

Society of Operations Engineers

# WOMEN IN ENGINEERING

CHAIR: CATHY NEWMAN



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# WOMEN IN ENGINEERING



At the Society of Operations Engineers, we recognise that we have a lot to do to make the Society, and the industries we serve, attractive to a broad range of individuals. We are committed to implementing the Royal Academy of Engineering Diversity and Inclusion Progression Framework and to promoting these values within the profession.

In line with our ambitions, we invited employers, educators, mentors and innovators from different backgrounds and industries to share their experiences. Their inspiring stories, and the lively discussion that followed, helped us reflect on where we are now and how we can achieve our goal of improving diversity and inclusion within the profession.

**Bruce McGill**

Chief Executive Officer

**Society of Operations Engineers**

# PANELLISTS PROFILES



## Chair

### Cathy Newman

Cathy Newman is a Channel 4 News presenter, who began her career as a newspaper journalist with spells at the *Financial Times* and *The Independent*. Her book, *Bloody Brilliant Women*, was published in 2018.

## Pauline Dawes



Pauline won the Jaguar Land Rover Innovation Award, the IGD Supply Chain Excellence Award and the UK Women in Innovation Award for her SOMI Trailer invention. The invention – which utilises space under a trailer – now has 22 granted patents.

Pauline attended Cambridge University at 38, before doing a full-time MBA at Manchester Business School.

## Amanda Foster



SOE Trustee Board member and Lead for Women in Engineering, Amanda is a Chartered Engineer and businesswoman with 30 years' experience in military and civilian sectors.

One of the first four female vehicle mechanics in the British Army, Amanda's military experience includes key engineering leadership roles in several global operational environments.

## Nada Issa



A Chartered Senior Mechanical Engineer at chapmanbdsp, Nada is a STEM Ambassador who campaigns for greater diversity in engineering, and highlights practices that the industry could adopt to create a truly inclusive environment.

Nada was recognised as one of the Top 50 Women in Engineering under 35 by the Women's Engineering Society and *The Telegraph*.

## Sir John Parker



SOE Patron Sir John is a Past President of the Royal Academy of Engineering and has chaired five FTSE 100 companies, including National Grid plc.

Sir John conducted an independent review of ethnic diversity of UK boards – The Parker Review – in 2016, to consider how to improve the ethnic and cultural diversity of UK boards and be more representative of society.

## Dani Rathke



Dani is a qualified Passenger Carrying Vehicle (PCV) engineer and electrician and is the owner and Director of Vehicle Inspection and Training Services (VIATS), which provides a range of services to the motor industry.

Dani began her career in Hamburg, Germany, by pursuing a mechanical and electrical apprenticeship on buses; she was the first female to do so.

## Ann Watson



Chief Executive of Semta, an employer-led skills body supporting the engineering and manufacturing sectors, Ann works strategically with engineering employers to identify and develop solutions to

the many skills challenges in the sector. As part of her role, Ann represents employers with government departments and stakeholders, such as the Institute for Apprenticeships and Technical Education.

## Polly Williams



Polly joined the Royal Academy of Engineering in 2019 as Head of Diversity and Inclusion. Polly has a background in developing and delivering equality, diversity and inclusion (EDI) activities at both the strategic and operational level.

Prior to joining the Academy, Polly worked for six years for the Royal Society, the UK's national academy of science.

## Pamela Wilson

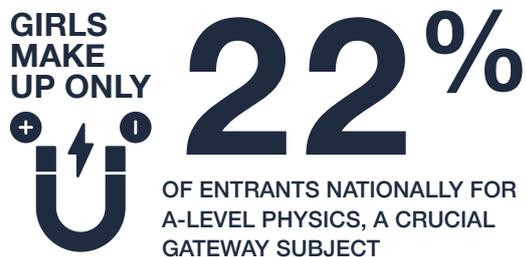
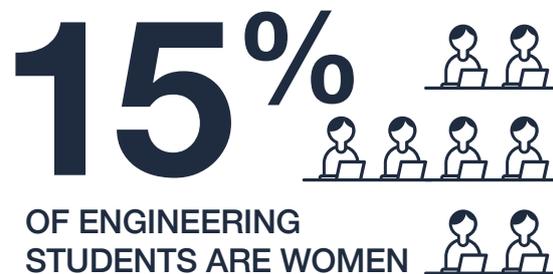
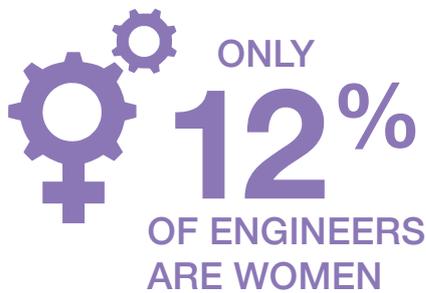


With 30 years of engineering experience gained across the UK and Europe, in multi-national and multi-disciplined teams, Pamela supports the expansion of electronic systems products and programmes at BAE Systems.

