The Story of Australian Aviation

- We have a long history in Aviation.
- Qantas is Australia's largest airline and the second oldest in the world.
- Qantas rated top of list for safety by AirlineRatings.com
- Australia has a world class aviation regulatory environment. Our standards and governance framework is sought after in developing nations around the world and is endorsed by international bodies like ICAO (International Civil Aviation Organisation).
Australian Aviation and Aerospace – Why us

- **Innovative milestones:**
  - **1958 Black box flight recorder** invented Dr David Warren in Melbourne.
  - **1960-2010 Jindalee Operational (Over Horizon) Radar Network.** Monitors air and sea movements and now has an operational range of 3,000 km and covers 37,000 km²
  - **1965 Inflatable escape slide.** The inflatable aircraft escape slide which doubles as a raft was invented by Jack Grant - Qantas.
  - **2002 Scramjet** - University of QLD - HyShot team (and international partners) conducted the first ever successful test flight of a scramjet.
  - **2008 Nulka.** Australian designed and developed active missile decoy built in Australian and American collaboration.
Australian Aviation and Aerospace – Why us

• Major Aerospace and Defence OEMs/Primes are here not just to service the market.
• For example Boeing, Thales, BAE Systems have key operations in Australia. They are here because Australia has leading technologies & research (merit based not offset), strong Government support in the sector and we are adding value to their production line.
• Boeing Aerostructures Australia is The Boeing Company's largest manufacturing footprint outside North America and produces flight control surfaces for large commercial aircraft. This success is a result of the company's development of innovative solutions:
  • Manufacturing composite aircraft components;
  • R&D, design and testing; and
  • fabrication and assembly activities.
Australia’s Advanced Manufacturing Sector

• Australia has a long history in Advanced Manufacturing.

• We manufacture cars (since 1948), ships and medical devices, and equipment and parts for the rail, aerospace, mining and oil & gas sectors.

• Because of our isolation and small population, we had to manufacture and be good at it (advanced manufacturing).

• Australia is a leader in productively manufacturing high value, low run, innovative solutions, improving overall methods of production to a high quality and standard.
Austrade – Australia’s Aerospace Sector

• Austrade’s focus in aerospace is to:
  – assist the continued viability of the Australian aerospace industry by identifying pathways and opportunities to enter the GVCs of major Aerospace OEMs and Primes;
  – to facilitate defence suppliers to identify additional civil aviation applications and opportunities driven by the emerging middle class in Asia and an increase in passenger travel.
## Global Aerospace Industry Overview

### Airplanes in service 2014 to 2034

<table>
<thead>
<tr>
<th>Category</th>
<th>2014</th>
<th>2034</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large widebody</td>
<td>740</td>
<td>670</td>
</tr>
<tr>
<td>Medium widebody</td>
<td>1,620</td>
<td>3,800</td>
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<tr>
<td>Small widebody</td>
<td>2,520</td>
<td>5,800</td>
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<tr>
<td>Single aisle</td>
<td>14,140</td>
<td>30,630</td>
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<tr>
<td>Regional jets</td>
<td>2,580</td>
<td>2,660</td>
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<td><strong>Total</strong></td>
<td><strong>21,600</strong></td>
<td><strong>43,560</strong></td>
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### Demand by size 2015 to 2034

<table>
<thead>
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<th>Category</th>
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<th>Value ($B)*</th>
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<tbody>
<tr>
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<td>540</td>
<td>230</td>
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<tr>
<td>Medium widebody</td>
<td>3,520</td>
<td>1,220</td>
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<td>4,770</td>
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<tr>
<td>Single aisle</td>
<td>26,730</td>
<td>2,770</td>
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<tr>
<td>Regional jets</td>
<td>2,490</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>38,050</strong></td>
<td><strong>5,570</strong></td>
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### Key indicators 2014 to 2034

<table>
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<th>Indicator</th>
<th>Growth measures (%)</th>
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<td>World economy GDP</td>
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<tr>
<td>Airplane fleet</td>
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<tr>
<td>Number of passengers</td>
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<tr>
<td>Airline traffic RPK</td>
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<tr>
<td>Cargo traffic RTK</td>
<td>4.7</td>
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### Demand by region 2015 to 2034

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<th>Region</th>
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<td>14,330</td>
<td>2,200</td>
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<td>Europe</td>
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<td>North America</td>
<td>7,890</td>
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<td><strong>Total</strong></td>
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<td><strong>5,570</strong></td>
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Aerospace manufacturing supply chain sector

Six trends driving change in the aerospace industry

1. Globalisation
2. Demand for integrated support services
3. Larger share of demand from newer generation aircraft
4. Consolidation
5. Continuing focus on cost reduction
6. Growing interest in MRO markets from OEMs
Globalisation of the Aerospace Sector

The aerospace industry has become increasingly globalised over recent years

- The current wave of globalisation will see greater collaboration between nations.
- Globalisation will also have an impact on the commercial sector.
- Continued demand for more fuel-efficient aircraft is expected to drive product innovation in aircraft manufacturing.

