Curriculum Vitae

Benjamin Chaplin

Contact Details

Benjamin Chaplin

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Qualifications

- Bachelor of Engineering (Honours)
  Australian National University 2011
  major: Sustainable Energy Systems
- Member of Engineers Australia (MIEAust)
- Member of Institute of Electrical and Electronics Engineers (MIEEE)

Key Skills and Experience

Skills

- Project management
- Developing technical specifications
- Building and maintaining client relationships
- High IT proficiency
- Designing technical systems
- Risk management

Experience

- Design of engineering products
- Coordinating maintenance of radio systems
- Directly coordinating teams
- Liaising with highly sensitive clients
- Translating clients' needs to action
- Managing long and short term projects

Recent Work History

2016–current

Project Engineer at Sea Box International/ECLIPS. At Sea Box I designed and managed the delivery of logistics platforms and shipping products. As a systems engineer, I design and engineer products, manage their production overseas and manage their delivery to the customer. I also develop power system architectures, user manuals, and assess designs against government and legislative standards.

2011–2016

Project Engineer with Cubic Defence Australia (formerly PSMC). I designed and coordinated maintenance of Defence safety radio installations around Australia. I also created engineering designs and documents within a project management structure, ran projects, liaised with customers and consulted to the public sector.

2009–2011

While studying for my degree, I worked for Sea Box International as a design engineer. This work involved extensive use of CAD tools and creating project management documents, including work breakdown structures and inspection and test plans.

2006–2009

Prior to joining PS Management Consultants, I was an IT Systems Administrator, working in the ACT Government schools system and for Ethos CRS, a writing and editing consulting firm.

I have strong skills in writing for the public and private sector. I have written and co-written technical specification documents, as well as documents for training courses, technical manuals and project

summaries.

Specific Project Experience

Container Roll-Out Solar System

At Sea Box International I designed the Container Roll-Out Solar System (CROSS), a containerised rapidly deployable solar power system.

I developed the full mechanical and electrical design, completed the specification, risk and hazard analyses, and testing and verification documents for the product in accordance with best practice systems engineering.

Pipe Intermodal Logistic System

At Sea Box International I designed, project managed and engineered a logistics platform for moving large pipes.

In developing the Pipe Intermodal Logistics System (PILS), I coordinated between the client and several overseas factories while designing and engineering the product.

During the first phase of production, I was on-site in China to lead the factory in producing the PILS to our stringent quality requirements. This required communicating through a translator to managers and workers in the factory, and negotiating with the client to update and change complex design specifications.

The PILS moved from prototype to a finished production run of 372 units in less than three months.

Radio Systems Maintenance

At PSMC and Cubic, one of my roles was to coordinate maintenance of highly critical safety radio systems for the Department of Defence. These systems are often located in remote locations and require coordination of maintenance workers, helicopter contractors, and the system's end users.

In this role I provided:

- leadership of multiple work crews
- communication with end users to minimise disruptions and solve disputes
- extensive communication and negotiation with the Department of Defence
- instructions on maintenance to be carried out
- on-site supervision and scheduling
- Work Health and Safety coordination
- compliance and quality inspections
- on-site inspections (only accessible by 4WD and helicopter)

The systems I managed included STARSN (a simulcast multi-site system), WhiteNET (a voting IP-backbone multi-site system), UMPNET (a UHF conventional voting multi-site system) and a number of single site duplex and simplex systems.

Much of the supervision was done on-site in remote locations and rough terrain. I have basic 4WD skills and am very familiar with inaccessible and dangerous work sites. I hold certifications in working at heights and first aid, and I have a construction induction card.

WhiteNET

I extensively designed subsystems of a portable radio system named WhiteNET.

My work included:

- radio communications engineering
- design of the IP backbone

- design of the solar power system
- design of the battery power system

WhiteNET required significant radio frequency engineering. I used computer modelling of radio coverage to define the radio's requirements and calculate where the units should be placed. WhiteNET also uses a custom designed antenna, which I computer modelled, refined and drew for manufacture.

I designed the IP networking and specified and selected the equipment for WhiteNET.

Software Defined Radio System

By modelling the performance of radio and antenna systems, I defined the required locations for a Software Defined Radio System on 25 Defence training areas around Australia.

I have also designed the retrofit of existing solar power systems with up-to-date technology. By replacing aged lead-acid cells with modern $LiFePO_4$ cells, and fitting telemetry-equipped modern maximum power point tracking solar regulators, my design has increased the efficiency, life expectation, supportability and performance of existing infrastructure at minimal cost.

Like WhiteNET, I designed the IP networking and specified and selected the equipment for the SDR.

Hybrid Power Systems

As a project manager at PS Management Consultants, one of my roles was managing the on-going maintenance, emergency repair and support of four major solar/diesel hybrid power systems.

These sites were very high priority power systems as they were the only source of electricity for water pumps and air conditioning in an extreme environment.

My duties included:

- coordination of rapid emergency repairs
- leadership of many sub-contractors
- ensuring compliance of maintenance and repairs
- maintaining records and performance logs
- assessing the feasibility of proposed upgrades or performance improvements
- expert helpdesk support (on call)
- conducting annual maintenance inspections

In addition to the daily management of the power systems, I also oversaw two major projects to upgrade the systems.

Occupational Hygiene

As a contractor into Defence, I wrote ten DEF(AUST) specification documents for the procurement of occupational hygiene equipment (such as sound level meters, vibrations meters and indoor air quality meters).

Design Engineer at Sea Box International (2009–2011)

Before working at Cubic/PS Management Consultants, I worked as a design engineer at Sea Box International, performing design and CAD drafting work.

While at Sea Box, I worked on the Land 121 project, translating Defence specifications into product designs.

I also worked on a number of other projects: design of a modular prison system, design of mining camps and as documentation controller of quality control documents.

IT Sysadmin (Pre-2009)

Before engineering became my passion, I worked in IT where I was a GNU/Linux and Windows systems administrator. This knowledge has helped inform many of the networking and computer-based solutions in

my more recent engineering work. I am also highly proficient in Microsoft Word, Excel, OpenOffice, SolidWorks and Radio Mobile. I am proficient in Microsoft Project, PowerPoint, MATLAB, Maple, and GNU R.