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Special Notice: Next Generation Deployed Wireless Environment

Challenge Owner: Army - Land Network Integration Centre

Challenge Statement

It's hard for field-deployed communications assets to rapidly provision secure battlespace communications for field Headquarters (including on-the-move HQs) and support force agility and effectiveness, given the challenge of connecting large user groups in a mobile and highly dynamic battlespace.

Closing Date

All solution submissions must be received by 5pm 31 July 2017 via the [Innovation Portal](#).

Overview

Why should you apply to solve this challenge?

The Army Land Network Integration Centre has a role to inform the Army's networking decisions and support the development of Army's Land Network Capability. This Special Notice is seeking to identify innovative solutions that may be developed and trialled in collaboration with Land Network Integration Centre and industry, in order to procure an integrated solution that provides improved capability for the Army.

The immediate opportunity for Industry Respondents is to apply for funded exploration of suitable solutions with Land Network Integration Centre, targeting a Brigade-scale field trial (of up to 50 nodes) with Army in mid-2018. The Land Network Integration Centre is seeking submissions from Industry for a Next Generation Deployed Wireless Environment suitable for use in the deployed land environment for use up to Secret AUSTEO.

Land Network Integration Centre will select one or more eligible Solutions/Respondents that meet assessment criteria to participate in the funded exploration and trial of solutions to the challenge in the period up to mid-2018.

Why it is important that this challenge be solved?

Reliable and secure communications between defence assets is an essential requirement enabling understanding of the battlespace, and underpins force agility and ability to execute missions effectively.

Solving the challenge is important as it enables the coordinated action and effectiveness of large field-deployed units, and supports the requirement of interoperability of within the ADF and with Coalition partners in order to leverage assets and achieve mission objectives.

A solution to this challenge will improve ADF capability and support it in its mission to defend Australia and its interests.

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Other Opportunities

A successful solution will provide improved capability to a range of Defence users in Australia and with Australia's Coalition partners, aiding interoperability with other Defence organisations and their assets.

Challenge Context

The Problem Owner - field-deployed HQ Communications Staff

Field-deployed headquarters communications staff have a role to provision reliable and secure communications in order to support battlespace understanding and coordination of the defence assets. This requires rapid provisioning connectivity for up to 500 individuals at brigade and division levels, supporting the agility and effectiveness of mobile field-deployed headquarters.

Secure, reliable and timely provision of communications connectivity is essential to support the operation of the mobile Army.

How the challenge is currently solved

Currently, communications staff install ethernet cabling and switches/routers to provide connectivity at field-deployed headquarters. This provides linkage between hundreds of users in temporary environments and communications vehicles with data uplinks, power and other networking and communications gear.

Ethernet cabling is generally secure, however installation to provision hundreds of connections is time consuming and can delay the ability of the headquarters staff to be fully effective in understanding the battlespace and coordination of deployed defence assets.

The digitally enabled battlespace requires ability to securely connect and communicate with increasing numbers of users and devices, and the wired ethernet approach also presents challenges for scale.

Land Network Integration Centre has successfully trialled and deployed an 802.11 based wireless concept technology demonstrator since 2014. The existing concept technology demonstrator is a field deployable, Suite B based, commercial rack mounted solution that is accredited for use up to Secret Releasable (SECRET REL). The Land Network Integration Centre is now seeking information from Industry for a Next Generation Deployed Wireless Environment suitable for use in the deployed land environment for use up to Secret AUSTEO.

Benefits Sought & Constraints

Solutions will aim to provide (and ultimately demonstrate) the following benefits, and address constraints, within the development period and for field trials in mid-2018.

Responses to the Special Notice should refer to these specific Benefits and Constraints.

Benefits

- Ability to manage data transmission over contemporary and innovative wireless and wired technologies
- Multiple mode wireless options (e.g. 802.11, 4G, 5G, Li-Fi, other) with 400 metre radius of connectivity
- Ability to manage up to 500 simultaneous connections
- Both man-portable and vehicle based solutions will be considered
- Available in a 19" rack mounted, man-portable, form factor for operation using 240VAC
 - Optionally, as a vehicle mounted form factor using 12/24VDC.
- Wireless geo-fence capability
- Provision of a cyber-monitoring capability, or be capable of being monitored by an external SIEM

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- Internal configuration storage supported
- Excellent user experience operating devices; eg, indicating functionality, signal strength and faults

Constraints

- Robust and suitable for operation by Land forces in the deployed environment
- Solutions should not be [ITAR](#) controlled
- Integrated encryption capability and ability to be accredited, for use up to [SECRET AUSTEO](#)
- Not be classified as a [Controlled Cryptographic Item](#) (CCI) wireless device
- Interoperability with standard Intel chip-based laptop or tablet running enterprise Windows-based SOE
- Manufacturer agnostic endpoints for minimal and easy changes in user hardware, OS, BIOS or device SOE

Assessment Criteria

Each submission in response to the Special Notice will be assessed against the following criteria, not in any order of importance:

Suitability - *The extent to which the proposed innovation could further the effectiveness of a Defence capability, enterprise, or technology challenge*

Defence will consider the following elements in making an assessment against this criterion:

- the extent to which the respondent's submission clearly articulates and explains the proposed innovation; and
- the extent to which the proposed innovation is unique, and would provide a new or enhanced capability, or improves Defence's effectiveness and efficiency through innovation.

