Sir Lawrence Wackett
Defence & Aerospace Centre

SLWDAC PROSPECTUS 2022

RMIT UNIVERSITY

About Us

The Sir Lawrence Wackett Defence & Aerospace Centre (SLWDAC) is RMIT University's flagship Centre dedicated to fostering collaboration with the defence and aerospace sectors. The Centre also drives the University's expertise in technologies, policy, business, international relations, ethics and training in our sectors.

As a university-wide Centre we:

- Contribute to Australia advancing its national capabilities and growing its sovereignty to stay globally competitive.
- Act as a gateway to connect industry with the whole University.
- Provide the expertise to develop technology solutions and workforce skills development for industry.
- Align and focus the University's capability to best serve national defence and space priority areas including manufacturing, autonomous systems and cyber security.
- Build and support cross sector teams to deliver outcomes for Defence, aerospace and defence industries across Technology Readiness Level 1 - 7.
- Contribute to growth of defence and aerospace industries locally and internationally.
- Improve gender diversity, and foster an inclusive culture for women and minority groups in STEM in defence and aerospace.

OUR VISION

To be a leader in capability development and implementation, supporting the growth of Defence, Aerospace and related high technology industries in Australia.

OUR MISSION

We support Australian industries by delivering trusted technology solutions, providing expert advice and developing human capability while embedding industry values and best practices.

Our Key Pillars

AUTONOMY & AUTOMATION
Artificial intelligence & machine learning | autonomous systems & unmanned vehicles | human-machine interface & interactions | navigation & collision avoidance | optimisation & operations management | robotics & mechatronics | traffic management & control | trusted autonomy & safety critical solutions

DATA, INFORMATION & COMMUNICATION
Blockchain | **c**yber systems, cryptology & data security | data analytics, data fusion & machine learning | geospatial intelligence | network design & security | quantum technologies | wireless communications

EDUCATION & TRAINING & WORKFORCE SKILLS DEVELOPMENT
Aircraft design & airworthiness | aeronautics | aviation management | cross-disciplinary education & training programs | industry 4.0 | maintenance and logistics | naval shipbuilding skills | pilot & UAV training | short courses & microcredentials | simulations & visualisations | transport safety investigation

HUMAN PERFORMANCE & PROTECTION
Digital Health | food technologies | human factors | human protection & comfort | medical & biomedical countermeasures | physical & cognitive performance & functions | preventative medicine | protective clothing

MULTIFUNCTIONAL MATERIALS & STRUCTURES, & ADVANCED MANUFACTURING
Additive & subtractive manufacturing | advanced structural testing capabilities | airworthiness & through-life support | alloys | composite technologies | design & testing for manufacturing | digital manufacturing & industry 4.0 | fabrics & textiles | light weighting | metamaterials, micro- & nano-materials

POLICY, ETHICS & LAW
Alternative applications, knowledge sharing | block chain | ethics | global business innovation | global policy & regulation | health law & policy | human development | national and international law | procurement | security & peace studies

POWER & ENERGY SOLUTIONS
Energetics | energy harvesting | energy conversion & efficiency | energy storage | hypersonics | logistics, optimisation, supply chain | propulsion test facility design & operation | rocket propulsion | sustainability

REMOTE & EMBEDDED SENSORS
Antennas | environmental & tactile sensing | integrated photonics | microwave devices & systems | radar & sonar | remote imaging | situation awareness | surveillance & detection | wearable & flexible electronics | wireless technologies

SPACE SYSTEMS & TECHNOLOGIES
Propulsion | remote sensing & communications | satellite technologies, tracking, positioning | space debris monitoring & modelling | spacesuits & space textiles | space launch systems & space vehicles | weather & geospatial sciences

VIRTUAL PROTOTYPING & DIGITAL TWIN
Engineering systems & structures | industrial & environmental design | life-cycle analysis | model based system engineering | modelling & simulation | product design & life-cycle management | prognostics & health management | virtual & augmented reality | virtual design & prototyping

Advantages of working with us

RMIT has made a strong commitment to growing an Australian high technology economy. As part of this commitment, it has established the SLWDAC as RMIT's Defence flagship to support industry capability development, workforce reskilling and upskilling, and vocational and higher education. SLWDAC aims to bridge the gap between university, industry and government by bringing together and supporting interdisciplinary teams of experts across engineering, science, technology, health, design, social sciences and business to work side-by-side with our industry partners to help achieve sustainment of Australian SMEs. This is supported through partnerships with Aerospace and Defence PRIMES and the Defence Science and Technology Group (DSTG).

