Bridging the Gender Gap in STEM
2017 Report
Hello

I began my career as an Electrical and Electronic Engineer, firmly embedded in the STEM* industries. Only 10 per cent of my class at university were female and when I emerged into the world of work it was to find a sector with few women and typically neither female–friendly nor inclusive. In such an environment it was hard to achieve my career aspirations, so I opted out. Unfortunately, not much has changed since then, and the exodus of women from an already small pool of talented and skilled professionals continues. What has changed is the demand for those skills – and so the gap between supply and demand increases.

Time to change

There has also been a change in the willingness to put diversity on the agenda, which is great. However, whilst more and more companies seem to be showing a commitment to embrace diversity within STEM, the numbers of women entering the sector has remained largely unchanged.

At Forward Ladies we feel that it is time to hear from the women themselves, to understand the challenges they currently face and to gain insight that can help employers bridge the gender gap in the sector.

As many of the business leaders interviewed for this report point out, this is about more than just ticking a Corporate Social Responsibility (CSR) box. It makes business sense. Lack of diversity creates narrow-thinking in businesses. An industry that thrives on innovation cannot afford to limit its horizons in this way. Join us in creating a more gender–balanced future for STEM industries.

We hope you find this report useful and insightful. This report has been made possible by the support of our partners: Yorkshire Water, BT, Coca-Cola, Sky Betting & Gaming and GRAHAM Construction.

Griselda Togobo
Managing Director, Forward Ladies

“Inclusive leadership has a crucial role to play in shaping an inclusive culture in STEM workplaces.”

We also need to breakdown the stereotypes and gender bias that remains in business and society as a whole, starting at an early age when society instinctively steers boys and girls towards certain courses and activities.

Inspiring the future

That is why, as well as working with employers and women currently employed in STEM industries, we are also focused on inspiring future talent, making STEM more appealing to women and helping them to embark on rewarding and fulfilling careers.

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Despite recent efforts, the skills crisis is still a major issue in the STEM sectors, costing the UK economy up to £27bn each year.

Forty–three per cent of STEM vacancies are hard to fill according to the UK Commission for Employment & Skills. Workplace diversity within the STEM sector remains a major challenge, with just 19 per cent of roles being filled by women.

The numbers are not improving despite many diversity initiatives. Improving workplace diversity is not just a moral issue, there is a strong business case to support it.

From June to August 2017 we ran our “Women in STEM: Bridging the Gender Gap” survey, which received responses from 1,299 participants working in STEM. The survey raised questions about their experiences working in the sector. We hope the findings will help businesses improve diversity and create inclusive workplaces.

Participants included both men and women working throughout the UK and beyond, and at various stages of their careers. Ninety–three per cent of people who took part were women and 88 per cent identified as white. Eleven per cent were from other ethnic backgrounds. One per cent of participants preferred not to disclose their ethnicity. One per cent of participants did not identify with binary gender classification. Our analysis focuses mainly on those who identify as female.

Survey responses were submitted anonymously. We will be able to use our results to widen the discussion on diversity issues within the STEM industry.

This report looks at their answers in detail, highlighting the key issues.

By addressing these issues, we can attract new talent whilst retaining existing talent in the industry sector.

Age of participants

15% 51+ years old
40% 36–50 years old
30% 26–35 years old
14% 16–25 years old

*1% of participants preferred not to disclose their age

What are women saying about working in STEM?

*Science, Technology, Engineering & Mathematics (STEM)
Want to future-proof your career? A role in technology could be the answer according to Matt Hughan and Catherine Boddington, Sky Betting & Gaming’s Heads of Recruitment and Learning & Development.

Matt Hughan is Head of Recruitment at Leeds-based Sky Betting & Gaming. He is passionate about getting the right people into the right roles within the company’s ‘tribe’ system, promoting collaboration and agility.

Catherine Boddington is Head of Learning & Development at Sky Betting & Gaming. She is committed to getting the best out of people and helping develop talent.

How important is it for you to retain female talent in the business?

