

**DEFENCE
INDUSTRY** 
THE OTHER FORCE

Careers in the defence industry— Welding

Welders weld the metal parts that have been fitted up by the boilermakers or pipe fitters. A First Class Welder carries out welding to build or repair ship structures.

QUALIFICATION

MEM30305 Certificate III in Engineering - Fabrication Trade

NAME: Hayley

JOB: Apprentice Welder (2nd year)

INDUSTRY: Shipbuilding company that designs and builds ships for the **Australian Defence Force**.

STUDY PATHWAY: High school  Apprenticeship

WHY WELDING? At high school I wanted to **learn how things were made** so I did metal work. I then did work placement at an engineering company and really enjoyed it.

WHAT DO YOU DO? I weld the metal plates that get fitted into a block which then become **part of the ship**.

WHY THE DEFENCE INDUSTRY? There are **so many opportunities** and I can learn many different types of welding processes. When I first saw the whole ship come together it was **pretty jaw dropping**. It is heavy work but it is also very **rewarding**.

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 08 9599 8655

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Careers in the defence industry – Cabinetmaking

Cabinetmakers use hand and machine tools to build and repair wooden fixtures and furniture.

QUALIFICATION

MSF31113 Certificate III in Cabinet Making

NAME: **Chloe**

JOB: Apprentice Cabinetmaker (2nd year)

INDUSTRY: Shipbuilding company that designs and builds ships for the **Australian Defence Force**.

STUDY PATHWAY: Career Switcher  Apprenticeship

WHY CABINETMAKING? I enjoy **hands-on work** and I figured a job in the defence industry would be more my style. My older brother and my dad are both cabinetmakers so it is a familiar trade.

WHAT DO YOU DO? I work on **everything inside the ships** from floor to ceiling, and everything in between. I build and install all the furniture, including bunk beds, cabinets, hardware and the fixings and brackets.

WHY THE DEFENCE INDUSTRY? The work is **local** so I don't have to travel far from home. I love working on these projects and there is a **sense of pride** when we finish a big project.

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Careers in the defence industry- Computer Systems Engineer

Computer Systems Engineers plan for and optimise the overall readiness of computer systems, particularly in multiple operating environments.

QUALIFICATION

Computer Science Major (B Comp) and Bachelor of Engineering (Computer Systems Engineering)

NAME: **Ethan**

JOB: Graduate Computer Systems Engineer

INDUSTRY: Shipbuilding company that designs and builds ships for the **Australian Defence Force**.

STUDY PATHWAY: High school  University

WHY COMPUTER SCIENCE? I have always enjoyed computers and science, and I wanted to be a Mechatronic Engineer. I am now basically a Mechatronic Engineer, just without mechanics.

WHAT DO YOU DO? I work in programming and automation where I consult with other departments and **help find solutions**. We are looking far ahead, we are not looking at the ship we are building now, we are looking at the **ship we will be building in 20 years' time**.

WHY THE DEFENCE INDUSTRY? It is fantastic to plan what we will be doing in 10-20 years' time as there will be **work in the defence industry for a long time**. When I walk outside and see a big ship it is a **magical feeling** to know I did something that led to this huge ship.

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Careers in the defence industry - Electrical

Electricians install all the electrical cables on board the ship, based on cable routing plans. They also install electrical and electronic equipment, including navigational equipment in the bridge and radar, lighting, control panels and main electrical control room panels.

QUALIFICATION

UEE30811 Certificate III in Electrotechnology Electrician

NAME: Alex

JOB: Apprentice Electrician (3rd year)

INDUSTRY: Shipbuilding company that builds and upgrades ships for the **Australian Defence Force**.

STUDY PATHWAY: Certificate II  Trades Assistant 
Apprenticeship

WHY ELECTRICAL? I enjoy **hands-on work** and was interested in technology.

WHAT DO YOU DO? I work on the systems and communications on the **ANZAC class frigates** that are a key part of the Australian Navy.

WHY THE DEFENCE INDUSTRY? The systems we work on are high-tech and the defence industry offers **good wages, career prospects and a diverse culture**.

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Careers in the defence industry— Fitting and Machining

Fitter and Machinists use a range of tools and engineering techniques to fit, assemble, maintain and repair mechanical plant machinery and equipment.