A STEM and Women in Engineering ambassador, and engineering mentor, Pamela has a degree in Electrical and Electronic Engineering from the University of Ulster.

# WHERE ARE WE NOW?

According to Engineering UK there is an annual shortfall of up to 59,000 engineering graduates and technicians. More women joining the profession could fill these core roles.



THE UK IS FAR BEHIND OTHER EUROPEAN COUNTRIES; ITALY, SWEDEN, LATVIA AND BULGARIA ALL HAVE DOUBLE THE UK RATE OF WOMEN ENGINEERS COMPARED TO MEN.

The UK has an annual need for **124,000** engineers; we fall **59,000** short each year. We need to do all we can to meet this shortfall. More importantly, we are missing out on amazing engineers who could be helping us to make the world a better place.

# WHAT NEEDS TO CHANGE

Gendered differences in perceptions and aspirations about engineering careers are observed in children as young as seven (Engineering UK).

Engineering is seen as a dirty job: an engineer is seen as the man who comes to fix your boiler. We need to be explaining that an engineer designs your car.

Sir John Parker, Chairman of Pennon Group

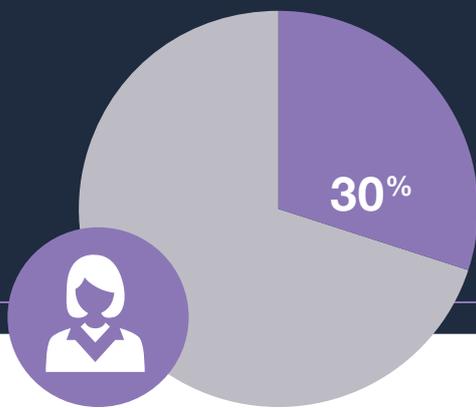
When a third of male teachers think STEM careers are more suited to boys than girls, it is no surprise we don't have the pipeline of female engineering talent we need.

(Semta)

Only 4% of engineering apprenticeships are taken up by women. We need to give young people hands on experience to bring them into engineering, not just traditional academic routes.

# HOW WE CAN INSPIRE

Women are already enjoying great careers in engineering and are shaping the world around us. We should tell their stories, not focus on the problems of the past.



When (The Davies Review) set the target of 25% women on boards. Many said it couldn't be done. Now it is at 30%.

Sir John Parker, Chairman of Pennon Group

Women are natural problem solvers and inquisitive.

Pauline Dawes, Founder of SOMI Trailers and Winner of 2017 UK Women in Innovation Award

I just wanted to know how things worked... I was the girl banned from using electricity in the garden shed.

Pamela Wilson, Engineering Manager at BAE Systems

Once women get their foot in the door in engineering firms, they thrive.

Polly Williams, Head of Diversity and Inclusion at Royal Academy of Engineering



# NEXT STEPS

We will continue to address misconceptions and share inspirational stories to rebrand engineering as an inclusive and diverse career.

We have to prove ourselves as a sector and really show people in BAME (Black, Asian and Minority Ethnic) communities that we want them to come and use their talents with us.

*Ann Watson, Chief Executive of Semta*

Diversity has been shown to drive innovation and success in business.

A recent study by Boston Consulting Group found that increasing a company's diversity boosted its profits by 19%. Missing out on talented people with different backgrounds and perspectives makes engineering poorer as a profession.

Other aspects of diversity outside of gender need to be addressed with the same energy.

*Nada Issa, Senior Mechanical Engineer at Chapmanbdsp*

Women currently make up only 12% of the engineering workforce and increasing that number to the same level as men would add £2bn to the UK economy (Semta)



# HOW YOU CAN HELP

The Society of Operations Engineers aims to highlight and acknowledge best practice amongst organisations which actively promote engineering diversity.

## Contact us to:



Share your success stories to inspire others



Help us to understand the challenges you face



Get involved and be an advocate for change

Email us at [events@soe.org.uk](mailto:events@soe.org.uk)

Follow our progress on diversity at [www.soe.org.uk/diversityinclusion](http://www.soe.org.uk/diversityinclusion)

Enter our Safety and Sustainability awards [soe.org.uk/event/soe-awards.html](http://soe.org.uk/event/soe-awards.html)

Come and talk to us at one of our events [soe.org.uk/event](http://soe.org.uk/event)

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