Defence Engineering Internship Program

Australian Government
Department of Defence

DEIP Newsletter Round 4

Defence Engineering Internship Program—Capability and Sustainment Group

The *Defence Engineering Internship Program* (DEIP) is designed to improve defence industry's skills base, create pathways into the defence industry sector and address capability skills gaps. It is an exciting initiative that provides engineering students with an incentivised opportunity to gain experience in one of the most technologically innovative and dynamic industries available in Australia.

Australian defence industry's capabilities are involved in the design, manufacture, maintenance, build and integration of a number of the most complex engineering systems and technological innovations in the world.

Australian companies in the defence industry sector provide integral support to the Australian Defence Force and our pioneering Small to Medium Enterprises offer a diversity of opportunities for fulfilling careers that are second-to-none for both new and experienced engineers.

Working through AITEC, Defence has funded four rounds of DEIP. Each round has seen 30 third or fourth-year engineering students matched with appropriate Small to Medium defence enterprises within Australia, in order to undertake their 12-week internship placements.

Through the DEIP, Defence has been able to see an increasing number of young, enthusiastic undergraduates interested in experiencing the dynamic world of defence industry and who are preparing to become the next generation of engineers required to deliver essential equipment to the men and women of the ADF.

The past four years have seen great success for the Defence Engineering Internship Program, with Round 4 concluding earlier this year. AITEC is pleased and proud to have successfully realised the key Program objectives for each and every round.

Through DEIP, a wide spread of Defence SMEs across Australia have been attracting high calibre engineering students from a range of Australian universities with internships intentionally balanced across engineering disciplines. Each of the internships required a defined and approved work plan to ensure that the internship delivers tangible outcomes. Interns have commented favourably about the interesting projects undertaken and the contribution to their development as engineers.

Many interns shared that they were unaware of the scope of the defence industry especially the SME sector but are now considering a career in the industry. A significant number of the interns have been employed in either the SME sector or the wider Defence industry. Already, 38 interns have been offered full– or part-time employment to accommodate ongoing study.

The feedback has been extremely favourable with both formal and informal feedback indicating that SMEs consider the Program one of the best Industry Skilling Programs delivered by the Department of Defence. The 30 placements offered annually are highly contested and a further pleasing trend has been the increase of high achieving female engineering students applying for the Program. In addition, past interns are proving to be some of the strongest advocates for DEIP as they are sharing the perspective with other students, so the word is spreading beyond the 30 interns for a given year, with the 4th round seeing a record number of student applications.

These pages celebrate and feature the exceptional experiences that the host SMEs have made available to the interns. Some of the SMEs have hosted interns for previous rounds, with others hosting a DEIP intern for the first time. Most SMEs return each year to lodge their interest in hosting an intern. Please note that the information included in this newsletter about the internships is provided by interns and host SMEs through site visits and general feedback and has not been amended by AITEC.

The professionalism, interest and excitement of all parties involved has created a strong Program attracting high achieving engineering students being placed with high calibre companies. The success of DEIP is best summarised by the following SME participant comment: "I consider DEIP to be a highly polished program and should be maintained as is. Thanks for hosting such a well-run program".

International Seal Company Australia - Xavier De Chasteigner Du Mee

ISCA is a manufacturer and supplier of gaskets, seals, fenders and speciality injection moulded parts to the many defence industry clients. Currently ISCA is at the forefront of the additive manufacturing landscape within Australia; working with the CSIRO, Australian Research Council and Monash University.

According to Xavier, the ISCA internship far exceeded his expectations in gaining insight into business operation, design and manufacturing; giving exposure to the entire process from initial concept to design, manufacture and delivery.

Some of his work plan's key outputs included: Stirling engine redesigned, redrawn and documented; assembly activation and animation completed; R&D paperwork; competency achieved in 3D printer operational procedures and assistance to design a metal printed medical device.

Xavier De Chasteigner Du Mee with his supervisor Damien Miller

BMT Design & Technology - Cedric Antolis

BMT Design & Technology is an engineering consultancy covering marine engineering, naval architecture, systems engineering, cost estimating and planning, risk, safety, project engineering and management.

BMT Design & Technology's internship has built on Cedric's knowledge. He now has a better idea of what engineering consultants do and the diversified skill sets they need to have i.e. communication skills to liaise with clients.

