



DEFENCE & SECURITY

*Products for Land, Air &
Sea Applications*



B&R Enclosures

Since 1955, B&R Enclosures has built a reputation for excellence in design and production, culminating in our position as Australia's largest enclosure manufacturer and electrical equipment integration specialist.

B&R is a trusted supplier of electro-mechanical systems and assembly integration for leading organisations such as BAE Systems, Boeing, L3 Harris, Luerssen, ThyssenKrupp, Thales and the Australian Defence Force. We have long been a reliable partner in the supply chain for OEMs commissioning complex, innovative and tailored engineering and manufacturing enclosure solutions.

With half of our business focused on original equipment manufacturing, we produce high-quality, repeatable products, ensuring consistent supply with an average of 300 enclosures manufactured every weekday (6,000 per month, 72,000 per year).

In addition, our customisation expertise allows us to offer end-to-end design, manufacturing and equipment integration solutions across sectors such as Defence, Marine, Industrial, Data ICT, Hazardous Areas and Residential Commercial.

B&R product solutions are trusted by some of the world's largest companies. B&R's team collaborates with customers to deliver innovative solutions to suit complex specifications.

Some of our customers include:



Testing, Certifications & Accreditations

Physical and virtual simulation testing is conducted on our products.

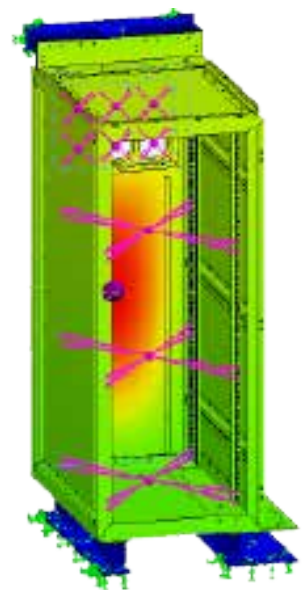
We rigorously test our products both in-house and at external third-party facilities. Tests can include shock, vibration, EMC, MIL STD, impact (IK), ingress protection (IP), type testing, static and seismic load, wind load, salt spray, surface finish and Factory Acceptance Testing.

We perform desktop simulation testing for Failure Modes and Effects Analysis (FMEA) – a systematic and proactive method for identifying where and how the product might fail and to assess the relative impact of different failures, in order to identify parts of the product which may need changing.

We also create and execute Inspection Test Plans (ITPs) which enable us to provide assurances to our customers regarding the quality and function of the product, certifying it has been achieved to their design specifications and application requirements. We provide completed ITPs to our customers in full transparency and in accordance with our quality control and documentation processes.

Our ITPs include a range of inspection sections for the product. ITP testing can include, but is not limited to:

- Mechanical
- Electrical Assembly
- Electrical Wiring
- Electrical Routine Testing
- Functional Test (LIVE) - referred to as Factory Acceptance Testing and has a separate testing procedure and verification document
- Final Inspection



Capabilities, Competencies & Certifications



We deliver manufacturing and electro-mechanical solutions that enable our clients to confidently execute their deliverables.

Australian Employer



We employ over 400 people throughout Australia

Manufacturing Locations



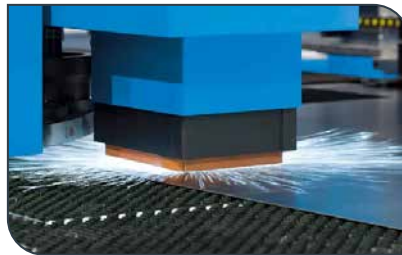
Brisbane - 18,000m²
Adelaide - 4,000m²
Sydney - 1,874m²