With proven capabilities, experience and expertise, Australia is an ideal partner to help international companies meet these challenges.
Australian Aerospace
Overview of Australia’s Aerospace Sector

The Australian aerospace industry is well established

- 926 firms employing approximately 13,300 people
- Industry annual turnover $3.8 billion of which $2.1 billion (54 per cent) is exported
- Australian aerospace sector suppliers embedded in global supply chains in Europe, US, UK, India, China and ASEAN
- Australia has a proven history of aerospace manufacturing continuing to provide world-class innovative products and services to the global and domestic aerospace sector
Overview of Australia’s Aerospace Sector

Products and services segmentation (2015-16)

- 21.7% Aircraft and aircraft parts manufacturing
- 53.6% Civilian aircraft repair and maintenance
- 24.7% Military aircraft repair and maintenance

Total $3.8bn

SOURCE: WWW.IBISWORLD.COM.AU
Features of Australia’s Aerospace Sector

EXPERIENCE AND TRACK-RECORD

Experienced advanced manufacturing environment:

- Supplier base with aerospace approvals (e.g. NADCAP, AS9100 rev C)
- Integration into existing global and local supply chain management
- Track record in integration of advanced technologies and advanced materials

Agility to respond to changing supplier needs through collaboration and partnerships

- Skilled to provide solutions to complex problems for customers
Features of Australia’s Aerospace Sector

SKILLS EDUCATION AND INFRASTRUCTURE

- High product quality levels
- Exceptional R&D resources
- World class education and training facilities
- Highly educated and skilled workforce
- Good transport and infrastructure base
- Cost effective aerospace design and IT infrastructure
Why do business with Australia in the Aerospace Sector

- Australia has niche manufacturers with innovative problem solving capabilities
- Reliable on-time delivery
- Collaborative culture, open to forming alliances and partnerships
- Integrates in Value Chains to provide end-to-end solutions
- Agile (quick to respond to a changing market, changing environment and changing demand)
- Australia’s “can-do” attitude to business and manufacturing
- Lateral design and solution
### Breadth of the Australia’s Aerospace Sector

Australian capability is broad, with expertise ranging from civil and defence applications including:

<table>
<thead>
<tr>
<th>Aircraft manufacturing</th>
<th>Assemblies</th>
<th>Sub-assembly design and manufacturing</th>
<th>Tooling and assembly</th>
<th>Machining</th>
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<tr>
<td>Avionics</td>
<td>Material development in metals and composites</td>
<td>Testing and Validation</td>
<td>Engines</td>
<td>Maintenance, Repairs and Overhaul (MRO)</td>
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<tr>
<td>Refits, conversions, refurbishments</td>
<td>Software Systems</td>
<td>Operational Management</td>
<td>Training and education</td>
<td>Research and Development</td>
</tr>
<tr>
<td>Pilot and engineering training</td>
<td>Ground support equipment design and manufacture</td>
<td>Charter services</td>
<td>Air traffic management</td>
<td>Air systems integration</td>
</tr>
</tbody>
</table>
Australian Aerospace Manufacturing Capabilities

Airframes
- Structures, Doors, Fuselage, Wings, Nacelles, Pylons and Stabilizers
- Composite capabilities
- Equipment

Components
- Machining
- Sheet metal
- Interiors
- Exteriors
Australian Aerospace Manufacturing Capabilities

しようと Avionics
  • Wire harness
  • Avionics equipment (e.g. autopilot, altitude controller)
  • Communications
  • Electrical power
  • Instruments (e.g. Autopilot, Altitude Controller)
  • Navigation

しようと Engines
  • Piston Engines and components
  • Turbines and components
  • Propellers
  • Others (Fuel System, Auxiliary Power, Engine Exhaust, Ignition, Main Rotor Drive)
Examples of Australian Aerospace Manufacturing Capabilities

Wings & Sheet metal
- Boeing Aerostructures
- RUAG Australia
- BAE AU

Vertical Tail and Stabilizers
- Marand
- BAE AU
- Quickstep
- Boeing Aerostructures

