



Australian Government

Department of Defence

Capability Development Group

**PROJECT LAND 19 PHASE 7
GBAD – RBS 70 ENHANCEMENTS OR REPLACEMENT**

CAPABILITY STUDY

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EXECUTIVE SUMMARY

The Australian Department of Defence has recently initiated Phase 7 of Project LAND 19 – GBAD - RBS 70 Enhancements or Replacements in response to an Australian Government priority to provide an enhanced or new ground-based air and missile defence capability for Australian Land forces.

The enhanced or replacement capability to be delivered under Phase 7 is expected to offer improved threat detection and engagement capability against a broad threat set that includes:

- Fixed and rotary-wing aircraft;
- Fixed and rotary-wing uninhabited air vehicles (UAVs) and uninhabited combat air vehicles (UCAVs);
- Rockets, artillery and mortars;
- Stand-off weapons; and
- Cruise missiles.

This capability will be required to operate in an integrated fashion with other Australian or Allied / Coalition air and missile defence capabilities including fighter and airborne early warning and control aircraft and Air and Missile Defence (AMD) ships. In addition the LAND 19 Phase 7 capability will be required to be capable of operating independently.

Capability functionality is expected to encompass airspace battle management and situational awareness; threat tracking and interception; and battle damage assessment, all underpinned by a networked command, control, communications, computing and intelligence system. The Phase 7 capability may include new technologies such as directed-energy systems.

To gain a better understanding of the systems and technologies that may form the basis of the Phase 7 capability, the Department of Defence is conducting a Capability Study with a view to developing capability options for senior decision maker consideration. Industry is invited to inform capability options development by providing a range of operational employment, technical, human systems integration, logistics and costing information.

The study process is planned for completion in October 2008.

Please note that this study is part of ongoing capability development work that has been planned well in advance of the current Defence White Paper process. Therefore, no conclusions should be drawn regarding the outcomes of the Defence White Paper and/or progression of Project LAND 19-7.

This solicitation document is available for download from the study management contractor, Aerospace Concepts Pty Ltd, at www.concepts.aero.

ABOUT PROJECT LAND 19 PHASE 7

Background

The Australian Department of Defence (‘Defence’) is currently conducting a Capability Study for Phase 7 of Major Project LAND 19 – *RBS-70 Enhancements or Replacement*. Earlier phases of Project LAND 19 introduced the RBS 70 ground-based Short-Range Air Defence (SHORAD) system into Australian service and provided a range of enhancements.

Scope

The enhanced or replacement capability to be delivered under Phase 7 is expected to offer greater detection and engagement capability against a broad range of threats including fixed and rotary-wing aircraft, fixed and rotary-wing Uninhabited Air Vehicles (UAVs) and Uninhabited Combat Air Vehicles (UCAVs); rockets, artillery and mortars; stand-off weapons and cruise missiles.

System functionality is expected to encompass airspace battle management and situational awareness; threat tracking and interception; and battle damage assessment, all underpinned by a networked command, control, communications, computing and intelligence system. Phase 7 may include new technologies such as directed-energy.

