Deloitte.

LOCKHEED MARTIN
AUSTRALIA

2022 Economic Impact
Lockheed Martin Australia

Image credit: Department of Defence

Image credit: Department of Defence

LOCKHEED MARTIN AUSTRALIA CONTRIBUTION TO THE AUSTRALIAN ECONOMY

2022

$583 million

3,422 jobs

contributed to Australia's 2022 GDP

BUILDING AUSTRALIA'S DEFENCE ECOSYSTEM

800+
Unique suppliers across the country

$250M
Expenditure on SMEs

$214K
Direct value-added to the economy per full-time job

LOCKHEED MARTIN AUSTRALIA HAS...

Built a national network of SMEs

75% of the supplier network are SMEs based in every state and territory

Invested in SME capability

more than 50% of total supplier expenditure is spent on SMEs

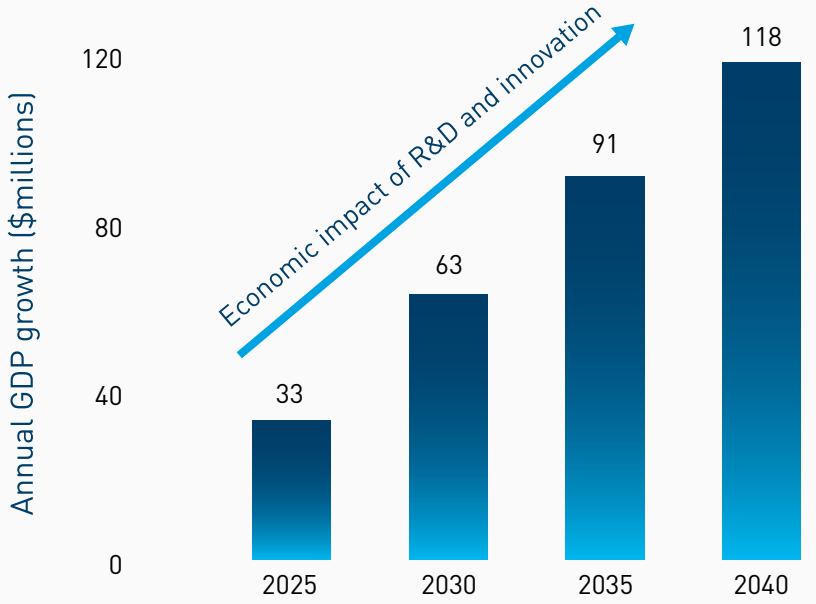
Fostered a highly skilled workforce

almost two additional jobs are supported in the supply chain for every person employed by Lockheed Martin Australia

Note: throughout this report, the term jobs refers to full-time equivalent (FTE) employment

DRIVING ECONOMY-WIDE INNOVATION

*Lockheed Martin Australia's investments in R&D could see Australia's economy capture an additional **$605 million** (NPV, 2022) in growth over the next two decades*



Executive Summary

Lockheed Martin Australia has been a trusted partner of the Australian Defence Force (ADF) for over 70 years, supporting Australia's national interests with advanced systems, products and services across air, land, sea, space, and cyber domains.

This study captured the breadth and depth of Lockheed Martin Australia's impact on Australia's economy in 2022, through the organisation's direct and indirect contribution and the long-term investments in cutting edge defence innovation and R&D.

In 2022, Lockheed Martin Australia supported 3,422 jobs and made a total economic contribution of **$583 million of value added to Australia's GDP.** This figure represents a direct contribution of **$252 million added through Lockheed Martin Australia's activities**, and a further **$331 million added through Australian-based supply chains.**

Through its focus on long-term partnerships, Lockheed Martin Australia supports more than 1,200 suppliers (more than 800 in 2022 alone) across the country, ensuring current and future defence needs are met through sovereign capabilities.

Across supplier networks, Lockheed Martin Australia continues to invest in building sovereign capability, particularly among small-medium enterprises (SMEs). In 2022, SME's represented approximately 75% of total suppliers and captured nearly $250 million in expenditure.

Looking ahead, Lockheed Martin Australia remains a key delivery partner for the ADF, and is poised to:

- be the strategic partner to steward Project AIR 6500 Phase 1, which will provide the ADF with a Joint Air Battle Management System that will form the ground-breaking architecture at the core of the ADF's future Integrated Air and Missile Defence capability.
- deliver the ADF's sovereign military satellite communications system, as the preferred bidder for the Defence Joint Project 9102. This system will leverage Lockheed Martin's global experience in the delivery of resilient satellite communications networks and establish a space ecosystem in Victoria, contributing to the development of advanced capabilities.
- be the Strategic Industry Partner for the Australian Guided Weapons and Explosive Ordnance Enterprise, paving the way for Lockheed Martin Australia to work with Defence and industry to accelerate delivery of guided missiles for Australia.
- deliver the 19-year contract for the Southern Positioning Augmentation Network (SouthPAN) system, to provide enhanced positioning accuracy to industry and the broader community.

These commitments, like Lockheed Martin Australia's projects to-date, depend on a highly skilled and diverse workforce both within the organisation and throughout its supplier network. For every person employed by Lockheed Martin Australia, almost two additional jobs are supported throughout the Australian supply chain. Further, of the 1,190 people employed (equivalent to 1,176 full-time jobs) by Lockheed Martin Australia, nearly half of employees are in STEM roles.

To prepare the next generation workforce, Lockheed Martin Australia is working with local partners to increase the uptake of both STEM and defence careers. The organisation is the major funding partner of the National Youth Science Forum, which facilitates pathways into STEM for year 12 students. It is also committed to increasing diversity and gender equality in STEM and the defence industry.

LOCKHEED MARTIN
AUSTRALIA

At Lockheed Martin Australia, veterans represent 23% of the workforce, which includes members who continue to serve Australia as Reservists. In recognition of the importance of supporting veterans' organisations, more than $2 million has been invested in sponsoring veteran-aligned organisations since 2019 including the Keith Payne VC Veterans Benefit Group, Legacy, the Gallipoli Scholarship Fund, the Australian War Memorial, the Commando Welfare Trust, Aussie Hero Quilts and more.

As a global defence and technology leader, Lockheed Martin has a history of bringing cutting edge technology to Australia. The organisation will continue its crucial role in pioneering new technologies and systems through its flagship R&D lab, the Science, Technology, Engineering Leadership, and Research Laboratory (STELaRLab). STELaRLab is Lockheed Martin's only multidisciplinary R&D lab outside of the United States.

This study found that the economic impact of Lockheed Martin Australia's **investments in R&D could see Australia's economy capture an additional $605 million** (NPV, 2022) in economic growth over the next two decades.

THIS STUDY

This report measures the economic contribution of Lockheed Martin Australia in 2022. This is based on input-output modelling by Deloitte Access Economics using detailed expenditure data across all of Lockheed Martin Australia's operations. It captures Lockheed Martin Australia's activities in the Australian economy, including the indirect economic impact stemming from supplier relationships.

In addition to economic contribution, this report considers the wider economic impact of Lockheed Martin Australia's role in contributing to innovation in Australia. The economic benefits of investment in R&D and innovation are typically realised years after the initial investment. Lockheed Martin Australia's investment in innovation today will generate economic returns for Australia well into the future.

Combined, this report reflects the impact of Lockheed Martin Australia to Australia's economy in 2022, while highlighting the wider economic benefits of Lockheed Martin Australia's contribution to the defence ecosystem in Australia.

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- Putting Australia at the forefront of technology and innovation

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WHAT IS ECONOMIC CONTRIBUTION?

Economic contribution is a measure of value added and employment associated with economic activity.

Value added is the most appropriate measure of economic contribution as it captures the value added by each industry in the value chain, and when captured on a national scale provides an estimate of a country's gross domestic product (GDP).

From an economic contribution perspective, **employment** measures the number of jobs supported by Lockheed Martin Australia, in full time equivalent (FTE) terms. It measures the number of jobs involved in producing output (total revenue) and does not double count jobs across the economy.

Lockheed Martin Australia's contribution to the Australian economy can be split into direct and indirect contribution:

- The **direct economic contribution** is the value added created by labour and capital inputs employed directly by Lockheed Martin Australia
- The **indirect economic contribution** is a measure of the demand for goods and services produced across the economy as a result of demand generated by the productions. This is often referred to as 'flow on' effects.

All economic contribution values are in 2022 Australian dollars and captures all Australian operations and expenditure in 2022.

The methodology used may differ from methodologies used in previous reports on Lockheed Martin Australia's economic contribution, and therefore care should be taken when comparing results as they will not necessarily be comparable.

Further detail on the estimation of economic contribution is available in Appendix A.

Image credit: Department of Defence

Economic impact of Lockheed Martin Australia

Lockheed Martin Australia's contribution to the Australian economy and defence is based on five pillars

ECONOMIC GROWTH

In 2022, Lockheed Martin Australia contributed **$583 million of value added to Australia's GDP and supported 3,422 jobs.** This $583 million represents a direct contribution of $252 million of value added and 1,176 jobs supported through Lockheed Martin Australia's activities, and a further $331 million of value added and 2,246 jobs supported through Australian-based supply chains.

BUILDING ADVANCED SUPPLY CHAINS

Lockheed Martin Australia has a **network of more than 1,200 suppliers (more than 800 suppliers used in 2022 alone).** Specialised and high value manufacturing, and professional services sectors comprise the largest share of supply chain expenditure.

DEVELOPING SOVEREIGN CAPABILITY THROUGH SMEs

Lockheed Martin Australia is committed to building Australia's sovereign capability by investing in SMEs that provide sophisticated solutions to the market. In 2022, **$250 million was spent on SMEs** in the immediate supply chain.

Fostering the development of SMEs is a strong, feature of this supplier network. Through the Mentor Protégé Program, organisations with strong growth potential – such as Inovor, Clearbox Systems and Silentium Defence – receive tailored business development mentorship.

FOSTERING A HIGHLY SKILLED WORKFORCE

Lockheed Martin Australia employs a highly skilled workforce in Australia, with many roles in specialised engineering fields. The **workforce is highly productive**, generating significant value added, estimated at **$214,000 per job** in 2022. The average full time Lockheed Martin Australia employee **earned 1.9 times the average Australian full-time wage in 2022.**

Almost **two indirect jobs** were supported through the broader supply chain for every one job employed directly by Lockheed Martin Australia.

Beyond their current employment footprint, Lockheed Martin Australia is investing in growing Australia's workforce of the future by building awareness and pathways to careers in STEM and defence.

DRIVING AUSTRALIA'S DEFENCE INNOVATION CAPABILITY

Investing in R&D and developing innovative technologies is central to the Lockheed Martin Australia's approach to capability building.

This approach delivers significant economic dividends for Australia, as it fosters innovation and R&D that support an increased return on investment.

Lockheed Martin's estimated expenditure on R&D in Australia from 2023 to 2040 is projected to increase Australia's GDP by $605 million (in net present value terms) and result in **a net gain in employment** of:

- 73 FTE jobs on average per year from 2023 to 2030
- 140 FTE jobs on average per year from 2031 to 2040

The **projected economic output per job is over $520,000 on average,** due to the significant productivity growth associated with Lockheed Martin Australia's investment in innovation and R&D.

