



Case Study: CEng

Stuart Harper



Hello, my name is Stuart Harper MSc CEng CSEP MINCOSE, I am currently a Principal Engineer (Systems Engineering) at BAE Systems. My current role requires leading and supporting the development of systems that provide unique capabilities for defence platforms. There are a lot of opportunities at BAE Systems to develop as a systems engineer and to utilise my existing Systems Engineering knowledge. I also have the opportunity to mentor graduates towards a 'best-practice' approach to Systems Engineering.

I am currently defining the strategic and operational context within a specific 'Cross System Functional Thread'. This allows me to undertake future system requirements and architecture definition activities as part of a 'Model Based Systems Engineering' (MBSE) approach to that 'Thread'.

I would say my biggest achievement to date is reaching a significant level of proficiency in Systems Engineering that has allowed me to transition into a wide variety of industry sectors, such as aerospace, automotive, energy, defence and make a significant contribution.

Over the next five years I would like to position my career towards the design and development of advanced control systems, with the aid of Systems Engineering of course. It is a subject that I was introduced to in 2019 and provides possible research opportunities. I would also like to combine my passion for Systems Engineering and advanced control systems within the 'Space' sector.

Congratulations on gaining your professional registration with INCOSE UK. What inspired you to apply?

Even before my early college days, I have always aspired to become a chartered engineer. When I was younger, my grandfather would often talk about how becoming a chartered engineer is a prestigious award for any engineer.

How did you find the application process through INCOSE UK?

I found the application process easy to follow and if I did experience an issue, I always knew that INCOSE UK would provide the necessary support to advance my application.

Was it challenging to document all the workplace evidence required for the CEng application and did it take a long time?

Documenting all my work experience against the required competencies was relatively straightforward. I had assembled much of the evidence over the past 2 years, so I was confident I had the experience to make an application, I just needed to articulate my experience in a way that was required for each competence.

How easy was it to track down references in support of your CEng application?

This was fairly straightforward as I had been in contact with a number of former colleagues as part of completing my CSEP application, luckily all were professionally registered. In addition, I was able to acquire additional support from current work colleagues.

How long did the application process take?

The application process took approximately 10 months to complete, from initial submission to officially being chartered.

How did you find the professional review interview?

I found the interview to be a great experience, an opportunity to interact with other professional colleagues to discuss my career. I relish any opportunity where individuals test my knowledge and skills, in this instance with well-thought through interview questions.

In what ways has registration benefited your career?

It is probably too early to provide any instances where professional registration has benefitted my career. If the question was, "How do you see professional registration benefitting your career in the future?" My answer would be, I see professional registration providing me with a quality standard that organisations and other engineers would recognise. This would provide many benefits, especially in aspiring to move into a leadership role.

Do you have future plans to support others in the professional registration process?

I don't have any firm plans at the moment, but I do aspire to continue mentoring systems engineers who are early in their careers. As part of my mentoring process, I would include encouraging and supporting SE certification and professional registration.

Finally, what advice would you give to future INCOSE UK CEng applicants?

My advice would be, to remember that professional registration is a journey towards having your skills and knowledge recognised by professional peers, it is not just an application process. Therefore, take control of your career early on, identify and develop the necessary skills, learn something new (continuously), adapt to a changing work-based environment and most importantly, do something you enjoy!