Engineers Australia Stage 1 Competencies Overview		Practice Report		
Section 1. Knowledge and Skill base		#1	#2	#3
1.1	**Comprehensive, theory-based understanding** of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.		X	
1.2	**Conceptual understanding** of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline	X		
1.3	**In-depth understanding** of specialist bodies of knowledge within the engineering discipline.		X	
1.4	**Discernment** of knowledge development and research directions within the engineering discipline.		X	
1.5	**Knowledge** of engineering design practice and contextual factors impacting the engineering discipline.		X	
1.6	**Understanding** of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.			X
Section 2. Engineering Application Ability				
2.1	**Application** of established engineering methods to complex engineering problem solving.	X		
2.2	**Fluent application** of engineering techniques, tools and resources.		X	
2.3	**Application** of systematic engineering synthesis and design processes.	X		
2.4	**Application** of systematic approaches to the conduct and management of engineering projects.			X
Section 3. Professional and Personal Attributes				
3.1	**Ethical** conduct and professional accountability.			X
3.2	**Effective** oral and written communication in professional and lay domains.	X		
3.3	**Creative**, innovative and pro-active demeanour.		X	
3.4	**Professional** use and management of information.			X
3.5	**Orderly** management of self, and professional conduct.	X		
3.6	**Effective** team membership and team leadership.			X

Professional Practice Report #1: Software Prototype	
Organisation	**Gilmour Space Technologies**
Location	**5 Millennium CCT, Helensvale, QLD**
Supervisor	**Mr. Alex Forward**
Dates	**21/11/2023 – 24/2/2023**
Title / Role	**Avionics Engineer Intern**
Category	**A**

Description	Competency Claimed
During my IAP placement in 6002ENG, I worked at Gilmour Space Technologies as an avionics intern. This was part of the Defence Industry Internship Program where I completed 450 hours of category A work experience. Gilmour Space Technologies is an Australian launch vehicles company with the goal of developing Australia's sovereign launch capabilities with the immediate goal of launching Australia's first rocket with orbital capabilities, namely Eris 001. The three reports in this competencies task will cover the projects and experiences I gained during this internship. The first report will cover my experience designing and developing a software prototype for a remote data acquisition unit for the purposes of monitoring the health of battery management systems (BMS) for propulsion batteries via CAN bus interface. This involved writing test software, outlining system requirements, communicating with industry manufacturers and developing high quality engineering documents.	**Introduction**
During the first stages of my project, I was responsible for researching and developing an understanding of the physical CAN bus layout, data transmission characteristics and planning my software design to sniff BMS packets. Each packet needed to be decoded into relevant information about the batteries such as module voltage, cell voltage and cell temperature. During the planning phase of this project, I was able to develop my research abilities and knowledge development by studying the inner logic of CAN bus data transmission. With the help of other team members in multiple engineering departments, I learned about packets, endianness, hexadecimal addressing and protocols for decoding data from CAN frames. I also refreshed myself with C++ as I learnt how to use the company's IDE, Clion. I had to learn about CMake and XML files which were integral to partitioning my software applications into manageable elements. This was because CMake and Clion allow for integrated test executables, so I learned about designing the architecture for software testing and debugging within my project's software environment.	**2.1 Application of established engineering methods to complex engineering problem solving.**
After researching and designing the outline for my test software, I applied this information to develop software requirements for my applications. I learned from seasoned software engineers that software requirements are absolute and fundamental to the development of software. Therefore, I determined the software requirements for multiple test case scenarios such as identifying packets, operating at 1Mbps and developing scalable BMS identifier conventions. I organized my requirements into functional and non-functional requirement frameworks and uploaded this to my project's GitLab repository.	**2.3 Application of systematic engineering synthesis and design processes.**
Now that the software requirements had been outlined, I finished the development of my test applications which included an LCM output message receiver. I tested these applications using a virtual CAN socket connection and developed my own DBC file with the help of the BMS manufacturer. I developed a level of knowledge management and communication tools through the development of these applications and system requirements because it enabled me to understand information that I was missing, such as product specifications from the BMS data sheet. Contacting the manufacturers was my first time dealing with industry level suppliers and gave me insight into the level that these companies operate	**1.2 Conceptual understanding of mathematics, numerical analysis, statistics, and computer and information sciences which underpin the**

