

Technology is the future, and technology depends on Electronics

Girls into Electronics

“The course was so insightful and made me consider a sector which I hadn’t necessarily thought about before. It was amazing talking to so many inspirational women in Electronic engineering”

The *Girls into Electronics* programme provided 230 girls between the ages of 15-18 with a unique opportunity to develop an interest in Electronics.

Hosted by 10 of our partner universities, and with support from our sponsors CSA Catapult, the UKESF held one-day events that showcased Electronic Engineering as a degree and a career. Participants had the opportunity to:

- Attend a sample undergraduate lecture from a senior academic
- Hear from current female students about their experiences
- Tour the university department and see research facilities
- Learn about working the sector by hearing from UKESF Scholars
- Take part in an ‘hands on’ introduction session to learn about microcontrollers.

97%

of respondents rated the *Girls into Electronics* day as ‘Good’ or ‘Excellent’

89%

of respondents felt more enthused about Electronics after attending

84%

of respondents who weren’t considering a career in Electronics prior to attending, now are



Students at Girls into Electronics day at The University of Sheffield

Why *Girls into Electronics* is Important

The UK Electronics industry is a world leader and there is a significant skills shortage. This means that there are too few engineers and designers to develop the next generation of products and help produce the creative technological solutions needed by society.

The Equality, diversity and student characteristics data 2022 from the Office for Students¹ found that just 17.9% of engineering, technology and computing undergraduate entrants were female. In 2021, UCAS data² showed that as few as 335 female students started Electrical & Electronics Engineering degree courses in the UK.

The UKESF is taking immediate action to tackle the gender imbalance in the Electronics sector. *Girls into Electronics* provided an opportunity to engage with motivated students to ignite their interest in electronics and raise their awareness of careers in the sector.

The Programme

The programme for each *Girls into Electronics* event aimed to answer these questions:

- What is Electronics?
- What is it like to study Electronics/Engineering at university?
- What is like working as an Engineer in the Electronics sector?

The day comprised a number of interactive activities, including:

A sample lecture from a senior female academic

The subject of the lecture varied from university to university, but some examples included:

- Medical engineering and the role electronics play in healthcare, Imperial College
- Prosthetics Lab, Newcastle University
- Robotics & Healthcare, University of Liverpool

This gave the students an insight into the subject as well as university life.

Experiences of students and engineers

Participants had the opportunity to hear from, and ask questions to, female engineers and interns working at Electronics companies, and lecturers and female students. This included face-to-face presentations and Q&A, as well as watching a video from UKESF Scholars.



The video of female UKESF Scholars was shared with participants

¹ [Office for Students report July 2022](#)

² [UCAS Undergraduate sector-level end of cycle data resources 2021](#)

A tour of the university department

The students were able to learn more about the host university, its labs and research facilities, and the cutting-edge work of the researchers and academics.



Students tour the department at Aston University

An introduction to microcontrollers

The students participated in a 'hands on' session which gave them an introduction to microcontrollers using the Grove Beginner Kit for Arduino, which they were able to take home with them.

"Using the Grove beginner kit for Arduino was really good fun and gave a practical application that was easy to get to grips with very quickly and also relevant to what we were hearing about"

Following the event

The UKESF will keep engaging with the participants and their schools. Immediately following the event, the UKESF shared a number of additional resources with the participants, to ensure they could continue to develop their interest in Electronics, as well as make the most of the Grove beginner kit for Arduino at home.

The UKESF are also working with CSA Catapult to provide participants with the opportunity to attend a careers focused session at the CSA Catapult Innovation Centre in Newport in Autumn 2022.

Participant feedback on the programme

The programme has been very well received, and in a survey following the events, participants were able to feedback on the part of the day they enjoyed most:

- Practical session: 57%
- Hearing from Scholars / students: 13%
- Robotics session (Newcastle & Sheffield): 9%
- Tour: 8%
- Talk from a Professor: 8%
- Prosthetics lab: 5%

100% of participants rated the practical session as good or excellent.

"Seeing all the possibilities of what you could do during an EEE degree seemed to spark that sense of awe that a child would feel walking through a huge toy shop for the first time in me."

Impact

In total, 230 female pupils attended the ten events. Participants were in Year 10 (36%), Year 11 (32%), Year 12 (30%) and Year 13 (2%) and from over 100 different schools.

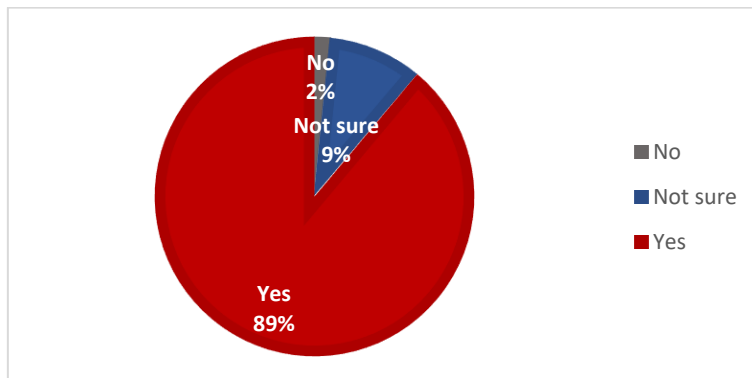
97% of participants thought the event was “good” or “excellent”

What did you think about the event?