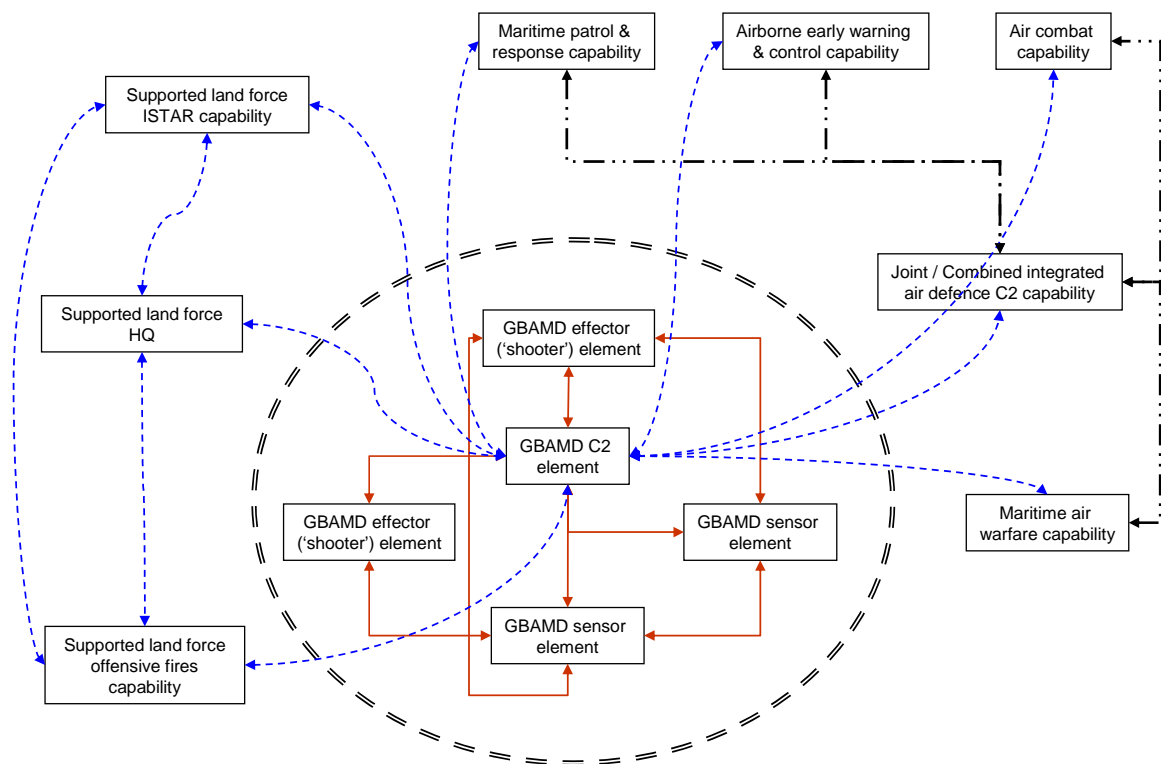


Figure 1. Indicative operational context

This capability will be required to operate in an integrated fashion with other Australian or Allied / Coalition air and missile defence capabilities including fighter and Airborne Early Warning and Control (AEW&C) aircraft and Air and Missile Defence (AMD) ships, as shown in Figure 1. The LAND 19-7 capability will also be required to be capable of operating independently.

CAPABILITY STUDY PROCESS

Overview

To gain a better understanding of the technology that may form the basis of the LAND 19-7 materiel solution, Defence is conducting a Capability Study with a view to developing capability options for senior decision-maker consideration. Ground-Based Air and Missile Defence (GBAMD) system technology suppliers and agents are invited to provide a range of operational employment, technical, human systems integration, logistics and costing information about systems and technologies.

This study seeks to gain information on available or developing systems to meet Australia's requirement for a GBAMD capability. It also presents an opportunity for industry to inform the project at this formative stage.

Please note that this study is part of ongoing capability development work that has been planned well in advance of the current Defence White Paper process. Therefore, no conclusions should be drawn regarding the outcomes of the Defence White Paper and/or future investment in a GBAMD capability under Project LAND 19-7.

Scope

This Capability Study asks industry to provide marketing-level operational and technical information as well as broad costings and high-level assessments of technology maturity. This information will be analysed by Defence and will assist in the development of broad options for consideration within the Capability Development Group.

Depending on the nature of responses received, Defence might again approach individual industry respondents to ask either for clarification or for more detailed information. Given that this second approach will be in response to individual industry submissions, Defence may need to approach only a subset of respondents. This is not a down-selection process; it merely reflects the variation in detail of initial submissions.

Schedule

In order to provide accurate and detailed information to senior decision makers at an early and formative stage of the LAND 19-7 capability development process, the schedule for this activity has been compressed. Consequently the study process has the following key milestones:

- Early July 2008 – This Capability Study solicitation document issued.
- **1 September 2008** – Final date for submission of initial industry responses.
- Mid-September 2008 – Requests for additional information issued as required.
- **1 October 2008** - Final date for submission of additional industry responses.
- End October 2008 – complete analysis of industry responses and report.

Disclaimers

The Commonwealth makes no guarantee of the accuracy of this document and reserves the right to change or withdraw any or all of the information contained herein at any time. Nothing in this document shall be construed as to give rise to equitable or contractual obligations, express or implied. No action on the recipient is directed or implied as a result of this information.

Furthermore, nothing in this Capability Study shall be construed as indicating Defence preference for any particular system or technology; indeed, LAND 19-7 is in an early and formative stage and no formal decisions have yet been taken about how the project might progress beyond what is already published in the Defence Capability Plan (DCP) available from www.defence.gov.au.

