

Mechanical Engineer

Position Description

Employment Type:	Full Time
Term:	Permanent
Group:	Engineering
Band:	Band 2 to 5, commensurate with experience and role
Location:	QuantX Labs, Lot Fourteen, Level 2 Space Lab, Frome Road, Adelaide
Reports To:	Mechanical Engineering Team Lead
Direct Reports:	None

Position Overview

At QuantX Labs, you'll be an integral part of an emerging, world-leading deep-tech product company with a strong and growing pipeline of work across Space, Defence and Commercial sectors. As a small, high impact team, QuantX Labs offers the opportunity to contribute directly to significant and globally relevant products, where you make impact on sovereign capability and technologies that matters on a global stage.

You will play a hands on role in the development and delivery of next generation quantum and precision measurement products, working with cutting edge technology from concept through to product and deployment. This is a rare opportunity to collaborate closely with internationally recognised experts, and to see your efforts translated into advanced products used by global customers at the forefront of innovation.

As a Mechanical Engineer, you play a key role in the design, development, and production of our QuantX products. Working within a multidisciplinary team environment, the role focuses on leading and supporting the mechanical design and integration of products throughout the full product lifecycle, ensuring the effective realisation of mechanical functionality, thermal management, structural integrity and manufacturability.

Duties and Responsibilities

Mechanical Engineering	<p>The following technical duties are expected of the role, appropriate to the employee's role seniority and experience:</p> <ul style="list-style-type: none"> • Apply mechanical engineering principles across the product development lifecycle • Translate system requirements into robust mechanical designs meeting performance, environmental, and regulatory constraints • Select materials and surface treatments balancing performance, manufacturability, environment, cost, and lifecycle • Design for manufacturability and assembly in collaboration with production teams. • Create detailed 3D models, drawings, BOMs, and assembly documentation
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	<ul style="list-style-type: none"> • Support configuration management through change control, ECNs, concessions, and non-conformance processes • Plan and execute prototyping and hands-on assembly activities • Define and perform verification and validation testing and inspection activities • Analyse test and production data to improve reliability, cost, and manufacturability • Author and maintain product mechanical information and documentation • Perform simulation and analysis to validate designs and support trade studies • Collaborate with systems, electronics, software, physics, and production teams for integrated designs • Author and maintain quality technical documentation • Lead and support mechanical design reviews
Other Assigned Duties	<ul style="list-style-type: none"> • Contribute to estimation, scheduling, and resource planning for technical work • Self manage work and effectively communicate status with stakeholders • Identify mechanical technical risks and develop mitigation strategies • Engage with customers and suppliers to clarify technical needs and manage delivery • Provide technical expertise and advice in support of business activities • Technically lead and support execution of projects • Mentor, guide and support the development of team members • Contribute towards business winning and customer success activities • Comply with all company policies, procedures, and governance requirements, including safety, security, quality, and confidentiality obligations • Uphold the organisation’s values, ethical standards, and commitment to excellence • Other reasonable duties as assigned

The responsibilities as specified above may be altered in accordance with the changing requirements of the position.

Experience and Skills

Experience	<ul style="list-style-type: none"> • Understanding of mechanical engineering design and manufacturing engineering principles across the full lifecycle, applied to the product development and production domain • Proficiency in CAD software is required; familiarity with Autodesk Inventor is desirable • Experience with optomechanical and vacuum systems is desirable • Ability to analyse complex systems and derive mechanical requirements • Working cross functionally with technical teams, including physics, software, electronics, mechanical, and production teams, to ensure cohesive product development and integration • Utilisation of mechanical engineering tools relating to design, analysis and manufacturing • Technical leadership and delivery of product development and production projects • Technical background in product development, analysis and production • Knowledge of systems engineering principles
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Skills	<ul style="list-style-type: none"> • Professional integrity, accountability, and attention to detail • Effectively work with appropriate autonomy, escalating issues where required • Effectively adapt to evolving product requirements, product development environments • Problem solving and decision making, balancing performance, risk, schedule and cost • Planning, work management and prioritisation of duties • Clear communication of technical concepts to both technical and non-technical stakeholders • Written skills for producing clear and concise technical documentation • Effective collaboration and knowledge sharing across teams • Commitment to quality, safety, and continuous improvement
Other	<ul style="list-style-type: none"> • Bachelor’s degree in a Mechanical Engineering or other related field