A key mandate of the Centre is to establish and implement industry best practice in strategic capability development, targeted industry engagement, business case analysis, IP management and evaluation, and research project management and commercialisation through the implementation of Stage Gate and Design for Lean Six Sigma methodologies. This ensures our industry partners benefit from a powerful mix of business expertise and technical knowledge since our members are committed to working alongside our partners as part of collaborative project teams.

Global Reach & Leadership

Lead workshops and public events targeted at broadening awareness of Defence, Space, Security and Industry 4.0 readiness across sectors and the public

Training

Lead digital literacy, global business innovation, policy, governance, entrepreneurship, tech development and tech transition training into courses and up-skills programs through industry and start-up collaborations

Commercialisation

Actively identify and foster technology commercialisation and start-up opportunities

Collaboration

Create and grow collaborative ecosystems and consortia strategically focused on dual-use, enabling and emerging technologies aligned with Defence, Space and Security

Industry Immersion

Supporting industry-aligned partnerships through joint research supervision, staff business secondments, shared resources, industry led training and technology development

People

Simple, accessible support structures and communications for stakeholders and targeted recruitment of the best and brightest staff, undergraduate and post graduate students

Journey of working with us

RMIT has a longstanding and trusted work relationship with Defence, government, PRIMES, SMEs and start-ups in defence and aerospace.

Our established strengths align with Defence Science Technology and Research (STaR) Shots, Next Generation Technology Fund (NGTF), National Manufacturing Priorities Defence and Space, National Strategic Airspace, Aviation and Civil Space, and Civil Space priority areas.

Our cross disciplinary teams of experts work side by side with our partners to ensure milestones and deliverables are met on time and on budget.

The Centre's Industry Advisory Board (IAB) helps identifying current and future strategic priority areas for research engagement, workforce skills development, policy development and public outreach in the Defence and Aerospace sector. The IAB reviews the SLWDAC strategy and informs alignment of the strategy with Defence and aerospace industry opportunities. It acts as a vehicle for thought leadership bringing together representatives from all sectors of Defence and Aerospace industry ranging from Department of Defence organisations, PRIMES, SMEs, research providers, peak bodies and Defence end users.

Our partners

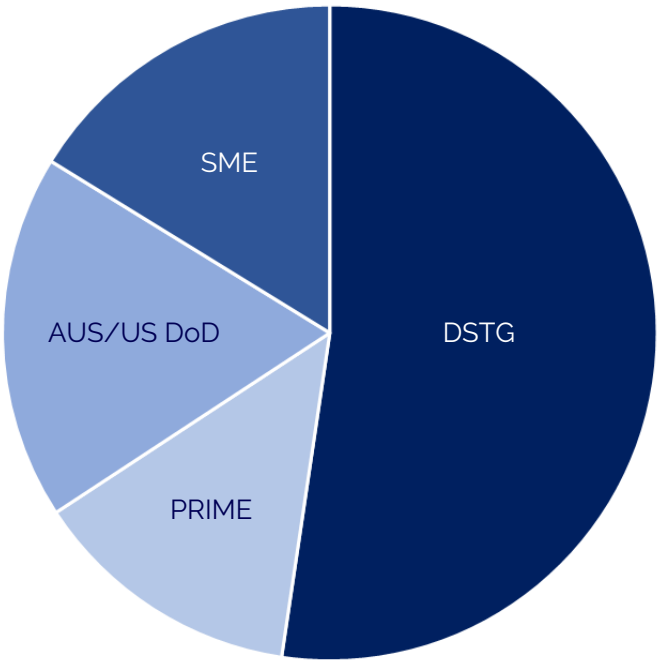
We forge partnerships to address challenges and identify trends and priorities. Central to our collaborative method is a consultative and customer driven approach and focus on commercialisation outcomes.

We have a fact finding, flexible and open way of working with the aim to provide meaningful business solutions. Underpinning our collaborative method, we bring our partners on the journey to minimise their risks. We communicate openly and clearly, and we have an ability to pivot as needed.

