



# **UK Electronics Skills Foundation**

## **Annual Review 2015/16**

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

***Stew Edmondson, CEO, UKESF***

# Contents

About the UKESF	2
Introduction	3
The Review at a Glance	3
Executive Statement	4
2015/16 Review	5
Core Programme	5
New Relationships & Activities	6
Income & Expenditure	8
Looking Ahead	8
Thanks	9

## Josh Oldfield, UKESF Scholar of the Year 2015

"I am honoured to receive this award and very grateful to the UKESF for giving me a kickstart into my professional career. The opportunity has really helped my development as an engineer. It has given me a chance to enhance and test my skills in the engineering workplace as well as helping the next generation of electronics students shape their future."

## About the UKESF

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

**300**

Scholarships have been  
awarded since 2010

In the UK, the Electronics sector is big, valuable and growing; however, the demand for capable, employable graduates is currently outstripping supply. The UKESF is an educational charity, launched in 2010, with both public and private seed-corn funding. We operate 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.

Registered charity number: SC043940

[www.ukesf.org](http://www.ukesf.org)

**83%**

Graduated scholars are  
employed by Electronics  
or Technology companies

# Introduction

*Indro Mukerjee, Chairman*



It's now six years since the UK Electronics Skills Foundation was created; something which started as a hope has been turned into reality through a lot of work. As Founding Chairman, I was pleased to work with people from across the industry, academia and the public sector to start something practical, something worthwhile and something real and lasting.

Since then, the UKESF has become well established, with an increasing track record of students who have gone through the Foundation and into UK industry, a professional structure of governance and, now, a capable, full-time CEO.

Stewart Edmondson joined as CEO last year. He has a long and varied background in electronics and management and, like me, a passion for the UK and a belief in the essential role of electronics systems for our industrial development.

As a small but passionate charity, we achieve our aims through collaboration, and partnerships with industrial companies, universities and public bodies have been consistently increasing. I would like to sincerely thank all our partners for their support and to confirm the commitment and dedication of the UKESF team to helping to build a great future for the UK and its electronic systems capabilities.

## The Year at a Glance

**1,200**

children in Key Stages 3 and 4 participated in a UKESF-funded Electronics activity

**80**

sixth formers attended a UKESF Summer School

**16**

partner universities

**24**

leading Electronics companies sponsoring new scholars

**63**

UKESF undergraduate scholarships awarded

**8**

of the 10 leading UK universities for Electronics are UKESF partners

**Double**

number of Facebook likes

**Fourfold**

increase in website visitors

**Fivefold**

increase in Twitter followers

# Executive Statement

*Stew Edmondson, CEO*



This year has been an extremely busy one for everyone involved with the UKESF and an enormously enjoyable one for me personally. Our challenge to tackle the graduate skills shortage is a potentially daunting one. Nevertheless, as this Annual Review highlights, we have generated some momentum to start to move us forward.

I'm a firm believer in targets and, with the Trustees, we have set three specific targets for the UKESF:

- To double the number of UK undergraduates studying Electronics in the next five years;
- To increase the number of female undergraduates by 50%;
- In order to achieve these aims, we need to engage younger schoolchildren with Electronics. Therefore, our aim is that, within five years, 10,000 children each year will have completed an Electronics STEM activity with the UKESF.

We are a small organisation, so we place collaboration at the heart of our ethos. Therefore, I'm delighted that this year we have established eight new working relationships and launched a wide variety of new activities and initiatives. As well as continuing to grow our core programme of Go4SET and the Headstart Summer School, we have collaborated with organisations such as The IET, The Smallpeice Trust and The WISE Campaign to promote Electronics to significantly more children across the country. I'm particularly pleased that we created the first sector-specific resource pack for WISE's innovative 'People Like Me' campaign.

Our scholarship programme for undergraduates has been strengthened during the year and I was delighted that we were able to award our 300th scholarship. Furthermore, in summer 2016, our 100th scholar will have graduated. We know that 83% of those who have already graduated are now employed by an Electronics or Technology company; this is a far higher percentage than the national average for Electronics graduates and shows the calibre and commitment of our scholars.

Behind the scenes we have also worked hard to put the UKESF's organisation on to a more professional footing and have been very active in raising our profile; successfully launching our new website in February was a major step forward.