Exhibit 1: *Economic contribution of Lockheed Martin Australia, 2022*

$583 million
3,422 jobs

Total economic value added to Australia's GDP in 2022

$252 million
1,176 jobs

Direct contribution to Australia's economy in 2022

$331 million
2,246 jobs

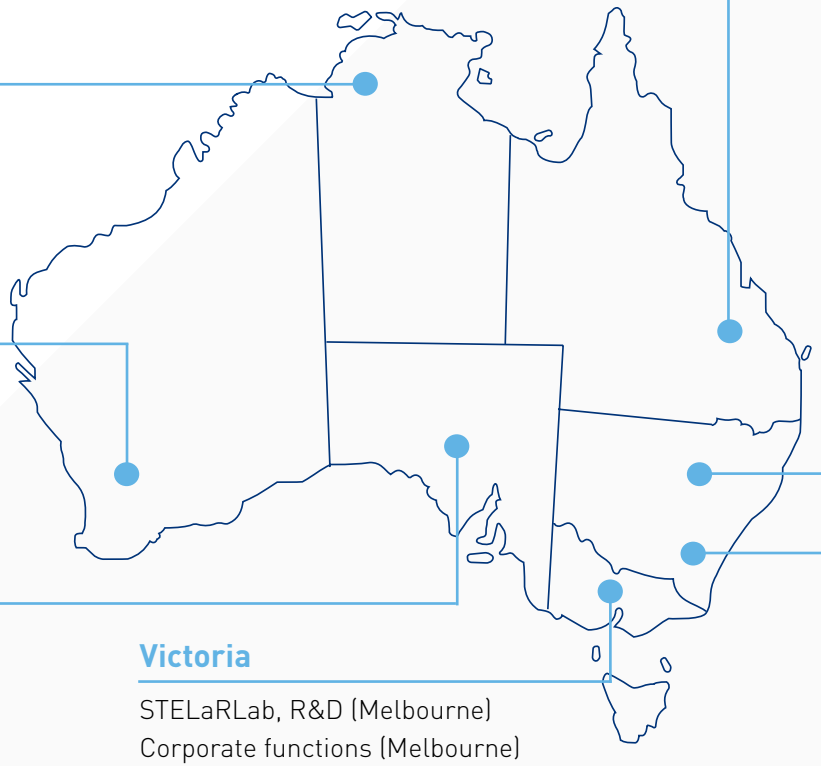
Supply chain effects

Note: all figures are presented in FY23 terms. Unless otherwise stated, the term 'jobs' represents a Full Time Equivalent.

National presence

Lockheed Martin Australia drives economic activity across Australia

Exhibit 2: *Lockheed Martin Australia programs across Australia's states and territories*



Northern Territory

Tactical radars (Darwin)
F-35 Joint Strike Fighter, sustainment (Katherine)

Western Australia

Pilot training for Australia and Singapore (Perth)

South Australia

Aegis combat system (Adelaide)
STELaRLab, R&D (Adelaide)
Jindalee Operational Radar Network (JORN) support (Adelaide)

Victoria

STELaRLab, R&D (Melbourne)
Corporate functions (Melbourne)
Pilot training for Australia (East Sale)
Space systems (Melbourne)

Queensland

Corporate functions (Brisbane)
STELaRLAB, R&D (University of Queensland)

New South Wales

Commercial space, SouthPAN (Uralla)
F-35 Joint Strike Fighter sustainment (Hunter region)
Aegis combat system sustainment (Sydney)
C-130J Hercules sustainment (Richmond)
Helicopter support (Sydney)
MH-60R Seahawk sustainment, Sikorsky Australia (Nowra)

Australian Capital Territory

Corporate HQ (Canberra)
Southern Positioning Augmentation Network (SouthPAN) (Canberra)

Delivering capability

The economic contribution of Lockheed Martin Australia in 2022 has been estimated across the five capability areas:

1. Air Superiority
2. Aircraft Sustainment
3. Training and Research and Development (R&D)
4. Space
5. Maritime, Mission Systems, Undersea Systems, and Guided Systems.

Programs span all key domains from Next Generation Pilot Training, Combat Systems Integration, Rotary Wing Systems and Sustainment to 5th Generation Air Combat Capability and Surveillance and Navigation.

Lockheed Martin Australia is also expanding space sector capability, which has significant civil and defence applications. At the heart of the Southern Positioning Augmentation Network (SouthPAN) program is unique in-house satellite technology that will provide enhanced positioning accuracy for many sectors including aviation, agriculture, transport, mining and other industries.

LOCKHEED MARTIN AUSTRALIA

Exhibit 3: *Lockheed Martin Australia delivers cutting-edge capabilities across multiple capability areas*

Air Superiority

The F-35 is the most advanced multi-role fighter in the world – delivering unmatched lethality, survivability and connectivity.

Aircraft Sustainment

Delivering world-class sustainment capabilities to keep the fleet mission ready.

Training and R&D

Enabling the Australian Defence Force to accomplish their most challenging missions.

Space

Connecting people, advancing discovery and protecting what matters most.

Maritime, Mission Systems, Undersea Systems, and Guided Systems

Through an advanced network of platforms and systems, data becomes decisions faster than ever.

ECONOMIC CONTRIBUTION OF LOCKHEED MARTIN AUSTRALIA

Economic contribution 2022

Lockheed Martin Australia's activities added to Australia's economy across all five capability areas

Of the total economic value added to the Australian economy, the organisation directly contributed **$252 million** in value added to Australia's GDP and supported **1,176 Australian jobs**. Indirectly, Lockheed Martin Australia's activities supported a further **$331 million** in value and **2,246 jobs** across defence supply chains.

Air Superiority generated the largest overall economic contribution of $199 million value added while supporting 1,361 jobs. This stems from its large indirect economic contribution, driven by large Australian supplier expenditure, mostly on the F-35 program.

Maritime, Mission Systems, Undersea Systems, and Guided Systems has the largest direct economic contribution of $129 million value added and 592 jobs supported.

This is driven by the significant employment, largely based in South Australia, in the design of advanced systems to further Australia's sovereign defence capability. Programs for Lockheed Martin Australia such as SouthPAN and the new Australian Defence satellite communication system will generate growth in both the space and adjacent industry sectors.

Image credit: Department of Defence

Exhibit 4: *Economic contribution across capability areas in 2022*

 **Air Superiority**	**$199 million** total value added	**1,361** total jobs supported
 **Maritime, Mission Systems, Undersea Systems, and Guided Systems**	**$159 million** total value added	**790** total jobs supported
 **Training and R&D**	**$115 million** total value added	**597** total jobs supported
 **Aircraft Sustainment**	**$91 million** total value added	**547** total total jobs supported
 **Space**	**$20 million** total value added	**128** total jobs supported

Economic contribution by state and territory

Lockheed Martin Australia has programs or suppliers in every state and territory in Australia. This generates economic value added and jobs, whether direct or indirect, across the country.

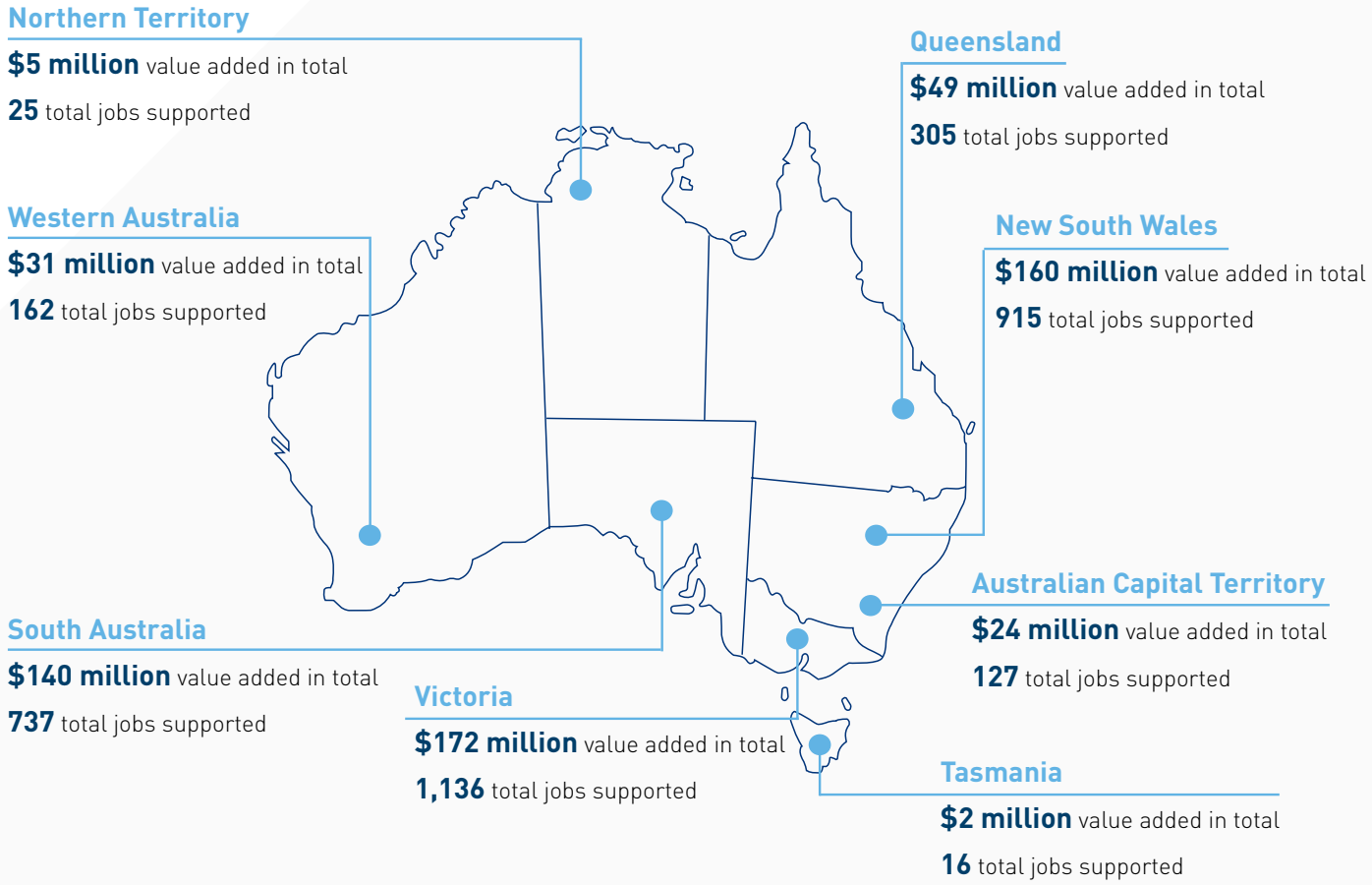
The highest economic contribution generated in 2022 was in Victoria, driven by the presence of several programs and key suppliers.

New South Wales is the second highest contributor to economic growth, stemming from the presence of programs such as the F-35 Joint Strike Fighter sustainment and Sikorsky Australia, as well as from the presence of local suppliers.

A high share of total employment was based in South Australia in 2022, which drove a high economic contribution for South Australia.

For further detail on the breakdown of economic contribution by state and territory, refer to Appendix B.

Exhibit 5: *Economic contribution of Lockheed Martin Australia by state and territory*



Fostering the next generation STEM workforce in Victoria

$33 million
consisted of **direct** value added

$139 million
consisted of **indirect** value added

CONTRIBUTION TO THE ECONOMY

1,136 jobs | Supported in VIC in 2022, including 133 jobs employed directly by Lockheed Martin Australia

$84 million | Supplier expenditure in VIC on SMEs, equal to 76% of total spend

129 SMEs | based in VIC engaged as suppliers in 2022

SUPPORTING RESEARCH & INNOVATION

Australian R&D first | Provided Australia's first-ever classified Digital Common User Facility to facilitate University and industry engagement with Defence

12 research contracts | with Victorian universities to conduct critical defence R&D

Additional jobs and $5.3 million supplier expenditure | to support the growth of STELaRLab from 2021 to 2022

BUILDING A SOPHISTICATED WORKFORCE

STELaRLab Headquarters | As the headquarters of STELaRLab, Victoria contributes to building a network of highly skilled PhD and Masters students, specialising in defence and aerospace R&D

3 PhD and 2 internship sponsorships | between STELaRLab and Victorian universities from 2020 to 2022

40% | of Lockheed Martin Australia's jobs growth occurred in Victoria from 2020 to 2022, and this is projected to grow further across Space projects in 2023 and beyond.

Supporting regional economic growth in New South Wales

$78 million
consisted of **direct** value added

$83 million
consisted of **indirect** value added

CONTRIBUTION TO THE ECONOMY

915 jobs | Supported in NSW in 2022, including 405 jobs employed directly by Lockheed Martin Australia

$66 million | Supplier expenditure in NSW on SMEs, equal to 76% of all spend

245 SMEs | based in NSW engaged as suppliers in 2022

SUPPORTING RESEARCH & INNOVATION

21 R&D export contracts | in partnership with five NSW Universities

BUILDING A SOPHISTICATED WORKFORCE

155 people employed in the Hunter region | Lockheed Martin Australia conducts training and sustainment activities for the F-35 Joint Strike Fighter fleet, based in Williamtown.

