PART 2 - STATEMENT OF REQUIREMENT

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1. GENERAL

1.1 Background

1.1.1 On 2 December 2023, Defence Ministers from the United Kingdom, the United States and Australia, as part of the AUKUS partnership, announced the launch of AUKUS Innovation Challenges to deliver on AUKUS Pillar II: Advanced Capabilities.

1.1.2 On 2 December 2023, Defence Ministers from Australia, the United Kingdom and United States announced the launch of a series of innovation challenges for AUKUS Pillar II: Advanced Capabilities. The Innovation Challenge series will provide AUKUS governments joint access to the best technological solutions to trilaterally agreed military problems.

1.1.3 The first of these challenges is the AUKUS EW Challenge (the Challenge), which will focus on Defence's ability to leverage electromagnetic spectrum (EMS) technologies and capabilities that provide a competitive advantage to electromagnetic (EM) targeting, and those that protect Defence from adversary EM targeting capabilities.

1.2 Challenge Statement

1.2.1 The electromagnetic spectrum (EMS) is a heavily congested, contested, complex and competitive environment, and there is an increasing need for low cost, disposable, high volume and highly autonomous capabilities to achieve asymmetric advantage. How might Defence harness the EMS to project force to target adversaries and counter their ability to target the AUKUS partners?

1.2.2 Tenderers should submit one solution per proposal in response to this Challenge Statement. If tenderers have multiple solutions please submit multiple proposals.

1.3 Challenge Approach

1.3.1 This Challenge is an open Request for Proposal (RFP), with proposals due by 7 May 2024.

1.3.2 By 21 June 2024, ASCA will select up to three successful tenderers based on their responses to the RFP. The successful tenderers will:

a. receive a fixed price contract of A$240,000 (inclusive of GST) to develop and submit a detailed Project Execution Plan to ASCA by 22 July 2024; and

b. be invited to co-development workshops, held during July 2024.

1.3.3 In the co-development workshops, the successful participants will collaborate with key Defence stakeholders to develop and refine their proposed solution to the Challenge Statement. This will support tenderers' development of a Project Execution Plan. The co-development workshops do not require the development of software or hardware.

1.3.4 Project Execution Plans may inform capability development considerations across all three AUKUS partners.

2. SCOPE OF REQUIREMENT

2.1 Overview

2.1.1 The electromagnetic spectrum (EMS) presents a congested and competitive environment, requiring low-cost, disposable, and highly autonomous capabilities for asymmetrical advantage. This challenge is focused on the ability to leverage EMS technologies for both offensive and defensive purposes.

2.1.2 Key capabilities sought include:

c. **Find:** Identification of targets using EMS.

d. **Fix:** Locating targets via EMS.

e. **Track:** Monitoring target movement using EMS.

f. **Target:** Selection and application of EMS assets and enabled weapon systems.

g. **Engage:** Application of EMS assets and enabled weapons.

h. **Assess:** Evaluation of attack effects using EMS.

2.1.3 To enable industry to focus resources and efforts that deliver a desirable impact to Australia's Defence capability, Defence has identified technologies for application within the EM targeting cycle for industry consideration. These include, but are not limited to:

i. **Sensors:** Enhancing sensor quantity and quality for target identification, location, monitoring, and assessment. (to enable Find, Fix, Track, and Assess phases)

j. **Closed loop targeting:** Employing existing EW sensor data and predetermined parameters for swift cueing and engagement. (to enable Target and Engage phases)

k. **Electronic Attack:** Disrupting adversary C4ISREW systems and EMS-enabled weapons. (to enable all aspects of the targeting cycle)

l. **EMS access:** Dynamically accessing EMS for resilience, stealth, and reduced spectrum conflicts. (to enable Find, Fix, Track, Target, Engage, and Assess phases)

m. **EMS Deception & Denial:** Preventing adversary exploitation of emissions or understanding of true intent to enable blue force projection and blue force protection, to counter all aspects of the targeting cycle.

3. PERFORMANCE MEASUREMENT

3.1 Evaluation of Requirements

3.1.1 AUKUS partners require these outcomes to be delivered by an organisation, or a team of multiple organisations, with suitably qualified and experienced personnel that have the capacity to deliver a minimum viable capability at speed and suitable for acquisition either immediately or after a development period of up to 12 months.

3.1.2 Defence will evaluate submissions against four selection criteria:

a. **Suitability:** Proposed solution aligns with the problem statement

a. **Feasibility:** Soundness, technical merit, innovation of proposed approach, and feasibility of the proposed solution

b. **Viability:** Qualifications and accreditations of the proposed principals, support staff and consultants

c. **Compliance:** Tenderer's compliance with RFP and contract terms

3.1.3 The following considerations will be used by Defence to guide evaluation of suitability. Proposals are not expected to meet all of these capability considerations; rather, these should be used by tenderers as a guide for proposal development.

a. **Agility**: Systems that are multi-spectral, distributed, high dynamic range, wide/multi band, coordinated, adaptive/cognitive, and real-time. These systems should have the ability to rapidly reprogram, share and update mission data.

b. **Multi-function**: Systems that can meet multiple areas of interest and multiple capability considerations.

c. **Interoperability**: Systems that employ common data standards, are flexible to Defence integration standards (including the potential to meet specific theatre entry standards), and can cooperate with existing data and systems.

d. **Interchangeability**: Systems that can be easily integrated and/or interchangeable with AUKUS partners.

e. **Connectivity**: Systems that can operate in a denied, degraded, intermittent and limited environment are preferable.

f. **Cost imposition**: Systems that are low-cost, easily manufactured, disposable/attritable and can distribute the delivery of effects, thereby reducing the risk of failure if targeted.

g. **Sovereignty**: Systems that are manufactured and sustainable domestically (or have the potential to be), and have a secure, resilient and reliable supply chain.

h. **Range**: Distances may vary from close-range to over-the-horizon, depending on the effect required. Regardless of range, systems should have an appropriate degree of protection to operate within proximity of adversaries.

i. **Time**: System speed and operational duration may vary depending on capability purpose and required effect. Consider speed as relative to the target the capability is effecting, and duration as relevant to mission considerations, such as travel time to close in on a desired target.

j. **Autonomy**: Systems that can reduce reliance on workforce (including human time cost and cognitive burden) and require limited training to operate.

k. **Projection**: Systems that can be easily projected from existing platforms and deployed into contested environments with minimal modification.

l. **Domain**: Systems can be employed in any of the physical domains (air, land, space, maritime (surface and sub-surface), or across multiple domains.

3.1.4 Defence is more interested in the ability to orientate and rapidly iterate the proposed innovative solutions to the Challenge Statement than with its current Technology Readiness Level.