at. After some back-and-forth, I finally received the required information and was able to fluently apply the correct variable types for the BMS packets in my software. My LCM receiver application involved the capability of receiving incoming LCM packets and displaying a live feed of BMS decoded values on a continuous time spectrum. In doing so, I was able to apply existing tools and resources created by the software team with my developed applications to take packet measurements and evaluate the effectiveness of my tests with supportive data modelling.	**engineering discipline.**
As mentioned, I had to contact the suppliers and manufacturers of the BMS due to missing information in their product data sheet. This was a case of the manufacturer not providing sufficient information about variable specifications in the CAN packets. At this point I had also been setup with my work email and with my email signature, meaning that the company's logo was visible at the bottom of each email. As annoyed as I was with the company's documentation and email responses, I had to realize that my conduct was reflective of the company, and I was speaking on the behalf of this company. Therefore, it was my responsibility to maintain a positive working relationship which meant portraying a professional image. I conducted myself in an orderly manner and in doing so I was able to present a consistent professional image to maintain a relation with a technical colleague. This was a positive experience as it was my first time acting with such a level of professionalism in terms of human relations.	**3.5 Orderly management of self, and professional conduct.**
After completing my test applications, I developed high quality software engineering documents which included the design requirements with software specifications, diagrams and technical descriptions that were pertinent to the functionality of my code. I followed the advice of a senior software engineer when developing this documentation and I was proficient in listening to his advice about structure and contents. When this engineer approved my documentation, I knew it was at an acceptable engineering standard and I displayed it on my project repository. This was a very insightful process, and it ended the development and design process for my very first professional engineering design prototype.	**3.2 Effective oral and written communication in professional and lay domains**
Through the development of this software prototype at Gilmour Space Technologies, I gleaned significant insights that refined my professional engineering competencies. I was able to understand the importance of comprehensive research and meticulous technical planning in developing software applications. I also learned how to identify and outline precise software requirements for diverse testing scenarios. Navigating challenges such as missing product specifications taught me a level of resilience and the value of effective communication. I was able to learn how to maintain professionalism whilst liaising with industry manufacturers and realised the impacts of my conduct on the company's image. I enhanced my skills and knowledge of the C++ language, software testing principles, debugging and document preparation under the mentorship of a senior software engineer. This experience was crucial for me to understand the process of creating high-standard engineering documents and adhering to professional and technical guidelines. In essence, my involvement in this project at my internship honed my engineering skills, highlighted the necessity of professionalism and underscored the value of effective communication and collaboration in the aerospace industry. It was an invaluable learning	**Conclusion**

experience that has significantly contributed to my professional growth as an engineer.	

Word count: 1063

Professional Practice Report #2: Hardware Prototype and Final Product	
Organisation	**Gilmour Space Technologies**
Location	**5 Millennium CCT, Helensvale, QLD**
Supervisor	**Mr. Alex Forward**
Dates	**21/11/2023 – 24/2/2023**
Title / Role	**Avionics Engineer Intern**
Category	**A**

Description	Competency claimed
During my category A work experience at Gilmour Space Technologies, I was tasked with taking my software prototype and developing a hardware prototype and final hardware product. The hardware prototype was implemented using a Raspberry Pi, and the final product involved designing a complex PCB. The hardware prototype was implemented using a CAN Pi HAT with a twisted CAN bus transmission line in which I conducted integration testing using a real BMS to test my software applications. The final product involved me learning about PCB design within Altium Designer. This is an industry level software, and the task was highly complicated, but by the end of my internship I was able to send my designs to a manufacture for fabrication.	**Introduction**
The chosen deployment of a Raspberry Pi 4b for my hardware prototype was decided after a deep dive into the world of microcontrollers with the guidance of fellow avionics engineers. The goal was to find the best microcontroller to implement for the design which included requirements such as on-board Rx and Tx for the CAN bus transmission line. Within the myriad of available options in the market, identifying the perfect fit for my needs required an intimate understanding of the current developments, advanced technologies, and emerging issues within this domain of the engineering discipline. One such recent development included the sophistication of energy-efficient technologies in embedded systems and IoT deployments. I devoted a substantial amount of time to critically appraising these advancements and their relevance to my project. I focused on the STM32 series from STMicroelectronics and the available Raspberry Pi's. These options were arrived at by analysing relevant research literature focusing on computation ability, low power consumption and CAN compatibility.	**1.4 Discernment of knowledge development and research directions within the engineering discipline**
Embodying a creative, innovative, and proactive demeanour, I embarked on the journey of integration testing for my Raspberry Pi hardware prototype. My core objective here was to test my interface between the microcontroller and batteries, and to evaluate the effectiveness of my test software in a hardware-in-the-loop (HITL) environment. In doing so I was able to appropriately challenge the current engineering practices from both technical and non-technical viewpoints and identify new technological opportunities for my final hardware product and final software implementation. A holistic evaluation of my system design was required to examine the capabilities of my microcontroller with respect to	**3.3 Creative, innovative and pro-active demeanour**