$111 million | Supplier expenditure in regional NSW from 2020 to 2022, concentrated in the Hunter and Shoalhaven regions.

26 Hunter region SMEs | contracted in 2022. Lockheed Martin Australia has helped bring local SMEs to the global Defence market.

Lockheed Martin Australia has partnered with Regional Development Australia Hunter and the University of Newcastle to develop a highly skilled workforce in the Hunter Region

Building an advanced workforce in South Australia

CONTRIBUTION TO THE ECONOMY

737 jobs | South Australia has the largest direct employment of all Australian states and territories with 481 jobs employed directly by Lockheed Martin Australia.

$44 million | Supplier expenditure in South Australia on SMEs, equal to 85% of total spend

75 SMEs | based in South Australia engaged as suppliers in 2022

SUPPORTING RESEARCH & INNOVATION

4 PhD and Masters student sponsorships | with SA-based universities through STELaRLab in 2022

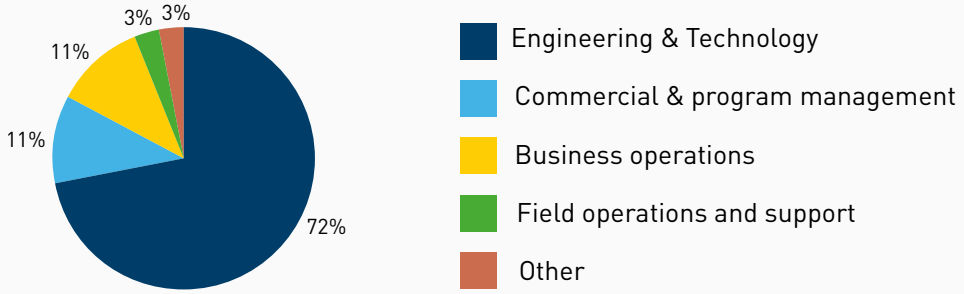
Industry leading partnerships | With the University of Adelaide, STELaRLab is the foundation industry partner to the **Australian Institute for Machine Learning** and an inaugural partner in the Defence Trailblazer program. These partnerships will create world-leading advanced capabilities for Australia

BUILDING A SOPHISTICATED WORKFORCE

72% | of Lockheed Martin Australia employees in South Australia work in engineering or technology roles

8.6% | Growth in Lockheed Martin Australia employment in SA from 2020 to 2022

South Australian workforce, by job role, 2022



$106 million consisted of **direct** value added

$34 million consisted of **indirect** value added

LOCKHEED MARTIN
AUSTRALIA

Image credit: Department of Defence

INVESTING IN AUSTRALIA'S FUTURE

Building sovereign capability across the supply chain

Investing in Australia's Future

Creating supply chain opportunities

Lockheed Martin Australia's supplier network is as vast as it is deep, with some businesses having worked alongside the organisation for decades.

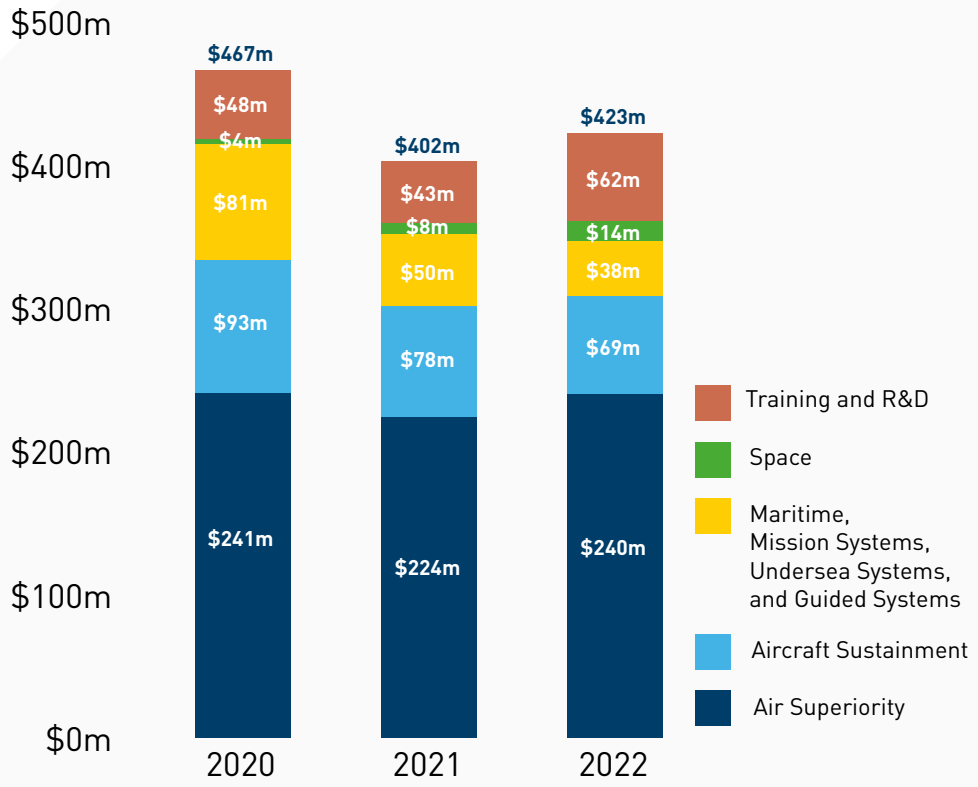
The depths of these relationships are underpinned by a shared approach to collaboration, genuine partnership and a desire for excellence. Many of these companies have their own supplier base that also include SMEs and specialised businesses, **creating a tiered supply chain.**

Across all five capability areas, the Air Superiority supply chain observed the largest expenditure area. Alongside established programs (which remain ongoing), there has been **significant growth in areas such as Space, which experienced a 250% growth in supplier spend since 2020** as the organisation continues to diversify and build on existing strengths.

Expenditure on training and R&D activities has also grown by 29% since 2020. This is driven by the expansion of STELaRLab's six research teams, as the lab partners with universities and other institutions to undertake innovative research programs.

Between 2020 and 2022, Lockheed Martin Australia engaged 1,208 suppliers across Australia, with a cumulative total of approximately $1.3 billion spent with them to deliver key programs for customers.

Exhibit 6: *Lockheed Martin Australia Australian supplier expenditure by capability area, 2020 to 2022*



Note: values are in nominal Australian dollars ($AUD)

Note: From 2020 to 2022, a decrease in supplier expenditure was driven by decreases in maritime spend, caused by the cancellation of the Future Submarine Program in late-2021, in addition to decreases in Air Superiority and Aircraft Sustainment, driven by enduring supply-side constraints caused by the COVID-19 pandemic.

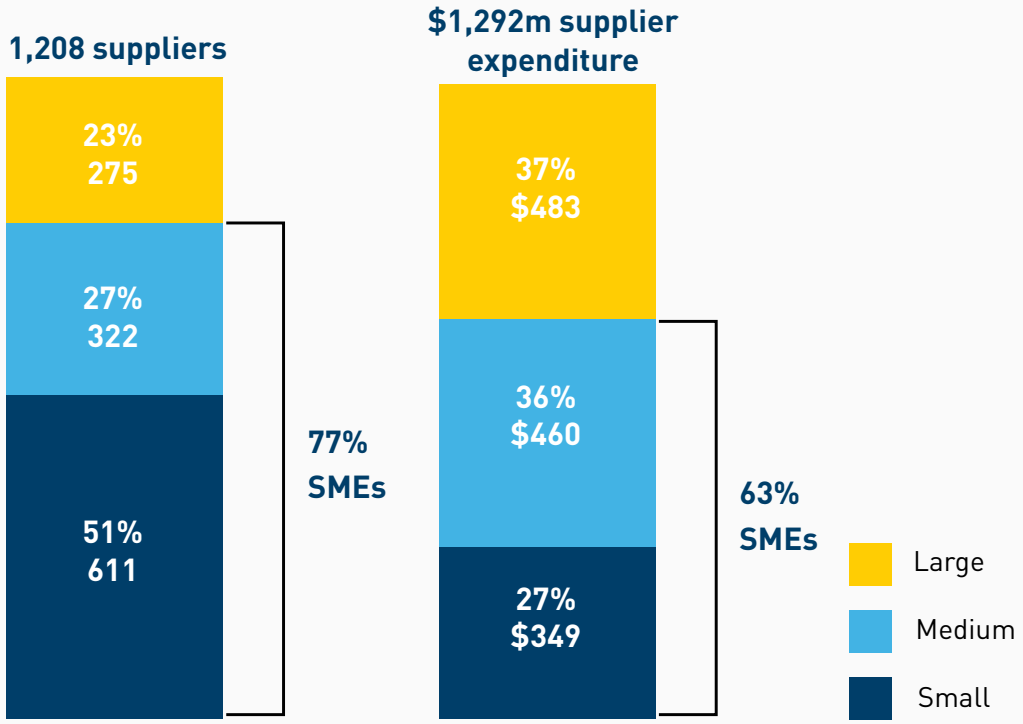
Investing in Australia's Future

Supporting small to medium sized enterprises (SMEs) to unlock global defence opportunities

Partnerships with Australian SMEs are central to the delivery of Lockheed Martin Australia's programs. The value that Lockheed Martin Australia brings to their Australian partners enables them to boost their profile, generating visibility and trust in the market. In many cases, this has led to a network of opportunities being unlocked, including exports to countries across Europe and the United States.

SMEs represented 77% of the 1,200 strong supplier network from 2020 to 2022, an increase from 71% during the previous three years.

Exhibit 7: *Total number of suppliers and supplier spend, by business size, 2020 to 2022*



Investing in Australia's Future

Supporting small to medium sized enterprises (SMEs) to build sovereign industrial capability in Australia

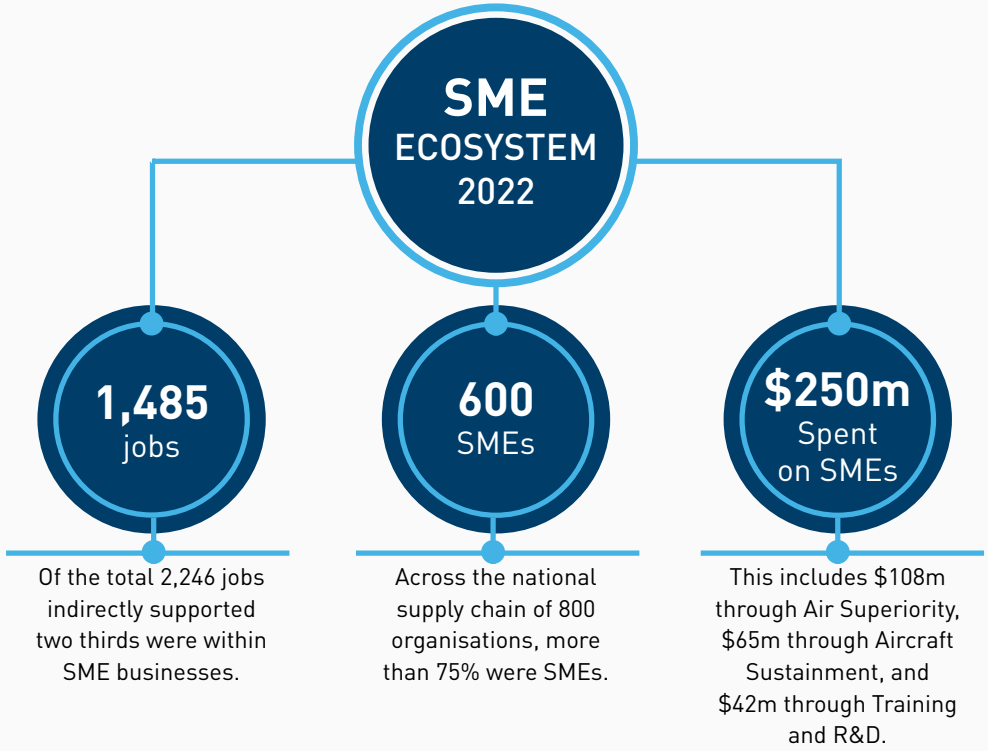
Building long term supplier relationships is critical to providing certainty of income for SMEs, enabling these businesses to reinvest and develop further capacity and capability.

