly earnings**

for full-time workers⁴⁸



For every **£1** earned by a man



in the UK working part or full-time



a woman earns

81p

That means it takes the average women **20 years longer to earn £1m** (reaching this at age of 70 compared to 51 for a man)⁴⁹



On average a **male graduate** earns

£3 more (£17 p/h)

than a **female graduate** (£14 p/h)

this may be linked to female graduates being more likely to work in lower middle skilled role and part time roles⁵⁰



The median basic income for **male registered engineers and technicians** (£55,000) is

19.7% higher

than females (£45,941)⁵¹



The **average hourly earnings** for a STEM graduate are

£18.91⁵²



Women earn on average

£140,000

less than men over their working careers⁵³

Annual median gross pay for selected **STEM technician and craft careers**⁵⁴

Engineering technicians
£32,796 (man) £28,821 (woman)

Telecommunications engineers
£32,272 (man) £23,352 (woman)

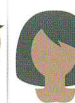
IT operations technicians
£29,449 (man) £26,456 (woman)



The median pay for selected **full-time STEM professions by gender** (2013) – UK⁵⁵

Engineering Professionals (NEC)
£39,977 (man) £32,139 (woman)

Electrical Engineers
£43,039 (man) £32,716 (woman)



Resource Index:

- [1] HESA: Overview of student data 2009/10 – 2013/2014: Table 4
 [2] HESA: Overview of student data 2009/10 – 2013/2014: Table F
 [3] <http://www.womeninstem.co.uk/recruiting-women-in-stem/the-need-for-more-stem-graduates> (retrieved February 2015)
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 [5] <http://www.womeninstem.co.uk/recruiting-women-in-stem/the-need-for-more-stem-graduates> (retrieved February 2015)
 [6] Engineering UK: State of Engineering 2015 Report (page 213)
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 [21] House of Commons Science and Technology Committee: Women in scientific careers, sixth report of session 2013–14
 [22] ILM Research Paper 3: UK Managers Profile 2013
 [23] Office for National Statistics: Full report - women in the labour market, September 2013
 [24] Office for National Statistics: Labour Force Survey, March 2011 - March 2012
 [25] Office for National Statistics: Labour Force Survey, March 2011 - March 2012
 [26] Carter, Ram, Trehan & Jones (2013) 'Diversity and SMEs' Enterprise Research Centre White Paper No. 3
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 [41] Business in the Community – benchmarking trends analysis 2012 for gender and race (<http://diversity.bitc.org.uk/node/106555#>)
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 [44] Business in the Community: 2014 Gender and Race Benchmark Trends: Key findings
 [45] Business in the Community: 2014 Gender and Race Benchmark Trends: Key findings
 [46] Business in the Community: Opportunity Now: Project 28-40 - the report
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 [54] Engineering UK: State Of Engineering 2015 Report
 [55] Engineering UK: State Of Engineering 2015 Report

Abbreviations:

STEM Science, Technology, Engineering and Maths
IT Information Technology
GDP Gross Domestic Product
SME Small and Medium Enterprise

CEO Chief Executive Officer
WBD Women Board Directors
RDS Return on Sales
ROIC Return on Invested Capital

ROE Return on Equity
BAME Black and Minority Ethnic

IET Offices

London*

Savoy Place
 2 Savoy Place
 London
 WC2R 0BL
 United Kingdom
www.theiet.org

Stevenage

Michael Faraday House
 Six Hills Way
 Stevenage Herts
 SG1 2AY
 United Kingdom
T: +44 (0)1438 313311
F: +44 (0)1438 765526
E: postmaster@theiet.org
www.theiet.org

Beijing

Suite G/10F
 China Merchants Tower
 No.118 Jianguo Road
 Chaoyang District
 Beijing China
 100022
T: +86 10 6566 4687
F: +86 10 6566 4647
E: china@theiet.org
www.theiet.org.cn

Hong Kong

4405-06 Cosco Tower
 183 Queen's Road
 Central
 Hong Kong
T: +852 2521 2140
F: +852 2778 1711

Bangalore

Unit No 405 & 406
 4th Floor, West Wing
 Raheja Towers
 M. G. Road
 Bangalore 560001
 India
T: +91 80 4089 2222
E: india@theiet.in
www.theiet.in

New Jersey

379 Thornall Street
 Edison NJ 08837
 USA
T: +1 (732) 321 5575
F: +1 (732) 321 5702

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