performance characteristics of the propulsion batteries. I needed to test that my hardware integration was capable of effectively receiving battery system information in real-time. This process involved me seeking out a propulsion engineer in another building that was responsible for the propulsion battery systems. In doing this I was able to draw upon their specialist knowledge and merge it with my own hardware and software expertise. The insights I gained from this experience allowed me to understand innovations that could be made with a final PCB implementation and how I could innovate in both hardware and software to interface with the rocket's power systems.	
After the prototype hardware integration testing I was ready to research and design the PCB for my final hardware implementation. This was my first experience developing a PCB and my supervisors were unsure if this task would be too complicated for me. I stepped up to the challenge and my supervisors decided to take a chance with me. My journey started with the identification and selection of the components needed for the PCB. After discussion with my supervisors, we decided to use the layout for the existing remote data acquisition units with the inclusion of CAN chips and optocouplers to switch the BMS relays on and off. I was able to use mathematical and physical modelling to examine the power and thermal profiles of my components and the board's processor. Through careful research and analysis, I determined the properties, performance and absolute maximum ratings of all components in the system to ensure they would be compliant with the rocket's maximum internal temperature. I learned how to use Altium Designer for the PCB which included schematic design, physical layout, creation of component libraries and output files for manufacturing. I also learnt about trace specifications and x-signals which is an engineering tool that aids in the creation of differential pairs. The whole process of this PCB design was underpinned by my presentation of the system to my supervisors. After my first design was complete, I organized a critical design review presentation with my supervisors where we analysed my design choices and calculations. After taking the feedback from this presentation on-board I implemented these changes into my system and achieved the final approval for my design.	**2.2 Fluent application of engineering techniques, tools and resources**
Organizing and participating in the critical design review for my PCB with my supervisors and numerous avionics engineers gave me an opportunity to present my work, receive feedback, and asses the PCB design against a wide range of contextual factors impacting the engineering discipline. Throughout the meeting I was able to demonstrate the systematic principles of engineering design that underlined my PCB design. I elaborated on my choice of components, their physical layout (especially in terms of the distance between differential pairs to the connector), and the trade-offs considered in the design relating to EMI and ESD protection. I was able to address the potential interactions between the PCB system and its end-users from a commercial aspect since the presentation was like delivering a product pitch where my 'investors' were my supervisors. In the meeting I outlined how my design conformed to Australian aerospace standards and regulations. I focused on human factors such as the ease of installation, maintenance and user interaction with my device and prioritized the safety of this device as a potential mission critical system. I also considered the roles and capabilities of our technicians and PCB	**1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline**