Overall, whilst we know much more work is needed, this year has seen the UKESF complete a significant programme of transformation. We are now much better positioned to tackle the skills challenge.

## 2015/16 Review

### What our scholars did next

The UKESF has **information about 94% of the 93 scholars** who have graduated since 2012.

Of those, **83% are employed by Electronics or Technology companies** and 11.5% are studying for a PhD or doing research at a university.

**Over half of our ex-scholars were offered employment** by their sponsor company upon graduation and nearly 40% of these are still working for them.

Of our ex-scholars, approximately **50% now work for a company involved** with the UKESF.

Many more ex-scholars work for sector-specific companies than the average (64%) for engineering graduates.

### Core Programme – Highlights

#### *Scholar Workshop (previously known as Summer Workshop)*

The Scholar Workshop 2015 was the largest and most successful to date, with 60 scholars participating this residential week of professional and personal development sessions and networking with speakers from industry. The workshop took place in Newcastle from 6<sup>th</sup> to 10<sup>th</sup> September.

#### *Scholar of the Year Award*

Josh Oldfield was awarded Scholar of the Year 2015. He spoke at the NMI Annual Summit and was presented with his award at their Gala Dinner on 19<sup>th</sup> November. Josh studies Electronic Engineering at the University of Southampton and is sponsored by ARM, and was commended for his passion for promoting Electronics.

#### *Go4SET*

A total of 162 schoolchildren completed the Go4SET Electronics challenge across the South West and South East competition hubs during March 2016. Go4SET was developed by the UKESF in partnership with EDT, and aims to engage children age 12–14 with hands-on design challenges that prompt them to apply STEM-related solutions to real-life problems.

#### *Headstart Summer School*

We helped to organise two Headstart Summer Schools in 2015, held in Edinburgh and Surrey in July, providing a university experience for a total of 80 Y12 students – 22% of which were female. This five-day residential course offers a taste of degree study and the chance to find out about careers in Electronics ahead of UCAS applications. Additionally, we have created the UKESF Award for Female Undergraduates to incentivise girls who attend a Headstart course to study Electronics at university by awarding them £1,000 at the end of their first term, starting in 2017.

## New Relationships & Activities

**We've significantly expanded our education activities.**

### *The IET*

We collaborated with The IET and delivered ten IET Faraday Challenge Days between February and June 2016, benefitting a total of 360 Year 7 children. This one-day practical Electronics competition is based on the BBC's micro:bit, a pocket-sized codable computer, and is held at universities and venues across the UK.

### **Dr Roger A. Light, Advanced Optics Group, University of Nottingham**

"We hosted one of the IET Faraday challenge days at Nottingham last week and I wanted to say thank you for the support from the UKESF that allowed us to do this. I've not been involved in one of the challenge days myself before and was impressed. The kids were really engaged and had a good time trying to develop devices for helping people. I got a chance to have a play with a micro:bit as well – they're neat pieces of kit and the programming environment is good."

### *The Smallpeice Trust*

We partnered with The Smallpeice Trust to deliver ten STEM days in 2016, as part of their 50<sup>th</sup> Anniversary programme. We are the sponsor for the Midlands, with each day taking place at a different state secondary school in the region, benefitting 60 Year 9 students each time. In total, we will engage with 600 students over the year.

### *Digimakers*

We delivered our first hands-on practical Electronics taster session to 30 children on 11<sup>th</sup> June 2016, as part of a Digimakers event in Bristol. Digimakers is a series of free workshops that aim to inspire children with computing, coding and electronics experiences. We used a simple electronics circuit to provide the children with their first experience of soldering and circuit construction, assisted by seven UKESF scholars.

**We've focused on tackling the gender imbalance in Electronics.**

### *The WISE Campaign*

We collaborated with the WISE Campaign to produce the first ever sector-specific 'People Like Me' resource pack, which focuses on careers in Electronics. This pack is designed to be delivered in schools and is aimed at girls aged 11–14; it encourages them to take a greater interest in STEM subjects and to consider the related career options with the aid of a ground-breaking self-descriptive quiz.

