



### Education:

Bachelor of Engineering  
(Naval Architect)  
Australian Maritime College

### Contact Details

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### References

Tim Sextant (marine surveyor)  
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David Ellery (Austal)  
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Lee Boddy  
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### Professional Highlights

- Successfully overseeing of the Royal Australian Navy Armidale Class Patrol Class Sea Trials and production support
- Traveling to USA to sea trial the first of class of the Lital Combat Ship, USS Independence
- Publishing three papers and presenting results
- Managing a production crew and turning around an existing production schedule to deliver a product that the client was happy with
- Talking to potential clients and designing a solution that fits their needs and budget
- Talking to over 400 people in Rwanda on a weekly basis

## Professional Experience

### 2012-present: Naval Architect

#### TC Work

Started my own design company  
Designing small commercial craft  
3D modeling and drafting

### 2014: Marine Surveyor

#### Department of Transport (Western Australia)

New vessel construction  
Plan approval  
Stability approvals  
Spreadsheet standardization  
Customer liaison

### 2011-2012: Manager of Marine Production

#### Polyline Industries

Customer liaison  
Product Quotations  
Product Design  
Drafting  
3D modeling & rendering  
Budgets  
Site Work

### 2005-2010: Naval Architect

#### Austal Ships

2005-2007: Structural Engineer  
Armidale class patrol boats  
Production support  
Class & client liaisons  
Warranty work  
Structural designs  
2007-2010: Research Engineer  
Developing next generation hull designs  
Performing sea trials  
USA navy  
Swedish navy  
Commercial vessels  
Luxury boats  
Developing training courses & material  
Developing spread sheets & programs  
Creating algorithms for ride control  
Ballistic Protection  
Public/private presentations on research

### 2004-2005: Marine Surveyor

#### Department of Transport (Northern Territory)

USL code interpretation  
Periodical vessel surveys  
New construction surveys  
Stability tests  
Customer liaison  
Plan approval

## **Project Experience**

### **Department of Transport (WA)**

Working as a surveyor has allowed me to update my knowledge of the rules and regulations of the now national system that commercial vessels are surveyed under, as I had previously only worked under the state based USL system. I have also been able to create some standard spreadsheets that can allow the quicker and more accurate delivery of the NSCV when checking the plans to the rules. I have also been able to undertake the plan approval of a range of vessels and to check that the vessels are being constructed to the approved drawings and the required standard of workmanship. This was a fixed term contract resulting in a short term time frame

### **African Enterprise (AE) Rwanda**

While volunteering with AE I was able to significantly help the Non-Government Organization (NGO) in improving their communication skills by working with them in areas such as report writing, budget presentations, as well as being the contact person with the external web creators to make sure that the web site that was being created was presenting the right image of AE. I was also responsible for managing a guesthouse and was responsible for creating a new business model that allowed them to increase their profits.

### **TC Work**

By starting my own design company has allowed me to use my self-motivated work ethos to create results for various clients in a timely and professional manner. I have already been able to deliver numerous designs that have been built with ease from the construction side and great feedback from the end users

### **Polyline Industries**

Working as the sole engineer & draftsman, and the head of the Marine Department allowed me to create production timelines and better managing the staff to deliver products that were going over time and budget be then delivered to the client as soon as possible. During this time I learnt a lot about management and how to deal with various types of people and also how to turn a potential hostile situation into a positive for the company. During this time I was also responsible for talking to potential clients about the skills and products that Polyline could deliver and present these clients with accurate quotes and professional drawings which allowed the clients to make informed decisions as well as Polyline to make sure that the jobs that were coming in were profitable. To do this accurately I was responsible for creating 2D & 3D drawings and renders of the current and proposed products, as well as using my engineering skills to solve problems in numerous areas.

### **Austal Ships (Research & Development)**

In the Research and Development Department it is the job to research, develop, design and test the boats and components that we build and design. I was able to assist Austal Ships with the development of new hulls that minimized power consumption or motions (thus reducing sea sickness), to do this efficiently it was critical to work with various departments to know what criteria each of these different groups needed from the hull, and manage the conflicting interests to find the best results.

One major achievement was working with the Ride Control Department in creating a new state of the art system to allow us to drastically improve the comfort of passengers while at sea. This required us to create mathematical models of various ships, determine what algorithms would be optimal and their coefficients, and then testing and validating the system once installed.

Another critical part of this job was creating a system that allowed for the improved recording and regulation of the postproduction trials to make sure that the information that was captured would be able to be accessed into the future. To achieve this I was required to create clear procedures for vessel trials and then going out to sea and running the trial in conjunction with the ship's crew, and then once the trials were finished to pass on the relevant information to each department.

Another component of work was to assist the Sales and Marketing Department in the creation of clear, concise and accurate report highlighting the various benefits of our products and comparing them to the competitions.

Because this was an official Research Department it was required that we create and present published Papers highlighting the work that was being undertaken. This allowed me to use my skills in public speaking to share the successes of Austal Ships

### **Austal Ships (Structural Design)**

Working at Austal Ships in Henderson gave exposure to a large range of jobs, as well as many different rolls. Initially I was the design liaison person which gave me the opportunity to work with various departments and class and solutions to issues that were not resolved before the boats started to be built so a solid understanding of how the boats were being built and how the construction was going and to identify and find solutions for problems as they arose. This required good inter-personnel skill as well as the ability to create drawing from built structures and to create drawing from scratch.

Another area of work was involved in working with the class societies and owners representatives to make sure that certain trials and testing was done to the required level of accuracy and all relevant policy and procedures were done. Where policies were not written down these were created so that future testing could be done quickly and more accurately.

### **Software**

<b>AutoCAD/Draftsight</b>	<i>2D drawing packages</i>
<b>Rhino</b>	A 3D drawing package
<b>Matlab</b>	A math/programming package
<b>Visual Basic</b>	A programming language
<b>Shipflow</b>	Software to determine the resistance and wake formation for Ships
<b>Veres</b>	A program to determine the response of a structure/boat in waves
<b>Maxsurf suit</b>	A suit of software to design and evaluate floating structures
<b>Excel/Word/PowerPoint</b>	A high level of knowledge in all packages
<b>Strand</b>	Finite element software
<b>Star_CCM+</b>	CFD package

I have worked with numerous other software packages but those listed are the packages that I have the greatest knowledge and skills in

### **Published Papers**

- *On the effect of hull shape on the performance of some existing high-speed Ferries*  
T. Armstrong, T. Clarke
- *The Development and Testing of a novel ride Control System for a 102-metre Trimaran*  
T. Clarke, T. Armstrong, J. Lee
- *A Study of The Losses and Interactions between One Or more Bow Thrusters and a Catamaran Hull*  
L. Boddy, T. Clarke