Protection of proprietary information

Unless marked otherwise, all information provided by suppliers to the Commonwealth during the study process will be treated as commercial-in-confidence.

For those suppliers that would prefer it, the Commonwealth will commit to a formal Mutual Deed of Confidentiality. The Commonwealth's preferred form of Deed is enclosed.

Response method and format

Study respondents are requested to provide all information in electronic format on optical media such as CD-ROM or DVD-ROM. Alternatively, responses may be e-mailed directly to the study point-of-contact at support@concepts.aero.

In either case, Adobe Portable Document Format (PDF) and Microsoft Office (DOC, XLS) formats are preferred.

Study points-of-contact

The Commonwealth point-of-contact for all public relations and policy matters (excepting protection of proprietary information) is:

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The point-of-contact for all Capability Study management matters, including submission of responses, is the study management contractor, Aerospace Concepts Pty Ltd:

Project LAND 19-7 Capability Study

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Web: www.concepts.aero

Respondent point-of-contact

Suppliers and agents interested in participating in the Capability Study are requested to provide a single point-of-contact through which all subsequent correspondence and enquiries will be directed. Point-of-contact information must include an e-mail address.

INFORMATION REQUIREMENTS

Introduction

The information sought by this Capability Study is intended to support Defence assessment of how best to provide GBAMD for Australian forces with a view to assist in the development of broad capability options. Noting that Defence has not yet taken any formal decisions regarding preferred systems and technologies, this Capability Study is entirely solution-independent and uses a range of operational scenarios and a broad range of threats to elicit information.

There are five aspects to the information sought by this Capability Study:

1. How the respondent would address each scenario with reference to an indicative functional breakdown;
2. The system(s) needed to achieve the GBAMD mission set out in each scenario (described down to the element or sub-system level) complemented by a series of technical questions;
3. Human Systems Integration (HSI) aspects, including numbers of people needed for operation and support and their skill-sets;
4. How technically mature the system(s) is (are) and, as applicable, the maturity of key technologies embedded in each (such as Directed Energy (DE) systems, etc); and
5. Capital (acquisition) and operating costs.

Defence accepts that not all of the information requested may be available for disclosure at this time and that a comprehensive response to this solicitation could involve a substantial amount of effort. Consequently, respondent effort should be prioritised towards operational and costing aspects over the technical detail.

Functional description

A generic functional description of a GBAMD capability is shown in Figure 2, below. This functional description encompasses the 'core' functions of defending against air threats and, also, supporting functions such as manoeuvring into and within the battlespace and self-protection from air and ground threats. Each of these functions is defined in detail in [Appendix A](#).

Study respondents are requested to describe how their proposed systems would achieve, or contribute to achieving, each of the GBAMD functions within the context of each of the five generic operational scenarios provided in [Appendix B](#).

Responses should be set out under headings or in tables that mirror the functional decomposition in Figure 2 and [Appendix A](#).

Furthermore, *for each scenario*, respondents are requested to provide the operational information listed in Table 1, below.