MANUFACTURING PROCESS



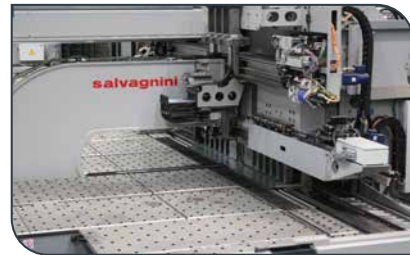
1. Shear Line

Coil steel cut to sheet sizes



2. Laser Punch

Supreme accuracy & repeatability



3. Bending

Automated bending & brake press



4. Fabrication

Manual and robotic laser welding



5. Finishing

Increased durability & resistance



6. Painting

Five stage powder coating & optional chemical conversion



7. Gasket Assembly/ Preparation

Pour in place gasket for ultimate performance



8. Assembly

Scalable project assembly lines



9. Equipment Integration

Wiring of electrical components and technology equipment

B&R is certified and accredited to the following standards:



Products & Services

B&R offer a range of ruggedised engineered hardware and build-to-print solutions for Defence communication equipment and integrated platform systems.

Engineered Hardware & System Support



Build To Print Solutions

- Detailed design and engineering of sheetmetal and CNC machined parts and assemblies.
- Full documentation and control.
- High volume specialists.
- Digital supply chain, Acceptance Testing and verification.
- Variety of material finishes and powdercoat colours are available.
- Materials include 316 stainless steel, marine grade aluminium and steel.

Project References

- Project Currawong
- Mobile Battlespace Communications
- HQOTM (Head Quarters On The Move)



Deployable 19" Racks – MOTS

B&R has a proven track record in engineering and building innovative 19-inch solutions for Telecom, Government and Defence applications. Our solutions include a variety of racking options, such as COTS ICT data racks, as well as custom-engineered solutions tailored to exact specifications.

Our customers benefit from a wide range of expertise throughout the project's design, engineering and construction phases, including Mechanical, Electrical, Human Factors, Climate Control and Sheet Metal.

Key capabilities include

- Engineered to MIL-STD to withstand 8G in X,Y, Z Axis
- Designed to suit acoustic demands of deployable workstation
- Solid and Shock mount variations



B&R's Class B and Class C range deliver high quality SCEC-approved cabinets, manufactured in Australia.

CQr Guardian High Security SCEC Racks



- 1.6mm fully welded frame.
- 2 x PDU trays.
- 4 x adjustable numbered RU mounting rails.
- 4 x levelling feet.
- 2 x 300mm wide cable trays.
- All racks complete with maximum (x8) cable entries.
- Cable entries feature cable tie off points and removable cover.
- Baffle entries compliant to copper and fibre bend radius requirements.
- Includes power entry passthrough

Optional Accessories:

- Extended panels for increased cable capacity.
- High efficiency cooling system.
- Baying kit with segregation panel and cable access between racks.
- Additional SCEC approved accessories.



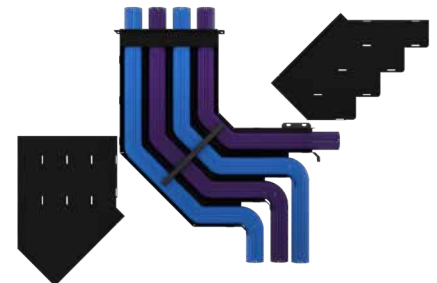
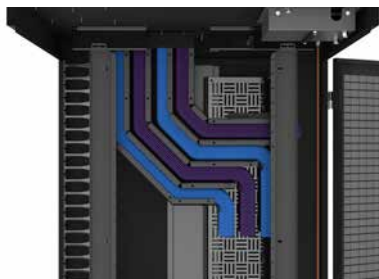
Unrivalled 1400kg distributed load capacity.

Project References

- Air 5431 Phase 2 & 3 - Defence Air Traffic Management and Control System Facilities:
 - o RAAF Base Amberley (QLD)
 - o Army Aviation Centre Oakey (QLD)
 - o RAAF Base Pearce (WA)
- Air 5349 Phase 3 (Growler)
- Battlefield Airlifter Phase 2, C & D
- 23rd Squadron RAAF Base Amberley
- Jindalee Operational Radar Network
- Gallipoli Barracks, QLD
- RAAF Base Williamstown, NSW
- SHOALWATER BAY –Australia Singapore Military Training Initiative (ASMTI) Facilities SWBTA Rockhampton, QLD
- Land 400 Townsville Lavarack Barracks
- Land 400 Puckapunyal Military Area

Highlights

- SCEC approved dedicated power passthrough.
- High capacity Cable Carrier baffle with innovative cable entry.
- High flow ventilation mesh doors.
- Peak efficiency air flow system.