It is incredibly important. This is already a very competitive sector, so making sure that we retain the skills we have as well as recruit new talent is key.

What schemes do you operate to boost retention amongst female employees?

We run a number of programmes. For example, our programme aimed at returning mothers does not just focus on the practicalities of flexible working, but looks at maintaining skills and confidence for new mums. We are also developing a career programme for all our senior female managers this year, providing support around the natural pinch points in a career.

What more can be done to increase the number of women in STEM?

The apprenticeship levy is a good start towards increasing work-based opportunities. There needs to be more emphasis on technology as a subject in schools. Closer ties between education and industry are vital.

Looking ahead, how positive are you about growing the number of women working for Sky Betting & Gaming?

We have made a big commitment this year to raising the profile of diversity in the business and there is a lot to be positive about. The growing number of high-profile sportswomen could boost interest in the sector. We are also collaborating on proposals for a Digital University Technical College here in Leeds focused on Creative Technologies.

What would you say to women considering a career in technology?

Absolutely, jump in. If you are intellectually curious and you want to develop a skill-set that is transferrable, a career in tech is a springboard to a great career.

How do you ensure recruitment keeps pace with your growth?

It is a challenge. Broadening our reach to as wide a talent pool as possible and creating a more attractive working environment is key to managing that challenge.

How diverse is your employee profile?

Eighty per cent of our employees are male. Some areas challenge that, for example, our Legal and Compliance team is over 50 per cent female, but in areas such as software engineering and trading, it is tough to recruit women with the right skills purely because the size of the talent pool is smaller.

What initiatives do you have to attract women into the business?

We offer incredibly flexible working, career progression opportunities and strong learning and development opportunities. Eighty per cent of our employees are male. Some areas challenge that, for example, our Legal and Compliance team is over 50 per cent female, but in areas such as software engineering and trading, it is tough to recruit women with the right skills purely because the size of the talent pool is smaller.

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Workplace schemes propel female talent at Yorkshire Water

Rebecca McDonnell, Head of Talent at Yorkshire Water, on the imperatives of building an inclusive culture and how Yorkshire Water is rising to the challenge.

Being inclusive is important for our business. In recruitment terms, it means we can attract the best talent from the widest possible pool, but it goes much deeper than that. By creating a culture that is inclusive, we also retain the best talent and the business benefits are significant.

More females in management roles
We have made good progress in terms of diversity in recent years, particularly in improving the gender balance within Yorkshire Water. Our management and senior management is now well over 30 per cent female, which is a tipping point in terms of change. We have achieved that through investing in female-led workplace development programmes, including the STEM programme with Forward Ladies, creating a bespoke development programme and providing networking opportunities with other organisations taking part in the programme.

Many of the women from our first cohort are now undertaking coaching and mentoring with other females within the business and we have seen clear results in terms of the number of women being promoted and then staying in those new roles. Our second cohort is now progressing through the programme.

Bespoke schemes drive success
Our workplace schemes operate at all levels across the business. We saw a 20 per cent increase in the number of female apprentice engineers who started with us last year, which was fantastic, and we also have senior managers undertaking apprenticeships to learn and develop new skills. This year for the first time, we are running bespoke graduate schemes across engineering, project management and operational management that really target the skills needed for success in a STEM career and we have a strong male/female balance. Together, the workplace schemes operating across different levels and areas within the business make Yorkshire Water an attractive place to be and put us in a great position to meet future challenges.

We asked: Do you feel equally considered for career progression opportunities?

23% of all participants either disagreed or strongly disagreed.

We asked: Is your employer inclusive?

76% of men strongly agreed that their workplaces were inclusive compared to 56 per cent of women.

63% of survey participants from minority backgrounds agreed and 71 per cent of white participants also agreed.

For more information about Forward Ladies and joining one of the programmes please contact:

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Visit: www.forwardladies.com/stem-leadership-programme

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“Yet again feeling hugely inspired & motivated after a day with the Forward Ladies. Cannot praise this programme enough. Thank you Sage UK for supporting and providing a platform for women in STEM to excel.”