Initially, Cedric was not interested in Marine Architecture but he enjoyed his placement which met his expectations.

While at BMT, Cedric was trained in a variety of packages such as Auto-CAD, rhino, inventor and flexim (simulation software).

RUAG Australia - Gurleen Malhans

RUAG Australia's three lines of business – precision manufacturing, maintenance, repair and overhaul (MRO), and metal treatment and finishing – support and service the Defence and Aerospace markets.

During her internship, Gurleen spent time in the Non-Destructive and chemical areas of the company and worked with CATIA and CAD modelling on some aircraft components (i.e. forged crank shaft component which was very complex).

Gurleen had not used CAD before and she enjoyed learning the new software package. She also enjoyed working on designing repairs at her desk and then going to the workshop to see how the component was being repaired and to get feedback from the shop floor people about her proposed techniques.

Gurleen had thought about working in the defence sector and the DEIP experience has cemented her preference.

Because of her work at RUAG, Gurleen will now select elective subjects in relation to materials and structures at university.

AITEC

AITEC is a highly experienced educational program management organisation with extensive experience in the defence sector.

It is also one of Australia's leading managers of national internships, graduate and work placements, with programs spanning defence, health and education.

AITEC has supported advanced defence science, technology and engineering programs for DSTG as well as ASC's Marine Engineering programs in naval and submarine.

By developing the Body of Knowledge then using this to undertake mapping of the national workforce mapping and international provider programs, AITEC identified key workforce development gaps for Energetic Materials, Explosive Ordnance, Weapons Engineering and Effects. AITEC then proceeded to develop cost-effective Weapons Engineering & Effects workforce development programs for Defence.

With major challenges emerging for defence workforce development in coming decades—across shipbuilding for naval and submarine as well as air warfare, cyber security and electronic warfare — AITEC's 20+ years of experience and expertise working with multiple universities, industry and governments is both unique and highly relevant to supporting the development of the workforce of the next 10, 20, 30 or 40 years.

AITEC uses a "one-shop-stop" model to enable its clients to define their needs and facilitate education providers to adapt to demand-driven service and programs. AITEC has also maintained continuous international accreditation to ISO9001 for 20 years. Please contact us on 08 8232 9688 or visit www.aitec.edu.au

What DEIP interns say

The feedback from interns has been overwhelmingly positive for each round of the Program. Here are some typical comments:

"**Very well-run program**, SMEs know exactly what they want from their interns and AITEC matched me with the right SME for my skills..."

Intern – Round 3

"**The internship was perfect introduction to the workforce as an engineer**. Paid placement in a field very relevant to my interests and studies, with a local company of which I may not have come to know about otherwise - that ultimately lead to permanent work. I could not ask for more. Thank you for organising this!"

Intern – Round 4

"In comparison to some of my fellow classmates that weren't able to secure a place with DEIP, **my work was significantly more diverse and interesting**. My host company made a solid effort to enhance my interest in the Defence Industry."

Intern – Round 2

"**I can't praise the DEIP program any more highly**, it was a fantastic experience. Thanks again!"

Intern – Round 4

Aquila Engineering - Sean McCreton and Andrew Hall

Aquila Engineering is a specialist engineering design organisation. Currently, Aquila's primary role is to provide engineering and logistics support to the RAAF to assist in the sustainment of their PC-9/A operations throughout Australia.

AQUILA VICTORIA HOSTED SEAN

The activities in Sean's work plan were broad but the projects he was involved in were much more exciting than he initially expected.

One of the main deliverables of his work plan included a finite element modelling project for which Sean was given less supervision based on his confidence and knowledge. Sean worked on a small design project of a non-inert smoke grenade for training which involved CAD, test plans and documentation. He also developed the plan for the flight testing, some repair limitations for the main spare part of the PC-9 and designed some blend out processes to be used for repairs. In addition, Sean looked at alternative different levels of the failure modes.

Sean was supervised by Nick Levchenko who was his main supervisor but he also had some interaction with members of the Aquila Perth office.

Design Engineer Nick Levchenko and Sean McCreton

AQUILA WESTERN AUSTRALIA HOSTED ANDREW

Prior to this internship Andrew had worked in his father's business and in the Australian Army as a telecommunications technician. This placement gave him a much deeper understanding of the world of defence SMEs.