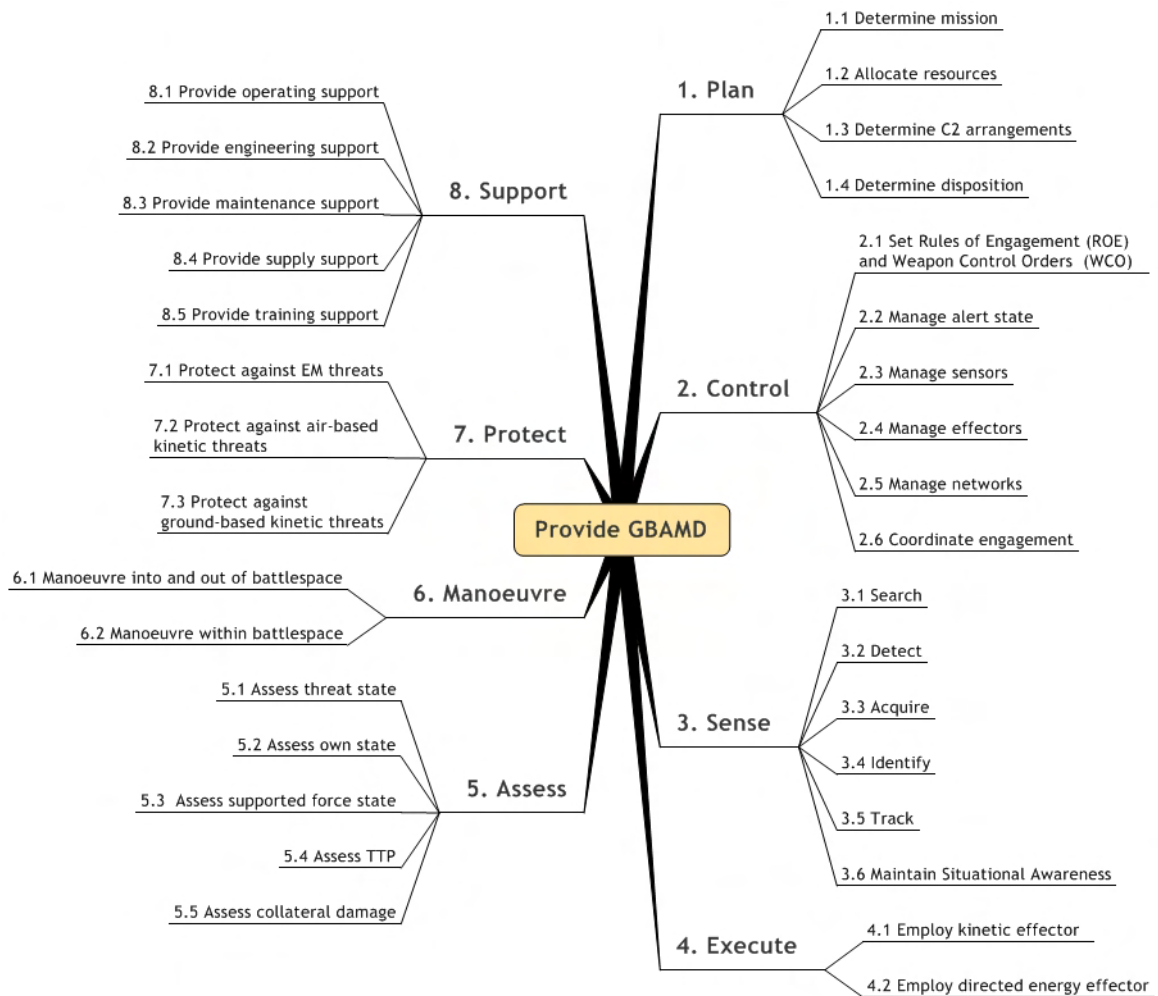


Figure 2. Indicative GBAMD functional description

Table 1. Performance and operational characteristics

#	Characteristic
1	Performance against threats
1.1	For each threat type identified in the scenario provide a threat engagement timeline, including a description of the criteria for track declaration.
1.2	How many threats can be engaged concurrently?
1.3	What are the factors limiting the number of concurrent threats that can be engaged?
1.4	How many threat axes can be defended concurrently?
1.5	What are the factors limiting the number of defended threat axes?
2	Redundancy and robustness
2.1	Describe any inherent redundancy in the proposed GBAMD system(s) deployment.
2.2	Describe how the GBAMD system effectiveness is affected by the attrition of one or more sensor, effector and C2 resources.
2.3	Describe whether and how the GBAMD system may be adapted to maintain effectiveness following the attrition of sensor, effector and C2 resources.

#	Characteristic
2.4	Describe the GBAMD system capacity for 24 hour per day operation and any limitations thereof.
2.5	Describe the GBAMD system capacity for all weather operation and any limitations thereof.
3	Integration
3.1	When operating as part of a larger integrated AMD environment, what are the GBAMD system requirements and limitations regarding latency of data exchange?
3.2	When operating as part of a larger integrated AMD environment, what are the GBAMD system requirements and limitations regarding track quality?
3.3	When operating as part of a larger integrated AMD environment, what are the GBAMD system requirements for the production of a Single Integrated Air Picture?
3.4	Describe how the GBAMD system would integrate with a land force C2 system to achieve a single air and ground Common Operating Picture (COP).
4	Mobility
4.1	Can the GBAMD system operate when manoeuvring within the battlespace?
4.2	Describe any limitations in traversing any terrain types.
4.3	Describe any site preparation requirements including preparation times.
5	Reliability, Availability and Maintainability
5.1	For the GBAMD system as a whole, what is the operational availability (%)?
5.2	For each major system element, what is the operational availability (%)?
5.3	For the GBAMD system as a whole, what is the Mean Time Between Failures (MTBF)?
5.4	For each major system element, what is the MTBF?
5.5	For the GBAMD system as a whole, what is the Mean Time To Repair (MTTR)?
5.6	For each major system element, what is the MTTR?
6	Assumptions
6.1	State assumptions made about threat characteristics and behaviour
6.2	State assumptions made about the GBAMD concept of operations and support
6.3	State assumptions made about the presence (or otherwise) and type of clutter
5.4	State assumptions made about mobility and mobility support