Airframe & System Component Machining
- Lovitt
- Ferra
- Levett
- RUAG Australia
- Hoffmann
- Marand

Landing Gear, Wheels & Brakes, Doors & Utility
- RUAG Australia
- UTC Aerospace

Central Fuselage Composite & Stress Analysis
- Memko
- Vipac

Interior Aeropace Plastic Components
- Bower Aero
- inflight Graphics

Engine Component
- Broens
- Hoffmann
- Marand
- Levett
- RUAG Australia

Composite Tooling
- Marand
- Broens
- Hoffmann

Composite capabilities
- Quickstep
- Advanced Composite Structures

MRO Support
- RUAG Australia
- Hawker Pacific
- Cobham
- Airflite

Aerospace Surface and Protective Treatments
- Electromould
- Brenco

Voice Recognition Software
- Adacel
- NICTA

Radar, TPS Components
- Cablex
- BAE AU
- Micreo
- Partech Systems
- CSC

Australia Unlimited
Australian Capabilities in Maintenance Repair and Overhaul

**Maintenance**
- in-country MRO capability & training
- production of specialised components and legacy components
- systems integration and software
- commercial wide-body, narrow-body, light aircraft, defence aircraft

**Conversions and Refurbishments**
- medical, search and rescue aircrafts
- photography and surveying
- border control
Australia supplying Aircrafts to the world

The aerospace industry has become increasingly globalised over recent years

- Light aircraft and helicopters
- Unmanned Aerial Vehicles (UAVs)
- Ultralight aircraft
Aviation Training, Skills & Education

• Aviation - Pilot Training
• Engineering
• Maintenance Repair and Overhaul
• Air Traffic Management and Control
• Aviation Safety Training
• Aviation Management Degree and Master courses
Australian Aerospace sector has strong Government support

- Global Supply Chain (GSC) Program

- Aerospace industry subsides – Subsidies to major contractors from Federal and State Governments are common to promote investment, R&D and employment to this sector.

- Commonwealth Scientific and Industrial Research Organisation (CSIRO) is developing new technologies, components and systems for the aerospace industry of the future.

- Cooperative Research Centers (CRC) – Government funded program to promote the pursuit of science and research and development
Australian Events
Contact the Australian Trade & Investment Commission

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Mob: + 61 4 2158 8986
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Mob: +61 407 224 614
Email: adam.sandilands@austrade.gov.au
Australian Aerospace Capability Matrix
## Appendix – Australian Aerospace Capability Matrix

### AEROSPACE SECTOR AUSTRALIA

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia Research</td>
<td>SA</td>
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<tr>
<td>Advanced Composite Structures Australia</td>
<td>VIC</td>
</tr>
<tr>
<td>Aeronaut Automation Pty Ltd</td>
<td>NSW</td>
</tr>
<tr>
<td>Aereonde Pty Ltd</td>
<td>VIC</td>
</tr>
<tr>
<td>Aerospace &amp; Defence Products Pty Ltd</td>
<td>NSW</td>
</tr>
<tr>
<td>Aerospace Materials Pty Ltd</td>
<td>VIC</td>
</tr>
<tr>
<td>Aerospace Plastic Components Pty Ltd,</td>
<td>NSW</td>
</tr>
<tr>
<td>Aerospace Welding Services</td>
<td>VIC</td>
</tr>
<tr>
<td>Aerovalue Technology</td>
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<tr>
<td>AgustaWestland</td>
<td>VIC</td>
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<tr>
<td>Air Affairs Australia Pty Ltd</td>
<td>NSW</td>
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<tr>
<td>Airborne Australia</td>
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<tr>
<td>Aircraft Propellers and Spares (Aust) P/L</td>
<td>VIC</td>
</tr>
<tr>
<td>Airport Metals (Australia)</td>
<td>VIC</td>
</tr>
<tr>
<td>Airspeed Pty Ltd</td>
<td>SA</td>
</tr>
<tr>
<td>AMCRC – Advanced Manufacturing CRC</td>
<td>VIC</td>
</tr>
<tr>
<td>APC Technology</td>
<td>SA</td>
</tr>
<tr>
<td>Asia Pacific Aerospace</td>
<td>QLD</td>
</tr>
<tr>
<td>Associated Electronic Services</td>
<td>SA</td>
</tr>
</tbody>
</table>

### AIRFRAMES

**Components**

- **MACHINING**
  - SHEET METAL
  - INTERIOR: Air-Cases, Flight Controls, Seat/Wing Systems, Furniture (e.g., Captain's Chair), Windows
  - EXTERIOR: Fairings, Paintwork Systems, ILS & Aeronautical Radar