Engineering Manager Ben Terrell and Andrew Hall

Andrew has enjoyed his involvement in a workplace that can utilise his university-acquired skills, as well as adding to them.

Aquila is a small team of which the interns become a part, and its members work closely to resolve aircraft repair and modification issues. Andrew has therefore contributed to solutions to real commercial job requirements, assisting as appropriate. This included documentation for quality control purposes, as well as engineering design.

In times when employees change careers multiple times in a lifetime, SMEs like Aquila are seeing more mature age interns than previously. Aquila found Andrew's maturity to be a distinct advantage in that he brings real life and work experience to the job and is able to engage in human interactions more readily and productively.

Defence Communications Industry P/L (DCI) - Russell Oliver

Defence Communication Industry (DCI) provides field communication solutions for the defence, mining and rescue sectors.

Some of the key outputs of Russell's work plan included the schematic and hardware design of a circuit board in readiness for manufacture in the US. Russell assisted DCI with tasks related to hardware design, software development and documentation. He also carried out substantial research on the boards to see how components interconnect with each other and studied some software simulation programs for electronic circuits to see if the design of the board was going to give the expected results.

Russell is very keen to pursue a career in defence particularly with the Department of Defence. This DEIP internship has strengthened his desire to work in the sector.

Russell Oliver and Managing Director Alec Umansky

Chemring Australia - Liam McPhan

Chemring Australia manufactures and supplies a range of air and sea launched countermeasures, ammunition natures, military and commercial pyrotechnics and supports a range of military electronic systems in the EW, Counter-IED and Explosive Ordnance Disposal domains.

According to Chemring staff, Liam's ability to take on the work with no prior work experience was impressive. His initiative was of a high calibre and he was technically very sound.

Liam's activities at Chemring included the infra-red testing on the counter measures flares for the KC38s. He worked on process improvement by streamlining and automating the testing procedures. Liam also helped to develop a training plan and gave a presentation to the Quality personnel to demonstrate the testing procedures.

Liam McPhan and his main supervisor Kirk Berenger

OPEC Systems NT - Keiren Muir

In the Defence area, OPEC Systems provides: CBRN equipment, geophysical survey and EOD investigation.

According to Keiren, his internship was invaluable especially in gaining insight to the overall management of a contract.

Prior to the DEIP experience, Keiren had not fully appreciated the importance of record keeping in demonstrating adherence to contract deliverables including financial obligations.

OPEC were very happy with Keiren's progress, adaptability and eagerness to learn. He was able to integrate his theoretical knowledge with practical application.

Intern Keiren Muir and his supervisor Scott Meikle

Strategic Engineering - Zac Chin

Strategic Engineering specialise in Automation and Robotics; Industrial Robotics, unmanned/autonomous ground, air and sea vehicles; and Engineering consulting for Defence.

The main deliverable of Zac's internship was the production of Android app programming receiver chips. For that aim, Zac undertook investigation of Bluetooth embedded systems, implemented wireless communication, performed comprehensive evaluation against the client specifications and developed a presentation and technical report of findings.

Supervisor Richard Aplin and Zac Chin

Ultra Electronics - Angus Reid

Ultra Electronics creates systems for the collection of Electronic / Communications Intelligence and direction finding.

As part of his internship's deliverables Angus performed setup, evaluation and calibration tasks to pick up signals through a Direction Finding antenna.

Angus has been accepted to study in Canada in semester 2 and upon his return he will start working full time at Ultra Electronics.

"Angus has a good breadth of skills as well as an inquisitive mind. He brings a good attitude to the internship and is not afraid to talk to people."

John Clezy

Angus Reid and Senior Systems Engineer, John Clezy

DEIP Facts

99% of interns indicated that they would recommend DEIP to other students and 98% of SMEs would recommend DEIP to others.

Albins Performance Transmissions - Catherine Glassenbury

Albins Performance Transmissions specialises in the design and manufacture of drivetrain components. Their capabilities include the ability to produce: individual gears, axles, drive flanges and ring and pinions right through to complete unit, sequential shift transmissions.

At Albins, Catherine has undertaken Design Failure Mode and Effect Analysis (DFMEA) and the process for the Functional Failure Mode & Effect Analysis (FFMEA).

Catherine has enjoyed the Process Failure Mode & Effect Analysis (PFMEA) work which has given her a great knowledge for when she joins the workforce, especially if she decides to work in manufacturing.

