



# GIRLS INTO ELECTRONICS 2024

Inspiring the next generation of female electronics engineers



The event was fun, insightful and Electronics Engineering is now definitely an option when considering career opportunities

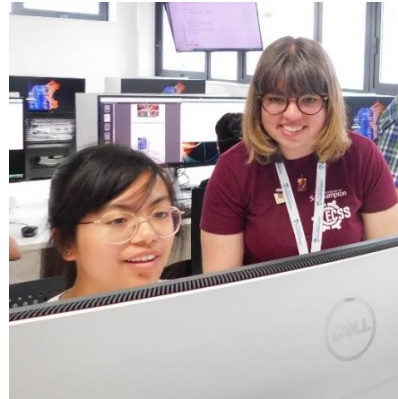
## The UKESF Girls into Electronics 2024 programme - supported by Apple - inspired nearly 400 female students (aged 14 - 17) to get into electronics

The Girls into Electronics events - hosted by 12 different UKESF partner universities - were attended by 375 students and 45 teachers, from over 100 schools. Nearly half of participants were from BAME (Black, Asian and minority ethnic) backgrounds and just under a quarter would be first in their family to attend university.

Girls into Electronics was launched in 2022 and since then over 1000 female students, from over 200 different schools, have taken part in the programme.



Royal Holloway, University of London



University of Southampton

A series of one-day Girls into Electronics events showcased the many exciting opportunities of studying and working in the field of electronics. At the events participants were given the opportunity to:

- Attend a sample undergraduate lecture from a senior academic
- Tour the university department and see research facilities
- Learn more about the opportunities available through the UKESF
- Take part in a 'hands on' introduction session to learn about microcontrollers.
- Meet current, and graduated UKESF scholars, studying and working in the field of electronics
- Hear from Apple engineers about their experiences working in semiconductor technology

96%

of participants rated the Girls into Electronics day as 'Good' or 'Excellent'

88%

of participants felt more enthused about Electronics after attending

56%

of participants who weren't considering a career in Electronics have now been inspired to

## Why Girls into Electronics is Important

The UK Electronics Skills Foundation (UKESF) launched Girls into Electronics in 2019 to inspire female students (aged 14-17), from diverse backgrounds, to consider a career in the Electronics sector.

The global semiconductor industry is the fourth largest industry in the world, and the compound semiconductor market has been forecast to reach \$136 billion in 2024, of which the UK has an 8% share<sup>1</sup>. However, the demand for employable graduates is currently outstripping supply. UCAS figures show that only 3,245 students enrolled on degrees in Electronic and Electrical Engineering in the UK in 2021, of which as few as 335 were women<sup>2</sup>.

The programme was developed based on best practice on interventions to increase girls' aspirations for engineering and technology careers published by Engineering UK<sup>3</sup>. Girls into Electronics is just part of the UKESF's wider strategy to address the gender imbalance in the electronics sector.



**At Apple we deeply believe that technology helps expand what's possible for learning, and are committed to providing access for all learners to have the chance and the tools to dream big and pursue opportunities**

**Mari-Anne Chiromo, Apple Inclusion and Diversity Partnerships Lead, EMEA**

## The Programme

Girls into Electronics gave KS4 pupils and sixth formers the unique opportunity to develop their interest in Electronics. At the heart of the programme was a one-day event at a leading university.

### 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 plays in Healthcare, Quantum Computing, using technology to capture Human Emotions and Photonics.

### Experiences of students and engineers

Participants had the opportunity to hear from females studying and working in the field of electronics: UKESF scholars - and other students - currently studying at the host university, graduated UKESF Scheme alumni, lecturers and engineers from Apple. After the talks, there was a chance for a Q&A session

### A tour of the university department

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

### 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.

### Following the event

The UKESF are keeping in touch with the participants, and their schools, to offer more support and encouragement about careers and study in electronics. 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.



**My students really enjoyed the day and it has encouraged them to think seriously about engineering and Electronics Engineering in particular**

<sup>1</sup> [The semiconductor industry in the UK \(parliament.uk\)](https://www.parliament.uk/business/committees/committees-a-z/commons-select/electronics-and-semiconductors/).