Feasibility - *The extent to which the proposed innovation will be able to be developed and adopted with relevant defence systems, from a technology perspective*

Defence will consider, in making an assessment against this criterion, the current technology readiness level of the proposed innovation, and the relevance and credibility of any claims made by the respondent relating to the feasibility of the proposed innovation.

Timeliness - *The anticipated timeframe that the proposed innovation would require to realise a positive impact on Defence capability*

Defence will consider, in making an assessment against this criterion, the extent to which the proposed timeline and duration of the proposed innovation aligns with timelines for any Defence capability requirements or related activities undertaken by Defence.

Contribution to Australia's defence industry capability - *The extent to which the proposed innovation has the potential to improve or contribute to Australia's defence Industry capability and capacity*

Additional Information

Defence Innovation Hub

The Defence Innovation Hub (Hub), an initiative of the Australian Government's Department of Defence (Defence) has been established as a 10 year program to help Australian and New Zealand companies, businesses, and academic and research organisations, to assess whether innovative technologies that those companies, businesses and organisations are developing have a Defence application.

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Where a technology is identified as having an appropriate Defence application, Defence is able to work with the company, business or organisation through the Hub, and provide a level of funding, so that the technology can be matured in a collaborative way.

The Hub facilitates innovation activities from initial concept, through to prototyping and integrated testing. The activities that will be procured through the Hub will fall into four distinct phases depending upon the current maturity level of your innovation.

For more information on the Hub, visit the [Defence Innovation Portal](#).

What is a Special Notice?

A Special Notice allows a Defence Business Unit that has a specific problem or technical challenge to utilise the Defence Innovation Portal as a platform for engaging industry to solve that problem.

A Special Notice aims to:

- provide a vehicle to allow Defence business units to define a problem to the market to be addressed under a tailored approach to market
- allow industry to provide innovative solutions to capability challenges that would otherwise go unnoticed.
- leverage the innovative capacity of a wide spectrum of Australian business to solve the problem rather than only established Defence centric businesses.

Intellectual Property and Contracting

The Defence Innovation Hub seeks to engage and collaborate with the Australian Defence Industry to solve problems for Defence. The Hub has a clear IP Strategy that recognises the critical role that IP plays in fostering and encouraging innovation and delivering vital capability to Defence, and sets out IP Principles that seek to achieve an appropriate balance between the interests of Defence and industry.

The Hub also provides a simplified and streamlined contracting process to make it less costly for Australian industry organisations to support Defence, including small-to-medium organisations.

You can download the Contract Template and IP Strategy at the [Defence Innovation Portal](#).

How to propose a solution to this Special Notice

You make a submission against this Special Notice using the Special Notice [Call for Submissions Smart Form](#). A submission can be made any time before the close date shown above.

Who can you talk to once you make your submission?

If you wish to ask a question once you have lodged your submission, you can do so by submitting an online enquiry form via the Innovation Hub Dashboard. The Innovation Hub Dashboard will also allow you to track the progress of your submission.

Be aware that your questions, and the answers provided by Defence, may be published without disclosing your identity or any details in your proposal, where this would be of benefit to other entities considering making a submission.

What happens after you make a submission?

Shortly after you lodge your smart form, you will receive an automated email confirming that your submission has been successfully loaded and giving you a reference number. You should use that reference number in further communications with Defence.

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If you have not received a confirmation email shortly after submitting, you can confirm the status of your proposal via the Innovation Hub Dashboard. If the proposal status remains as Draft, you should re-submit the proposal. If the proposal status displays Initial Proposal Assessment, your proposal has been received and will be assessed. Defence will assess your submission in accordance with the attached Terms, which includes the assessment criteria and assessment process.

Following the assessment of submissions, Defence will determine whether a submission is:

- **successful** – i.e. will be progressed, in which case, Defence will invite you to participate in a Request for Proposal process, which will be subject to its own terms; or
- **unsuccessful** – i.e. will not be progressed.

Defence will endeavour to tell you about the outcome of the assessment of your proposal as soon as practicable. You can withdraw a submission at any time by submitting an online enquiry form via the Innovation Hub Dashboard.