manufacturer who would manufacture, install and maintain the PCB. The insight and critiques from my co-workers were invaluable as they pointed out areas for improvement and enhancement that I had not considered. This feedback was a testament to the collective expertise in the room and really accentuated the importance of collaboration and review in the engineering design process.	
After sending my PCB to the manufacturer, I was tasked with developing a 3D enclosure for my PCB using a cloud-based 3D CAD platform called OnShape. I had a small amount of experience with CAD with hobbyist 3D printing but designing an enclosure that was robust and aerospace compliant was on a much higher level. This process allowed me to proficiently apply advanced technical skills in the specialised domain of mechanical design and enclosure fabrication, adding another layer to my engineering competencies. The learning process of OnShape involved understanding the fundamentals of the platform and its nuances. I started by delving into the basics such as sketching and extruding; and by the end I was familiar with more advanced features such as counter-bore holes, threading and creating assemblies. I simultaneously supplemented my learning with understanding the principles of mechanical design and material properties which were vital to creating a functional and durable enclosure for aerospace purposes. I was not only learning this CAD tool but gaining a broader understanding of 3D mechanical design in which I consulted multiple mechanical engineers. I had to consider factors such as mechanical strength of the enclosure and ease of assembly since these enclosures would be implemented in a stack configuration. The result of this experience was the development of a custom-made enclosure for my PCB that was precisely suited to the dimensions and requirements of my device. Learning this software and the fundamentals of 3D modelling allowed me to proficiently apply advanced technical knowledge within a specialist domain of the engineering discipline. The process deepened my understanding of CAD and mechanical design, which allowed me to realise the crucial role of in-depth knowledge in engineering disciplines.	**1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline**
After the enclosures were designed and fabricated it was my task to sit with the electrical technicians in the other building and assemble them. This was an opportunity to interact with another crucial part of the engineering workforce and to gain hands-on experience in assembly. The assembly process was an insightful learning experience, giving me a hands-on practical perspective on my 3D design. The technicians and I applied our combined understanding of the underlying physical principles and engineering fundamentals to systematically investigate, interpret and analyse my enclosure design as we worked to assemble it. I was sitting side by side with the technicians, observing their techniques, tools and their approach to assembling my model. Their hands-on feedback was invaluable, providing insights that were more grounded in the realities of manufacturing than I could glean from theory or software simulations alone. This interaction broadened my understanding of the engineering practice and reinforced the importance of having a combination of theory-based and practical design and production. We encountered an issue during assembly related to a gasket between the enclosure stacks that was not fitting correctly. This brought into focus the gap between theoretical design and practical assembly. After critically examining the issue with the	**1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.**

Description	Competency Claimed
team, we were able to draw upon the fundamental principles of engineering, material sciences and electromagnetic theory to come up with a solution to make the gasket groove deeper and wider. The experience was enlightening and highlighted the importance of the iterative nature of engineering design and the value of practical, hands-on feedback. It was a perfect example of engaging with the engineering discipline at a phenomenological level, combining science and engineering fundamentals to address complex problems within the engineering practice. This experience will greatly help me with future engineering designs, making them more robust and assembly friendly.	
During my work experience at Gilmour Space Technologies, I was granted the opportunity to delve deep into the engineering discipline. From developing a software prototype to producing a final hardware product, my journey was filled with a series of learning opportunities, challenges and growth. During the integration testing with my hardware prototype, I was able to ensure effective communication between a microcontroller and a propulsion battery. This was thanks to a comprehensive evaluation of the latest advancements in microcontrollers. The process highlighted the value of interdisciplinary collaboration as I worked closely with propulsion engineers. Designing the PCB for the final product was a challenging task that required mastering Altium Designer, an industry-level software. This process involved careful component selection, layout design and electrical / thermal performance analysis. The critical design review meetings with my supervisors and fellow avionics engineers enhanced the final hardware design and underlined the importance of teamwork and communication in engineering. To create a robust enclosure for the PCB, I explored 3D modelling using OnShape which expanded my engineering competencies. The assembly of the enclosures offered practical insights and highlighted the importance of an iterative approach in engineering design. Conclusively, my experience at Gilmour Space Technologies was a journey of continual learning, proactive engagement, and iterative design in the engineering discipline, equipping me with invaluable skills for my future engineering endeavours.	**Conclusion**

Word count: 1813

Professional Practice Report #3: Meetings, code reviews and KPI planning	
Organisation	**Gilmour Space Technologies**
Location	**5 Millennium CCT, Helensvale, QLD**
Supervisor	**Mr. Alex Forward**
Dates	**21/11/2023 – 24/2/2023**
Title / Role	**Avionics Engineer Intern**
Category	**A**

Description	Competency Claimed
During my work experience at Gilmour Space Technologies, I was involved in daily stand-up sessions, weekly sprints, weekly team meetings, code reviews, and planning quarterly Key Performance Indicators (KPIs). The quarterly company meetings allowed me to achieve a business and management perspective within the company, and the regular team meetings gave me insight into the company's approach to collaboration	**Introduction**