- **AVIONICS**
  - WIRE HARNESS: AVIONICS Equipment and Cabling, Avionics, Avionics Cabling, Communication, Electrical Power, Instruments (Digital/Analog), Navigation
  - RESEARCH & DESIGN

- **ENGINES**
  - PISTON ENGINES & COMPONENTS
  - TURBINES & COMPONENTS
  - PROPELLERS
  - OXYGEN, Fuel System, Auxiliary Power, Engine Exhaust
  - IGNITION, Avionics, Propulsion

*Please see [www.aviationaerospace.org.au](http://www.aviationaerospace.org.au) for disclaimer, latest version and contact details.*
## Appendix – Australian Aerospace Capability Matrix

### Australian Aerospace Capability Matrix

#### Aerospace Sector: Australia

<table>
<thead>
<tr>
<th>Company</th>
<th>State</th>
<th>Airframes</th>
<th>Components</th>
<th>Avionics</th>
<th>Engines</th>
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<tbody>
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<td>Australian Aircraft Kits</td>
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<tr>
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</table>

### Key Categories
- **Airframes**
- **Components**
- **Avionics**
- **Engines**

Please see [www.aviationaerospace.org.au](http://www.aviationaerospace.org.au) for disclaimer, latest version and contact details.
# Appendix – Australian Aerospace Capability Matrix

## Aerospace Sector Australia

<table>
<thead>
<tr>
<th>Company</th>
<th>State</th>
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</thead>
<tbody>
<tr>
<td>C-E Solutions</td>
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<td>Exelia</td>
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</tbody>
</table>

## Additional

- Aircraft Sales
- Surveillance/Electronics
- LTE Hardware & Software
- Production Line Equipment
- Electronic Assembly

---

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# Appendix – Australian Aerospace Capability Matrix

## Aerospace Sector Australia

<table>
<thead>
<tr>
<th>Airframes</th>
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<th>Avionics</th>
<th>Engines</th>
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<th>Safety Engineering</th>
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**Airframes**
- Structural, Structures, Exos, Fins, Engines, Wings, Nacelles, Pylons, Masts, Masts (e.g. Telescoping & Slidable Stabilizers)
- Components
- Equipment (e.g. Avionics, Plumbing, Electrical, Instrumentation, Electronics, Navigation, Communication, Flight Controls, Autopilot, Weather, and Fire Suppression Systems)
- Manufacturing, Machining, Supply Chain, Supply Chain Management, Aerospace, Electronics, Aircraft, Flight Controls, Avionics, Tooling, Embedded Systems, Information Technology

**Avionics**
- Research & Design

**Engines**
- Piston Engines & Components
- Turbines & Components
- Other Engine Systems, Auxiliary Power, Engine Exhaust, Ignition, Fuel System & Turbine
- Research & Design

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# Appendix – Australian Aerospace Capability Matrix

## AEROSPACE SECTOR AUSTRALIA

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<th>MANUFACTURE</th>
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<th>INNOVATION &amp; COMPETITIVENESS</th>
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### AIRFRAMES
- Structural Components: Doors, Fuselage, Wings, Nacelles
- Hypo, Systems (e.g., Locomotive & Railway Systems)
- Composite Plants

### COMPONENTS
- Machining
- Metal Forming
- Aerospace Alloys
- Electrical Systems
- Electronics (e.g., Engineering Equipment, Instrumentation)
- Avionics Systems
- Ice & Rain Protection

### AVIONICS
- Wire Harness
- Equipment/Equipment Avionics
- Avionics/Navigation

### ENGINES
- Piston Engines & Components
- Turbines & Components

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## Appendix – Australian Aerospace Capability Matrix

### AEROSPACE SECTOR AUSTRALIA

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<th>COMPONENTS</th>
<th>AVIONICS</th>
<th>ENGINES</th>
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### AIRFRAMES

- Structural Materials: Composites, Titanium, Steel, Magnesium, Fibers, Steels (e.g., Stainless & High Strength)
- Structures: Fuselage, Wings, Tail, Landing Gear
- Powerplant: Engines, Propellers, Turbines
- Assembly: Interiors, Avionics, Fuel Systems, Electrical Systems
- Flight Test Center: System Integration, Flight Dynamics, Test Operations

### COMPONENTS

- Machining: Sheet Metal, Fasteners, Turbine Blades, Composites, Structural Components
- Sheet Metal: Panels, Plates, Sheets, Bulkheads
- Machining: Drilling, Milling, Grinding
- Sheet Metal: Stamping, Forming, Cutting

