



**UK Electronics
Skills Foundation**

Annual Review 2022/23



**We are the
voice for skills in
the Electronics
Industry**

Technology is the future.
Technology depends on Electronics.

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About the UKESF

**The UKESF's mission is to encourage more young people to study
Electronics and to pursue careers in the sector.**

762

students have received
UKESF Scholarships
since 2010

The Electronics sector is critical to the functioning of our modern world and the UK economy. However, the demand for talented, employable graduates, is currently outstripping supply. The UKESF is an educational STEM charity, launched in 2010, solely focused on Electronics skills. We work collaboratively with major companies, leading universities and other organisations to tackle the skills shortage in the Electronics sector.

We ensure that more schoolchildren are aware of Electronics and the opportunities available, helping them to develop their interest through to university study. At university, we support undergraduates and prepare them for the workplace.

100%

of employers would
recommend the UKESF

Registered charity number: SC043940

www.ukesf.org

Introduction

Neil Dickins, UKESF Chair & Director



It feels like 2022/23 has been a watershed year for the UKESF.

I would describe the pre-covid incarnation of UKESF as an organisation that influenced a large number of individuals. However, the organisation has evolved into one that is now making a significant impact on the Electronics industry as a whole. Testament to this evolution are some of this year’s highlights which include the Royal recognition for our Scholarship Scheme and the massively successful Girls into Electronics programme.

From my perspective, perhaps even more telling than these specific examples is the overall sense one gets at industry gatherings and conferences about the stature of UKESF. The increased engagement with officials from the Department of Science, Innovation & Technology, invitations to speak at events and the ‘chatter’ during networking activities all point to the fact that UKESF is becoming recognised as the acknowledged voice of Electronics skills in the UK.

This has been achieved by the focus and hard work of our CEO, Stew Edmondson, as well as Pippa Boon and every member of our team. I know that I speak on behalf of our whole board when I say that I have been hugely impressed by UKESF’s progress and success this year, and I look forward to a busy and rewarding year ahead for everyone involved with the organisation.

The Year at a Glance

91% of Scholars who graduated in 2021 are working in the Electronics & Technology sectors*	78 scholarships awarded	1554 Insight into Electronics kits sent out since launch
11 new companies joined the UKESF Scholarship Scheme	28 leading UK universities are UKESF partners	465 Girls into Electronics participants
581 more secondary schools provided with Electronics Everywhere resources	11 Renesas award winners	3787 average number of unique website users per month

*Number of graduated scholars who have entered employment, not including those in further education.

Executive Statement

Stew Edmondson, UKESF CEO



Welcome to our Annual Review for 2022/23. This has been a busy year with notable success and pleasing progress for our Foundation.

It was a personal and professional highlight for me to receive an award, on behalf of the UKESF, for our Scholarship Scheme from HRH The Princess Royal in December. This was doubly special, as we also received a special commendation for our work on inclusivity.

I was also thrilled that the prestigious IET Gender Diversity Ambassador Award was given to Lynn Tomkins, one of the co-founders of the UKESF. The Award reflected more than 10 years of tremendous commitment by Lynn. As co-founder, Director and then latterly Chair of Trustees, she worked tirelessly promoting gender diversity in the Electronics sector.

I'm now into my 8th year leading the UKESF and in the last 18 months it definitely feels as if there has been a momentum shift. In May we saw the long-awaited publication of the Government's Semiconductor Strategy. Whether, as some commentators have opined, this is a case of 'too little, too late', time will tell. However, I think it sets out a realistic way forward. I believe that the increased focus can only be a positive for our Foundation and I was pleased that the strategy closely aligns with our thoughts on tackling the skills challenge:

Our approach to skills within this Strategy comes broadly in two parts: first, our investment in schools and teachers, as well as career advice and outreach programmes to inspire the next generation, and to nurture the higher education sector. Second, we will promote industry-led learning to ensure a robust pipeline of talent that meets their needs.¹

As a result, we are now working with an expanding range of partners on activities right across the skills spectrum from schools through to Level 8. For instance, we have submitted a proposal for a 'proof of concept' for a chip design academy, to address a particularly important skills gap.