In some cases, this partnership approach has enabled businesses to grow from being an SME to a larger business, expanding the ability to deliver key sovereign industrial capabilities in Australia.

These companies are also receiving a greater share of expenditure when compared to previous years, having captured 63% of Lockheed Martin Australia's total supply chain expenditure from 2020 to 2022. Partnerships with Australian SMEs are central to the delivery of Lockheed Martin Australia's programs.

In 2022, more than 75% of Lockheed Martin Australia's national supply chain was SMEs.

Exhibit 8: *Lockheed Martin Australia's SME Ecosystem in 2022*



Case Study

Av-Comm Space and Defence is a longstanding partner at the core of Lockheed Martin Australia's success

"Today's ecosystem, coupled with Lockheed Martin Australia's support, means we can take our business as far and wide as we want to. After almost 20 years in the industry with Av-Comm, I've learnt that what sustains you is the people you deal with, and the people at Lockheed Martin Australia make all the difference"

Michael Cratt, Managing Director, Av-Comm

Av-Comm Space and Defence is a longstanding SME partner with Lockheed Martin Australia, partnering in both the Southern Positioning Augmentation Network (SouthPAN) and Australian Defence satellite communication system (Joint Project 9102 Phase 1) projects. Av-Comm specialises in the design, manufacture, and installation of ground segment infrastructure that supports satellites on orbit.

As part of SouthPAN, Av-Comm has been entrusted to deliver all ground segment requirements for the project, including building two large satellite dishes at the Uralla facility and two satellite dishes in Invercargill, NZ. Further opportunities for Av-Comm are also being identified, such as the installation of high capacity wide-band antenna and radio-frequency subsystems at several satellite ground stations to support in-orbit missions.

Av-Comm's Managing Director, Michael Cratt notes the **hallmark of working with Lockheed Martin Australia is the supportive and collaborative relationship.** SMEs are immediately treated as an equal partner, not simply a contractor required to deliver a part. Through early collaboration on design, Av-Comm has been encouraged and challenged to think bigger. This approach to building supplier capability and engagement, through early involvement has enabled small changes to be made upfront, resulting in cost savings and better value being delivered in the final product.

Av-Comm's partnership with Lockheed Martin Australia has helped to boost its market visibility and build trust with new clients. Export opportunities have opened up in completely new markets, further enabling Av-Comm's growth and investment into its technology and workforce.

Case Study

Marand Precision Engineering has been embedded into international defence supply chains

The F-35 Lightning II is the most advanced fighter jet in the world supported by a global supply chain. Australia is a critical contributor to the production and sustainment of the F-35 program and it is redefining the country's advanced manufacturing sector.

The F-35 Engine Removal and Installation (R&I) Mobility Trailer is one of the most technically advanced mechanical systems ever designed, manufactured and assembled in Australia. The trailer's engineering, manufacturing and sustainment is delivered by **Marand Precision Engineering,** a company with a long history in automating manufacturing for the automotive industry and a more than 20 year relationship with Lockheed Martin.

Being part of the F-35 program has seen a consistent flow of contracts and work. This has allowed Marand to make investments in its people and processes, as well as tens of millions of dollars of investment in capital. Over the course of the relationship, Marand has grown to service a wide array of industries, including aerospace, defence, rail, mining, and energy. It has also expanded its presence to the United States and become one of Australia's largest defence industry exporters.

To further support this growth, Marand has been able to invest in its own dedicated supplier base in Australia. This includes key Lockheed Martin Australia supply chain partners such as Ronson Gears and AW Bell, who work with Marand on the R&I Mobility Trailer.

Through these enduring and emerging relationships, a strong network of capability among local suppliers has emerged that supports a diverse range of economic activity.

Working on the F-35 program has embedded Marand Precision Engineering into the Asia-Pacific defence supply chain ecosystem, growing it from a family-owned business in suburban Melbourne to a global supplier.

Investing in Australia's Future

Building a network of high value industries

As a company engaged in the design, build, and sustainment of advanced technology systems, Lockheed Martin Australia's wider supply chain relies on the capability of Australia's advanced manufacturing sectors, professional services and other services.

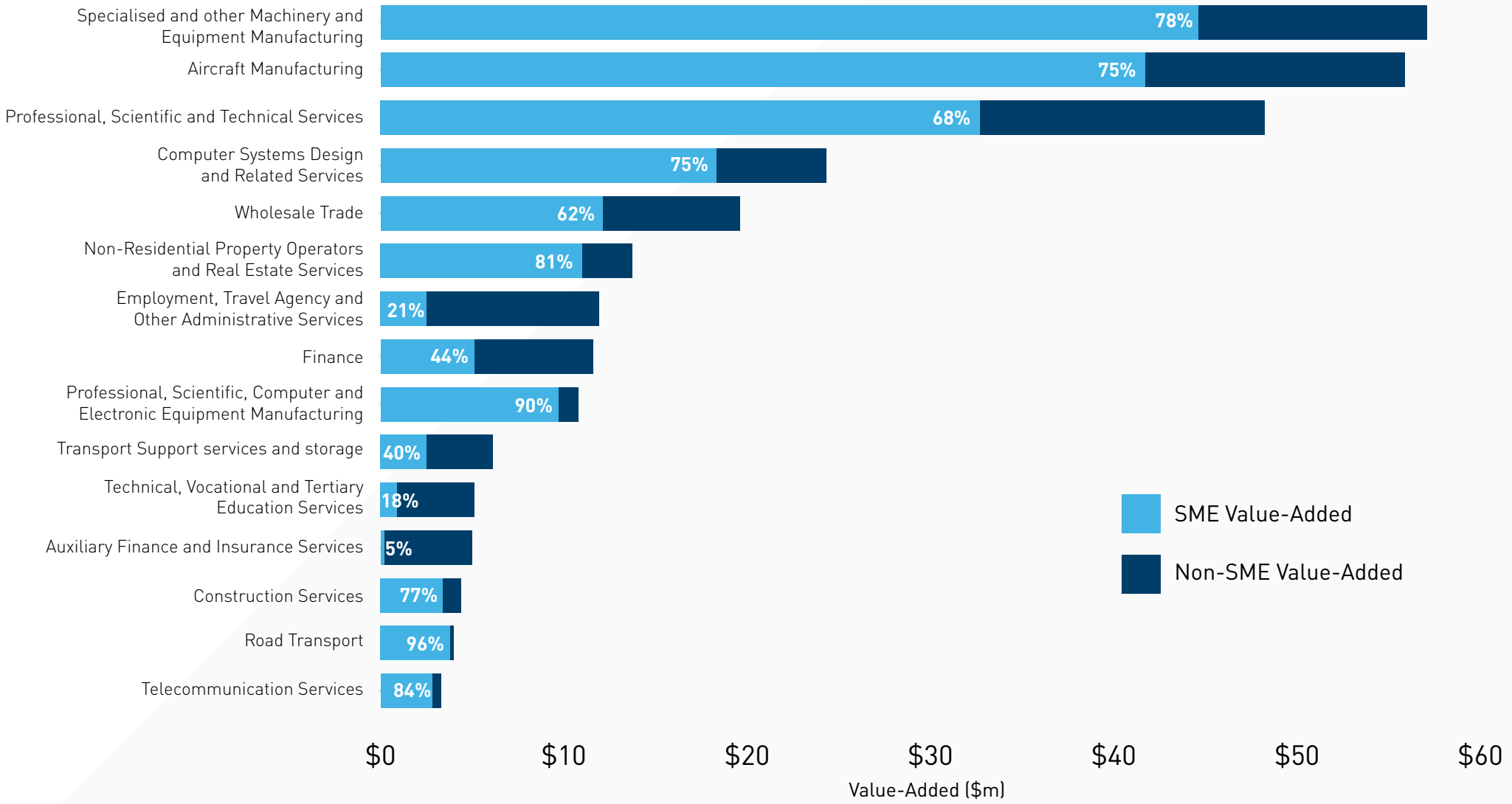
The impact of the organisation's supply chains on these high value industries of the future is observed through estimates of indirect value added to key industries. Supply chain activity stimulated by Lockheed Martin Australia in key future industries included:

- Specialised machinery and equipment manufacturing industry contributed $57 million
- Aircraft Manufacturing (including aircraft components), which contributed $55 million
- Professional, Scientific and Technical Services, contributing $48 million
- Computer Systems Design and Related Services, contributing $24 million.

Each of these industries is characterised by a high concentration of SMEs and requires highly skilled, and hence high value adding, labour.

Lockheed Martin Australia's supply chain stimulated $331 million in indirect economic value added in 2022 – representing the reach of the organisation's activity.

Exhibit 9: *Indirect value added by industry ($ million) and SME status, % share of SME value added*



Case study

SMEs gain exposure to prestigious global mentorship program

Lockheed Martin Australia's commitment to realising a sovereign industrial base is fostered through the **Mentor Protégé Program (MPP).**

A program which has previously only run in the US, the MPP is a 12 to 14-month program that connects Australian SMEs with industry experts from Lockheed Martin Australia and the Lockheed Martin Corporation.

Businesses receive extensive business development coaching, along with strategies and tools to accelerate business growth. Participating in the program supports selected SMEs to better position for future strategic opportunities, improve their competitiveness with respect to future contracts and allows them to integrate into both local and global supply chains.

The first Australian SME to participate in the program in 2019 was **Clearbox Systems,** a communications networks and electromagnetic spectrum operations technology specialist. Its hardware and software solutions are applied across multiple domains including satellite and secure communications, space, intelligence, surveillance, reconnaissance and electronic warfare. Its technologies are helping to upgrade Defence satellite communications, improve space situational awareness and integrate systems to meet the needs of the 5th generation battlespace.

The second organisation to be selected for the program in 2022 was passive surveillance leader, **Silentium Defence.** Passive radar systems allow Defence to achieve situational awareness whilst avoiding detection. This capability will be a critical advantage in increasingly congested and contested operating environments in the future.

How the Mentor Protégé Program helps develop best-of-breed solutions in Australian industry

By offering the MPP to innovative Australian companies, Lockheed Martin is supporting the growth of strong, sustainable businesses as long-term supply chain partners. This is all part of Lockheed Martin Australia's enduring commitment as an industry partner and enabler of sovereign capability.

The benefits of participation in the MPP are already being realised, including enhanced technical capabilities and faster insertion of new technology. Following its graduation from the MPP, Clearbox Systems was engaged to demonstrate a prototype of its sovereign satellite communications software as part of Lockheed Martin Australia's work in support of the new Australian Defence satellite communication system.

Simon Palumbo, CTO Silentium with Christoper Hess, Head of Industrial Development, Lockheed Martin

LOCKHEED MARTIN
AUSTRALIA

Image credit: Michael Hull

INVESTING IN AUSTRALIA'S FUTURE

Building The 5th Generation Workforce

Building The 5th Generation Workforce

As a significant STEM employer, Lockheed Martin Australia offers valuable career opportunities for the next generation

1,190 people (equivalent to 1,176 full-time jobs) were employed across Lockheed Martin Australia in 2022, an increase of 9% since 2020.

Lockheed Martin Australia depends on a highly skilled workforce capable of creating, designing and building solutions to some of the world's hardest engineering problems. As a result, **approximately 50% of employees are in STEM roles.** This specialised and skilled workforce generates significant value-added, estimated at $214,000 per FTE job supported in 2022.