### AVIONICS

- Avionics Equipment: Auto Flight (e.g., Autopilot, Flight Management), Communication, Navigation, Engine, Instrumentation (e.g., GPS, Radar), Avionics, Navigation, Communications

### ENGINES

- Powerplant & Components: Turbines, Propellers, Engines
- Accessories: Oil Systems, Auxiliary Power, Engine Exhaust, Ignition, Valves, Controls, Propulsion Systems
- Research & Development: Engine Design, Test Facilities, Engine Performance

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# Appendix – Australian Aerospace Capability Matrix

## AEROSPACE SECTOR AUSTRALIA

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<th>AEROSPACE SECTOR</th>
<th>AIRFRAMES</th>
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### AIRFRAMES
- Swinburne University of Technology (VIC)
- Tasman Aviation Enterprises (TAE) (QLD)
- Tech Resource (VIC)
- Thales Australia (VIC)
- Thales Australia – AEROSPACE (VIC)
- Thales Global Systems (NSW)
- ThyssenKrupp Aerospace Pty Ltd (NSW)
- Toolecraft (SA)
- Trakka Corp PTY LTD (VIC)
- Ultra Electronics Avalon Systems (SA)
- University of New South Wales (UNSW) (NSW)
- Vector Aerospace (QLD)
- Vipac (SA)
- Western Australian Speciality Alloys Pty Ltd (WA)
- Worthington Aviation (QLD)

### COMPONENTS

#### DESIGN/ENGINEERING
- Machining
- Sheet Metal
- Composite Structures
- Casting/Forging
- Fabrication
- Assembly
- Testing
- Fixtures
- Surface Finishing
- Spray Painting

#### PRODUCTION/TEST
- Quality Assurance
- Quality Control
- Production
- Test

#### MAINTENANCE/FLY
- Aircraft Maintenance
- Aircraft Repair
- Aircraft Refurbishment
- Aircraft Modification

#### QUALITY/COMPLIANCE
- Quality Assurance
- Quality Control
- Quality Systems
- ISO Certification

### AVIONICS
- Wire Harnessing
- Aircraft Equipment
- Navigation
- Communication
- Electrical Power
- Instrumentation
- Noise
- Testing

### ENGINES
- Jet Engines
- Turbofan Engines
- Turboprop Engines
- Propellers
- Propulsion Systems
- Ignition Systems

### OTHERS
- Security and Infrastructures
- Air Traffic Management

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Profile of Australian Organisations with Aerospace Capabilities

FERRA ENGINEERING PTY LTD

DELEGATE PROFILE

Mark Scherrer, Chief Executive Officer

Mark Scherrer is the President and Chief Executive Officer of the Ferra Group, a global leader in the design and manufacture of mechanical and electro-mechanical aerospace sub-systems. He currently oversees the strategic direction of the Ferra Brisbane based company with operations in Australia, the United States of America and Asia.

Mark is also active in the industry community. He served as co-chair for Team Australia, a government-industry initiative tasked to build strategic defence industry capability and increase defence industry exports. He is currently a member of the Executive Committee of the Australian Industry Group’s Defence Group.

COMPANY OVERVIEW

Ferra Engineering Pty Ltd (Ferra) specialises in the design, manufacture, assembly and test of aerospace structures and sub-systems. The company has extensive in-house component manufacturing facilities including a range of computer numeric controlled machines.

Ferra is involved both directly and indirectly through primary aerospace manufacturers. Some of Ferra’s customers include Lockheed Martin, Boeing, Airbus Helicopters, Parker Aerospace, BAE and Northrop Grumman.
Profile of Australian Organisations with Aerospace Capabilities

DELEGATE PROFILE

Rohan Stocker, General Manager

Rohan holds a Bachelor of Engineering at Melbourne’s Monash University. He began his career working for global mining organisation, BHP. In 2001, Rohan transferred to Marand, a diversified engineering solutions company.

Marand designs and manufactures special purpose equipment, tooling and automated production systems for the automotive, aerospace, defence, renewable energy and rail industries. During his time at Marand, Rohan has been at the forefront of the company’s successful transition from manufacturer to innovator. He has overseen considerable growth of the Marand business both in Australia and in various export markets including its work as Australia’s largest exporter on the F-35 program for Lockheed Martin and BAE Systems.

COMPANY OVERVIEW

Marand is a diversified engineering business supplying the aerospace, defence, mining, rail and renewable energy sectors, as well as a supplier of advanced aero-structures, tooling, automation and ground support equipment for the global defence and commercial aerospace industry.