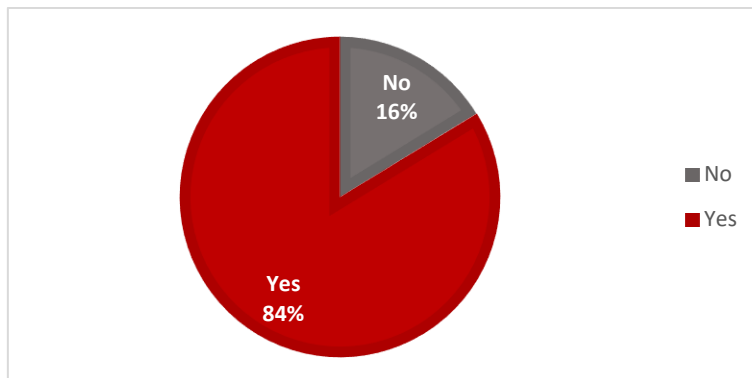
Almost 90% of participants felt more enthused by Electronics after participating in the event

Do you feel more enthused by Electronics?



The event encouraged 84% of participants to consider a career in Electronics

If you were not already considering a career in Electronics, are you now?



Where next for *Girls into Electronics*?

The 2022 series of 10 events throughout the UK was a significant scale up of the programme from previous years. In 2019, the event was held as a three-day residential course at Royal Holloway, University of London, attended by 22 students. During the pandemic, the course was moved online and 28 students attended virtually. This year, we have reached almost 10 times that number of pupils.

Working with our university partners and sponsor, CSA Catapult, *Girls into Electronics* provided an opportunity engage and inspire young people with Electronics. The feedback shows that the events had a very positive impact; raising awareness about the opportunities in Electronics and Engineering, as well as to encourage participants to consider it as an option for their future.

“It’s great to get such fantastic feedback from attendees. CSA Catapult is so proud to have sponsored UKESF’s Girls into Electronics Programme. The skills shortage in engineering has the potential to impede the UK’s growth as a world leader, and we want to build greater diversity within our sector and have a positive impact. We’re very proud to be part of the future workforce’s pathway into electronics.”

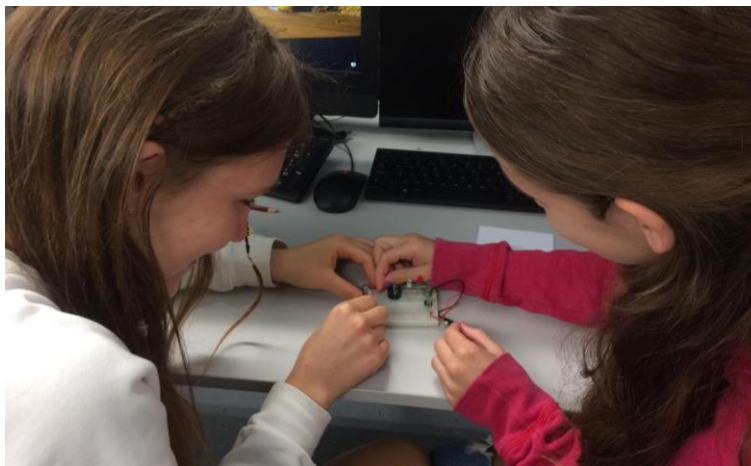
Clare Gunning, HR Director, CSA Catapult

“Support for Girls into Electronics this year has been amazing. We’ve taken a massive step, with 230 girls participating at events hosted by 10 of our partner universities. Generating enthusiasm for Electronics among young people is central to our work at the UKESF, we want to do even more in future years.”

Stewart Edmondson, CEO, UKESF

In 2023, we will aim to scale up even further, building on this year’s successful approach. We hope to:

- Increase the number female students participating
- Organise more events, hosted by our partner universities, across the UK
- Provide more ‘hands on’ activities for participants
- Deliver more careers advice and engagement with female engineers working in the sector
- Supplement the in-person days with more post-event enrichment.



Participants from the event at Royal Holloway, University of London

“As someone who’s finding it difficult to decide between engineering disciplines, today was extremely helpful in making me aware of the similarities and differences between them so that I can make an informed choice.”

With Thanks

"I had a fabulous and very rewarding time, thank you so much!"

Our Sponsor



Our Host Universities



About the UKESF

The UK Electronics Skills Foundation (UKESF) is an educational charity established in 2010. In the UK, Electronics, especially semiconductor design and manufacture, is a growing and strategically important sector of our economy. However, the demand for capable graduates far outstrips supply.

The UKESF works to tackle this national skills shortage in a coherent way; it operates collaboratively with major companies and leading universities. The UKESF also undertakes outreach and engagement activities to ensure that more schoolchildren are aware of Electronics and the opportunities available. This is achieved through a range of education Electronics-focused activities, projects and teacher training.

Girls into Electronics is just part of the UKESF's wider strategy to address the gender imbalance in the Electronics Sector. To find out more, visit ukesf.org or get in touch at info@ukesf.org.

"Moving beyond talk about the skills shortage to take positive action is what the UKESF is all about."

Stew Edmondson, CEO, UKESF