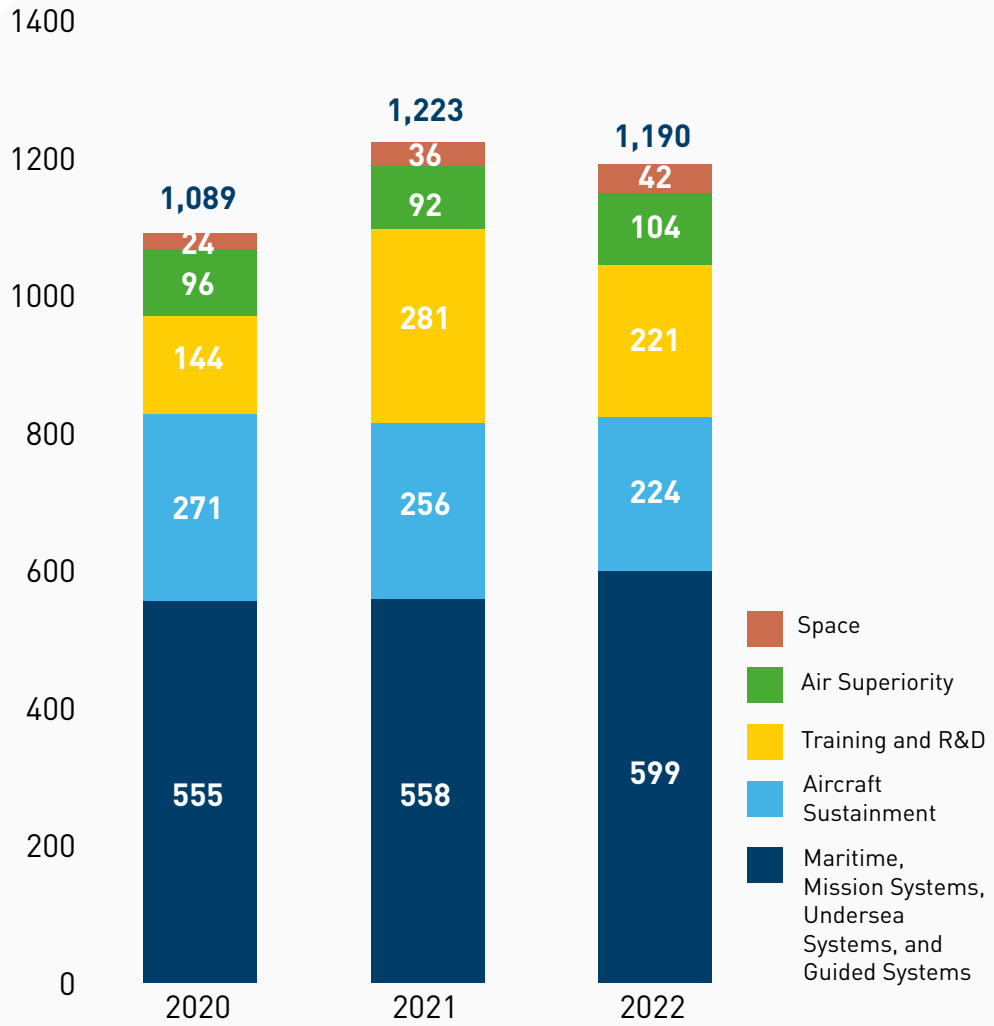
As a technical and highly skilled workforce, the average full time Lockheed Martin Australia employee earned 1.9 times the average Australian full-time wage in 2022.

Maritime, Mission Systems, Undersea Systems, and Guided Systems is the largest area of employment within Lockheed Martin Australia. The majority of these staff are based in South Australia where they help support advanced systems, weaponry and combat management systems.

Aircraft Sustainment is another significant employment area. This capability area predominantly comprises engineers and maintenance workers located at Sikorsky Australia's operations base at the Albatross Aviation Technology Park in Nowra, NSW.

Space is an emerging and innovative capability, with employment almost doubling since 2020 and set to grow in the future.

Exhibit 10: *Headcount employment by capability area, 2020 to 2022*



Building The 5th Generation Workforce

Promoting diversity and supporting women in STEM and the defence sector

In Australia, only 13% of engineers and 16% of engineering graduates are women. In the defence industry, this share is even lower.

Increasing participation of women in STEM faces several well-known barriers, including a lack of awareness of career opportunities, low participation in science and maths at school, limited female role models and, frequently, insufficient support and flexibility over the life of their careers.

As a leading employer of Australia's current and future STEM workforce, Lockheed Martin Australia is committed to building diversity in STEM fields in the defence sector and fostering an inclusive workplace culture. **As the Chief Engineer for Lockheed Martin Australia's Space Business, Julia Dickinson has observed firsthand the organisation's focus on increasing diversity in the workforce.**

Having spent her entire career working in the space industry, Julia reflected that having an active focus on diversity and "walking the walk", rather than passive policies – makes a huge difference. Across the organisation, Julia acknowledged that 25% of executives are women, rising to over 40% for Space organisation executives.

Lockheed Martin Australia actively uses a variety of formal and informal approaches to support diversity. One example is the approach to increasing the visibility of STEM careers. Lockheed Martin Australia has sponsored female engineering university groups and awards, and encourages staff to regularly take part in panel discussions and events.

Internally, Lockheed Martin Australia established an early careers council to improve women's understanding of career pathways, resources, and to celebrate women's achievements through valuable peer networks. The organisation was the first defence and aerospace company to take part in Career Revive, an Australian Government program that supported recruitment and retention of women returning to work after a career break.

"Having an active focus on diversity, rather than passive policies, makes a huge difference."

Julia Dickinson, Chief Engineer for Space

Building The 5th Generation Workforce

Supporting the creation of valuable and highly skilled jobs throughout the supply chain

Lockheed Martin Australia indirectly supported 2,246 jobs in 2022, 69% of which were within SMEs.

By purchasing goods and services from other businesses, Lockheed Martin Australia indirectly supports employment in other sectors of the economy. A high level of supplier expenditure often results in a large indirect employment impact.

Many of these jobs were in specialist equipment and aircraft manufacturing and services sectors. These sectors are important for Australia's future as they are knowledge-intensive and highly skilled, resulting in higher wages and better standards of living, as well as contributing to the economy.

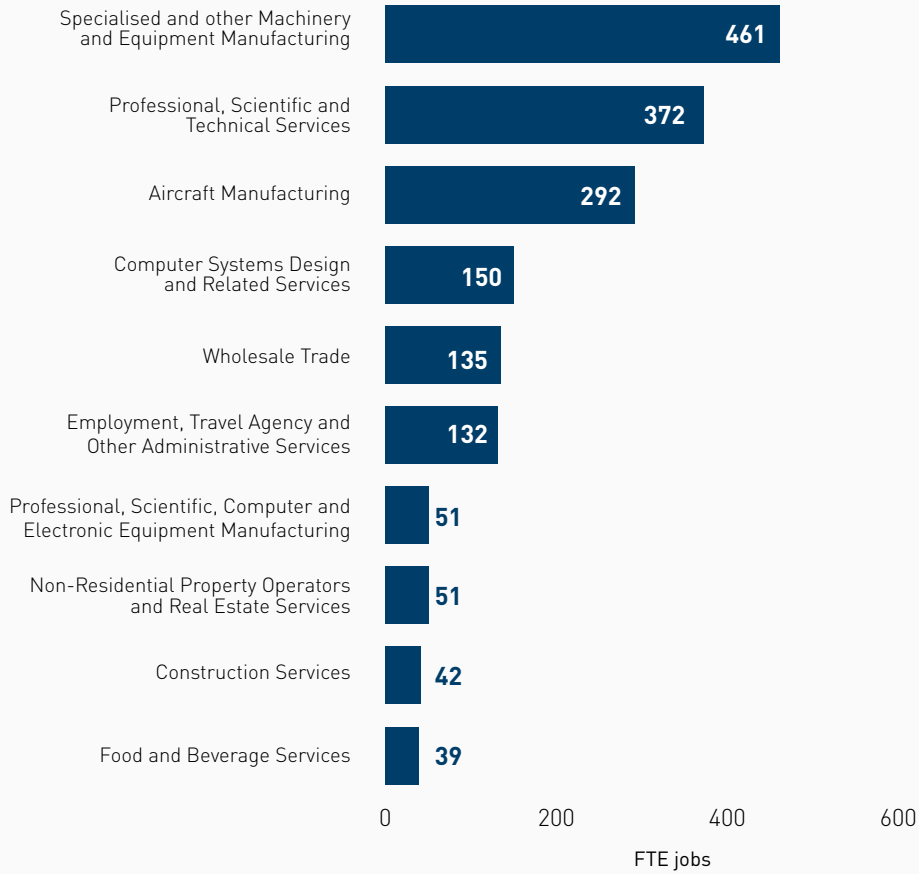
The average wage of a job supported by Lockheed Martin Australia's supply chain is estimated to be $92,000, which is 12% higher than the average job in the Australian economy.

Supporting a strong advanced manufacturing sector is also critical for Australia to remain at the technological frontier and ensure it has the sovereign capability to build and sustain critical defence technology.

Almost 2 indirect jobs were supported through the broader supply chain for every 1 job employed directly by Lockheed Martin Australia.

A high level of indirect relative to direct employment indicates that as Lockheed Martin Australia's growth continues, it will support the creation of a much greater number of job opportunities in the wider economy.

Exhibit 11: *Indirect FTE job contribution of Lockheed Martin Australia by industry, top 10*



Case study

Securing a sovereign workforce

Integrity is at the core of Lockheed Martin Australia's values - *Do What's Right, Respect Others and Perform with Excellence.*

These values acted as guiding principles when Lockheed Martin Australia faced one of the toughest challenges in the history of their Australian operations. On 16 September 2021, after a strategic change in direction, the Australian Government announced the cancellation of the Future Submarine Program (FSP). At the time, Lockheed Martin Australia was engaged as the combat system integrator and had built a highly skilled workforce of 242 staff in South Australia.

The FSP was an exceptionally complex project requiring highly specialised skills. The Lockheed Martin Australia team had grown over five years, with talented professionals brought together to create an exceptionally high performing team.

Doing what's right was two-fold. First, with the customer at the front of mind, Lockheed Martin Australia supported the Australian Government's decision and worked closely and collaboratively to take the necessary steps to close the program.

Second, was doing what's right for Lockheed Martin Australia staff. As the company's greatest asset, retaining and redeploying impacted employees was essential.

Lockheed Martin Australia has an established track record in attracting and retaining talent in safe and secure roles. It is part of the organisation's DNA. Within 24 hours, alternative roles from existing job vacancies within the company had been found for many of the people affected.

Over the following weeks and months, a dedicated internal team set about finding new roles and providing support to the remainder of the FSP employees. This included counsellors and an internal support network. It also included collaboration with the wider defence industry and the Australian government, who offered work in other project areas to retain critical skills in the defence sector. Lockheed Martin Australia acknowledges and thanks these partners for their efforts to achieve the best possible outcomes for their staff.

95% of the Combat System Integration workforce was successfully redeployed in new roles.

The redeployment of the Future Submarines workforce was an overwhelming success, with most of the workforce remaining in South Australia. Lockheed Martin Australia's approach to redeployment has preserved an important sovereign workforce ready to contribute to the future of Australia's defence industry.

LOCKHEED MARTIN
AUSTRALIA

16 SEPTEMBER 2021

Future Submarine Program cancelled

17-20 SEPTEMBER 2021

Management and dedicated teams established to shutdown FSP contract and support employees

Detailed planning and processes established to manage uncertainty and maximise chances of retention

24 SEPTEMBER 2021

Australian Government identifies other employment opportunities for approximately 15% of affected employees

28 SEPTEMBER 2021

Next role successfully identified for more than 50% of affected employees

18 OCTOBER 2021

95% of 242-strong FSP workforce redeployed in new roles

"The quick work from Lockheed Martin Australia in providing employees with allocation to a new program helped provide a sense of stability in making the unplanned transition, in particular when working on a program expected to continue for many decades."

Justin Bell, former Combat System site manager on FSP

Investing in Australia's Future

Nurturing the next generation of STEM talent in partnership with the National Youth Science Forum

The National Youth Science Forum (NYSF) is a not-for-profit charity providing STEM outreach experiences for young people, in particular through their flagship Year 12 Program. The program has graduated over 15,000 young people since 1984, including Australia's Chief Defence Scientist, Professor Tanya Munro.

As an organisation that shares the NYSF's commitment to advancing STEM, Lockheed Martin Australia has been the major funding partner of the NYSF since 2014.

NYSF has had great success including groups under-represented in STEM fields. In 2022, 61% of applicants were female, while 41% of applications came from students in remote and regional areas. Participating in the program stimulates immense interest in pursuing a science career, with more than 96% of students in 2022 indicating they were intending to pursue studies in STEM.

The program is also evolving to acknowledge the changing nature and requirements of STEM skills. While university has traditionally been an entry point, there is also a growing program focus in the NYSF on vocational training courses to provide an alternative pathway into a career in STEM.