and tools for managing engineering projects. The code reviews and KPI setting that I was involved with taught me about leadership, teamwork, and the importance of multidisciplinary and multicultural perspectives.	
Participating in company-wide quarterly update meetings at Gilmour Space Technologies was instrumental in gaining a broader perspective of the organization's operations, goals and engineering practices. These meetings acted as a platform where each engineering department, e.g., mechanical, propulsion, avionics, software, satellite and launch operations, showcased their recent work, bringing forth an enriching interdisciplinary understanding of the company's engineering practices, and their approach to sustainable practises within the organisation. The meetings reinforced the significance of our standards and codes of practice, as well as legislative and statutory requirements applicable to the engineering discipline. Departmental updates were centered around the adherence to these standards for their respective projects, emphasizing the fundamental role these rules play in maintaining the integrity and quality of the company's engineering outputs. The meetings provided insight into the principles of safety engineering and risk management. It was clear that each department took safety responsibility very seriously for flight critical technology as they outlined the measures they took to mitigate potential risks in their projects. This demonstrated an organizational commitment to upholding legislative requirements in a proactive stance towards facilitating a safe work environment. Topics in the meetings often touched on social, environmental and economic principles of sustainable engineering practice. This accentuated the company's commitment to developing space technologies in a responsible manner and minimizing the environmental impact of launches. They also focused on the benefit to society and economic feasibility of our current and future missions. These meetings also provided insight into the project management strategies used across the organisation including methods and tools used for planning, organizing and managing resources. This highlighted the critical role of effective management in executing complex engineering projects successfully.	**1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.**
During my internship I actively participated in stand-up meetings, agile sprints and sprint reviews as a part of our project management strategy. These strategies have proven to be integral to the efficient conduct and management of our Software and Avionics projects and team. During my internship I was given my own product, meaning that I had full control over the direction of my engineering project. The agile methodology allowed me to operate both individually and collaboratively, responding swiftly to priorities in other team projects, and understanding how my project fit in perspective to the rest of the team. During stand-up meetings I had opportunities to discuss progress, address blockers and align with the team on our daily focus, ensuring effective collaborative and individual output. Regular sprint reviews provided an opportunity to realistically assess the scale of effort and adapt strategies to increase project productivity. The sprint planning also allowed us to incorporate business planning and financial management considerations into our strategies, ensuring that our projects were aligned with the broader organizational goals. Project management tools were fundamental to the successful planning inside these meetings and tools such as Kan Ban boards for backlog management and task tracking; and burndown charts were utilized to facilitate effective	**2.4 Application of systematic approaches to the conduct and management of engineering projects.**

project tracking and management. These meetings also gave an opportunity to identify project performance within the overall implementation context. The regular sprints and retrospective allowed for performance evaluation and identification of improvements which allowed for the continuous enhancement of our engineering practises.	
Since my work experience took place within a defence company, I had my first encounter with the necessity for strict confidentiality and the protection of sensitive information, starting with signing my first non-disclosure agreement. This is an example of the expected ethical conduct and professional accountability required in engineering practice, particularly within the defence industry. By responsibly abiding by the terms of my non-disclosure agreement I demonstrated my commitment to upholding Engineers Australia's Code of Ethics and established norms of professional conduct. This meant that despite my excitement and curiosity that entailed me basically working in my dream job, I respected the intellectual property rights of the company and fully understood that pictures and specifics could not be shared with the public. This extended to casual conversations with friends outside of my employment, where I exercised discretion to avoid inadvertent disclosure of sensitive information. The company's stringent policies on certification, compliance and risk management processes exemplified the seriousness of due diligence within the defence sector. I adhered to these policies and recognized that a failure to comply could result in the compromise of the company's proprietary technology, business interests and overall mission. This taught me how to conduct myself with a high level of integrity and professionalism. Safety played a big role in my conduct at the company, and I was accountable for ensuring the safety of others. This included the safe handling of equipment and materials and compliance with workplace health and safety protocols. As part of my orientation, I was trained by the security team to understand cyber vulnerabilities entailed with my work laptop and digital assets. This outlined the importance of data security, extending the concept of intellectual property and the rights and protection beyond physical assets. I was able to understand that a breach could lead to serious consequences to the company's operations, potentially national security and my own employment. These experiences emphasised the principles of ethical conduct, professional accountability, and the safeguarding of intellectual property in engineering, particularly in defence companies.	**3.1 Ethical conduct and professional accountability.**
At the onset of my work experience, I as required to understand the data and system specifications integral to the aerospace design process at the company. I was taught to access and utilize the company's extensive database of information which required professional management and effective utilization. I started this venture by familiarising myself with their structured system of information, analysing and mastering the use of indexes, bibliographic databases and other search methods for locating and utilizing relevant information effectively. This was a critical tool for me to learn that allowed to me access, systematically search, analyse and evaluate various works and data stored within the company's database. As a part of my on-boarding, I was assigned a comprehensive reading list that consisted of a wide array of documents, including proprietary company reports, industry research and NASA documentation. NASA's	**3.4 Professional use and management of information.**