Physical description

Study respondents are requested to provide a physical description of the system(s) proposed for each of the five generic operational scenarios provided in [Appendix B](#). This description should include, for each scenario, the:

- System architecture in the respondent's preferred format,
- Three-level (or deeper) physical breakdown hierarchy as shown in Figure 3 (below), and
- Basis of Provisioning (BOP) (quantities of each system element).

Furthermore, respondents are invited to provide the technical information sought in [Appendix C](#), noting that this is a lower priority request.

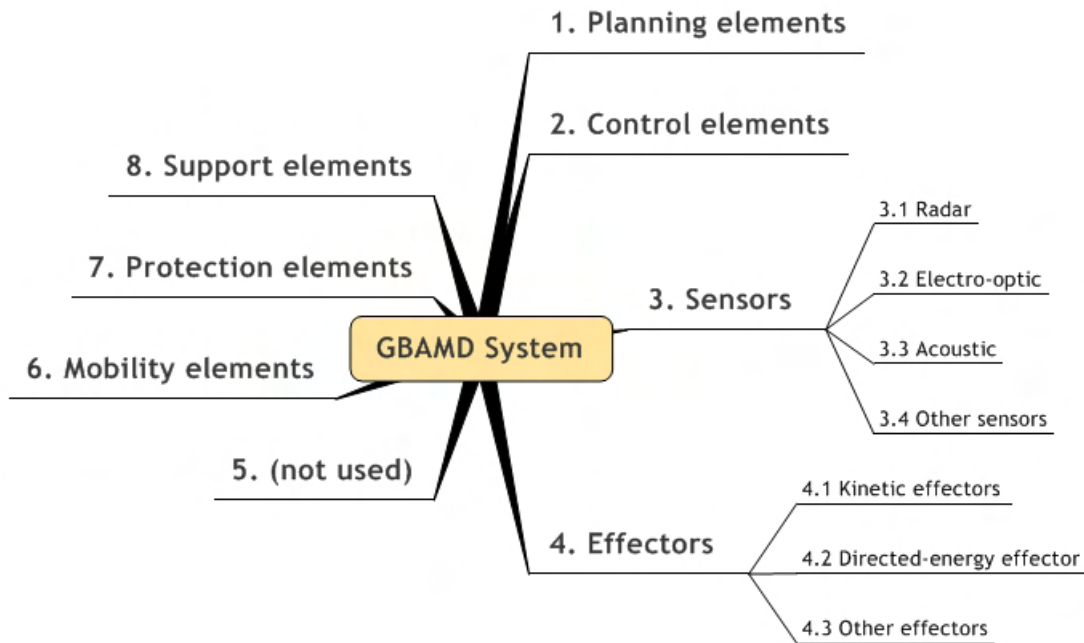


Figure 3. Indicative GBAMD physical description

Human Systems Integration characteristics

Respondents are requested to provide the Human Systems Integration (HSI) information about their system(s) requested in Table 2 for each scenario as necessary.

Table 2. Human Systems Integration characteristics

Characteristic	Value or description
<i>Manpower</i>	The number of people needed to operate, maintain and support the system(s).
<i>Personnel</i>	The types of people required – their aptitudes, experiences, physical characteristics required for optimal system performance.
<i>Training</i>	Knowledge, skills, abilities and aptitudes needed by personnel to operate and maintain systems under operational conditions.
<i>Human factors engineering</i>	Focuses on designing systems around users by a comprehensive integration of human characteristics into system definition, design, development and evaluation to optimise human-machine performance.
<i>System safety</i>	Inherent ability of the system to be operated and maintained without accidental injury to personnel.
<i>Health hazards</i>	Focuses on the human-environment interface – essentially related to the discipline of environmental health – conditions in the operation or use of a system that can cause harm to individuals or otherwise reduce job performance.