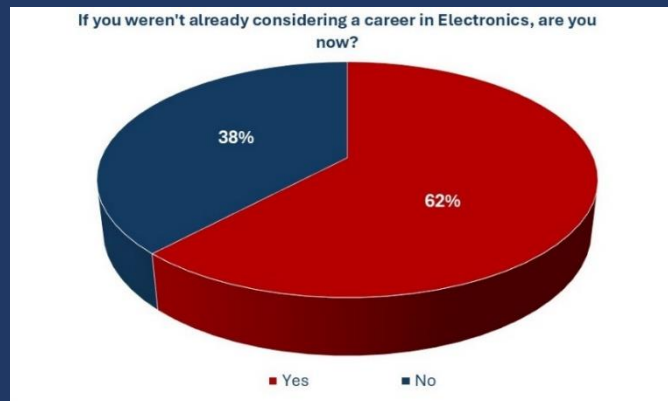
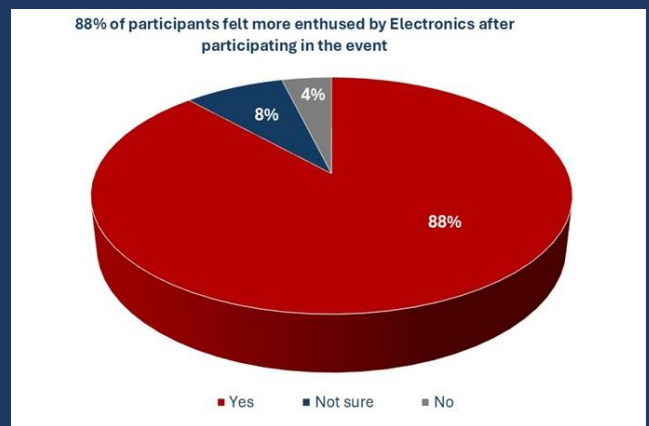
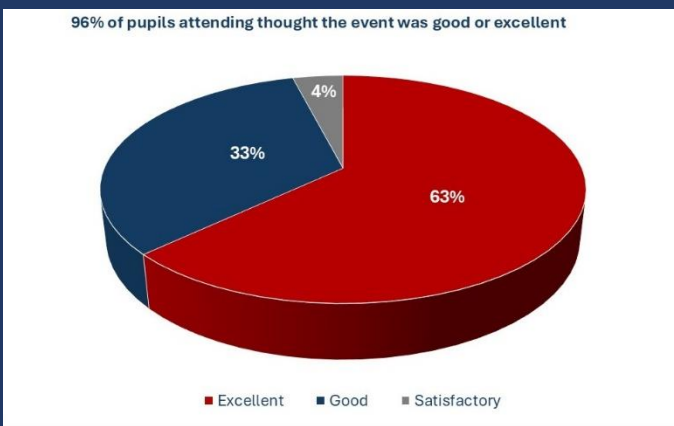
<sup>2</sup> [UCAS Undergraduate sector-level end of cycle data resources 2021](https://www.ucas.ac.uk/undergraduate/sector-level/end-of-cycle-data/resources/2021/)

<sup>3</sup> A [review](#) by Engineering UK

## Participant feedback for Girls into Electronics 2024

The programme has been very well received, and in a survey following the events, participants were able to feed back on the part of the day they enjoyed the most. The 'hands on' practical electronics sessions proved to be very popular with 94% of participants rating them as 'good' or 'excellent'.

Activity	%
Arduino electronics kit session	52%
Q&As/talks	14%
Tours	12%
Demonstrations/workshops	12%
Additional practical session (varies by university)	10%



### **New for 2024** Apple GiE (Girls into Electronics) Mentor Program

The Apple GiE (Girls into Electronics) Mentor Program selected 20 UKESF Girls into Electronics participants, who are in years 12 or 13 for academic year 2024/2025. Each student has been allocated a mentor, a Hardware Technology engineer from the Apple team. The initial mentoring program will be for three months, starting September 2024.

## Impact

The 375 participants were from 108 different secondary schools and 6<sup>th</sup> Form Colleges in England, Scotland and Northern Ireland. Almost half of the schools hadn't previously been involved with the UKESF's work and will now receive support from the charity's other outreach projects.

School year	% of participants
Year 8	0.8%
Year 9	3.0%
Year 10	29.8%
Year 11	14.7%
Year 12	48.7%
Year 13	2.6%



Queen's University Belfast

## Diversity and Inclusivity

The Girls into Electronics programme aims to encourage more students from diverse backgrounds to consider careers in the electronics sector.

**Polar4 quintile data<sup>4</sup> – 25% of schools attending events were in the lowest quintiles (1 & 2)**

POLAR4 Quintile	Number of schools	% of schools
1	11	10%
2	16	15%
3	17	16%
4	22	20%
5	42	39%

**46%**

of participants were from BAME backgrounds

**23%**

would be the first in their family to attend university

**8%**

of girls attending were eligible for free school meals

<sup>4</sup> The participation of local areas (POLAR) classification groups areas across the UK based on the proportion of young people who participate in higher education. See here: [About POLAR and Adult HE - Office for Students](#).

## Where next for Girls into Electronics?

Working with our university partners and sponsor, Apple, Girls into Electronics provided an opportunity to 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.

In 2024, there were 12 events attended by 375 female students. In 2025, the UKESF hopes to work with Apple again to build on this year's successful programme by offering 15 Girls into Electronics events, aiming for 4450 participants.

### With Thanks

#### Our Sponsor



#### Our Partner Universities who hosted a Girls into Electronics 2024 event



### About the UKESF

We are the voice for skills in the electronics industry. Through engagement - with schools, universities and industry - it is our mission to encourage more young people to study electronics and to pursue careers in the sector to ensure it thrives. To date, we have worked with more than 90 employers from across the industry, over 800 schools and we have partnerships with 29 of the UK's leading universities.

[ukesf.org](https://ukesf.org)