QUALIFICATION >

MEM30205 Certificate III in Engineering - Mechanical Trade

NAME: **Yoshiki**

JOB: Apprentice Fitter and Machinist (2nd year)

INDUSTRY: Engineering company that supplies and provides engineering services to **Australia's Defence Force.**

STUDY PATHWAY: High school > Pre-apprenticeship > Work experience > Apprenticeship

WHY MECHANICAL FITTING? I have always wanted a **hands-on job** and wondered how parts are manufactured.

WHAT DO YOU DO? **Manufacturing in steel**, anything mechanical, gears, gear boxes, track pads, parts for engines, anything that moves, machinery has some role in it. I like seeing how the work is being shaped while you make it.

WHY THE DEFENCE INDUSTRY? It's good that we work and **manufacture locally** in Perth. It's not every day you see people who make submarines, you can look at these and say I had a part in making that and it makes you **feel proud of yourself.**

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Careers in the defence industry- Naval Architect

Naval Architects are engineers responsible for the design, classification, survey, construction and repair of ships, boats, other marine vessels, and offshore structures, both commercial and military.

QUALIFICATION

Bachelor of Engineering (Naval Architecture)

NAME: Hadiqa

JOB: Graduate Naval Architect

INDUSTRY: Shipbuilding company that designs and builds ships for **Australia's Defence Force**.

STUDY PATHWAY: High school  University

WHY NAVAL ARCHITECTURE? I have always had a love and passion for design. I also have a soft spot for maths and science so I decided to bring my love of maths, science and arts together to **build and design ships**.

WHAT DO YOU DO? I am currently sustaining the **Australian Border Force Cape Class** ships. My team makes the engineering changes on board then that's where it gets handed over to the production team to go on board and make their changes happen.

WHY THE DEFENCE INDUSTRY? The defence industry has received **multibillion-dollar investment** and there are **thousands of jobs** coming up. When you get a qualification in our **local** defence industry, you will have a **job for life**.

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Careers in the defence industry- Project Manager

Project Managers oversee the operations of individual projects within a program of work. They coordinate time, budget and resources to complete work within program guidelines.

QUALIFICATION >

BSB51415 Diploma of Project Management

NAME: Mark

JOB: Project Manager

INDUSTRY: Shipbuilding company that designs and builds ships for the **Australian Defence Force**.

STUDY PATHWAY: Work experience > Diploma of Project Management

WHY PROJECT MANAGEMENT? I love big projects with **clear and tangible outcomes**.

WHAT DO YOU DO? I manage the **Offshore Patrol Vessel** project which is a 12 vessel program for the **Royal Australian Navy**, starting in 2018 with the first two being built in Adelaide and the remaining 10 being built here in Henderson.

WHY THE DEFENCE INDUSTRY? It's great to see the progress that you've made and take **great pride** in what you are achieving. **Working locally** is fantastic, there is **no FIFO**, you are not on a set roster and you get to go home every night.

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Careers in the defence industry – Army Veteran – Boilermaker

Boilermakers read drawings and use multiple tools to fabricate structures and components out of steel. They mark out, cut, grind, shape, fit and tack components together ready for welding. A boilermaker fits the plates and shapes that make up the ship's structure.

QUALIFICATION

MEM30305 Certificate III in Engineering – Fabrication Trade

NAME: Nicholaas

JOB: Apprentice Boilermaker (2nd year)

INDUSTRY: Shipbuilding company who build and upgrade ships for the Australian Defence Force.

STUDY PATHWAY: Army  Mining  Apprenticeship

HOW DID ARMY EXPERIENCE HELP? Army experience gives you a strong work ethic and the ability to strategically use your time.

WHY BOILERMAKING? I really liked the idea of **working with metal** as you can build something that will last as it is so strong.

WHAT DO YOU DO? I have raw material and get to turn it into something that is used on **Australian Naval ships**.

WHY THE DEFENCE INDUSTRY? Working **local**, I get to go home every day and see my family. When I was in mining I was away two weeks at a time, working long shifts. I'm **using my hands and head** and **learning new skills** and I am doing something that I enjoy.

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