UKESF – STRATEGY (v1.0 March 2018)

Context

Technology is at the heart of our world; it is the future. Recent technological advances in communication, transportation, healthcare provision and entertainment have already transformed our society and made people's lives better. However, our societies face numerous threats, for instance health, energy and security. Technology offers hope and expectation; there is much more to come (AI, virtual reality, robots, drones, driverless vehicles, smart cities, telemedicine, cyber and machine learning).

Electronics and Engineering

Electronics is a vital part of all these technologies. Technological products and devices are packed with electronic components; electronic circuits and embedded software make them function. Electronic Engineers design these circuits and the embedded software to solve problems. They are innovators and creators. Think Elon Musk, Eben Upton and James Dyson.

The UK

The UK has a long heritage of technological innovation and has a world-class Electronics sector. However, there is a shortage of Electronics Engineers (especially graduates), which means that there are too few engineers and designers to develop the next generation of products and help produce creative technological solutions needed by society. This situation is likely to worsen post-BREXIT. The shortage is also exacerbated by a fragmented landscape across the sector. Ultimately, this will undermine the Electronics sector as a whole in the UK, which in turn, will adversely our economic prosperity.

The UK Electronics Skills Foundation

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:

- 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.
- With our partners, provide opportunities for them to develop their **interest** in Electronics and engineering, through to university study and/or apprenticeship.
- 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.
- 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.

We are an independent charitable foundation at the nexus of an extensive network of partners and collaborators. To deliver the strategic priorities, we will draw a network of stakeholders more closely together and act as an 'aggregator'. The role of an aggregator is to build alliances, make connections and encourage collaboration, in a non-threatening way, to achieve a multiplying effect.

In summary, our strategy for tackling the skills shortage will be:

Raise Awareness – Promote Interest – Support Development – Build Relationships

Raise Awareness

Currently, there is a low level of awareness and understanding about Electronics among schoolchildren and among those who influence their subject and career choices. This is the crux of the skills shortage. Therefore, as an immediate priority we need a national campaign increase awareness and to promote Electronics.

The campaign will be aimed at secondary school-age children (11–16) and those who influence their career choices. We will produce a platform for the campaign that will be modern and smart, with content (including video) hosted on a separate microsite using a memorable headline ("*#TurnontoElectronics*") and fronted by a well-known technology media figure. We will work with a PR agency to develop the creative aspects of the campaign and with other stakeholders to produce the content, which will include information about Electronics, the industry in the UK and careers. We will use social media to attract attention and will leverage our network of universities and companies to join the campaign and so amplify and spread the message. We will seek a sponsor to help fund the development of the platform and content for the campaign.

Promote Interest

Once we have gained attention and raised awareness through our campaign, to be successful we need to kindle and develop interest in Electronics. We will focus on making explicit the link from solving society's problems and making people's lives better to Electronics, for instance: case studies like the use of AI algorithms in finding a cure for Parkinson's disease.

We cannot achieve the required scale ourselves and this is where we will position ourselves as an 'aggregator'. For example, from the microsite, we will provide connections to organisations that are already providing opportunities to nurture interest in Electronics, especially the outreach activities being undertaken by our partner universities and others, such as STEM organisations (e.g. The Smallpeice Trust and the Engineering Development Trust).

At schools, we will focus on teachers and the curriculum. Investing in teachers by providing training and resources achieves a gearing effect and we will promote Electronics via those increasing popular A-Level subjects (Maths, Computing and Physics). We will also work with our partner universities to provide 'taster' courses to encourage Electronics as a degree choice for Sixth Formers.

Support Development

At universities, our principal focus will continue to be our scholarship scheme for undergraduates. We will develop the scheme to ensure it meets the expectations of both students and employers. Demand will be grown through a marketing strategy and sales campaign based on a value proposition aimed at increasing the number of sponsoring companies. We will expand into broader areas of Electronics, included embedded systems, software and robotics. Supply of undergraduates will be grown by working with an increased number of partner universities.

We will explore other ways of helping more students gain work experience in the Electronics industry.

We will align and link the skills needs of the sector with academia, through work to identify specific skills gaps and help develop appropriate apprenticeship standards.

Build Relationships

After graduation, we will take active steps to build relationships and retain connections with the students we have supported. We will provide a network to help them establish themselves in their professional careers and to support their development and growth. These graduates are 'real models' and we will encourage them to get involved with our work to help to inspire the next generation.

On behalf of the sector, we will build relationships, provide thought leadership and act as the representative voice on skills related matters.