

# Jindalee Over-The-Horizon Radar

## OTHR

- Protects Australia's coastline
- Supports ballistic missile defence
- Ground-based long range surveillance to 3,000km
- Phased array Doppler radar
- High reliability with low running costs
- All weather operation
- Air and surface targets
- Track while scan
- Multi-track, multi-task capability

BAE Systems Australia is a key partner in the Over The Horizon Radar (OTHR) Centre of Excellence. Working with RLM Management and Defence, BAE Systems supports the OTHR and Jindalee Operational Radar Network (JORN) contract.

High Frequency (HF) radar systems provide a cost effective form of wide area surveillance for detection and tracking of surface and air targets.

The Jindalee OTHR system has been an operational asset of the Royal Australian Air Force (RAAF) for more than 15 years. The system encompasses a wide range of leading edge technology and is under constant development in conjunction with the RAAF and Intelligence Surveillance and Reconnaissance Division at the Defence Science and Technology Organisation (DSTO) in Edinburgh, South Australia.

The OTHR system uses HF radio transmissions to direct energy towards the area under surveillance. While most of this energy continues

to spread forwards, some of the energy is reflected off the surface of the earth and is back-scattered toward the radar site. Over both the outward and inward path, the energy is disseminated via the ionosphere which refracts HF radio transmissions, thereby allowing surveillance of targets that are 'over-the-horizon'.

The Jindalee OTHR system forms part of the front-line defence of Australia's mainland by providing surveillance of the air-sea gap to the north/northwest. The area under surveillance comprises millions of square kilometres at a fraction of the cost of alternative technologies such as air or ship mounted platforms.

Through the Jindalee Facility Alice Springs (JFAS) contract, BAE Systems Australia is integrating new technology to extend its capability to support ballistic missile defence. This includes the receiver and transmitter sites near Alice Springs, the Jindalee Operational Radar Network (JORN) Coordination Centre (JCC) at RAAF Edinburgh and the OTHR System Program Office (SPO) at DSTO Edinburgh. JFAS is the operational and engineering research and development test bed for Australia's Jindalee OTHR program. It develops "next generation" concepts and technologies to enable ongoing development and advancement of the JORN OTHR network.

Significant future work in JORN Phase V and the next generation OTHR will be facilitated through the partnering charter for the OTHR Centre of Excellence. BAE Systems brings more than 25 years of OTHR industry expertise to the Centre of Excellence. BAE Systems' capability includes design and development of HF radar systems and components, signal processing and software engineering.



### FOR MORE INFORMATION CONTACT:

BAE Systems  
Taranaki Road  
Edinburgh Parks  
EDINBURGH SA 5111  
PO BOX 1068 Salisbury SA 5108  
Telephone +61 (0) 8480 8888  
Fax +61 (0) 8480 8800  
[www.baesystems.com.au](http://www.baesystems.com.au)

BAE SYSTEMS AUSTRALIA

03/07

**BAE SYSTEMS**