In our core UKESF programme, this was a record-breaking year for our Scholarship Scheme. We saw the highest ever number of scholarships awarded and more than 25% of these were to females. Even more companies are involved and, overall, we have now helped more than 750 students.

With the support of Apple and 16 of our partner universities, we significantly scaled-up our *Girls into Electronics* initiative. This year we saw more than double the numbers participating in these events; 465 compared to 230 in 2022. Overall, girls from over 100 schools right across the UK attended and nearly half of the students participating were from ethnic minority backgrounds. This is a terrific example of how we have been able to create and grow meaningful interventions.

None of our activities would have been possible without the support of so many people. Therefore, I would once again like to extend my personal and heartfelt thanks to all those individuals and organisations with whom we have collaborated: our sponsors, universities, partners, scholars, volunteer Trustees and, of course, all of our hard-working team at the UKESF.

¹ [National semiconductor strategy - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/national-semiconductor-strategy) Section 7.4.

Highlights of the Year

Princess Royal Training Award

The UKESF Scholarship Scheme has been recognised with a Princess Royal Training Award and a Special Commendation for Diversity, Equity and Inclusion.



In 2022, the UKESF was awarded a prestigious Princess Royal Training Award. The award honours organisations who have created outstanding training and skills development programmes which have resulted in exceptional benefits.

Following a rigorous assessment in early 2022, the UKESF was recognised for the impact of our Scholarship Scheme in addressing the skills shortage.

Stew Edmondson, UKESF CEO, and Pippa Boon, UKESF Operations Manager, and Oana Lazar, UKESF Scholar of the Year 2021/2022, attended the Award Ceremony in December. At the event, Princess Anne also acknowledged the Scholarship Scheme for its focus on improving gender balance in Electronics, and the UKESF was one of just six organisations to be awarded a Special Commendation for Diversity, Equity and Inclusion.

“We are so thrilled to receive a Princess Royal Training Award. This is such a fantastic accolade for our UKESF Scholarship Scheme. It recognises our collective efforts, with our partner universities and industry sponsors, to nurture and develop the Electronics Engineers of tomorrow.”

Stew Edmondson, CEO, UKESF

A Record-breaking Year for the UKESF Scholarship Scheme

The UKESF Scholarship Scheme has been growing fast and has celebrated its most successful year, since it was established in 2010. This year, there were 266 applications from undergraduates studying at one of the UKESF's 27 partner universities.

More companies than ever joined the UKESF Scholarship Scheme this year and the employer survey satisfaction results are at their highest levels since the scheme began.

- 100% of employers would recommend the scheme to another company
- 97% of UKESF Scholarship applications were 'excellent' or 'good' when compared to other internship applications
- 97% said support from the UKESF was 'excellent' or 'good'



Hundreds of Girls Get into Electronics

The UKESF, in collaboration with tech giant Apple, has just wrapped up a very successful Girls into Electronics 2023. This year's programme saw more than double the number of female students participating, 465 compared to 230 in 2022.

Encouraging the next generation of female engineers as 85% of participants are inspired by electronics.

