

EDITORIAL

WEDDED TO ENGINEERING



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Few engineers can be satisfied with the public perception and understanding of the profession and the role it plays in solving society's challenges. So World Engineering Day for Sustainable Development (WED) deserves our support and attention. Proposed by the World Federation of Engineering Organisations and endorsed by UNESCO last November, the 4 March every year is set to become WED, with the very first WED having just passed. The plan is that industry and engineering organisations around the globe will run events to raise awareness of the importance of engineering and promote it as a career under the slogan, "If you want to change the world for the better, become an engineer."

WED comes at a time of growing interest in the UN's Sustainable Development Goals (SDGs) across governments, businesses and the public. The associated events will showcase the role that engineers and engineering must play if we are to make real progress in achieving those goals by 2030, the date agreed five years ago by all UN member states.

This year, many institutions held events to celebrate. In the UK, the Engineering

and Physical Sciences Research Council hosted a workshop on lessons from the work over recent years on 'Global Grand Challenges'. The Academy also held a two-day conference at Prince Philip House on 3 and 4 March where industry, educators and policymakers debated the importance of taking a new approach to engineering education. The event also coincided with the launch of a new set of films as part of the Academy's successful *This is Engineering* campaign that showcase how engineers can make a difference in the world.

There is a growing sense that engineers need to do more and do it more quickly. After all, it is five years since the SDGs were agreed and only this year did we see the first World Engineering Day for Sustainable Development. There are many technical options for addressing the SDGs, the challenge is to deploy those engineering solutions at large scale around the world. That means tackling non-technical challenges that engineers face in solving these contemporary problems, not least the political hurdles. For example, in the UK the long running argument over whether to invest in the High Speed 2 (HS2) rail link, a decision that eventually required the intervention of the Prime Minister, illustrates just how sensitive the court of public opinion can be, even in connection with something as familiar as a railway project. The decades of political arguments over HS2 will seem simple alongside the decisions needed to address the SDGs.

To coincide with WED, the Academy published its first *Global Engineering Capability Review*. Commissioned from the Economist Intelligence Unit, the review provides a broad assessment of the engineering strength of 99 countries, using a new Engineering Index that measures the

capability of nations to conduct engineering in a safe and innovative way. (The review also includes a detailed analysis of the strength of engineering in China, Colombia, Ethiopia, India, Jordan and Thailand.)

A key point that the review, and WED, try to make is that we need to think more broadly about what engineering really is. Are we constrained by a view of engineering that is too narrow, or too traditional?

The digital economy is frequently hailed as a development that will transform the breadth of engineering, linking everything to everything else, enabling the rise of what has been dubbed the Fourth Industrial Revolution. The impact of the digital economy in Africa is already enabling countries and industries to leapfrog traditional development pathways, connecting suppliers and markets, people and products in previously unimaginable ways. This bodes well for the rapid deployment of new technologies to tackle the SDGs.

The second game-changer that engineers need to be more engaged with is finance. The past year has seen an upsurge of interest in 'green finance' or more broadly, 'sustainable finance'. This is an important new lever for engineers to use in pursuit of innovation and change. Fund managers see sustainable investment becoming the norm, which in turn will drive new markets for sustainable engineering. Be it climate change, zero hunger, good health and wellbeing, clean water and sanitation or any of the SDGs, financial services hold the purse strings. WED must be about more than technology and education, it needs to embrace the worlds of finance and investment, not to mention politics.

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