

I Am a Systems Engineer and I Do...

Scott Reid



Why did you choose to be a Systems Engineer?

I didn't specifically choose Systems Engineering; I gravitated towards it throughout my studies.

When I was at university, I found that I never wanted to specialise in one area of engineering as I preferred to have a holistic overview of the systems under development. To allow me to do this, I studied Electrical & Mechanical Engineering at the University of Strathclyde, which gave me the opportunity to get involved in both engineering domains while studying Systems Engineering topics. I was also lucky enough to complete a semester abroad in San Diego along with a summer placement, which enhanced my desire to broaden my experiences and gave me an introduction to

working with products at different stages of the lifecycle.

Towards the end of university, when it was time to apply for graduate jobs, the Systems Engineering roles jumped out at me and excited me. I wanted the opportunity to work holistically across real systems instead of specializing in one domain. I secured a graduate Systems Engineering role which was the start of my career, and I've never looked back.

What education/qualifications do you have for Systems Engineering?

I have a master's degree in Electrical & Mechanical Engineering, which had Systems Engineering at the core of it. This gave me a good foundation and set me off on my Systems Engineering career, as well as teaching me how to be a lifelong learner.

From there, the bulk of my experience has been achieved 'on the job' along with various Systems Engineering training courses over the years. This experience enabled me to become a Chartered Engineer through the IET and I am currently planning to complete CSEP in the near future.

One other recent achievement was co-authoring a paper for INCOSE ASEC, "Getting the 'Digital First' Future You Want incl. Model-Based Systems Engineering (MBSE) and Digital Twins", and winning the Hitchins Award for Best Paper by a New Author and Presenter. It was a pleasure being able to present at the conference to a room full of systems engineers and I am very grateful for the award.

In terms of experience, I feel it is important to take a step back from time to time and reflect on the skills you are learning when completing the day job. The most valuable lessons learned are often those learned through first-hand experience and a lot of people are systems engineers, or are doing Systems Engineering activities, without realising it.

What is it about Systems Engineering that you find so compelling?

The variety of the work.

Being a systems engineer, you are able to work at different stages of the lifecycle and easily jump between projects and even industries. I started out my career in defence, on military vehicles, and am now the MBSE Lead for Capgemini, where we work across many domains, such as Defence, Aerospace, Energy, Automotive, Rail, Telecommunications, and Banking. Everything is a system, meaning we can move between different projects instead of focusing on one specific type of product, or even a detailed component within that product, instead we can take what we've learned in Systems Engineering and reapply it elsewhere.

I am really interested in seeing how Systems Engineering differs between industries and how it can be adapted to support the teams and organisations. The same challenges come up again and again, such as siloed engineering and lack of communication between teams, and Systems Engineering can often provide the answer to these problems. The processes applied need to be tailored for each industry and organisation but the overall Systems Engineering approach is similar, and this is where I focus my efforts today. I am passionate about supporting people in Systems Engineering and MBSE, sharing lessons learned in the implementation of Systems Engineering on projects as well as how to introduce it and roll it out across organisations.

What advice would you give a systems engineer just starting out in their career?

Firstly, try to get as many different experiences as you can. I focused my early development around the V-cycle, aiming to get involved with as many different parts of the lifecycle as possible. This gave me a great insight into the different types of work and allowed me to focus on what interested me the most.

Secondly, people are key. Systems Engineering is the glue that brings people together, and building up good relationships, and the skills which allow you to do that, will make your life a lot easier. This will also allow you to learn from others and further develop yourself.

Lastly, don't be afraid of failure. Learn from it and keep going. Failure is essential for growth as it can teach you valuable lessons about what works and what doesn't. It is important to reflect on your experiences, both positive and negative, to understand what happened and why, allowing you to learn from it in the future.