### *National Women in Engineering Day*

We supported NWED 2016 with our CEO presenting our 'People Like Me' Electronics resource pack to 45 Y8 girls at the University of Salford, Manchester, as part of a STEM outreach day for girls from local secondary schools. During the session he guided the girls through the quiz and discussed the different types of job roles in Electronics suited to different personalities.

#### *UKESF Award*

We have created the UKESF Award for Female Undergraduates to incentivise girls who attend a Headstart course to study Electronics at university by awarding them £1,000 at the end of their first term, starting in 2017.

#### *Skills 4 Ltd*

We have agreed a partnership with Skills 4 Ltd to provide career development for one final-year female scholar in the form of the Skills 4 UK Scholar's Award. Eligible scholars will apply through a simple tick box on their Annual Report; the successful applicant receives a place on Skills 4 Ltd's award-winning Career Development Programme and additional coaching support, as well as being one of our expenses-paid guests at the NMI Industry Summit and Gala Dinner.

### **At universities, we've improved our scholarship scheme and promoted RF Engineering.**

#### *Blackwell's*

We agreed a formal partnership with Blackwell's to provide discounted academic books for UKESF Scholars, making a pre-loaded gift card part of the offer for Scholarship Scheme first years.

#### *The Radio Communications Foundation*

We launched a RF Engineering and Communications competition in partnership with the RCF and supported by Leonardo. The competition is open to undergraduates who are completing their major individual project in the academic year 2016/17 with a principal focus on RF. The winner will receive £1,000, with two runners up receiving £500 each, and all are expected to help promote this area of engineering.

# Income & Expenditure

## *Income*

Sponsorship and Donations – £60,521

Scholarship Scheme (bursaries, management fees and workshop fees) – £354,832

## *Expenditure*

Scholarship Scheme (bursaries and workshop) – £263,919

Educational Activities – £63,400

### **Amy, Go4SET participant, Badminton School, Bristol, South West hub**

“I wanted to discover something new and I can definitely say that I have learnt something new during this project ... [it] hasn't only introduced me to my first bit of Electronics ever but it has [also] given me a little bit of insight towards the world of engineering ... I used to think engineering was all about cars and people building cars. But actually it is much more than that.”

## Looking Ahead

Having transformed the UKESF and agreed a new direction in 2015/16, next year we are looking to do more outreach activities around our Strategic Objectives. These are:

- To ensure more school children are aware of what Electronics enables around them.
- To show these children and their parents that there are exciting and worthwhile careers available in the Electronics sector.
- To provide opportunities for them to develop their interest in Electronics, through all levels of study, including apprenticeships and university.
- At university, to ensure that undergraduates are encouraged to pursue careers in the Electronics sector and they are helped to develop their work-readiness skills and experience.

Therefore, we will expand our collaboration with partners such as EDT, The IET, The Smallpeice Trust, our scholars and others to provide hands-on activities and projects focused on:

- Years 6 and 7: stimulating children's minds and raising their awareness about Electronics whilst the majority are still interested in STEM.
- Years 8 and 9: building an interest in Electronics and linking this interest to possible careers at the point when schoolchildren are choosing their GCSE options.
- Years 11 (post-GCSE) and 12: ensuring more pupils choose the enabling A-levels in order to go on to study Electronics and make them consider Electronics as a potential career choice.

## With Thanks To...

The UKESF Steering Board and our Trustees: Indro Mukerjee, Dr Derek Boyd, Andrew Repton and Lynn Tomkins

Strategic Advisory Group members, scholarship-sponsoring companies and all our Partner Universities

The NMI, Blackwell's, The Engineering Development Trust, The IET, Radio Communications Foundation, The Smallpeice Trust, The WISE Campaign

Lynn Tomkins and everyone at Skills 4 Ltd

Bill Simpson and his team at BHD Creative

Craig Taylor at ROMI

Darren Race at Think Eleven

Neil Dickins at IC Resources, for sponsoring the UKESF Scholar of the Year Award

Special thanks to the following companies for their donations this year: ARM, AWE, Broadcom, Dialog, Imagination, Infineon and Leonardo

UK Electronics Skills Foundation  
North End House  
North End  
Ashton Keynes  
Wiltshire  
SN6 6QR

Email: [info@ukesf.org](mailto:info@ukesf.org)  
[www.ukesf.org](http://www.ukesf.org)

Stew Edmondson (CEO) can be contacted on 07894 899544