Marand has over 30 years experience supporting Boeing, BAE Systems, Lockheed Martin and other leading suppliers of aerospace products. Marand has designed and manufactured composite lay-up and trim tools as well as assembly jigs for major components for every Boeing and Airbus commercial aircraft type that has been in production over the last 25 years.

Marand is Australia’s largest supplier to the F-35 program exporting component tooling, complex GSE and aero-structures to the USA, UK, Canada, Denmark and Norway.

In 2014 Marand was awarded the BAE Systems Chairman’s award for the best supplier relationship for its work supplying the F-35 Vertical Tails.
Profile of Australian Organisations with Aerospace Capabilities

LEVETT ENGINEERING

DELEGATE PROFILE

Paul Levett, Chief Executive Officer

Paul Levett is Chief Executive Officer and founder of Levett Engineering, an Australian defence and aerospace company. He started his career in 1978 as an apprentice Fitter and Turner with the Defence Science and Technology Organisation (DSTO). Upon completing his apprenticeship, Paul gained a position in the mechanical instrument shop where he was responsible for the manufacture of precision metal components using lathes and milling machines for various defence projects.

After further studies in engineering, Paul gained a promotion to Technical Officer at the DSTO where he was responsible for technical support on defence projects in the Air Weapons Development Group.

Paul formed his own company, Levett Engineering in 1989.

COMPANY OVERVIEW

Levett Engineering was founded in 1989 and is headquartered in Adelaide, South Australia in a 2000sqm facility. It is a privately owned Australian company that employs approximately 40 people.

Levett Engineering has experience in both domestic and export supply of precision components, computer numerically controlled machining and value-added specialist services.

Levett Engineering has become a respected and trusted partner with many defence related Prime contractors both in Australia and overseas.
Profile of Australian Organisations with Aerospace Capabilities

CABLEX PTY LTD

DELEGATE PROFILE

Heidi Krebs, Chief Operating Officer (COO)

Heidi Krebs is the Chief Operating Officer and a major shareholder of Cablex Pty Ltd. Cablex is Australia’s leading supplier of complex wiring systems for aerospace, defence, transport and electronics environments.

With over 26 years’ experience in the manufacturing industry, Heidi has held roles in executive management, strategy, operations, programme management, strategic global procurement and business development.

Heidi has a Diploma in Competitive Manufacturing, sits on the Victorian Defence and Alliance - Land Systems committee, has contributed to the Supplier Continuous Improvement Programme committee and the Enterprise Connect - Growth Services Programme and is a member of The Australian Institute of Company Directors.

Heidi is passionate about retaining and growing manufacturing in Australia.

COMPANY OVERVIEW

Cablex was founded in 1985 and is a privately owned Australian company. Cablex is a globally recognised sub-contract manufacturer of wiring harnesses and electromechanical assemblies. It provides services and capability to the Aerospace, Defence, Mass Transport and General Electronics industries.

Cablex currently supplies to a range of local and international customers from its principal manufacturing facility in Melbourne, Victoria.

Cablex has developed and acquired leading edge technologies to produce a broad range of products and solutions for a large range of requirements. It has positioned itself well to provide the highest quality flexible service to multiple industries.
Profile of Australian Organisations with Aerospace Capabilities

HOFMANN ENGINEERING PTY LTD

DELEGATE PROFILE

Erich J. Hofmann, Managing Director

Erich J. Hofmann is Managing Director of Hofmann Engineering, a family company founded in 1969. Erich has been leading the company in their continued pursuit of excellence since 2003.

COMPANY OVERVIEW

Hofmann Engineering provides specialist engineering services to industry leaders worldwide. The company has a commitment to continuous quality improvement and believes that innovation and technological change is the essence of survival.

Developing and refining of new processes and methodologies is an integral part of its overall business and Hofmann Engineering has a dedicated Research and Development team, with each project being treated as an opportunity to enhance their knowledge.

Phone: +61 9 9279 6622
Address: 3 Alice Street
Web Address: www.hofmannengineering.com
Profile of Australian Organisations with Aerospace Capabilities

BAE SYSTEMS AUSTRALIA

DELEGATE PROFILE

Air Marshal Douglas (Doug) Riding AO, DFC (Ret'd)
Senior Military Advisor

Doug Riding joined the Royal Australian Air Force (RAAF) in 1982 and served as a fighter pilot and qualified flying instructor, including a tour in the Vietnam War as a forward air controller where he was awarded the Distinguished Flying Cross. He held a wide range of command and staff appointments in the Air Force, culminating in his appointment in 1996 as Assistant Chief of the Air Staff, Materiel. On promotion to Air Marshal in June 1998, he was appointed Vice Chief of the Defence Force (VCDF) and served in that post until his retirement from the RAAF in June 2000. He was appointed as an Officer of the Order of Australia in 2000.