Lisa Reed, Sage UK
We asked: What made you choose a career in STEM?

- Thirty per cent of participants went into STEM due to their academic achievements.
- Thirty per cent of participants chose a career in STEM due to career prospects. The rest stated they simply ‘fell into it’.
- Forty-two per cent of 16-25 year olds said they went into STEM due to their grades. Twenty-two per cent chose to pursue careers in STEM for the prospects.

30% of participants went into STEM due to their academic achievements.

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42% of 16-25 year olds said they went into STEM due to their grades. 22% chose to pursue careers in STEM for the prospects.

£60K
25% of men earn £60,000+ a year, compared to 17% of women.

£20K
11% of participants from ethnic backgrounds earn £20,000 compared to 7% of people from a white background.

1 in 5
16-25 year olds were inspired by a role model.

Comment from participant
“I earn much less than my male colleagues despite being at the same grade for the same length of time or longer. I tried to get this changed but again in my view the male managers are given higher yearly ratings so you cannot compare your pay.” (Survey participant)

We asked: Are you happy in your current role?

Sixty-nine per cent of survey participants said they were happy in their current role. Twenty-nine per cent were unhappy of which 14 per cent said they were thinking of leaving their jobs.

When we compared sectors...

67% of participants said they were happy in their current role. However, 23 per cent said they were unhappy and thinking about leaving the sector or wanting to change their role.

62% of participants were happy in their current role. 31 per cent said they were unhappy and wanted to change role or sector.

65% of participants were happy in their current role and 30 per cent were unhappy and wanted to change jobs or sectors.

Recommendation
Employers need to increase collaboration with other stakeholders, educational institutions, community groups and networks.

Employers need to address the pay gap between genders and ethnicities. Due to the requirement for gender pay reporting employers should consider taking quick actions to reduce or eliminate their gender pay gaps, otherwise this will have an adverse impact on their employer brand.

Looking at wages by location, the top earners were in London, with 40 per cent of participants earning £60K+.

In the Northern regions this was 14 per cent.

In the Southern rural areas this was 20 per cent.

In the Midlands only 12 per cent earned £60K+.

When we compared sectors...

Within Construction
31% of participants said they were happy in their current role. However, 23 per cent said they were unhappy and thinking about leaving the sector or wanting to change their role.

Within Engineering
22% of participants were happy in their current role. 31 per cent said they were unhappy and wanted to change role or sector.

Within Technology
25% of men earn £60,000+ a year, compared to 17% of women.

2019 Participants
Pay Breakdown

28% £40K-£60K
45% £20K-£40K
8% <£20K
18% £60K+

25% of men earn £60,000+ a year, compared to 17% of women.

11% of participants from ethnic backgrounds earn <£20,000 compared to 7% of people from a white background.

1 in 5
16-25 year olds were inspired by a role model.

Comment from participant
“I earn much less than my male colleagues despite being at the same grade for the same length of time or longer. I tried to get this changed but again in my view the male managers are given higher yearly ratings so you cannot compare your pay.” (Survey participant)

Comments from participants
“More needs to be done to introduce STEM to young girls. I have been involved in some school open days and the lack of knowledge of STEM and confidence to pursue STEM subjects is evident.” (Survey participant)

“Part-time working is supported in my organisation which has enabled me to progress to a senior level. However, there needs to be greater acceptance and understanding of this way of working.” (Survey participant)
We caught up with Lauren Murtagh who is the Technical Service Improvement Lead across BT’s TV and Broadband space, based in Belfast. She talks to us about her career at BT, and why more girls are getting into STEM.

How did you get into your current role?

I studied BSc Computing and Information Technology, which included a placement year working as a Systems Engineer at Liberty Information Technology. This was my first experience of the customer-facing side of IT – and I loved it! After graduation I started on the BT graduate scheme as a Software Engineer in the TV Client Devices team, working on set-top boxes. I really enjoyed working there. My role primarily involved the development of an automated test environment and managing the TV software through its test, trial, rollout and in life cycle. Now, my current role is leading a TV and Broadband Customer Experience team who work on behalf of all BT ISP’s including BT Consumer, BT Business, PlusNet and EE – I find this is an incredibly challenging and exciting space to work in.

