R&D / Product Development Engineer

SiNAB Pty Ltd | Engineering | Sydney, Australia

Function	Engineering
Reports to	Head of Engineering / Engineering Manager

About SiNAB

SiNAB is an Australian Defence technology company specialising in the development and integration of advanced airborne systems.

Our engineering team works across aerospace, mechanical, electrical, software, communications, sensors and systems engineering to develop practical solutions to complex operational problems.

Our engineers work across the complete product lifecycle - from initial idea and first-principles analysis through design, prototyping, integration and test to production and deployment.

The Role

SiNAB is seeking an exceptional R&D / Product Development Engineer to join our growing Engineering team.

This is a multidisciplinary engineering role for someone who enjoys solving difficult problems, learning new technologies and turning ideas into working products. You will contribute across concept development, feasibility analysis, detailed design, prototyping, system integration, verification, test and production.

The role is deliberately broad. We are looking for an engineer who is comfortable working beyond the boundaries of their original engineering discipline and who can rapidly develop expertise in unfamiliar technical areas.

We are less interested in whether you already know every technology we use than in your ability to understand new technologies quickly, reason from first principles and turn ideas into working products.

What You Will Do

- Investigate complex technical and operational problems and develop innovative engineering solutions.
- Develop concepts and assess technical feasibility through analysis, modelling, simulation and experimentation.

- Translate operational needs and ideas into practical engineering requirements and product concepts.
- Undertake mechanical, aerospace and multidisciplinary engineering design activities.
- Design, build and evaluate prototypes and experimental systems.
- Plan and conduct laboratory, ground and system-level testing.
- Support integration of equipment and systems onto airborne platforms.
- Participate in system integration, verification and validation activities.
- Analyse test and flight data and use results to improve product performance.
- Investigate failures and unexpected system behaviour and determine root causes.
- Work with electronics, sensors, communications, RF, software and other technologies outside your primary discipline.
- Develop engineering drawings, specifications, analyses, test procedures and technical documentation.
- Contribute to design reviews, technical risk assessments and engineering decision-making.
- Support transition of successful prototypes into repeatable, manufacturable products.
- Work directly with suppliers, customers, operators and other engineering organisations where required.
- Contribute ideas for new technologies, products and improvements to existing SiNAB systems.

What We Are Looking For

We are particularly interested in people who demonstrate exceptional technical curiosity and breadth.

- Strong understanding of engineering and physical principles.
- A natural desire to understand how things work.
- Enjoyment of problems that do not have an obvious answer.
- Ability to break complicated problems into manageable technical questions.
- Ability to learn unfamiliar technologies quickly.
- Comfortable moving between theoretical analysis and practical experimentation.
- Enjoyment of designing, building, testing and improving things.
- Willingness to work across traditional engineering boundaries.
- Ability to make progress when requirements or information are incomplete.
- Constructive challenge of assumptions.
- Strong analytical and critical-thinking skills.
- Comfort admitting what you do not know and then finding the answer.
- Clear communication of complex technical concepts.
- Ownership of problems through to resolution.
- Ability to work independently and as part of a multidisciplinary team.

Above all, we are looking for intellectual curiosity, technical versatility and a genuine desire to create new products.

Qualifications

A degree in Aerospace, Mechanical, Mechatronic, Electrical/Electronic, Robotics or another relevant engineering or physical-science discipline.

An Honours degree, Masters or PhD involving significant research, experimentation or development would be highly regarded but is not essential. Exceptional candidates from

adjacent scientific and technical disciplines will also be considered where they can demonstrate strong engineering capability.

Experience

We are open to candidates at different stages of their careers, including exceptional graduates and early-career engineers, research Masters or PhD graduates, engineers with several years of R&D/product-development experience, and experienced engineers seeking greater technical breadth and ownership.

Experience in Defence or aerospace is desirable but not essential. We value demonstrated capability and potential more highly than simply the number of years worked in industry.

Particularly Valuable Experience

- Aerospace systems or aircraft integration
- Mechanical design, mechatronics, robotics or autonomous systems
- Electro-optical/infrared systems and sensors
- RF and communications systems
- Electronics, embedded systems or software/programming
- Modelling, simulation and data analysis
- Rapid prototyping and additive manufacturing
- Environmental or qualification testing
- Verification and validation
- Flight testing and systems engineering
- Defence technology
- Use of AI and machine learning tools to accelerate engineering design, modelling, analysis, software development, verification, and decision-making

Candidates are not expected to have experience in all these disciplines. Breadth, curiosity and the ability to learn are more important.

The Type of Engineer Who Will Thrive at SiNAB

You may find yourself analysing a structural or thermal problem in the morning, working with an electronics or software engineer on an integration problem that afternoon, and participating in system testing the following day.

You could be at an aircraft OEM facility in the Czech Republic, on an airbase in Texas or flight testing over the Hunter Valley in NSW.

You will sometimes encounter problems for which nobody in the room immediately knows the answer. We consider that an opportunity.

The engineers who thrive at SiNAB ask good questions, understand the underlying physics, research what they need to know, develop a hypothesis, build or model something, test it and learn from the result.

What SiNAB Offers

- Work on advanced Australian Defence and aerospace technology.
- Participate directly in genuine R&D and new product development.
- Work alongside highly capable multidisciplinary engineers.
- Take meaningful technical ownership early in your career.
- See products progress from idea through prototype and testing to operational use.

- Work across multiple engineering disciplines rather than being confined to a narrow technical function.
- Develop rapidly through challenging real-world engineering problems.
- Influence both the products we develop and how they are engineered.

Eligibility

Due to the nature of SiNAB's work within the Australian Defence sector, applicants must be able to satisfy applicable security, nationality, export-control and customer requirements associated with the projects on which they work.

A Different Kind of Engineering Role

We don't expect you to arrive knowing everything. We do expect you to be someone who wants to understand almost anything.