As VCDF he was responsible for Australian Defence Force preparedness and developing future ADF capabilities and represented Australia in international forums at the highest levels of government, including the building of the International Force East Timor (INTERFET) Coalition.

Following retirement from the Air Force, he was appointed to the Board of BAE Systems Australia Pty Ltd as a non-executive director and is now a member of the Management Board as Senior Military Advisor. He is also Air and Joint Systems Advisor to the Aerospace and Land and Information Systems Business Units.

COMPANY OVERVIEW

BAE Systems delivers some of Australia’s most complex defence, aerospace and security projects. As a leading provider of total aerospace capability, BAE Systems offers aerospace systems, integration, sustainment services and training solutions to defence, commercial aviation, security and other agencies.

BAE Systems work to maximise Australian industry involvement in all of their projects and employ more than 4,000 people in urban, regional and remote locations across Australia.

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Australian Capability – Case Study

Boeing

Boeing looks to Australia for innovation breakthroughs

Case study: research and development

Boeing, the world’s leading aerospace company, and the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia’s leading research and science agency, have been in partnership for more than 23 years.

With the whole world to choose from, the aerospace giant turned to CSIRO for its innovative ideas, skills, and expertise in research.

And it is a partnership which is paying dividends: CSIRO was named one of Boeing’s suppliers of the year in 2010 and a joint Boeing-CSIRO project was awarded a CSIRO excellence award in 2011.

In addition, it has delivered a number of technological breakthroughs, including topcoat reactivation technology for recoating Boeing airliners, airspace and airport congestion simulation tools and sustainable aviation fuels.

In May 2012, the two organisations announced a new five-year, A$25 million research program to cover innovations in space sciences, advanced materials, energy and direct manufacturing.
Quickstep spreads its wings

Case study: manufacturing

The C-130 Hercules airlifter is one of the best-known and longest-serving military aircraft in the world. Its latest version, the C-130J Super Hercules, is set to take off with parts manufactured by the Australian firm Quickstep. An advanced carbon composites manufacturer, Quickstep has recently received its first purchase order as part of a contract with Lockheed Martin to supply composite wing flaps for the Super Hercules.

The first step of the agreement involves preliminary work such as planning, process qualification, tooling and training activities. Together with the recent grant of a Manufacturing Licence Agreement, these activities pave the way to starting deliveries following the receipt of a $A12 million order in September 2012 covering one year of supply. The program is expected to generate revenues of $A75 million to $A100 million over five years.

The first delivery of parts is expected in the middle of financial year 2013-14 and will feed the Lockheed Martin C130J assembly line in Marietta, Georgia, in line with global supply chain delivery arrangements.
Australian Capability – Case Study

Ferra

Advanced facilities help Ferra stand out

Case study: manufacturing

“Our initial supplier was close to 18 months behind schedule. Ferra was one of the fastest and most efficient supplier transfer programs within the group, and brought the schedule back on track in less than 3 months”

– Eurocopter Supplier Management

A commitment to advanced facilities and R&D has helped Brisbane-based Ferra Engineering become a leading partner to aerospace CEMs in the Australasian region.

Specialising in the design, manufacture, assembly and testing of aerospace structures and sub-systems, Ferra’s customers include Airbus, Boeing, BAE Systems, GE Aviation, Goodrich, Lockheed Martin, Thales, Marlin Engineering, Northrop Grumman, Parker and Rolls Royce.

Ferra has recently signed a number of long-term agreements with Boeing for supply of P-8, CH-47, F-18, 767 and 747-series components, as well as contracts to produce Weapon Pylons and Mission Kits for the MH-60R Romeo helicopter and components for the F-35 project. It is also involved in research partnerships with Lockheed and the University of Queensland for advanced titanium machining and manufacturing processes.

Industry awards and recognition for Ferra include Boeing Supplier of the Year for 2011 in the International Category, Platinum supplier status award from Northrop Grumman and a Boeing award for outstanding supplier achievement for its bulkhead machining project.
Australian Capability – Case Study
Lovitt Technologies

Lovitt Technologies partners with high flyers

Case study: manufacturing
Lovitt Technologies Australia, a Melbourne-based specialist aerospace and defence manufacturer, produces components for some of the world’s most advanced military aircraft. In February 2013, Lovitt was awarded contracts with Boeing valued at around A$4 million for machined parts for the global F/A-18 Super Hornet fleet.