With STEM skill requirements only expected to grow into the future, Lockheed Martin Australia is committed to their partnership with the NYSF and to building Australia's future STEM workforce.

NYSF HELPS DEMONSTRATE THE CAREER OPPORTUNITIES AVAILABLE TO STUDENTS IN STEM FIELDS

96%

of participants from the 2022 Year 12 program indicated they plan to pursue further studies in STEM-related fields

83%

of students found out more about defence related industries from engaging in the program

NYSF PROMOTES DIVERSITY AND INCLUSION IN STEM

61%

of program participants in 2022 were female

23%

of the total year 12 cohort received access and equity scholarships in 2022

"Lockheed Martin Australia is showing young people the profession. This goes a huge way to letting kids know there is opportunity out there, explaining this to their families, and creating reassurance around a career in science and technology."

Dr Melanie Bagg, CEO NYSF

Building The 5th Generation Workforce

Supporting the development of local talent in the Hunter region

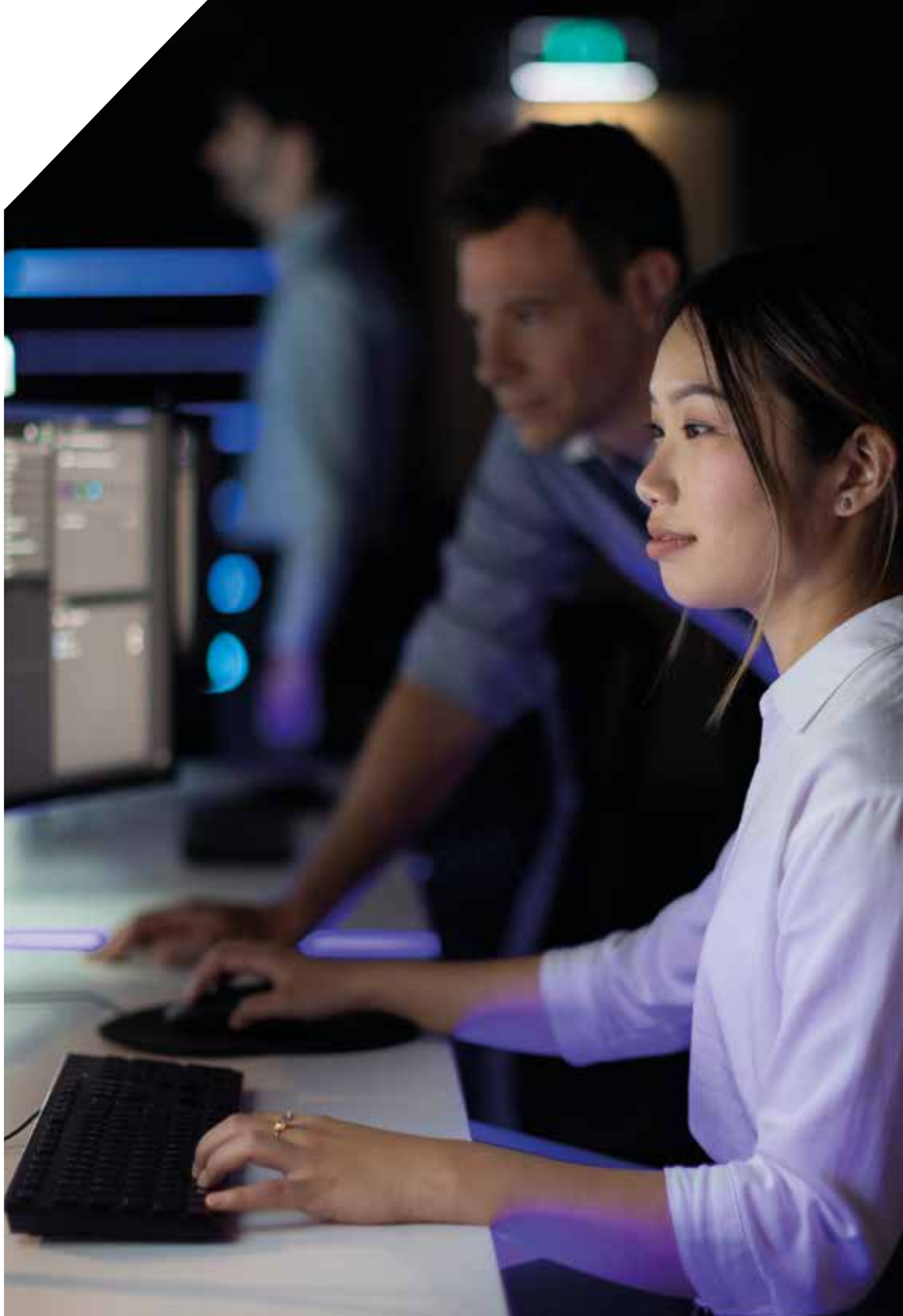
The Hunter region is home to Lockheed Martin Australia's largest network of local suppliers and a growing workforce.

The arrival of the F-35 Joint Strike Fighter program to the Hunter in 2018 ushered in the start of a new long-term commitment to the region.

Central to this commitment is funding initiatives such as 'Altitude Accord', which are needed to develop the advanced defence industry technologies that are required to operate, sustain and maintain the 5th Generation era of defence capability. This partnership with Regional Development Australia (RDA) Hunter and the University of Newcastle ensures that mechanical and mechatronic engineering degrees meet industry needs, and has led to the creation of a new aerospace systems engineering degree.

The 'Altitude Accord' has also successfully raised awareness of defence industry career opportunities, prompting increased enrolments in engineering. The University of Newcastle's aerospace systems engineering courses enroled 60 students above the 'normal' benchmark in 2019, increasing to 83 additional students in 2020.

Lockheed Martin Australia's other partnerships have also boosted critical skills to develop and integrate computer systems into the organisation's advanced technologies. Through a partnership with the RDA Hunter and TAFE NSW North, Lockheed Martin Australia funded a new vocational education and training program, STEMstart, which offers pathways for technical training in ICT, cyber security, and programming.



Case study

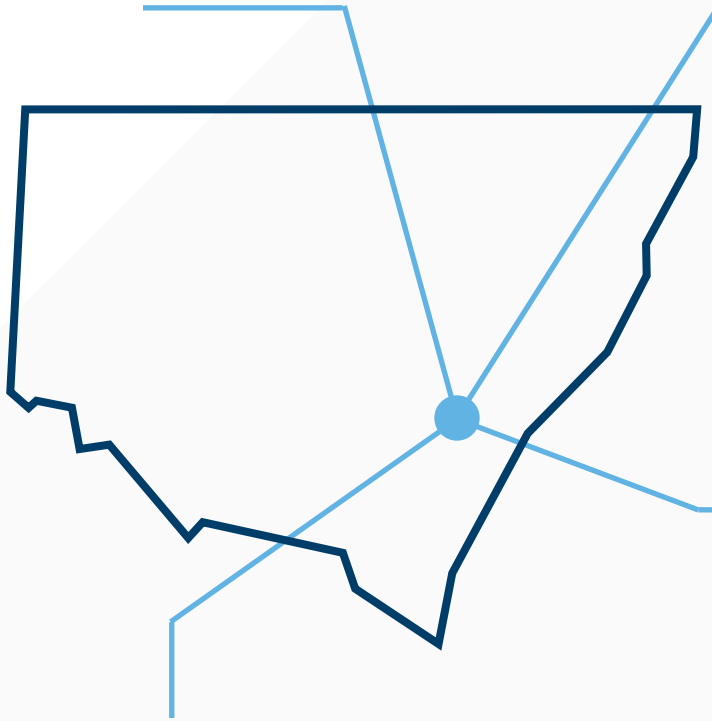
Supporting regional economic development and capability in the Hunter region

"Developing local graduates and a local workforce has had broader benefits for economic development in the region"

Trevor John,
CEO RDA Hunter

$22 million

expenditure on suppliers in the Hunter region in 2022



60+ students

additional students enrolling in aerospace systems engineering at the University of Newcastle since the Altitude Accord was established

12 students

University of Newcastle students received Altitude Accord scholarships including exposure to Lockheed Martin Australia R&D facilities in Canberra and Melbourne

155 employees

directly employed in the Hunter region in 2022

Building The 5th Generation Workforce

Developing the local workforce in regional New South Wales to deliver sovereign capability for Australia's defence sector

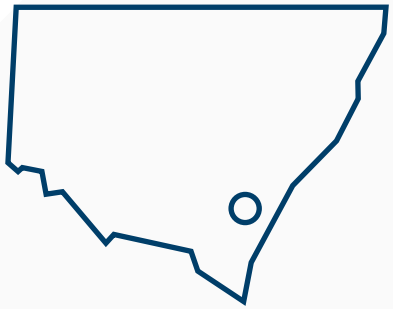
The enduring presence of navy helicopters flying over the town is a clear reminder of the importance of the naval aviation industry to Nowra. The town serves as the main base of operations for Sikorsky Australia, a Lockheed Martin company, where it provides sustainment services for the Royal Australian Navy's (RAN) fleet of MH-60R Seahawk helicopters.

Operating from a purpose-built maintenance and logistics support facility, Sikorsky Australia's presence has grown to close to 200 employees, including 14 apprentices. With the RAN's future acquisition of additional MH-60R aircraft, the workforce is expected to grow further to around 300 personnel over the next five years. Sikorsky Australia has implemented and funded its own apprenticeship program to allow for the expansion.

Sikorsky Australia has developed unique capability for in-country component repair on the MH-60R, which removed the requirement for returning these components to the United States for repair. The impact of COVID-19 on global supply chains and shipping routes further amplified the importance of these specialist skills.

Sikorsky Australia will soon have the capability to repair 70 individual components from the MH-60R in-country. In addition, Sikorsky Australia employs an extensive Maintenance Support Network of SMEs for the repair and maintenance of MH-60R equipment. This ensures depth and stability in the stewardship responsibilities of Sikorsky Australia and ensures the highest level of readiness for the RAN fleet.

As a key strategic partner to the RAN, Sikorsky and Lockheed Martin Australia will continue to play a vital role in the Nowra community and the Shoalhaven region into the future.



184 employees

directly employed in Nowra, **growing to 300** in the next five years

60 SMEs

supported in the Shoalhaven region between 2020 and 2022


LOCKHEED MARTIN
AUSTRALIA

INVESTING IN AUSTRALIA'S FUTURE

Putting Australia at The Forefront of Technology and Innovation

Putting Australia at the Forefront of Technology and Innovation

LOCKHEED MARTIN
AUSTRALIA

A thriving technology ecosystem is critical for Australia's defence and is underpinned by industry leading R&D and innovation

As an industry leader in defence and technology, Lockheed Martin has a strong history of bringing cutting-edge technology to Australia.

Further, Lockheed Martin Australia is investing in building foundational capability by partnering with Australia's finest minds and academic institutions to solve some of the world's enduring and emerging challenges.

Remaining at the forefront of defence industry innovation requires significant collaboration, upfront investment and time to mature. In recognition of the nature of innovation – long lead times and significant investment – Lockheed Martin Australia invests in fostering an ecosystem of innovation by:

- **Creation of STELaRLab**, a dedicated, multidisciplinary, advanced R&D Laboratory staffed by Australian researchers with extensive experience in Defence and National Security R&D, ranging from operational analysis to space-based intelligence systems to hypersonics.
- **Investing in an advanced workforce for the future** through the dedicated investment in scholarships, internships and programs that encourage the development of highly skilled jobs.
- **Genuine international integration and reach back** to the knowledge base of Lockheed Martin Corporation in the United States. This international R&D industry partnership reflects AUS-US Defence partnerships and allows for the coordination, rapid acceleration, and path to transition of R&D across the range of Defence challenges in all operating domains, from undersea to deep space.

The impact on this **deliberate approach to innovation and R&D** in Australia is significant – this report has found that **Lockheed Martin Australia's investments in Australia's defence innovation landscape could see $605 million added to Australia's economy by 2040 and 110 jobs on average each year (in net present value terms, 2022).**

Economic impact of Lockheed Martin Australia's investments in R&D and innovation

$605 million
(NPV, 2022 - 2040)

The total economic impact of Lockheed Martin Australia's investments in innovation and R&D could support Australia to realise an additional $605 million in GDP over the period 2040.