documentation served as a benchmark for understanding the high standards of research applied to the company's system development. Critically assessing the accuracy, reliability and authenticity of the information in these documents was an essential aspect of my work. This critical analysis aided me in ensuring that the data used in the company's design processes were both technically accurate, relevant and reliable. This allowed me to maintain the high standards of engineering upheld by the company. I was able to learn the common document identification, tracking and control procedures adhered to by the company, which taught me about the company's approach to efficient information management whilst allowing for easy access to relevant documents and maintaining their confidentiality. This experience enhanced my skills in the professional use and management of information. It helped me achieve a comprehensive understanding of the importance of managing and using information correctly. This was especially important in such a complex and highly technical field as the aerospace industry.	
A critical area where I was able to develop my understanding of team dynamics and leadership during my work experience was taking part in code reviews and setting KPIs for the first time. Code reviews were an enlightening opportunity to grasp the nuances of teamwork and the importance of diverse perspectives. The team members would discuss and dissect multiple lines of code and I observed the interaction between advanced software engineers and their unique viewpoints. The experience helped me learn how to function as an effective member of a multidisciplinary and multicultural team, and I was able to learn to appreciate alternative technical viewpoints. I realised how important diverse viewpoints were in developing a more robust and refined final code which accentuated the fundamental principles and importance of team dynamics. I was also involved in setting KPIs which were quarterly goals based on the department's broader goals. This required diligent planning, execution and monitoring. In doing this I was entrusted a sense of leadership within the team as I was responsible for setting KPIs that were manageable and would earn me the trust and confidence of my colleagues. I learned how to confidently pursue expert assistance and professional advice to make informed decisions regarding my capabilities, which in turn enhanced my team's collective performance. Watching my supervisor organize the team's KPIs was insightful from a leadership perspective as I learned that leadership is not just about taking control but also about providing opportunities for others to contribute and excel. This was a very practical lesson in showing me how to balance leadership with team membership and gave me a valuable perspective about the fundamentals of effective team dynamics and leadership. My experience in code reviews and KPI setting during my work experience was instrumental in enhancing my team membership and leadership skills. The insights and competencies I gained during these processes will undoubtedly serve me well in my future engineering career.	**3.6 Effective team membership and team leadership.**
During my work experience at Gilmour Space Technologies, I had the opportunity to immerse myself in various aspects of the company's operations and culture. I became deeply involved in daily stand-up sessions, weekly sprints, team meetings, code reviews and KPI planning. The practical experiences provided me with a deep understanding of the	**Conclusion**

inner workings of the organisation and the roles of various engineering departments. This multidimensional understanding was complemented by valuable insights into leadership, teamwork, and the importance of respecting and fostering multicultural and multidisciplinary perspectives. The company-wide quarterly update meetings were instrumental in providing a broad business and project management perspective. By having the opportunity to hear each department's contribution and how they fit into the broader organization's goals, I was able to appreciate the strategic alignment of our individual engineering projects. I was able to gain insights into the safety measures and risk management strategies at the foundation of the company's commitment to sustainable and responsible engineering. I was deeply influenced by the ethical conduct, confidentiality and intellectual property within the company. My first experience with a non-disclosure agreement really helped me to understand the importance and seriousness of my responsibilities within my role. This experience assisted me in grasping the importance of maintaining high levels of integrity and professionalism within the engineering and defence sector. My experience also enhanced my skills with professional information use and management. Having an extensive database of information at my disposal taught me to become proficient in locating, analysing, and utilizing data effectively. This gave me a practical lesson in critical analysis and information management. Participating in code reviews and KPI planning allowed me to comprehend the intricacies of team dynamics and offered me the opportunity to grow as a team member and a leader. Through these experiences I was able to learn the value of diverse viewpoints and the importance of taking the initiative and fulfilling leadership roles. My work experience at Gilmour Space Technologies was incredibly enriching as it provided me with a comprehensive understanding of the various facets of working in an engineering organization. This includes teamwork, leadership, ethical conduct and effective information management. The insights and skills that I have gained from these experiences have been instrumental to developing my foundation as a professional engineer.

Word count: 1946