

TO MEET THE ENGINEERING SKILLS GAP WE NEED TO START EARLY

We need more engineers! That's a fact. Through her organisation, Primary Engineer, Dr Susan Scurlock MBE, is ensuring students are inspired by the prospects of a career in engineering from a very early age, as **flow** found out.

Each year, the UK needs 124,000 engineers and technicians with core engineering skills and yet more personnel to satisfy the 79,000 new roles in engineering. That's 203,000 people every year, with engineering skills to a minimum of level three, needed to meet the demand that is forecast to remain right through to 2024.

But where will we get them from? We need to ensure there are up and coming engineers in the pipeline.

Since 2005 Susan has been working with the team at Primary Engineer to engage children as young as three and help them identify their inner-engineer. She has also crafted teacher training programmes that help to identify and nurture latent engineering skills. Fifteen years on, she is now taking a more formal direction with the creation of two professional engineering institutions, similar in structure to the professional institutions we already know. But these institutions have one fundamental difference to those already in existence; they are for primary and secondary school children.

Susan explains: "In May 2019 we launched two institutions – both with the specific objective of helping children and young adults to develop skills, mindsets and competencies related to engineering and the wider world of work. These institutions increase pupils' employability and broaden their career aspirations through collaboration with industry, the STEM community, and parents".

Using an online portal, the institutions work with teachers to create, access and evaluate projects while keeping track of the skills that their school delivers. Software also provides the capability for teachers to manage pupils' pathways to the institution's certification processes, thereby showcasing to industry and further education a pupil's aptitude for transferrable skills which, in turn, will increase their employability.

Primary Engineer isn't alone in its quest to inspire the next generation and shore up the continued supply of engineers. It has strong partnerships with companies like Weir Group and industry organisations like Scottish Engineering and Skills Development Scotland, who support Susan and her team on their programmes that stimulate interest in STEM.



Dr. Susan Scurlock (back, left), with Professor John Perkins at the launch of the Institutions of Primary and Secondary Engineers.

Primary Engineer has big ambitions. It started 15 years ago, by taking engineering into primary school classrooms – despite being told at the time that primary wasn't important and that 14-19 was the age to focus on. Over the years the organisation has observed many things, notably that children like to be called an engineer and that they like to find problems of their own to solve. This has led to the creation of the Leaders Award programme, which asks pupils "If you were an engineer, what would you do?" In the past year alone 37,000 children and young adults have submitted inventions, with many being exhibited at events nationally. From the inventions submitted, 220 have received top awards, and six universities have actually turned some of the best and most inspiring ideas into reality.

So, when it comes to looking forward 20 years to when the five-year-olds of today are ready to enter industry, it's teams like Primary Engineer and their industry partners investing in today's children, piquing their interest in STEM and maintaining it throughout school, that will help to keep the great in Great British engineering. ➔

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