Ethan Stewart and Catherine Glassenbury

elmTEK - Ryan Beruldsen

elmTEK specialises in technology-rich software engineering and IT service management.

At elmTEK, Ryan enjoyed the opportunity to learn something completely new to him, also the flexibility and facilities of the company.

The internship provided Ryan with experience in developing software for 3 distinct components of a military tracking project: firmware for the tracking device (embedded C code or application code for smartphone based tracker), Java for the server component and JavaScript for the HMI display.

At the end of the placement, Ryan finalised the prototyping of the app and worked on documentation for its maintenance.

Ryan has liaised with his university and Elmtek to undertake his final-year project at this host company.

Ryan building a bespoke gateway server for a GEOSENSE product.

The new gateway server will support more robust deployment operations and will benefit elmTek's Military Training and Emergency Service offerings.

What participant SMEs say

SMEs consistently provide very positive feedback about the Program.

"We participate in DEIP primarily to support the defence industry. However we have been lucky in having interns which fulfil our recruitment requirements. **DEIP has provided a trial period for interns,** to assess if the company was right for them and for the company to assess the potential employee. I would say that is a WIN-WIN situation."

SME – Round 3

"**DEIP does a good job of selecting high achieving students** that are motivated. The internship is funded so that interns can focus on internship and not be distracted by night-time employment."

SME – Round 2

"It would be great to have more opportunities to offer Internships. **Expansion of more than 30 places per year would be great**."

SME – Round 3

Marand Precision Engineering - Chris Reeves

Marand is a global supplier of precision engineered solutions to a range of industries including aerospace, defence, mining, rail and automotive.

Chris assisted Marand with their operational processes, solving procedural issues and supporting a holistic change in operation/ manufacturing within the company.

Chris exceeded Marand's expectations and carried out the tasks set for him very well. Some of his activities included: mapping processes; reviewing and documenting AS9100; documenting process steps and gaps between current and desired procedures; creating actions to close such gaps and a Project Plan to complete the actions.

Supervisor Paul Brick and Chris Reeves

Sentient - Burak Pak

Sentient develops and sells target detection software for analysing Full Motion Video captured from airborne and surface-based ISR platforms.

Burak was pleased with Sentient's placement as he had significant interest in mechatronics, which he could apply on inertial measurement unit work on a boat. What also worked well for Burak was the provision of short tasks that allowed him to observe the outcomes of his work.

Sentient was impressed with Burak's work ethic and his ability to work independently. He also made good contributions in brainstorming sessions for the larger project of the control system on the boat.

Burak Pak found the use of Arduino programming for collecting data quite interesting

Sea Box International - Irene Ung

Sea Box International produces innovative, high-quality modified shipping container–based modules.

While at Sea Box, Irene was involved in developing specifications to determine customer requirements for specific products. She performed research and development to produce designs to best suit the identified requirements.

Irene developed skills with the Solidworks CAD program to produce such designs. This required producing 3D models and performing Finite Element Analysis, as well as producing 2D engineering drawings including BOM costing. Using the same program, Irene developed stress and strain profiles and once these values were calculated she was able to determine if the design was capable of withstanding the resultant forces applied. This equipped her with the skills to produce workable designs and reports to support her analysis.

(LtR) Supervisor Mike Brown, Irene Ung and Tom Egan, former DEIP intern, who assisted Mike in supervising Irene

James Fisher Defence - Jonathan Limpah

James Fisher Defence (JFD) provides submarine rescue, submarine escape and technical services for naval, maritime, commercial and offshore customers.

At JFD, Jonathan's work plan included preparing for and assisting in the assembly and test of a Portable Handling System for major overhaul.

Through his work, Jonathon found the connections between parts of his studies and practical applications, especially in the field of mechanical engineering. He particularly liked being given practical assignments, after demonstration. This enabled him to better learn and retain knowledge.

Jonathan Limpah and his immediate work supervisor Glyn Overal

The prospect of being taken on an actual dive in the rescue vehicle was especially appealing to Jonathan.

Sikorsky Helitech - Jade Withers

Sikorsky Helitech provides support for manufacturers of rotary wing aircraft throughout the Pacific and South East Asian regions.