What does a typical day look like?

It is very varied, so there is no ‘typical day’! I’m travelling every week as a lot of the people I work with are in England. Last week I was down visiting and getting customer experience insights from BT’s digital care team in Enniskillen, Northern Ireland – this is the team that manages BT’s relationships with customers via Twitter and BT’s online forums. This week I am in London working with the business teams to review 18/19 investment proposals, and I will also be down working with Youview our set-top box partner on the service improvement roadmap we are building with their support. All in all, it is a highly diverse and stimulating role.

What advice would you give to anyone thinking about a career in STEM?

I am obviously biased but I genuinely cannot think of a more interesting and rewarding career! I think if you enjoy it, just go for it – there is such a huge demand for STEM skills at the moment and so many jobs available. It may take some time to figure out where your passion is, but when you find it you will know – just make sure you find something which you truly enjoy.

What is the image of the ‘typical’ tech employee – and why is it important to change that?

The image is often a young, trendy white man in his twenties – the Silicon Valley ‘programmer dude’. But that is not what all tech employees look like, and it is important we get girls to realise that you do not need to be that guy to succeed in tech.

How important is it to have visible female role models in tech?

I think role models are incredibly important for girls – you cannot be what you cannot see.

Tell me more about the People Like Me Scheme?

People Like Me was born from a study commissioned by WISE about why more girls were not pursuing STEM subjects; they found that girls thought STEM was not for people like me. So they have created an interactive quiz where girls can describe themselves using adjectives – organised, outgoing and diplomatic etc. which link them to career options in the STEM sector.

Why is getting women into tech so important?

Firstly, there is a business case for it – it can help solve the digital skills gap, and companies with high diversity levels have been shown to perform better. But it is also important in terms of addressing inequality like the gender pay gap, and better representing the population.

Do you see a bright future for women in STEM?

Definitely. We are not seeing the mass increase of women in STEM we had hoped for, but there are lots of initiatives out there having a positive impact. It is a slow and steady race!
Attracting new talent helps
RICS build for the future

By 2020, the surveying profession will reach a critical point where demand will significantly outstrip supply. Barry Cullen and his team at RICS are on a mission to attract new talent to plug the gap.

The lack of women in surveying is part of a wider decline in the number of people entering the profession, driven by lack of awareness of the breadth of opportunity and roles in our sector.

Attracting new talent is imperative to meet increased demand from large-scale infrastructure projects, such as HS2, Crossrail and Hinkley Point. We also have to contend with an ever-widening skills gap and supply-side problems caused by the imminent retirement of a number of members and insufficient new surveyors coming through to deliver the services needed.

Focussing on attracting new talent
That is why, over the past year to 18 months, we have focused a lot of attention on attracting new talent to the sector and building the profile of the profession. We have created a new level 2/3 qualification, Design, Engineer, Construct, delivered in 49 schools across England and as part of the Scottish curriculum. It is a great example of education and industry working together to deliver real value rather than just as a tick-box CSR exercise.

Using technology to reach young women
We have also recently worked with a 17-year old female YouTube vlogger. Her core audience is 14-18 year old females and she has 185k subscribers to her main YouTube channel. Already, the results are impressive. She posted an Instagram for us and it received 8,000 likes; 3,000 in an hour alone.

We are working with a number of role models within the profession at both apprentice and more senior levels to inspire the next generation. Currently, females make up just 14 per cent of our membership at RICS, but 24 per cent of new enrolments going forward for professional competency qualifications to earn the award of Chartered Surveyor are female.

Women also account for 24 per cent of new apprenticeship entries at associate level. It is encouraging to see our efforts delivering results and suggests a brighter future for the profession.