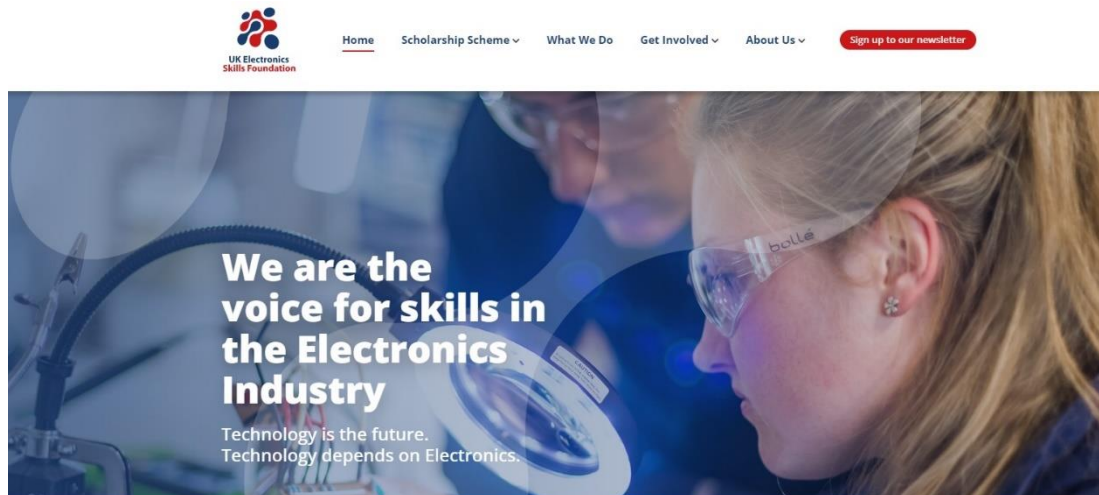
The Girls into Electronics events, hosted by leading UK universities, inspired the students attending and encouraged them to consider a career in Electronics. Girls from over 100 schools, right across the UK, attended. The initiative is part of our wider work to address the skills shortage in the Electronics sector, whilst also tackling the gender imbalance.

"We're thrilled to have worked with the UKESF on this important initiative, encouraging more women from all backgrounds to study electronic engineering and increase diverse representation in the field."

Mari-Anne Chiromo, Apple Inclusion and Diversity Partnerships Lead

New UKESF website launched

In March 2023, we launched our new [UKESF website](#). The aim was to create a website that was informative, engaging and easier to navigate for all our key stakeholders. We hope it will encourage more of our target audiences to get involved.



Reports & Campaigns

Future Engineering Skills in the Age of Artificial Intelligence

With the phenomenal increase in interest in AI, in March we published the [Future Engineering Skills in the Age of Artificial Intelligence](#) report, compiled following extensive industry consultation. The report concludes that the UK's role in this vital multi-billion-pound global industry is being held back by a significant skills shortage.

Creating a Skills Pipeline for UK Semiconductors: The Case for Investment in Secondary Education

In May, the Government published its long-awaited national semiconductor strategy. In [Creating a Skills Pipeline for UK Semiconductors: The Case for Investment in Secondary Education](#) we outlined our campaign calling for urgent action to tackle the semiconductor design skills shortage. As semiconductors become more critical to the success of UK plc, so there is an increased urgency to address this skills shortage, starting at the beginning of the semiconductor skills pipeline with greater focus and more investment in secondary education.

Activities & Partnerships

Undergraduates

Scholar of the Year Award

Scholar of the Year 2022/23 was awarded to Nikisha Chetry (Aston University/Renesas Electronics) at the TechWorks Awards & Gala Dinner, London. Leon Brindley (Southampton/Qualcomm) was named runner-up. Kindly sponsored by IC Resources, the award celebrates Scholars who have made a significant contribution during their work placement and who have actively promoted Electronics to young people.

Nishika was praised for her significant contribution during her work placement and her outstanding academic achievement. The UKESF Scholar was also recognised for her outreach and engagement work, which she has undertaken independently, through the UKESF and her university. She has twice won departmental awards for achieving the top results and has received external recognition as one of Electronics Weekly's 'BrightSparks'.



Neil Dickins (UKESF Chair & Director), Nishika Chetry, Leon Brindley, Stew Edmondson (UKESF)

“I will continue to work to make space for women in the Electronics industry, all in an effort to bridge the gender and generational gap that we currently have in this sector. I hope that as an UKESF Scholar I can inspire and motivate more young girls to study Electronics and showcase to them that we can do equally well as our male counterparts. The work we do in this industry solely relies on our passion and skills, not our gender.”

**Nishika Chetry (Aston University/Renesas Electronics)
UKESF Scholar of the Year 2022/23**

Scholar Workshop 2022

At the start of September 2022, another brilliant group of UKESF Scholars, who have now finished placements with their sponsor companies, joined us for another fantastic UKESF Residential Scholar Workshop at the University of York. The workshop was attended by 58 undergraduates from universities across the UK.