At the time of Jade's placement, Sikorsky Helitech was in the final stage of production and certification of a crashworthy wheelchair for the Royal Thai Air Force. As the wheelchair was required to be certificated based on the FAA FAR specifications, Jade had the opportunity to review technical documentation and to be involved in the testing, varied structural analyses and the certification processes.

Supervisor Raf Aleksiuk and Jade Withers

The DEIP internship provided Jade a practical overview of the aerospace industry. In his words "...with two more years of study ahead, Aerospace will definitely be the primary focus".

"Jade is bright and has easily adapted to the work place and to company personnel".
Sikorsky Helitech staff member

L3 Oceania - Richard Morawski

L3 Oceania is a leading provider of maritime systems and solutions in the surface, undersea, geospatial and network centric spheres of operation for Defence applications.

In the first weeks of his internship Richard got familiarised with the L3 software development environment and source control systems. Later on, he was tasked with creating application interfaces with radar software and the job extended into creating modem interfaces. Finally, he documented his work, so it can be followed by others in the future.

Project Manager Dr Stuart Shaw, DEIP Intern Richard Morawski and workplace mentor Justin Munro

Staff members of L3 were very pleased to have a more mature intern on this occasion. Advising that Richard came with a good background in relevant areas of knowledge and was "quick on the uptake" to absorb and apply new knowledge. At L3 Oceania he is well regarded, as is the potential of DEIP to provide industry with such promising interns.

DEIP facts - Key objectives

- 85% of interns indicated that they were now more likely to pursue a career in Defence Industry
- 92% of interns were considered suitable for a career in Defence Industry by their host SME
- 38 interns have been offered ongoing work at their host SME and 22 have still been working with their host SME one year after their internship
- 3 SMEs have employed DEIP interns that they did not host
- 4 DEIP interns have been employed by the Department of Defence and another 10 by larger Australia-based defence companies.

Saber Astronautics Australia - Pascal Hendricks

Saber Astronautics is a research and development company dedicated to building cutting edge technology for both space and Earth-based applications.

Pascal's key outputs at Saber Astronautics included the development of:

- a generic satellite dish controller with an additional astronomy component;
- error detection algorithms for panchromatic imagery; and
- a user interface for the controller.

According to feedback provided by Saber staff, Pascal would definitely be suitable for a career in the defence industry, particularly in robotics and space applications.

Director Jason Held and Pascal Hendricks

Mincham Aviation - Chris Hewitt

Mincham Aviation is a product design authority/AS9100C and CASA certified company that services the Aircraft and Defence Engineering industries.

The DEIP internship has raised Chris' awareness about the importance of designing for simplicity. He is very good at 3D modelling and the work plan covered CAD work which extended his design skills. He also got

Intern Chris Hewitt and Tyler Lawrence, another undergraduate intern

practical experience not always available at university and became familiar with quality assurance standards and procedures and with critical elements of aviation regulations particularly those relating to Unmanned Aerial Vehicles. Chris enjoyed brainstorming and feeling like he had actual input into projects.

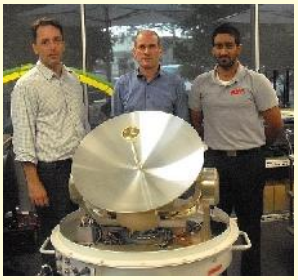
EM Solutions - Dean Khan

EM Solutions is a manufacturer of microwave and satcom components.

The placement of Dean with EM Solutions enabled him to work at a level commensurate with his previous training and experience as a technician prior to commencing his degree. Dean had the opportunity to be involved with highly specialised electro-mechanical systems and some of the deliverables of his work included the design and testing of compact satellite systems.

As Dean had used much of the general test and measurement equipment before, his internship allowed him to assist with development of test procedures.

"Dean's maturity has ensured a practical and productive relationship."
Operations Director Georgios Makris



Josh Logan, Steve Weis and Dean Khan

PHM Technology - Michael Heath

PHM Technology develops 'model-based' engineering tools for the design, safety, reliability and health management of complex systems.

Michael had not been exposed to defence previously but through his internship he definitely became interested in working in the defence industry.

At this stage, PHM do not have the work to keep Michael on but they have facilitated an introduction into one of their potential customers who may offer Michael a position.