Inclusive leadership has a crucial role to play in shaping an inclusive culture in STEM workplaces.
As well as attracting more women into the sector, businesses have to work harder to support women into senior leadership positions.

We asked: How did you hear about your current role?
Thirty-six per cent said it was via word of mouth. 29 per cent said it was via a company website, 22 per cent via an external job ad, 6 per cent via a job fair, 6 per cent via LinkedIn and 1 per cent via other social media networks.

Recruiting the next generation
Of the 16-25 year olds who took part in the survey, the most common entry routes into employment were via graduate schemes (51%) and apprenticeships (21%).

Recomendation
Word of mouth is still the top entry route into STEM careers, which can block those from diverse backgrounds with less STEM industry knowledge or contacts. Strong employee advocates, diversity champions and ambassadors can amplify the power of positive word of mouth.

Overall, companies need to make apprenticeships and returnships more accessible for those seeking to enter or return to the sector which is key to tapping into harder to reach demographics.

In order to reach new candidates from diverse backgrounds and without prior industry contacts, companies need to look at online platforms for recruitment. The employer profiles and reviews on these platforms matter.

We asked: In your current workplace, what percentage of your peers are women?

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Inclusive leadership has a crucial role to play in shaping an inclusive culture in STEM workplaces.
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We asked: In your current workplace, what percentage of your female peers are in senior roles?

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“Careful consideration needs to be given in promoting females to ensure promotion is based on merit rather than achieving diversity targets. When females get promoted this is not always evident and can cause resentment in male colleagues and cause them to doubt their credibility.” (Survey participant)
Addressing the Skills Shortage
Forty per cent of participants are in technical roles, 18 per cent were in non-technical, support roles and 41 per cent of people were in a non-technical job which required a technical understanding, suggesting talent can be upskilled into technical roles.

The Digital Skills Gap in Technology
Looking at Tech sectors as a model, it is an incredibly qualified sector, with 44 per cent of people working in Tech being graduates, 31 per cent hold a further education qualification. 47 per cent of the workforce are in non-technical roles but have a technical know-how.

When looking at the current personal development schemes employees have been able to gain access to, 56 per cent of people have access to company-led training schemes, 28 per cent have access to coaching, 37 per cent have access to mentoring but 20 per cent have no access to any scheme whatsoever.

Recommendation
Companies need to invest in their current workforce, develop their skills and give them opportunities to progress, upskilling those with technical knowledge to plug the skills gap.

Less than 1% of participants were recruited via a returnship programme

Tell me a bit about your role at GRAHAM Construction?
I am an on-site project manager. I am currently managing a site that is part of the enabling works for a project constructing subsea power cables between Norway and the UK. I run the site day to day, managing engineers, foreman and subcontractors – making sure work is completed to timescales and budget.

What is great about your job?
I love walking onto a site with a set of drawings, and gradually seeing them become reality because of your planning and the work with the team. It is incredibly rewarding.

What attracted you to construction?
I was always better at STEM subjects at school. One of my teachers had an engineering background and advised me to consider engineering – when I did that, construction caught my eye.

Have you been involved in initiatives to bring women into engineering?
I have done talks with girls aged 15–17 to try to encourage them to consider a career in engineering. We found many girls were not interested in STEM subjects or construction, and were also less confident than the boys in their abilities. I think we need to highlight to girls from an early age that there are so many exciting opportunities in STEM – including construction – and that they are just as capable as boys.

What advice would you give to anyone that is interested in STEM?
I would say if you enjoy STEM subjects then definitely pursue a career in STEM. It is challenging but with challenges come rewards. It is amazing to walk away from a site being able to physically see the result of the work you have done, and knowing it has impacted people’s lives for the better.

Grace Rodgers talks to us about life in the construction sector and the need to get more girls into STEM.

DIVERSITY, INCLUSION, RESPECT. IT’S THE GRAHAM WAY.

At GRAHAM, our aim is to foster an inclusive culture where everyone is valued as an individual, and can perform to their best.