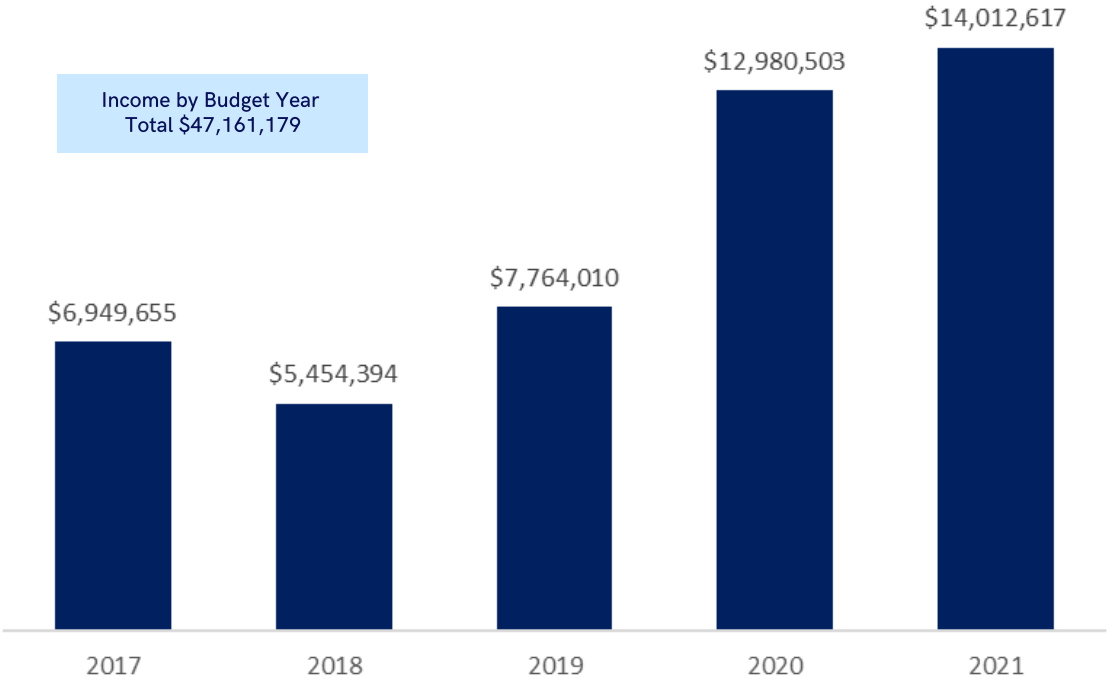
Key centres & facilities

AI Innovation Hub	ARC Centre of Excellence for Nanoscale BioPhotonics	ARC Centre of Excellence for for Quantum Computation & Communication Technology	ARC Centre of Excellence in Exciton Science	ARC Centre of Excellence in Future Low-Energy Electronics Technology (FLEET)	Advanced Manufacturing Precinct
ARC Centre of Excellence for Automated Decision Making in Society	ARC Centre of Excellence for Environmental Decisions	ARC Industrial Transformation Training Centre in Additive Biomanufacturing	ARC Research Hub for Advanced Manufacturing of Personalised Medical Devices	ARC Research Hub for Australian Steel Manufacturing	ARC Research Hub for Nanoscience based Construction Material Manufacturing
ARC Training Centre for Surface Engineering for Advanced Materials	ARC Training Centre for the Transformation of Australia's Biosolids Resource	ARC Training Centre in Cognitive Computing for Medical Technologies	ARC Training Centre in Fire Retardant Materials & Safety Technologies	ARC Training Centre in Lightweight Automotive Structures (ATLAS)	Australian Centre for Electromagnetic Bioeffects Research
Bushfire & Natural Hazards CRC	Centre for Advanced Materials & Industrial Chemistry	Centre for Environmental Sustainability & Remediation	Centre for Industrial AI Research & Innovation	Centre for Information Discovery & Data Analytics	Centre for Remote Sensing
Cloud Supercomputing Facility	CRC for Contamination Assessment & Remediation of Environment	Cyber Security Research Innovation Centre	Digital Health Hub	Digital Innovation Hub	DST-RMIT Structures Test Facility
Micro Nanomedical Research Facility	People, Organisation & Work Centre	RMIT Blockchain Innovation Hub	RMIT Disaster & Response Network	RMIT Enabling Capabilities Platforms	SmartSat CRC
Space Industry Hub	SPACE Research Centre	Sustainable Infrastructure & Asset Management Research Centre	Trusted Autonomous Systems Defence CRC	Water Effective Technologies & Tools Research Centre	Key Centres & Facilities

Statistics



Income for Budget Year 2021
Total $14,012,617



Income by Budget Year
Total $47,161,179

Contact Us

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DEFENCE CONNECT
AUSTRALIAN DEFENCE INDUSTRY AWARDS
WINNER
ACADEMIC INSTITUTION OF THE YEAR
2021