Over four days of professional and personal development, which included hearing from a range of speakers and taking part in group exercises. At the workshop the scholars were connecting, learning and networking which will be so valuable as they embark on their careers in Electronics.

“Great workshop, interesting lectures and it was great to network with other UKESF scholars.”

“Completely surpassed my expectations, so many great talks, activities and exercises.

“Really put into perspective what the UKESF does and how important it is to promote the Electronics industry to future generations.”

“Very information-packed in a good way! Felt like the topics covered it all with some truly excellent speakers and professional guests.”

Scholar Workshop 2022 feedback



Renesas Award for Female Undergraduates 2022/2023

The Renesas Award for Female Undergraduates (previously known as the Dialog Award) is a collaboration with our corporate partner Renesas (formerly Dialog). This award recognises outstanding female undergraduates who are commencing the first year of their studies on Electronics-related degree courses.

The recipients are supported with a bursary, a paid summer work placement at Renesas, and student membership of Women's Engineering Society (WES) for the duration of their degree.

The 2022 award winners were Arkapriya De and Tianya Liang. Both Arkapriya and Tianya are studying at the University of Cambridge and have just completed their summer 2023 placement at Renesas.



Arkapriya De and Tianya Liang on placement at Renesas

“This award has served me in many ways, bolstering my academic, professional and personal growth. It taught me the calibre of skills needed to be a proficient engineer; gave me an opportunity to further my understanding of the industry; and taught me how to most effectively use my time.”

Arkapriya De, Cambridge University - Renesas Award winner 2022/23

This award opens a multitude of doors for me to delve deeper into the fascinating realm of semiconductors. It transcends textbooks and theory, offering me the exhilarating opportunity to witness real-world applications come to life.

Tianya Liang, Cambridge University - Renesas Award winner 2022/23

BrightSparks Awards

We were delighted that five UKESF Scholars were recognised in the 2022 BrightSparks Awards. The Electronics Weekly BrightSparks programme, supported by RS, aims to highlight talented young Electronics Engineers in the UK.



The five Scholars who received the award, Simon A Betts (Cardiff University), David Kong (The University of Edinburgh), Oana Lazar (University of Southampton), Nishika Chetty (Aston University) and Sharon Kudenko (University of Bristol), were invited to the IET in July 2022 to collect their award and celebrate their achievement.

WES Student Conference

For the sixth consecutive year, we supported our final-year female Scholars to attend the annual Women's Engineering Society (WES) Student Conference, which took place on 25 November 2022 in Manchester. Our Scholars had their places kindly sponsored by Enigma People Solutions.

The Conference comprised sessions on networking, resilience and presenting, and there was an opportunity to hear from women in the industry.

"All my classes at university have had a strong male presence with very few female students in them. Due to this environment, I sometimes forget that there are many women working in the engineering sector, and that I am not alone. It was wonderful to hear about the early beginnings of the WES and the impact women have made in engineering in the past. It spurs me on to complete my degree and work as an engineer to continue in this legacy."

Ayo Anifowose, Cardiff University/Sky

Schools

Electronics Everywhere

Electronics Everywhere, a partnership with the University of Southampton, shows young people how engaging Electronics can be. We provide specially designed circuit boards to teach core Electronics concepts to A-level students in Physics (the Music Mixer) and Computer Science (the Logic & Arithmetic Kit), along with CPD for teachers, free to state schools.

To date, we have distributed 581 kits. Over the last year, 122 kits have been sent to schools.

We will aim to distribute Electronics Everywhere to more schools in the forthcoming year.

The music mixers are a fantastic resource for teaching capacitors and LEDs in the Electricity unit. They are easy to use, and they develop practical skills as well as enhancing knowledge of course content. I highly recommend them!

Pete Colquhoun, Faculty Head of Science, Biggar High School

Insight into Electronics

Insight into Electronics, with the support of Imagination Technologies, has been able to reach more schools than ever. In total, 1,554 kits have been sent out to schools.