To that end, we are driving towards the creation of an environment that everyone can feel proud to be part of, regardless of gender, race or background and a culture of trust that the organisation will give everyone an equal chance to maximise their potential.

From providing help, support and training where you need it, to systems and policies which allow us to listen to, and act upon, your suggestions and great ideas.

web: www.graham.co.uk
email: info@graham.co.uk
twitter: @graham_civils
Access to Networking

Forty per cent of people said that there were internal women’s networks which they could access. Of these, 60 per cent said they were very happy in their role, demonstrating the value of these employee-led networking schemes.

In other areas, 32 per cent said they could network with women at conferences and events within the sector, 17 per cent networked via social media and 17 per cent via external women’s networks.

Sixty-two per cent of women in engineering and 61 per cent of women in technology stated that they had access to internal women’s networks which they could network with. Sixteen per cent of people said they had access to internal networks which they could network with, compared to only 25 per cent of people in construction.

Recommendation
Companies need to maintain strong internal and external networks as this will have a positive correlation to happiness at work and retention.

91% of participants who were very happy had access to internal or external networks

Can STEM subjects be for everyone?

We caught up with Jessica Okoro, a Junior Technology Agile Project Manager at The Times Newspaper, News UK.

As the first person in her family and the first woman to embark on a STEM career we wanted to know how she went about getting into her current role.

Whilst studying Pharmaceutical and Cosmetic Science at De Montfort University, Jessica encountered difficulties learning through the traditional teaching methods in class. She overcame these by developing her own learning resources and informal methods at home. This led to her achieving higher than expected results in her final Science and Mathematics exams.

Jessica’s experience saw her develop an interest in the way STEM (Science, Technology, Engineering and Mathematics) was introduced and taught in schools. Her findings led her to start BeScience STEM, a multi-award-winning organisation, which seeks to get the whole community engaged in STEM using innovative and creative techniques.

Her work has been recognised and endorsed by the Prime Minister, amongst others, enabling her to deliver guest talks and share her ideas worldwide.

Check out https://www.bescience.org.uk/about to find out more.

Available Development Schemes VS Accessed Development Schemes

51% of participants said they had access to training schemes
46% of participants said they had accessed it
40% of participants said they had access to mentoring schemes
24% of participants said they had accessed it
23% of participants said they had access to coaching
15% of participants said they had accessed it
19% of participants said they had no access to any schemes

Personal Development Schemes

“Personal development schemes are available but only seem to be offered to certain people. Retention schemes are not really management’s interest apart from on paper. They continually want to reduce headcount to make way for new recruits.”

– Survey Participant

We wanted to know what was being offered by employers and what individuals have had access to. Fifty-one per cent of all participants said that there were internal training opportunities available. Forty-six per cent had accessed it.

Nineteen per cent of participants stated that they neither had personal access to nor were they aware of any personal development schemes available in their current workplace. Twenty-four per cent of all participants made use of workplace mentoring schemes.

Recommendation
Employers need to make available more development schemes and encourage take up from all levels of the organisation.

69% of people stated there were flexible working opportunities within their current workplace.
Eleven per cent of people said there were no flexible working opportunities available in their current workplace.
Fourteen per cent said they were not aware of any flexible working opportunities.

Percentage of participants who had access to mentoring schemes and training schemes

92% of participants who had access to personal development schemes were very happy in their role.

For more information, please visit: https://www.bescience.org.uk/about

Inspirational Story: Jessica Okoro, Founder & Director of BeScience STEM

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What employers can do to help working mums

Supporting women after maternity leave has been moving up the agenda recently. We spoke to Mandy Garner of Workingmums.co.uk to find out more.

Tell us about Workingmums and your role?

Workingmums brings together working mums with employers that are looking for flexible workers. It is grown from a jobs board to a much broader site. We have things like best practice reports for flexible working, awards for top employers, and advice and support resources. As editor, I write and edit our content – anything from blogs about flexible working to best practice reports.

What can companies do to support and retain women in the workplace after maternity leave?

