DARD Consulting Limited

Duncan Dowling

Curriculum Vitae

Systems, Software and Safety Engineer

Specialising in complex dependable systems

Summary

Duncan is a versatile and enthusiastic Chartered Engineer whose specialities include systems, safety and software engineering of complex software/data-intensive applications in highly regulated domains. He has 20 years' experience in the UK and overseas on large and small projects – primarily in the Rail (ETCS in particular), Aerospace, and Defence sectors. He is experienced in all lifecycle phases of delivering and assessing complex, critical, software/data-intensive systems.

Duncan thrives working on challenging projects, delivering value and engaging with people at all levels both inside and outside of the organisation. He is confident working either as team leader, team member or external consultant.

Personal

Full and clean driving licence

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Education and Professional Affiliations

Chartered Engineer (MIET).

1992 BEng (1st Class honours) from Brunel University.

Key Skills - Requirements engineering (DOORS); systems analysis, design and modelling (SysML); safety engineering; safety management; standards (CCS TSI/NTSN, 00-56, IEC 50126/8/9, DO-178B); project management (APMP); programming (Python, C, C++, PHP, SQL, HTML, JS); foreign languages (rusty/travel French/German/Chinese).

Interests - Travel, learning, cycling, different cultures.

Employment history

2010 – current	Director and Principal Consultant with DARD Consulting Ltd.
1998 - 2010	Senior Systems Engineer with Altran Praxis (formerly Praxis Critical Systems).
1994 - 1996	Project Engineer with PVC Additives Limited (Hong Kong).
1988 - 1993	Industrial Placements with Edwards High Vacuum (BOC Limited).

Significant past/current roles:

Duncan assisted Siemens in developing the **trackside ETCS signalling system for Thameslink and more recently on ECDP**. He worked with domain experts to demonstrate that the supplied system, and integral products, was operable and satisfies the customer's requirements. Key activities included requirements analysis, performance analysis, development of application rules, management of SRACs, design reviews and demonstration of compliance with the CCS TSI to the NoBo and ORR (TL only).

Duncan worked with Network Rail on a number of **ETCS projects**. These included assuring the ETCS trackside infrastructure (e.g. RBC, balises, LEUs) for operation of ETCS Level 2 near Heathrow Airport. Another involved assuring the means of protecting ETCS trains from overspeeding in ESR/TSRs. And another has involved providing ETCS expertise to help suppliers specify the requirements for an enhancement to TPWS that uses ETCS Limited Supervision mode.

Duncan developed and supplied a **Key Management Centre** to NR, which remains in use since 2015. He continues to support NR with its procurement of a new on-line key management system.

Duncan was **software architect for a flight-critical subsystem** for the F35 aircraft that was certified to DO-178B. He worked with the Client to produce the System Architecture and ensure software was produced to address cost, schedule, qualification, complexity and future needs.

Duncan led a Praxis team carrying out the **safety assessment for the WATCHKEEPER UAV system**. The team carried out risk identification, analysis, safety requirements specification, and audited/assessed/supported the supply chain and produced early versions of the electronic System Safety Case (using ASCE). The role involved negotiation and liaison with numerous stakeholders within Thales, their supply chain, the MoD, the IPT and Independent Assessors.