The UKESF, in collaboration with Aston University, created Insight into Electronics with the aim of providing young people with a flexible, hands-on introduction to microcontrollers, Electronics and programming. An extensive guide and informative videos are provided to schools and participants also receive a free Grove Beginner Kit including an Arduino. Insight into Electronics is self-paced, interactive and free

We have received excellent feedback from students who have received the kits:

1. 89% of students said the online resources were either excellent or good
2. 93% of students said the kit was either excellent or good in terms of use
3. 88% of students said they felt more enthused by Electronics after using the kits

Insight into Electronics recipient feedback

“Truly thanks a lot for the Arduino, as it really helped me delve further into Electronics through the aid of the kit. I would otherwise normally not have been able to access such technology.”

“It was a great starting point to Electronics and the resources provided were very helpful, especially as someone who had no experience with computers or Electronics before.”

“I now want a career involving Electronics!”

An Introduction to Electronic Engineering

In September 2022, as part of a collaboration with the University of Birmingham, we launched [An Introduction to Electronic Engineering](#), a free online course, designed to help secondary school students to further their Electronics knowledge and develop their interest.

To date, nearly 2,500 people have enrolled on the course. The course is hosted by online learning platform FutureLearn.

An Introduction to Electronic Engineering feedback

“The course expanded on stuff I already knew while also telling me new things and applying those things to real life. Amazing”

“I’m glad I chose to do this – I’m not an Electronics Engineer yet, but the course has fuelled my interest.”

External Awards

In addition to the Princess Royal Training Award, the UKESF received recognition through two other external awards.

The IET Gender Diversity Ambassador Award Recognises UKESF Co-Founder Lynn Tomkins

The prestigious IET Gender Diversity Ambassador Award 2022 has recognised Lynn Tomkins, co-founder of the UK Electronics Skills Foundation (UKESF), for her outstanding efforts to address the gender imbalance in Electronic Engineering.



ERA Foundation Awards 2023

Isabel Culmer, Education and Outreach consultant for the UKESF, was awarded the Secondary School Clark Prize from the ERA Foundation for her outstanding work at a 6th form college, for inspiring younger people to consider engineering as a profession and career.



Communications & Engagement

Media Coverage

The UKESF has generated a wide range of media coverage, from national media to industry publications. Coverage has included print, broadcast and online media.

Media titles include:

The Independent	Daily Mail	Evening Standard
BBC	Express	New Electronics
Electronics Weekly	Apple World Today	The Engineer
EE News Europe	E&T Magazine	The Manufacturer
Student Circuit	FE Week	imore
Yahoo	Oxford Mail	

Apple supports scheme to encourage more girls into electronics career

The tech giant is supporting the Girls Into Electronics programme alongside the UK Electronics Skills Foundation.

Maryn Land • Friday 10 February 2023 15:55



Apple is supporting a scheme to give 400 girls aged between 15 and 18 an insight into the electronics industry via the UKESF (UKESF) (UKESF)



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Tech giant Apple is working with a UK charity to encourage more young girls to enter the world of electronics.

The iPhone maker is supporting the Girls Into Electronics programme alongside the UK Electronics Skills Foundation (UKESF), a charity that works to tackle the skills shortage in the industry.

The scheme will give 400 girls aged between 15 and 18 an insight into the electronics industry including semiconductor design and manufacture with the help of 15 of the UK's leading universities.



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By Alan Williams 26th May 2023

Viewpoint: Connecting with graduate engineers – Tips for employers

Stewart Edmondson, CEO at UK Electronics Skills Foundation (UKESF), shares his experience of supporting more than 750 undergraduates through the **UKESF Scholarship Scheme**. He considers how employers can de-risk their graduate recruitment process...



UK AI held back by skills shortage says UKESF

Market news | April 4, 2023

By Nick Flaherty

AI

Digital Media & Marketing

On the UKESF website, the average number of users per month increased by **168** compared to last year, taking the total to **3,185**, while the average number of page views per month has increased by **510**, rising to **9,800**.

We maintained our excellent newsletter response rates – our average newsletter open rate was **34%** (the average rate for the UK in 2021 was 19%), with an average click-through rate of **9.8%** (likewise, 1.7%).

