



DEFENCE

EWEN LEVICK | SYDNEY

THE story of High Frequency (HF) systems in BAE Systems Australia starts in the continent's red centre, for which Red Ochre Labs is named. The company has been involved in developing the globally-unique Jindalee Operational Radar Network, or JORN, for the past 35 years: a long-range, HF over-the-horizon radar that provides situational awareness of Australia's air and sea approaches.

"JORN is 100 per cent designed and developed in Australia," Richard Udall, BAE Systems Australia Project Director JORN Phase 6, said to ADM. "We've played a critical and central role in the development of JORN over the past 35 years, working closely with DST and also CASG to develop and enhance the capability."

JORN comprises three sites across Australia that together provide wide-area surveillance of ships and aircraft out to 3000 kilometres. It is operated by the RAAF out of Edinburgh, SA, and supported by 427

company engineers, project managers, technicians and supporting staff.

"It's controlled and operated across the road here at RAAF Edinburgh from the Battle Space Surveillance Centre," Udall said. "Each radar site basically comprises of a transmit and a receive site. The three locations are Longreach in Queensland, that's radar one; Laver-ton in WA, which is radar two; and then radar three at Alice Springs.

"In addition to that, there's also a pretty comprehensive network of ionospheric sounders and transponders over the northern parts of Australia."

Although the network is now in its fourth decade of service, it remains as cutting-edge as ever. Under Air 2025 Phase 6, BAE Systems Australia is opening the system architecture to extend its operational life out to 2042.

"The Phase 6 contract commenced in April 2018 and was designed to change and open up the system architecture, allowing next-gen technology insertions," Udall said. "For example, digital receivers and new next generation hardware which

will improve efficiency, reliability and operability for the end user."

The Phase 6 effort is supported by a large network of Australian suppliers and partners.

"We've got around 113 suppliers and local SMEs, including indigenous suppliers as well, who either directly support the existing system or are actually involved in the Phase 6 upgrade," Udall said. "We've also just launched the JORN Open Innovation Network (JOIN), partnering with DST, Defence and the University of Adelaide.

"This sees us partnering with academia to do some more student engagement, fund teaching programs and also become a research centre for developing new technologies."

According to Udall, the opening of Red Ochre Labs is an opportunity for further research and development into keeping JORN at the forefront of HF tech and Australian sovereign capability.

"We have the brains within the company and certainly within the JORN program," Udall said. "Having the ability to do some of that research and development piece as part of Red Ochre is going to keep us and JORN at the cutting edge."

ABOVE: JORN is a world leading HF capability developed and improved here in Australia.