Annual gains in GDP to Australia of:

- **$41 million** on average per year from 2023 – 2030
- **$93 million** on average per year from 2031 - 2040

Net employment gains

- **73 jobs** on average per year from 2023 to 2030
- **140 jobs** on average per year from 2031 to 2040

Why does investing in innovation and R&D matter?

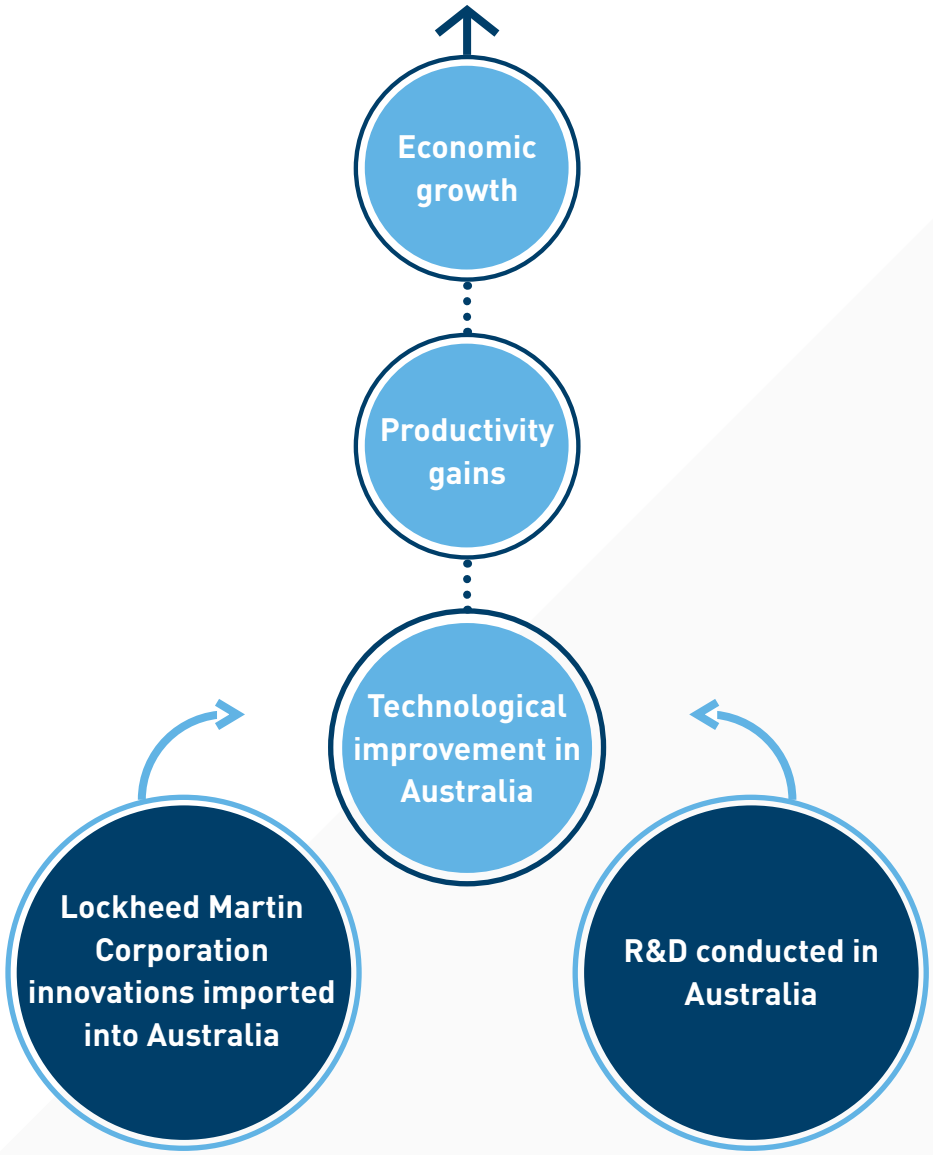
Innovation is fundamental to productivity and economic growth. Innovation drives efficiency and is not limited to the industry in which the investment originally occurred.

Many innovations benefit upstream and downstream industries and, in some cases, result in positive spillovers across the wider economy. Defence is no exception.

For example, Australia's Defence Science and Technology Group and its predecessors, developed innovative technologies such as the black box flight recorder, infrared heat-imaging technology, and the wet electrophotographic process underpinning photocopying machines.

Originating out of defence, these technologies now underpin vital economic activity around the world.

Modelling the economic impact of R&D and innovation



FRAMEWORK FOR ESTIMATING THE ECONOMIC IMPACT OF R&D AND INNOVATION

Lockheed Martin Australia conducts a range of R&D and innovation activities that are significant to Australia's technological improvement and productivity growth. These activities are expected to generate dividends for the Australian economy, particularly over the long-term when the return on innovation and R&D is fully realised.

MODELLING THE ECONOMIC IMPACT

The economic dividend of Lockheed Martin Australia's investment in R&D and innovation was estimated using Deloitte Access Economics' in-house Regional General Equilibrium Model (DAE-RGEM). This approach uses Computable General Equilibrium (CGE) modelling to demonstrate how an increase in productivity resulting from R&D drives economic growth (for more detail, refer to Appendix C) .

WHY USE A CGE FRAMEWORK?

The economic contribution analysis captures economic activities that occurred in 2022. The returns to Lockheed Martin Australia's R&D and innovation are expected to yield the largest economic returns years after the initial investment is made, reflecting the lag between idea and commercialisation. CGE is forward looking and models the returns to innovation over the coming decades

Case study

Investing in the foundations that will integrate Australia into the global defence R&D ecosystem through STELaRLab

STELaRLab (the Science, Technology, Engineering Leadership, and Research Laboratory) is Lockheed Martin Australia's premier R&D organisation. The Lab brings together the needs and capabilities of the organisations' business areas to provide a sovereign, integrated R&D vision supporting Australia's Defence and National Security needs.

The Lab identifies promising advances in modern technology and translates them into the defence context, creating breakthroughs in defence innovation such as Agile Shield (see opposite).

The Lab is Lockheed Martin's first multi-disciplinary R&D facility outside the United States. The mission of the Lab is to leverage Australia's best R&D and integrate that with leading edge concepts and advanced systems needed for Australia's defence. First opened in 2017 in Melbourne, STELaRLab has grown its footprint to include locations in Adelaide and Brisbane.

Partnership is at the core of STELaRLab, bringing together government, academia and industry to identify problems and explore new concepts and capabilities that can be transformed into defence capabilities. This process requires the integration of a combination of disciplines ranging from space-based systems through to quantum technologies, driven by critical mission needs.

LOCKHEED MARTIN AUSTRALIA

$8 million

STELaRLab investment over the period 2020 - 2022

70+
Supported student internships, capstone and honours projects

10
Research partnerships with Universities across Australia in 2022

$2.3M
Defence Sovereign Concept to Capability Trailblazer

10
PhD sponsorships across 4 Universities

AGILE SHIELD – DEMONSTRATING THE ART OF THE POSSIBLE

The future battlespace will be increasingly complex and demand rapid situational awareness. Achieving this will require seamless integration between military platforms and systems across domains to enable personnel to sense, make sense, and act at speed.

The development of Agile Shield has demonstrated the best of the STELaRLab approach. The project required the development of a highly collaborative, dynamic team which brought together a range of capabilities across Lockheed Martin Australia, academic partners and SMEs.

Agile Shield is an open mission system and accompanying workflow designed to intelligently detect and defeat improvised and autonomous threats. Its modular design allows it to rapidly integrate new sensors or effectors into the system and increases its interoperability with other capabilities. This integrated architecture allows Agile Shield's individual systems to intelligently work together to become more than the sum of its parts.

Lockheed Martin Australia has successfully demonstrated a virtualised solution to Defence and will be soon deploying a live version. Agile Shield highlights STELaRLab's expertise in developing innovative battle management systems, leveraging Australian sovereign talent. Approximately 30% of Agile Shield funding has been allocated to Australian SMEs, placing a spotlight on their unique capabilities.

Bringing the best of defence technology and innovation to solve Australia, and the world's most challenging problems

While a recognised leader in defence research, Lockheed Martin Corporation has also been conducting research in energy for over 80 years. **Lockheed Martin Australia plans to introduce innovative battery technology from the United States to maximise the opportunities for renewable energy in Australia**

Using technology spun out of the Massachusetts Institute of Technology, one of the United States' top research universities, Lockheed Martin Corporation has developed, and is commercialising its own flow battery technology. **GridStar Flow** is an innovative redox flow battery solution designed for large-scale, long-duration energy storage applications.

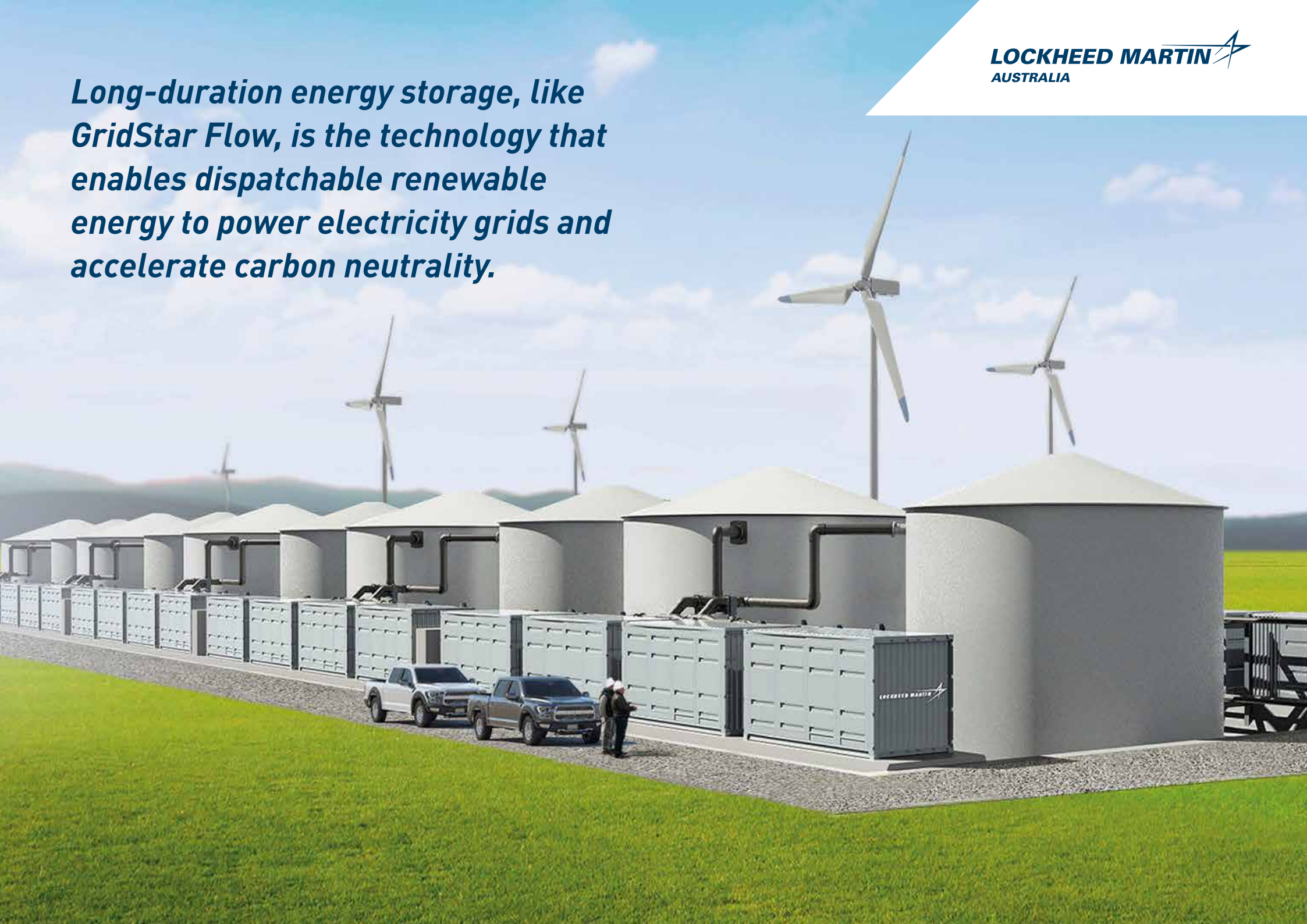
The introduction of this innovative technology to Australia is intended to advance clean energy goals and grid resilience. As Australia continues to advance clean energy, the electricity grid will undergo unprecedented change as intermittent, non-dispatchable renewables displace traditional power generation sources. This transition will pose large challenges to the grid's stability as well as its technical and economic efficiency. **GridStar Flow offers an ideal solution to these challenges by providing durable, flexible and distributed energy storage that will help make solar and wind truly dispatchable.**

GridStar Flow offers numerous advantages over the current dominant technologies of lithium-ion batteries and pumped hydro. This includes competitive total cost of ownership, long design life, flexible discharge, and improved safety. GridStar Flow can also serve as a fossil-free alternative to traditional peaking options, such as internal combustion engines or gas turbines.