Cable Baffle Capacity

		CAT5e	CAT6	CAT6e	CAT7e	Fibre
	Diameter (mm)*	5.6	6.3	8.4	7.6	3
	Saturation*	60%	60%	60%	60%	70%
Cable Entries (per entry)	75 x 75 entry	100	80	45	55	415

These are nominal values for the OD of cable. Sizes vary by manufacturer.

B&R does not accept liability for any errors.

*Recommended maximum cable saturation.

Products & Services

B&R offer a range of cabinets and consoles for protection of data and communication equipment and integrated platform systems.

Platform Systems Console



- Designed and purpose built to support a diverse range of Defence platform systems.
- Designed collaboratively with Primes and System Integrators, to provide solutions that meet specific project demands.
- Designed with total TLS (through life support) in mind and a lower cost of ownership by offering a modular design, suitable for technology and equipment advancements and obsolescence.
- Ergonomic human factor design using lightweight construction materials.
- Modular form factor allows upgrades by individual modules as needed.
- Certified EMC protection to MIL-STD's.
- Vibration and Shock Certified.

Project References

- Arafura Class (OPV)
- Damen RoPax



Poseidon Rack Cabinets



- Designed and purpose built specifically for Naval Maritime applications.
- Tested and certified to MIL-STD's for vibration and EMC.
- Configurable sizes (14RU - 39RU) supplied with or without isolator mounts.
- Ability to bay cabinets together in multi-rack configurations.
- Includes thermal management fans with running life of over 37,000 hours at 40°C.
- Customisable to specific requirements.
- Polyester powdercoated finish.

Project References

- Arafura Class (OPV)
- Anzac (FFH)
- Destroyer (DPG)



Products & Services



The Connector TE and Universal NI range of COTS and MOTS products are suitable for junction boxes and control panels in all environments.

Universal NI



- Designed to house electrical controls and instrumentation, junction terminations and PLC's.
- Suitable for use in marine and other harsh outdoor environments with IP66 protection.
- Reversible door opening to 120° provides easy access to internal mounting pan.
- Can be wall mounted with brackets or a mounting flange kit - no drill holes needed.
- Flat face gutter ensures a reliable and long-lasting seal no matter the environment.
- Modifications include viewing window, vents, different lock options and rainhood.
- Lloyd's Register certified.
- Available as powdercoated zinc coated steel, aluminium or 316 stainless steel.

Project References

- Arafura Class (OPV)
- ANZAC Class (FFH)
- Canberra Class (LHD)
- Supply Class (AOR)



Connector TE



- Designed to house terminations, pushbuttons or switchgear.
- Suitable for use in marine and other harsh outdoor environments with IP66 protection.
- Mount equipment inside using a mounting pan or DIN rail.
- Can be wall mounted with brackets or mounting flanges already attached.
- Flat face gutter ensures a reliable and long-lasting seal no matter the environment.
- Lloyd's Register certified.
- Available as powdercoated zinc coated steel, aluminium or 316 stainless steel.

Project References

- Arafura Class (OPV)
- ANZAC Class (FFH)
- Canberra Class (LHD)
- Supply Class (AOR)



Case Studies

PROJECT CURRAWONG

The Currawong Battlespace Communications program is for the Army and elements of the RAAF and Navy to replace their ageing mobile communications and computer networks, and to provide improved situational awareness, command and control, and information sharing capabilities.

Prior to the IOC stage B&R Enclosures was involved in prototyping ruggedised hardware for communication equipment through Boeing Defence Australia.

Once the program was approved for full roll out, Boeing again contracted B&R to design and manufacture critical brackets for use in the high capacity line-of-sight (HCLOS) radio and video-conferencing equipment.

