The Commonwealth’s stated intent to upgrade South Australia’s Woomera test range to meet the demands of next generation defence systems will provide opportunities for Australian-based defence companies to bid for the supply, installation and integration of an enhanced capability.

With a request for tender for the upgrade expected to be released later this year, the Department of Defence has made some indication that the preferred method of acquisition is to draw on commercial-off-the-shelf or military-off-the-shelf systems to the maximum extent possible through an open tender process.

"The Woomera test facility provides a globally unique capability to the Australian Defence Force for the testing of defence capability. The size and freedom to operate in an electromagnetically clean environment ensures that testing can be conducted to the ‘edge of the envelope.’"
The Woomera range is the largest overland test range in the world, occupying one-seventh of the state of South Australia – an area roughly the size of England. Because of the site’s isolation, the Royal Australian Air Force (RAAF) requires operational flexibility as well as new options to manage the most complex capabilities.

With the impending delivery of next generation capabilities to the Australian Defence Force, Woomera’s current analogue range equipment must be replaced with modern digital systems capable of supporting major test events in a networked and secure information environment.

The range will be challenged with delivering the testing for new remotely piloted air systems, evolved network centric warfare capabilities, and weapons fitted to the EA-18G Growlers and Joint Strike Fighters.

In the past, Woomera has been used as a test facility for a number of developmental aircraft, weapons, space programs and rocketry while supporting projects involving hypersonic scramjet technology and space debris tracking.

Test activities for these capabilities involve tracking both the aircraft and weapon, using the range radar and optical systems.

The telemetry data sourced from these systems is then down-linked from the assets for post-test processing and analysis – all of which occurs on the range. Weapon tests such as these are possible due to Woomera’s sheer geographic scale, which enables complex, long range weapons testing.

Raytheon Australia’s new Director of Flight Operations, Air Vice-Marshal (rtd) Mark Skidmore, said that as former Air Commander Australia, he relied on the test range to ensure that the RAAF’s fighting capability was maintained at the leading edge of aerospace technology.

“The Woomera test facility provides a globally unique capability to the Australian Defence Force for the testing of defence capability. The size and freedom to operate in an electromagnetically clean environment ensures that testing can be conducted to the ‘edge of the envelope’,” he said.

Given the unique Australian requirements and operational environment it will be important that any new equipment sourced from overseas manufacturers is integrated and maintained by Australian in-country partners.

Raytheon has international experience in managing the world’s largest test ranges and also has depth of in-country expertise in mission systems integration and smart sustainment solutions making it an ideal partner to take the range facility into a new era of capability.

Importantly Raytheon offers a next generation testing system which has been dubbed the ‘Swiss Army knife of range capability’ because of its flexibility. Called Mobile Range, it offers a unique integrated system combining communications, optics and telemetry that enable in-country flight testing, demonstrations and data collection.

This flexible system is designed for rapid deployment and short notice operations anywhere in the world. The purpose built transportable units, mounts and control systems can be operational on rudimentary test sites in just four hours with minimal support staff or infrastructure.
Mobile Range can be operated remotely via a network connection and works in all domains – at sea, in the air and on land across varying environments and conditions.

1: Mobile Range’s flat panel system can be deployed in the air OR on the ground with minimal support staff or infrastructure.