A good flexible working policy is very important. Also having defined procedures around maternity leave – including ‘keep in touch’ days and agreeing working arrangements in plenty of time. Vodafone has a great maternity policy based on gradual return – where people temporarily work a four-day week on full pay, allowing them to ease back into working life. There are returner schemes, which are becoming hugely important in talent attraction, especially in sectors with skills shortages. These policies are not without challenges. If your manager is uncooperative, it can be difficult. A lot of HR leaders are tackling this with training around maternity discrimination and unconscious bias. Also, if the company culture is king, office based hours, it is hard to change that.

What advice would you give to new mums about how to balance parenting with their career?

Essentially you just have to find out what works in your situation. I think it helps to talk to others (including friends from other organisations if it is too political to speak to colleagues), but do not let anyone tell you what to do because each person’s situation is unique. Finally, remember you are not alone, there are so many women going through the same thing!
Tell us about your role?
I am a maintenance manager for Coca-Cola, based at a factory in London. I run the team of engineers responsible for maintaining the machines, ensuring they meet standards so the line is running smoothly.

What is a typical day?
Every morning we review the last 24 hours – assess any breakdowns or stoppages, and what we need to do to rectify them. Once a week my engineers and I assess the efficiencies of the lines to see if we can improve. There is also long-term planning: the lines get shut down periodically so essential maintenance can be carried out, so we manage schedules and budgets for that.

Do you work with many women?
There are some women here, not loads but definitely the most I have ever worked with! When I worked on a rig I was the only woman there! Although I have experienced some quite old-fashioned thinking in the past, that has not happened at Coca-Cola. It is very modern and inclusive here.

What makes Coca-Cola stand out as an employer?
They really look after you and help you grow. My boss and mentors are so supportive with career progression - they help you on whatever journey you want to take. It is like a big family here - I talk to people on other sites around the UK and Europe, and everyone is happy to help.

What advice would you give to anyone considering a career like yours?
I would say follow your dreams; if you want it bad enough, you can do anything! If someone says you are not good enough, use that and prove them wrong. A teacher of mine told me I could never be an engineer - so I got my head down and did it.

Survey Analysis: STEM Family Background
Fifty per cent of participants were the first person in their family to go into the STEM industry. Twenty-three per cent had one other family member already working in STEM and 28 per cent had multiple family members in the sector.

When women were not the first person in the family to join the STEM industry, 60 per cent of them were the first women in their family to join the STEM sector.

We Asked: Are role models encouraging girls into STEM?
Twenty-three per cent of participants stated that a role model inspired them into STEM. If we break this down by the types of role models, 4 per cent said it was because of a teacher in school and 2 per cent said it was because of a STEM ambassador visiting their school. Seventeen per cent of participants stated that they were inspired by a role model outside school.

Recommendation
There is an opportunity for more collaboration between businesses, schools and other stakeholders to provide access to credible role models for girls in the classroom.
The most common reason survey participants gave for leaving was lack of career progression opportunities. Thirty per cent of participants stated this as their most common reason for leaving.

When asked what were the top three challenges faced within the STEM sector, the three most common answers throughout all sectors were:
1. Barriers to progression
2. Lack of training opportunities
3. Bad workplace culture

Engineering:
1. Barriers to progression
2. Lack of mentorship
3. Workplace culture

Construction:
1. Barriers to progression
2. Lack of personal development opportunities
3. Lack of mentorship

Technology:
1. Barriers to progression
2. Lack of opportunities for personal development
3. Lack of mentorship

Other reasons stated for leaving past employers related to promotion, redundancy, bad management, temporary contracts ending, work-life balance, location and earning potential.

We asked: How many roles have you had in the past 5 years?

Of those who had more than 3 jobs in the past 5 years, 35 per cent stated they moved jobs due to lack of career progression. Twelve per cent due to lack of earning potential. Seven per cent due to poor workplace culture. Six per cent due to work life balance. Four per cent due to location. The rest stated bad management, promotion and a project or contract ending.