The first order for the program was received in late 2018 and since then B&R have received additional orders and continued to manufacture and supply Boeing Defence with hundreds of brackets ready to be integrated into the system hardware and deployed through the ADF.



ADVANCED SGSI SYSTEM

Navantia Australia has successfully completed a major design update for the Royal Australian Navy's Canberra Class LHDs, installing an Advanced Stabilised Glide Slope Indicator (ASGSI).

A consortium of Navy, CASG, Naval Ship Management, Owen International, AGI and Navantia Australia collaboratively worked through an engineering change to install the new Advanced SGSI system in a very tight time frame, which has restored the capability and reliability.

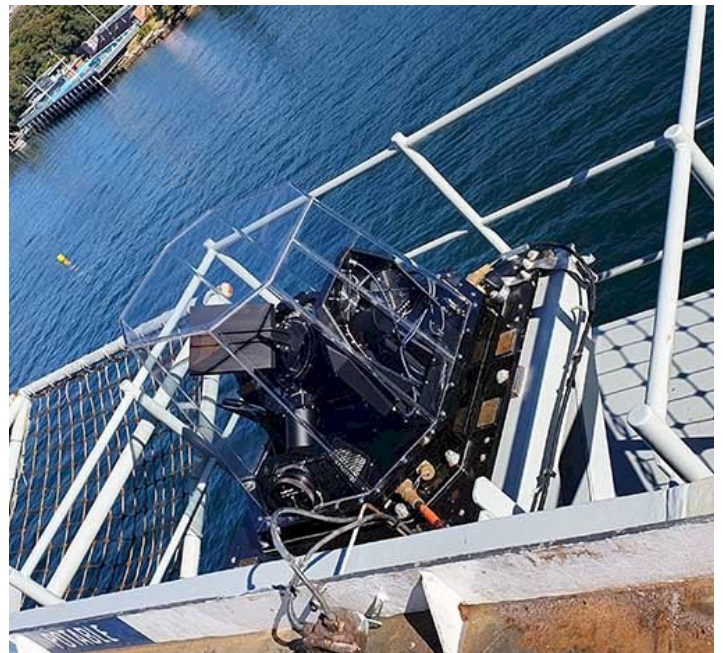
The system is a critical piece of equipment on the deck of the ship, used to guide helicopters to land in the designated area of the ship while it is moving.

As the installation of the ASGSI system needed electrical enclosures which were robust enough for an open deck maritime application, B&R Enclosures was approached to assist. Our range of enclosure solutions and quality of construction and materials were just one of the reasons for this.

B&R manufactured enclosures using 316 stainless steel to prevent corrosion from salt water, while also achieving an IP66 rating to prevent ingress of dust and more importantly water.

Navantia Australia performed all of the platform integration design necessary to integrate the ASGSI into the Canberra Class LHD design.

The Forward ASGSI system is now fully installed on both HMA Ships Canberra and Adelaide and was recently used to support the First of Class Flight Trials for the MH60R helicopters.



OFFSHORE PATROL VESSELS

This project required a 19" cabinet solution to protect and house data and communications equipment as well as a communications bridge console for on-board the SEA 1180 Arafura Class Offshore Patrol Vessel (OPV).

Commissioned in 2018, B&R collaborated with L3 Harris, Thales and EM Solutions to design and engineer a solution to meet the requirements of Luerksen and the Commonwealth of Australia.

Both the 19" cabinet and the bridge console products needed to be certified for EMC and vibration MIL-STD's.

A 6 month pre-manufacturing desk-top study completed by B&R, took into account the needs and challenges of the project and produced simulated models, that could be viewed and approved virtually, without the need for a prototype.

Final production of the full order of cabinets and consoles for each of the OPV's resulted in a solution which was 100% fit for purpose and compliant to project requirements.

B&R has been formally acknowledged by the shipbuilder Luerksen, for the participation in delivering robustly engineered and constructed solutions.