"Michael has the temperament, skills and passion for engineering which would make him a great asset to any defence company."
PHM Technology's CEO, Chris Stecki

Jack Stecki, main supervisor of intern Michael Heath

Northrop Grumman M5 Network Security - Matt Pascoe

Northgroup Grumman provides mobile secure communications systems to the military, cyber engineering staff to the ADFCIRT (Australian Defence Force Cyber Incident Response Team) and cyber services to other areas of Defence and the Australian Government.

At Northrop Grumman, Matt learned current testing strategies for the printed circuit boards in the SCS secure networking devices and developed concepts for new testing strategies. For instance, he worked on a 5CS 400 - Secure Networking Systems battery issue, which involved programming elements of a sub-assembly for analysis; collecting and analysing the data.

" Matt has 'fitted-in' well with the Electrical Engineering team and is a good match for the organisation."
Matt's supervisors Paul Prowse and Shane Croper

According to Matt, the level of supervision provided was more than suitable. On a daily basis he was able to ask for advice and check his assumptions on issues as they arose.

Supervisor Paul Prowse with Matt Pascoe

MacTaggart Scott Australia - Dang Pham

MacTaggart Scott provides complete solutions to difficult engineering problems in the Naval Defence and Marine industries.

As part of his internship, Dang visited some of the subcontractors employed by MacTaggart to understand the relationship and the deliverables required.

Outcomes of his internship included: a concept design to address performance limitations of in-use periscopes and associated report; as well as investigating modifications to a Linear Transport Unit (LTU).

Dang Pham and his supervisor Michael Green

PMB Defence Engineering - Mark Addison

PMB Defence work in engineering and development of submarine battery systems and power system components.

After getting familiarised with PMB and their systems, Mark performed the following tasks for the design of a test box: liaising with stakeholders, investigating and setting system requirements, designing or selecting componentry to meet requirements, presenting and reviewing design documents and finally realising a system design.

Supervisor Larry Scuteri and Mark Addison

Smart Fabrication - Fraser Border

Fraser Border with his supervisor Luke Draper

Smart Fabrication specialises in the planning, design, construction and installation of a wide range of steel fabrication

A highlight of the internship for Fraser was being entrusted to manage a project with minimal supervision. In addition to managing a project, key outputs of his work have been: quoting and doing estimates, quality assurance and creating and collating drawings for quoting.

Fraser feels that the internship has greatly expanded his communication, project and time management skills. He also believes that, as he now has a better understanding of the fabrication process and principles, he will be better placed to undertake his 4th year studies.

Fraser is attracted to working in the defence industry due to the new cutting edge technology that is used and developed. Based on his interest in the industry, he declined other offers of internships in the hope of getting a DEIP offer.

The DEIP internship reinforced his interest and he is currently applying for positions with DSTG as he would like to work in research.

Jenkins Engineering Defence Systems - William Baxter

JEDS is a representational, marketing and engineering support company specialising in Electronic Warfare (SIGINT) products.

William worked on some aspects of JEDS projects that support the Royal Australian Navy's Collins-class submarine Electronic Warfare Improvement Program.

In addition to general WHS training, JEDS technicians offered William training on electronic test equipment used by JEDS to provide In-Service Support to a wide range of radar, radio communications and other electronics systems.

Based on William's software skills, enquiring mind, innovation to solve technical problems and willingness to learn, JEDS offered him casual work while he is studying and in semester breaks and a full-time job once he completes his Electrical Engineering degree.

(LtR) Managing Director Peter Jenkins, DEIP Intern William Baxter and General Manager Lester Sutton

"Fraser is learning quickly and is assisting with improving efficiency with engineering processes."
Smart Fabrication staff member

Rockwell Collins Australia - Grayson Ladmore

Rockwell Collins is a pioneer in the design, production and support of innovative solutions for customers in the aerospace and defence areas.

Bernard Davison and Grayson Ladmore

At Rockwell Collins, Grayson worked on two projects, the Firestorm Air System (FAS) and the Part Task Trainer (PTT). He aided the hardware team in wiring the FAS pod and mounting equipment for the integration of simulated military equipment.

Grayson also assisted in:

- the preparation of requirements;
- designing and testing documents for the FAS;
- auditing the system configuration artefacts for the FAS and PTT; and
- creating the first draft of the FAS pod User Manual.

Due to his personal initiative, self-starter attitude, constructive ideas, productivity and ability to identify solutions and deliver, Grayson was trusted to work on significant project tasks with minimal supervision and exceeded the company's expectations.