Recommendation
The issue of workplace retention should be addressed on a case-by-case basis rather than creating one scheme to fit all. Employers need to invest in their current workforce. This will provide opportunities for women to progress and also increase their earning potential, thus addressing the two most common reasons given for leaving.

Question for Employers:
Are men being offered more career progression opportunities?

Survey Analysis: Career Progression
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- Twelve per cent due to lack of earning potential.
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Workplace Retention
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We asked: How many roles have you had in the past 5 years?

- 5+ roles: 5%
- 4 roles: 9%
- 3 roles: 21%
- 2 roles: 43%
- 1 role: 28%

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Bridging the Gap – Action Plan

It will take years to reverse bias and the role culture has played and encourage more girls to take up studies and pursue careers in the Science, Technology, Engineering & Maths sector. In the meantime, organisations have a role to play in nurturing talent irrespective of gender.

Our research has highlighted key areas and recommendations that organisations need to prioritise in order to bridge the STEM skills gap. Below is a summary and our proposed "STEM Gender Parity Guidelines" to help organisations address gender imbalance in the STEM sector.

1. Networks. Companies need to maintain strong internal and external networks as it has had a positive correlation to happiness at work and retention. The opportunity for women to connect and share experiences, support and advice with other women cannot be underestimated.

2. Career progression matters. Thirty per cent of women were looking to leave their current employers due to lack of career progression. Employers need to ensure that women and other minority groups feel they are being given the opportunities to progress and feel supported in achieving their ambitions. This should be a key component of a STEM retention strategy going forward.

3. Development funds. Companies should also look to create development funds for those employees looking to upskill, so they can transition into other roles. This will encourage a growth mindset and support candidates looking for opportunities for career progression. They can also ensure they have development funds to support diversity initiatives.

4. Beyond STEM. The evolution of technology and artificial intelligence required new types of thinking and skills. Creativity and design are just as important as the analytical and problem-solving skills that were traditionally prioritised in STEM training. Our research identified a significant pool of talent that had technical understanding but were carrying out non-technical roles. We need to consider bringing in talent from other areas of business; a shift from STEM to STEAM (Science, Technology, Engineering, Arts and Mathematics) is inevitable to help meet the skills gap.

5. How attractive is your employer brand? Millennials in particular value purpose as much as profits and want their work to contribute to a better world. They want to work for employers who share the same values. Therefore, an employer’s brand and image matters and creates an opportunity for employers to invest in communicating a positive employer brand. Employers with a strong record on equality and diversity will find it easiest to attract & retain the most diverse talent.

6. Visible employee advocates. According to our research, word of mouth is still the top entry route into STEM careers, which can pose a challenge for those from backgrounds with less STEM industry knowledge or contacts. Strong employee advocates, diversity champions and ambassadors can amplify the power of positive word of mouth. These advocates will support collaboration between businesses and schools to provide access to credible role models for those from hard to reach demographics.

7. When recruiting, go where the talent hangs out. The millennial generation in particular, are increasingly using online platforms, direct access to employer brands and other online tools to find jobs. Employers need to be visible on the platforms they frequent. To ramp up recruitment, there is an opportunity to step up returners and apprentices through these channels, whilst encouraging those that want to re-skill and transition into new careers to consider their current employers first.

8. Pay & Reward Matters. Earning potential was the second most popular reason why women left their employment – only 6 per cent of respondents cited work-life balance. A commitment to fairness and transparency in reward and recognition with robust policies & procedures is needed.

No one could suggest that dealing with the career dynamics of the future will be easy, for either employees or employers. It is important to rethink our recruitment and job roles and throw away our traditional ideas of developing talent.

Although following these guidelines will give some quick wins, more importantly, focus and commitment on attracting and retaining the best talent irrespective of bias will be where companies will see longer term payoffs.

Next steps: Achieving diversity starts with small baby steps. Far too many of the employers interviewed during the production of this research seemed unsure of where to begin. Talk is good but actions, no matter how small, are even better. Actions speak louder than words.