EM SOLUTIONS - COBRA SYSTEM

EM Solutions first visited B&R's head office and main manufacturing facilities during an AIDN Event hosted by B&R. During this event B&R was able to showcase our extensive manufacturing knowledge along with our capabilities for the Defence industry.

As part of the SEA 1180 program B&R was chosen to provide the 19" cabinets for the on-board communication system equipment. This is when EM Solutions first collaborated with B&R Enclosures.

From here, engineers from B&R and EM Solutions visited each other's premises to learn more and understand how we could support, collaborate and innovate together to deliver premier engineered solutions and broaden our sovereign Defence industry capability.

EM Solutions delivered on SEA 1180 using the B&R 19" marine cabinet and acknowledged the success of the burgeoning strategic relationship.

The relationship has continued to grow with EM Solutions ordering the 19" marine cabinets from B&R to provide a turn-key solution for their Cobra SOTM system as part of both sovereign and export programs.

The Cobra has multiple band resiliency in a single package and can cover both commercial and military Ka-bands, as well as X-band simultaneously.

B&R will continue to work with EM Solutions to grow Australia's Defence industry capabilities.



Figure 1: Basic components of dual ADE system using the Cobra Antenna Diversity System.

LOCATIONS

AUSTRALIA

Sales

T: 1300 Enclosures (1300 362 567)
F: 1300 796 599
E: sales@brenclosures.com.au
brenclosures.com.au

SOUTH EAST QUEENSLAND

Manufacturing, Sales & Warehouse
51 Stradbroke Street
Heathwood QLD 4110
(PO Box 1151)
Browns Plains BC QLD 4118
T: +61 7 3714 1111
E: salesqld@brenclosures.com.au

NORTH QUEENSLAND

Townsville Sales & Warehouse
Unit 4 / 780 Ingham Road
Mount Louisa QLD 4814
(PO Box 7615)
Garbutt QLD 4814
T: +61 7 4727 1900
E: salestvl@brenclosures.com.au

NEW SOUTH WALES

NSW & ACT Sales & Warehouse
7 Metters Place
Wetherill Park, NSW 2164
T: +61 2 9915 9555
E: salesnsw@brenclosures.com.au

NEWCASTLE Distribution

Ross Joice Agencies Pty Ltd
109-111 Broadmeadow Road
Broadmeadow NSW 2292
T: +61 2 4961 4433
F: +61 2 4961 2498

AUSTRALIA

VICTORIA

VIC & TAS Sales & Warehouse
Unit 1, 60-62 Abbott Road
Hallam VIC 3803
T: +61 3 9552 0552
E: salesvic@brenclosures.com.au

TASMANIA Distribution

W P Martin Pty Ltd
85 Elizabeth Street
Launceston TAS 7250
T: +61 3 6331 5545
F: +61 3 6331 4256

SOUTH AUSTRALIA

Manufacturing, Sales & Warehouse
505 Grand Junction Road
Wingfield SA 5013
T: +61 8 8417 6222
E: salessa@brenclosures.com.au

NORTHERN TERRITORY Distribution

Jewell Distributors Pty Ltd
Cnr Hidden Valley & Beaton Roads
Berrimah NT 0828
T: +61 8 8947 0870
F: +61 8 8947 0764

WESTERN AUSTRALIA

WA Sales Office & Warehouse
6 Montgomery Way
Malaga WA 6090
T: +61 8 6310 4777
E: saleswa@brenclosures.com.au

NEW ZEALAND

Sales

B&R Enclosures Limited
T: 0800 Enclosures (0800 362 567)
E: sales@brenclosures.co.nz
brenclosures.co.nz

AUCKLAND Distribution

Matchmaster
Unit 6/103 Cryers Road
East Tamaki Auckland NZ 2013
T: +64 9 265 2097
F: +64 9 265 2437
E: sales@brenclosures.co.nz

CHRISTCHURCH Distribution

Matchmaster
17 Washbournes Road
Wigram Christchurch NZ 8042
T: +64 3 348 0659
F: +64 3 348 4043
E: sales@brenclosures.co.nz