DEIP facts - awareness

Prior to undertaking their internships over the past 3 rounds, just 17% of the interns were aware of the hosting SME. At the end of their internship, interns were not only aware of their host SME, but 93% of them indicated that DEIP expanded their awareness of defence industry. Major benefits of DEIP are to:
1) provide an opportunity for interns to become familiar with defence SMEs and industry; and
2) raise the profile of defence SMEs and their exposure to a potential workforce.

Sonartech Atlas - Josephine Okwuofu

Sonartech Atlas is involved in the development and delivery of systems to defence customers for underwater acoustics applications as well as R&D activities related to these topics. Current projects require engineering activities involving Intercept Detection and Ranging Sonars, Passive and Active Sonars, Data Recording Systems, Sonobuoy Processing Systems and Acoustic Analysis Systems.

The DEIP internship exceeded Josephine's expectations as she has been able to build on her study and also learned to program in a number of languages not previously known.

Consistent with that fact, Josephine exceeded her employer's expectations by being a quick learner who progressed on tasks more than initially planned.

Key outputs of the work undertaken by Josephine included the development of:

- transient classification algorithms;
- an acoustic logger;
- data mining techniques for Part Master files; and
- a transient extraction tool.

As a result of the internship, Josephine is intending to take more software classes at university and is now considering a career in defence.

Josephine has been considered by staff members of Sonartech Atlas:

1. to be suitable for a career in the defence industry based on her desire to achieve good outcomes for the company on projects; and
2. a good match for the organisation due to her attitude, good communication skills and quality output.

Rob O'Brien's suitable supervision at Sonartech Atlas provided Josephine with a good balance between independent work and assistance.

Harris Corporation - Aleks Petreski

Harris provides advanced, technology-based solutions that solve government and commercial customers' mission critical challenges.

Aleks enjoyed the placement because his interest in communications was quite aligned with his role at Harris and he learned a lot from his supervisor's tutorials that built on his existing knowledge.

Back at university, Aleks has enrolled in telecommunications networking and signal processing.

Intern Aleks Petreski

ABOUT AIDN

The Australian Industry & Defence Network Incorporated (AIDN) is the peak industry association for Small-to-Medium Enterprises (SMEs) wishing to do business in the Defence and Security sectors.

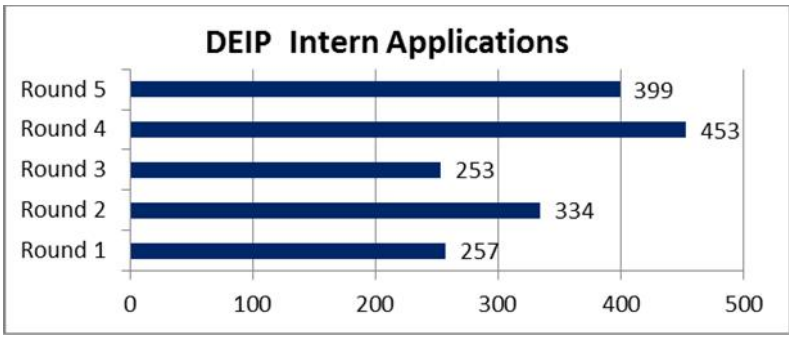
Established in 1995, AIDN represents the interests of Australian SMEs in the defence and security industry sectors by advocacy, representation and member services.

AIDN is comprised by State and Territory chapters with a combined membership in excess of 800 principal SME companies.

Through the National Secretariat, AIDN facilitates effective and efficient communication between SMEs and the Defence agencies. Additionally, by partnering a stronger relationship between Industry and Defence, AIDN seeks to promote a capable and sustainable Australian defence industry. Essentially, the focus is on assisting Australian SMEs to gain greater access to defence and security industry information, resources and key decision makers, so as to optimise business success in this highly competitive arena.

DEIP facts - Popularity

DEIP has proven to be a winner with engineering students since commencing in 2012. The first year attracted very healthy number of applicants even though the lead-time was fairly short. The following years have seen an increase in applicant numbers for the 30 positions, as may be seen by the graph below.



So far, 1,696 engineering students have applied for the Program and 121* have actually been engaged in defence SMEs for 12 weeks.

The strong applicant numbers confirm the esteem in which the Program is held and the value placed upon it by engineering students.

** In the first round an intern was replaced at the beginning of the internship*