On our LinkedIn company page, we gained **574** new followers, taking the total to **1,700**. Over the course of the year, we gained **75** new Twitter followers, taking our total number to **1050**. We also gained **41** new Facebook followers, taking the total there to **417**.

1. *Source: getresponse.com/resources/reports/email-marketing-benchmarks.html*

Income & Expenditure

Income 2022/23 (2021/22)	
Sponsorship, Grants and Donations	£142,280 (£76,807)
Scholarship Scheme (bursaries, management fees and workshop fees)	£370,473 (£337,250)
Total income	£512,753 (£414,057)

Expenditure 2022/23 (2021/22)	
Charitable activity costs	£311,891 (£233,798)
Administration and support costs	£199,854 (£159,553)

Scholar Destinations

Since 2010, **762** students have been awarded a UKESF Scholarship and **431** Scholars have graduated, **16%** of whom went on to undertake further study or research (PhD/MSc).

Of those who have completed their studies, **91%** work in the Electronics and Technology sectors. **70%** of employed former Scholars work for a UKESF Sponsor Company.

With thanks to...

The UKESF Steering Board and our Trustees:

Prof Bashir Al-Hashimi CBE FEng FRS	Stewart Edmondson
Neil Dickins	Rupert Baines
Heather MacDonald	Dr Derek Boyd
Dr Graeme Philp	

All the Scholarship-sponsoring companies and all of our Partner Universities.

All the organisations that have supported our work and we have collaborated with:

TechWorks, IC Resources, CSA Catapult, Women's Engineering Society, Enigma People Solutions, Mathys & Squire, Skills 4 Ltd, Cyber Security Associates, The IET, Kinnery, Rapid Electronics, Real People Consulting

Special thanks to the following companies for their donations this year: Apple, Arm, AWE, Embecosm, onsemi Foundation, Qualcomm and Renesas.



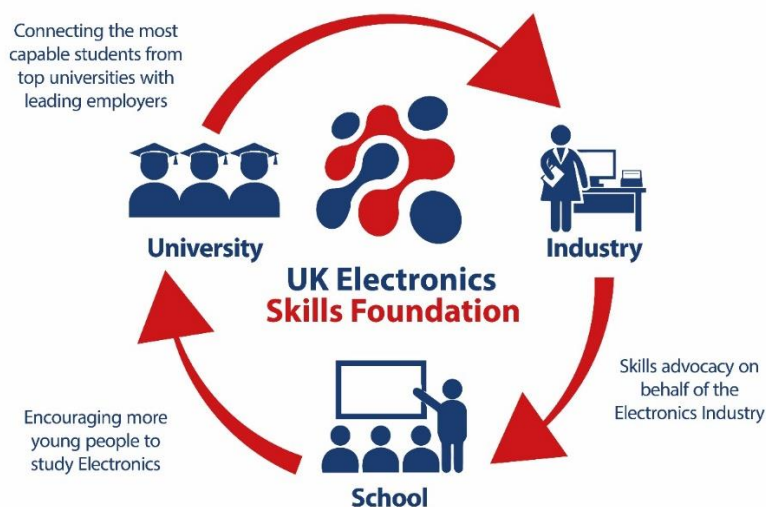
Our Strategic Priorities

The purpose of the UKESF is to tackle the skills shortage in a coherent way. Our aim is to:

Encourage more young people to study Electronics and to pursue engineering careers in the sector.

To achieve the aim, we have four strategic priorities:

1. Ensure more schoolchildren are **aware** of Electronics. Show these children, their parents and teachers that there are exciting and worthwhile careers available as designers and engineers in the Electronics sector.
2. With our partners, provide opportunities for them to develop their **interest** in Electronics and engineering, through to university study and/or apprenticeship.
3. At university, ensure that undergraduates are encouraged to pursue careers in the Electronics sector and they are supported in their professional **development** so when they graduate they are equipped with work-ready skills and experience.
4. After graduation from university, we will help create a community of Electronics engineers to secure the future pipeline. We will **build relationships** and act as the representative voice for the sector on skills.



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