Lovitt is one of a number of Australian companies winning international contracts through the Global Supply Chain Program. It has previously been awarded a Super Hornet contract in 2012, along with other contracts to supply machined parts for the V-22 Osprey, CH-47 Chinook and P-8 Poseidon.

Lovitt Technologies is also an important Australian supplier for the F-35 Joint Strike Fighter delivering complex machined airframe components to Lockheed Martin. A particular milestone was achieved in August 2012, with the delivery of the first Australian made component for the first F-35 for the Royal Australian Air Force, which is currently in production in the USA.
Australian Capability – Case Study
Flight Training Adelaide

**Careers take off at Flight Training Adelaide**

**Case study: training**

Airlines around the world are looking to Australia as an ideal setting for pilot training and Flight Training Adelaide (FTA) is a leader in this field. It has been training airline cadets since 1982, working with many of the world’s major airlines along the way.

As well as serving Australian carriers such as Virgin Australia, QantasLink and being an approved training provider for Australia’s national carrier Qantas, FTA is currently providing training for Cathay Pacific, Dragonair, Hong Kong Government Flight Services, the China Rescue and Salvage Service (Helicopters) and the Hong Kong Civil Aviation Department. Different aviation customers have their own requirements for courses and FTA caters for all of these.

It also ensures that its training courses are delivered to the standards set by different Civil Aviation Regulators and that they meet the rigorous requirements of the various international regulatory bodies.

By partnering with so many different airlines, FTA has developed a broad understanding of the unique training practices and cultural operating environments of each individual airline and continues to deliver tailor-made training solutions for aviation companies around the world.
Australian Capability – Case Study
Flight Training Adelaide

Airbiz – in demand from Brussels to Botswana

Case study: business services
Airbiz Aviation Strategies, an Australian aviation and airports consultancy, is providing expertise for major airport and aviation developments around the world. The Melbourne-based company has completed consultancy projects in over forty countries on five continents, and now earns more than half its income from international work.

Airbiz’s expertise and services cover the gamut from strategic planning in airport master plans to feasibility studies and terminal and airfield simulations. Its airport management work includes testing for operational readiness and terminal design, including spatial analysis and airport retail analysis and planning. It also advises on aircraft noise, traffic forecasting, aviation policy, airport systems, financial modelling, expert evidence and due diligence.

Airbiz played a key role in the new C$3 billion Calgary International Airport (YYC), Canada’s third busiest. The company was selected as the specialist aviation planning and simulation consultant for the runway modelling and environmental assessment for Calgary’s C$500 million new parallel runway. It also provides planning and project management services for the upgrade of passenger concourses.

Other recent overseas projects have included work with Queenstown Airport Corporation in New Zealand on a Common Departure Terminal development to allow the airport to respond to rapid growth in tourist numbers, and terminal planning projects in Brussels and Botswana.
Ryan Aerospace takes helicopter training in a new direction

Case study: training

When pilot Chris Ryan started helicopter training over ten years ago, he spotted a gap in the market – and decided to do something about it. Ten years on, his company Ryan Aerospace produces COTS (commercial off-the-shelf) helicopter and fast jet simulators and synthetic training devices for international clients including Boeing, the Royal Air Force (United Kingdom), the Australian Navy, the Indonesian Navy, the Saudi Arabian Military, commercial training schools and human factors analysis labs.

The company’s flagship product, the Helimod, is a unique design that allows users to ‘bolt on’ aircraft-specific modules to a main platform which replicates a generic helicopter configuration. Combined with display systems that replicate the pilot’s view outside the cockpit, the system can deliver highly realistic training at a fraction of the cost of flying time in a real helicopter.

‘While demonstrating the Helimod for the US Navy, one official commented that it was 80 per cent of the solution at about two per cent of the cost,’ Mr Ryan said.

‘The Helimod can teach basic flying and airmanship skills, emergency procedures, navigation and weather avoidance and interaction. It has also found a place in aeronautical testing laboratories around the world, being used for human factors analysis and lab software testing. The machine is also being used by military organisations for combined arms training,’ Mr Ryan said.

A dual-control version, the Helicrew, is now also in production.

In addition to winning numerous Australian industry awards, Ryan Aerospace was chosen as one of four finalists in the US-based Aviation Week Aerospace and Defence Supplier Innovation Challenge 2011.