GridStar Flow can also generate broader economic benefits in Australia than traditional imported batteries. GridStar Flow is a modular system that can be built and serviced using materials and skills in-country. This stimulates ongoing local economic activity and will be particularly important in regional areas where batteries are co-located with renewable energy projects. With this technology, Lockheed Martin Australia aims to be a key enabler of regional economic development and emissions reduction goals.

LOCKHEED MARTIN
AUSTRALIA

Long-duration energy storage, like GridStar Flow, is the technology that enables dispatchable renewable energy to power electricity grids and accelerate carbon neutrality.



APPENDIX: ECONOMIC MODELLING APPROACHES, ASSUMPTIONS, AND DETAILED RESULTS

Image credit: Department of Defence

APPENDIX A: Economic contribution methodology

Economic contribution studies provide a snapshot of the contribution of a firm or industry at a particular point in time.

This study quantifies the economic contribution of Lockheed Martin Australia's activities in 2022. Economic contribution is a measure of value added and employment associated with economic activity, which both measures estimated directly and indirectly.

Value added is effectively a measure of revenue that excludes intermediate inputs. It is comprised of gross operating surplus (GOS), labour income (wages and salaries), and production taxes less subsidies (refer Exhibit A1). By excluding intermediate inputs, the value added of each industry can be summed together to estimate GDP without risk of double counting.

Value added is the most appropriate measure of economic contribution as it captures the value added by each industry in the value chain, and when captured on a national scale provides an estimate of a country's gross domestic product (GDP).

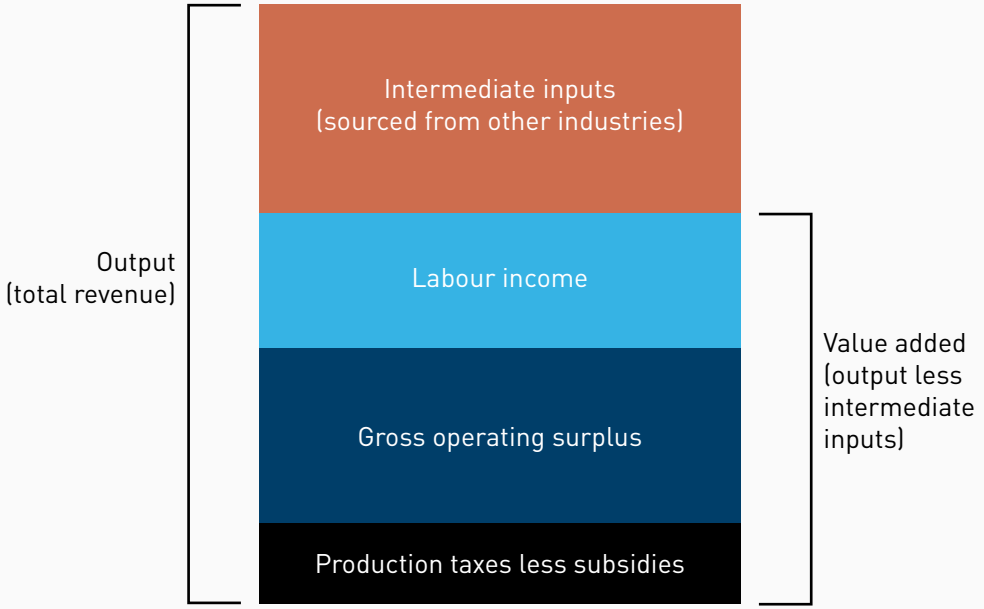
From an economic contribution perspective, employment measures the number of jobs supported by Lockheed Martin Australia, in full time equivalent (FTE) terms. It measures the number of jobs involved in producing output (total revenue) and does not double count jobs across the economy.

The contribution of the productions to the economy can be direct or indirect.

- The **direct** economic contribution is the value added created by labour and capital inputs employed directly by Lockheed Martin Australia.
- The **indirect** contribution is a measure of the demand for goods and services produced across the economy as a result of demand generated by the production of Lockheed Martin Australia. This is often referred to as 'flow on' effects.

The total economic contribution is the sum of the direct and indirect economic contributions.

Exhibit A1: *Components of value added*



Source: Deloitte Access Economics

APPENDIX B: Economic contribution results breakdown

Economic contribution by Australian state and territory

Exhibit B1: *Economic contribution breakdown by Australian state and territory*

State	Value added ($millions)			Employment (FTE jobs)		
	Direct	Indirect	**Total**	Direct	Indirect	**Total**
New South Wales*	78	83	**160**	405	510	**915**
Victoria	33	139	**172**	133	1,003	**1,136**
Queensland*	4	44	**49**	21	284	**305**
South Australia	106	34	**140**	481	256	**737**
Western Australia	11	20	**31**	41	121	**162**
Tasmania	0	2	**2**	0	16	**16**
Northern Territory*	3	1	**5**	17	8	**25**
Australian Capital Territory	17	7	**24**	78	49	**127**
Australia	**252**	**331**	**583**	**1,176**	**2,246**	**3,422**

Source: *Deloitte Access Economics*

**Note: Breakdown does not add to total contribution due to rounding.*

APPENDIX B: Economic contribution results breakdown

Economic contribution by capability area

Exhibit B2: *Economic contribution breakdown by Lockheed Martin Australia capability area*

State	Value added ($millions)			Employment (FTE jobs)		
	Direct	Indirect	**Total**	Direct	Indirect	**Total**
Air Superiority*	18	180	**199**	103	1258	**1361**
Aircraft Sustainment	38	53	**91**	222	325	**547**
Maritime, Mission Systems, Undersea Systems, and Guided Systems	129	30	**159**	592	198	**790**
Training and R&D	60	55	**115**	218	379	**597**
Space	7	13	**20**	42	86	**128**
Total	**252**	**331**	**583**	**1,176**	**2,246**	**3,422**

Source: *Deloitte Access Economics*

**Note: Breakdown does not add to total contribution due to rounding.*

APPENDIX C: Economic impact methodology

Economic impact captures the wider economic benefits of Lockheed Martin Australia's activities and shows the net impact to economic growth.

In addition to calculating Lockheed Martin Australia's economic contribution, this report also undertook computable general equilibrium (CGE) modelling to estimate Lockheed Martin Australia's future impact and wider economic benefits to the Australian economy.

CGE MODELLING

Computable general equilibrium (CGE) modelling is the framework that is best suited to modelling the impact of large projects and policies on the economy. In this framework, it is possible to account for resourcing constraints and opportunity costs, and to model changes in prices and the behaviour of economic agents in response to changes in the economy.

Deloitte Access Economics' in-house CGE model is known as Deloitte Access Economics regional general equilibrium model (DAE-RGEM). DAE-RGEM represents the interaction of households and firms with factor markets and goods markets over time.

DELOITTE ACCESS ECONOMICS – REGIONAL GENERAL EQUILIBRIUM MODEL

DAE-RGEM encompasses all economic activity – including production, consumption, employment, taxes and trade – and can run scenarios through time involving multiple regions, industries and commodities (see Exhibit C1).

This stylised diagram shows the circular flow of income and spending that occurs in DAE-RGEM. To meet demand for products, firms purchase inputs from other producers and hire factors of production (labour and capital). Producers pay wages and rent (factor income) which accrue to households. Households spend their income on goods and services, pay taxes and put some away for savings.

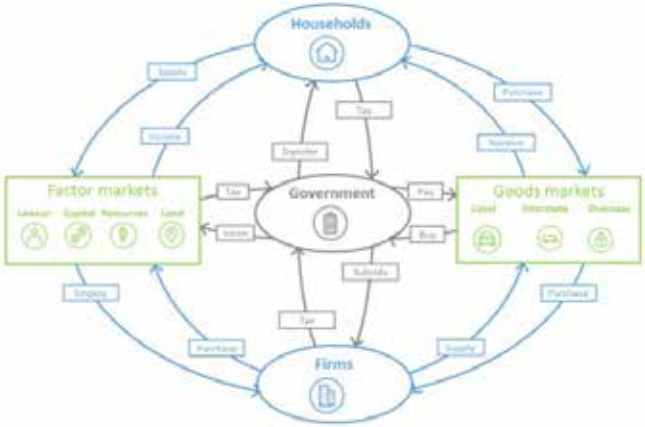
MODELLING ASSUMPTIONS

The CGE database was developed with all standard sectors, in addition to a purpose-built defence sector (derived from the public administration and safety sector) and a sector to represent Lockheed Martin Australia as an organisation (derived from the professional, scientific and technical services sector). Sector size, revenue and cost structures for defence and Lockheed Martin Australia sector have been adjusted accordingly.

The modelling was undertaken for the whole of Australia, with no outcomes modelled for a specific region of Australia in isolation.

These assumptions are introduced into a broader framework (a CGE model) that is a simplified version of the world, including for example the cost structure and industry linkages across sectors of the economy.

Exhibit C1: *Stylised representation of DAE-RGEM*



Source: *Deloitte Access Economics*

APPENDIX C: Economic impact methodology

Economic impact captures the wider economic benefits of Lockheed Martin Australia's activities and shows the net impact to economic growth.

DAE-RGEM IS BASED ON A SUBSTANTIAL BODY OF ACCEPTED MICROECONOMIC THEORY. KEY FEATURES OF THE MODEL ARE:

- The model contains a 'regional household' that receives all income from factor ownerships (labour, capital, land and natural resources), tax revenues and net income from foreign asset holdings. In other words, the regional household receives the gross national income (GNI) as its income.
- The regional household allocates its income across private consumption, government consumption and savings so as to maximise a Cobb-Douglas utility function. This optimisation process determines national savings, private and government consumption expenditure levels.
- Given the budget levels, household demand for a source-generic composite goods are determined by minimising a CDE (Constant Differences of Elasticities) expenditure function. For most regions, households can source consumption goods only from domestic and foreign sources. In the Australian regions, however, households can also source goods from interstate. In all cases, the choice of sources of each commodity is determined by minimising the cost using a CRESH (Constant Ratios of Elasticities Substitution, Homothetic) utility function defined over the sources of the commodity (using the Armington assumption).
- Government demand for source-generic composite goods, and goods from different sources (domestic, imported and interstate), is determined by maximising utility via Cobb-Douglas utility functions in two stages.
- All savings generated in each region are used to purchase bonds from the global market whose price movements reflect movements in the price of creating capital across all regions.
- Financial investments across the world follow higher rates of return with some allowance for country specific risk differences, captured by the differences in rates of return in the base year data. A conceptual global financial market (or a global bank) facilitates the sale of the bond and finance investments in all countries/regions. The global saving-investment market is cleared by a flexible interest rate.
- Once aggregate investment level is determined in each region, the demand for the capital good is met by a dedicated regional capital goods sector that constructs capital goods by combining intermediate inputs in fixed proportions, and minimises costs by choosing between domestic, imported and interstate sources for these intermediate inputs subject to a CRESH aggregation function.
- Producers supply goods by combining aggregate intermediate inputs and primary factors in fixed proportions (the Leontief assumption). Source-generic composite intermediate inputs are also combined in fixed proportions (or with a very small elasticity of substitution under a CES function), whereas individual primary factors are chosen to minimise the total primary factor input costs subject to a CES (production) aggregating function.

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