

Alan Harding talks about the contribution that systems people make to today's complex projects, and how the IET and INCOSE UK are helping more systems people achieve professional registration.

# GOTTA HAVE A SYSTEM!

A SYSTEMS engineer with 27 years of experience at BAE Systems, I'm also a professional engineer registered in the UK, and have just begun my term as president of INCOSE UK, the professional society committed to promoting and furthering systems approaches in industry, academia and government in the UK and internationally.

A system is a solution to a problem or a need; it has a purpose. Systems are all around us, and the systems in our world are ever more richly linked, such as new intelligent energy concepts, with the associated complex choices regarding the relative merits of renewables over traditional power sources; or the discussion on effective business models and decision-making on the railways as evidenced in recent West Coast Mainline and High Speed 2 Project stories.

The ability to think about systems, to make decisions, plan and manage in a systematic way is crucial to society as we develop, sustain and use ever more complex and inter-connected systems. These abilities are clearly as important to law-makers and officials as they are for people delivering major programmes, and those innovating and delivering products in the private sector. Many working in engineering and technology are systems people by instinct, education or experience – even if not identified as such.

The qualities that make a 'systems person' are, in my experience, a combination of domain knowledge, technical competency and professional behaviours. Domain knowledge ensures understanding of the operating sector and relevant technology or services. Technical competency equips people with the basic techniques necessary, based on their education and real-world experience. Professional behaviours cover soft skills as well as a demonstrated strong personal code of ethics. When I recruit for a role I look for a balanced blend of these aspects in an individual and in the team that I am building. This mitigates the reality that nobody is perfect, and that we all have individual strengths and weaknesses.

Each of us is responsible for our own



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Continuing Professional Development (CPD) across all of these areas, and hence ensuring that we are suitably qualified and experienced for our current and (hopefully) future roles. This includes maintaining currency for our current role in the face of changing circumstances – 'moving forwards just to stand still', if you like.

Recognising the importance and prevalence of systems in society, the IET and INCOSE UK have formed a partnership so that together we can more widely promote systems approaches in the UK, joining forces in encouraging and supporting systems people in their professional development. This is an exciting opportunity allowing us to combine INCOSE's focus on systems, with the IET's world-class support for engineering CPD.

In October 2011, the two organisations signed an agreement allowing INCOSE UK members to achieve Professional Registration via the IET. This was made possible by the 'buddying' mechanism available to INCOSE UK as a Professional Affiliate of the Engineering Council. The agreement allows INCOSE UK members to use the IET's professional registration services, which offer access to a range of career development benefits such as the IET's Career Manager. Already, 16 people have been recommended for CEng registration through this agreement, in the vanguard of 38 people who joined in the 'First Movers in Professional Pathways' initiative and who are currently working towards registration, from organisations including Atkins, BAE Systems, General Dynamics UK, Purple Secure Systems, QinetiQ, Thales UK and Ultra Electronics, together with the UK Ministry of Defence and the Defence Science and Technology Laboratory.

INCOSE UK continues to focus on professional development, working with the IET to promote professional registration and provide better support to systems people considering and working towards registration. This is being achieved by activities such as mapping the INCOSE Systems Engineering Competency Framework on to the Engineering Council's UK-SPEC, and helping the IET grow the pool of Professional Registration advisors and interviewers with specialist systems engineering know-how.

Looking ahead to my term as INCOSE UK president, we will maintain a sustained emphasis on CPD for instance through promoting Systems Engineering Certification for those wanting to highlight their specialist skills, and sharing a good practice guide for CPD covering both individuals and organisations. In addition, we will continue to promote the contribution made by systems approaches, and the value of the systems engineering discipline, as part of INCOSE UK's contribution to promoting the role of engineering in the UK. ■