

## DR JOHN WEAVER

### CONSULTANT



### Expertise

**John** is known in industry for his ability to solve complex engineering problems in a way that allows them to be brought in on-time, on-cost and on-quality.

For the last 14 years John has worked at a number of large engineering organisations, but always in a Systems capacity, be it engineering design or corporate behavioural change.

Initially, his personal Systems Engineering skills were refined in the Space-borne RADAR Systems arena, developing concepts, and hardware/software solutions, for both institutional and corporate customers. During this period the Unified Modelling Language (UML) was introduced as an alternative Systems Engineering tool set. This second tool set then increased his capability to such an extent that his track record for success was noticed. This required that others be trained to deliver in a similar fashion. Thus giving an opportunity for the acquisition of necessary team-working, and interpersonal, skills for training which have stood him in good stead throughout his later work life.

Originally employed as a Digital Systems Engineer, to design Field Programmable Gate Array (FPGA) cores for use in the Space arena, the Systems Thinking/System Engineering approach has allowed application in purely electrical/electronic, software, mechanical and corporate systems and in an application-specific combination of all four.

John has specific skills in:

- Life Cycle Management
- Systems Engineering Processes
- Systems Engineering Tools
- Planning Systems Engineering activities
- Requirements Engineering
  - Gathering Requirements
  - Analysing Requirements
  - Specifying Requirements
- Requirements Management
  - Hierarchical Requirements
  - Change Management
- System Design
  - Conceptual Design
  - Design Optimisation
  - Robust Design
- System Verification

### History

John read Electronic Engineering at Lancaster University, for which he obtained a first class honours MEng in 1997, he then spent a further year gaining an MSc in Digital Signal Processing for Communications Applications, before obtaining his doctorate in 2003. This combination of Masters degrees allowed an engineering direction to be taken in the highly physics based world of radiation detection research, with digital numerical discrimination algorithms being the core tenet of the thesis on behalf of (the now) BAe Submarine Solutions. This novel solution to a research problem would set the pro forma for future engineering behaviour, identify the problem and solve in an innovative/creative fashion if the tried-and-tested approach is becoming out-dated, outmoded or out-performed.

John started work in 2001 at (the soon-to-be) Airbus Defence & Space Division, based in Portsmouth. Working specifically in Space-borne RADAR. He was instrumental in the development, realisation, proving and delivery of key electrical and electronic modules and equipment. Several conceptual works still underpin not only their portfolio of equipment and modules but also the methods used in their structured verification for proof of performance to institutional customers.

In 2007 he joined General Dynamics and worked in the arena of C4ISTAR, delivering products over the Bowman communications infrastructure. It was during this period that the necessary corporate hierarchical structure, with attached software and tool usage, was understood, from enterprise solution to individual day-to-day working. This model based behaviour involving people, process and tools was then used on his return to the Airbus Defence & Space Division in 2008, where a new role was undertaken effecting behavioural change within the design community to allow cost saving by standardisation of design modularity to component level.

Further to the design standardisation activity was the introduction of Design for X. This was to help the organisation to improve the through lifecycle efficiency of the engineering teams by bringing the voice of later stages, such as manufacture, assembly and test into the design phase. This was then embedded within the corporate process to allow repeatability of successful activity.

In 2011 he was recruited by Rolls-Royce Civil Large Engines to work with cross-discipline teams to build on the 5-day course given by Burge Hughes Walsh in the workforce. Facilitation and engineering activity planning then allowing early capture of product failure modes and mitigation activity planning. A number of successful activities were undertaken delivering long term value to this matrix organisation.