Characteristic	Value or description
<i>Soldier survivability</i>	Addresses characteristics of a system that can reduce probability of detection, prevent attack if detected, prevent damage if attacked, minimize medical injury if wounded, and reduce physical and mental fatigue.

Technology maturity assessment

For each system proposed above, study respondents are further requested to provide a short assessment of technology maturity as per Table 3 (over). Each assessment should be made in accordance with the Technology Readiness Level (TRL) scale defined in [Appendix D](#). Assessments should be justified as per the following examples:

'XYZ surveillance system is rated TRL 9 because it's been fielded with six armies Worldwide and successfully used in combat on three occasions.'

'ABC electro-optical identification device is classed as TRL 7 because we've conducted a range of field trials and have received approval from lead purchaser to move to production.'

For those systems and technologies claimed to be TRL 8 or TRL 9, please state which military forces those systems and technologies are in, or shortly to be in, service with.

Table 3. Technology maturity characteristics of interest

Characteristic	Description
<i>Assessed technology TRL</i>	Assessed 'standalone' TRL for the technology as defined in Table 15.
<i>Rationale for technology TRL</i>	Rationale for the assessed 'standalone' TRL.
<i>Assessed system TRL</i>	Assessed TRL for GBAMD capability incorporating the technology as defined in Table 15.
<i>Rationale for system TRL</i>	Rationale for the assessed system TRL.
<i>Implementation advantages</i>	Advantages of implementation into Australia's Land forces, such as simplicity, low cost, robustness or easy integration.
<i>Implementation disadvantages</i>	Disadvantages of implementation into Australia's Land forces, such as cost or platform integration difficulties.

Costing information

For each system proposed above, study respondents are requested to provide broad costings or *cost-driver* information as per Table 4.

Table 4. Costing information

#	Item	Capital cost / cost drivers	Annual operating cost / cost drivers
1	Mission system prime equipment as described above		
2	Operational consumables <ul style="list-style-type: none"> • Missiles • DE system specialist items Specify what numbers of equipment the costs are based on; for example, 'up to 100 missiles', '100 to 500 missiles', '500 to 1000 missiles'.		
3	Operating support: <ul style="list-style-type: none"> • Equipment, including software • Technical data • Specialist facilities • Services 		
4	Engineering support: <ul style="list-style-type: none"> • Equipment, including software • Technical data • Specialist facilities • Services 		
5	Maintenance support: <ul style="list-style-type: none"> • Equipment, including software • Technical data • Specialist facilities • Services 		
6	Supply support: <ul style="list-style-type: none"> • Equipment, including software • Technical data • Specialist facilities • Services 		
7	Training support: <ul style="list-style-type: none"> • Equipment, including software • Technical data • Specialist facilities, including simulators • Services 		

APPENDIX A – FUNCTIONAL DEFINITIONS

The high-level generic GBAMD functions identified in Figure 2 are defined in detail in Table 5 through Table 12.

Respondents are asked to describe their proposed system solution with respect to each of these functional definitions in each of the indicative operational scenarios; for example, describe how their proposed system solution would achieve the ‘search’ function (Serial 3.2 in Table 7) in Scenario 5, an amphibious littoral lodgement.

Table 5. Definition of ‘plan’ function

#	Function name	Description
1	Plan	Assess GBAMD mission. Organise, task and position assigned GBAMD resources. This function is performed pre-deployment but can also be repeated during deployed operations in response to changes in the campaign phase and associated objectives, destruction or degradation of integrated AMD environment (including GBAMD) elements, and changes in the nature and behaviour of threats.
1.1	Determine mission	Determine GBAMD mission and tasks within the context of the integrated AMD environment mission.
1.2	Allocate resources	Allocate resources to achieve GBAMD mission within the context of the integrated AMD environment mission
1.3	Determine C2 arrangements	Determine the C2 arrangements that will apply within the GBAMD system as a component of the integrated AMD environment.
1.4	Determine layout	Determine the physical location on the terrain of the GBAMD system.

Table 6. Definition of ‘control’ function

#	Function name	Description
2	Control	Control the employment GBAMD resources. This function is performed pre-deployment but is also repeated during deployed operations in response to changes in the Joint Task Force campaign phase and associated objectives, destruction or degradation of integrated AMD environment (including GBAMD) elements, and changes in the nature and behaviour of threats.
2.1	Set Rules of Engagement (ROE) and Weapon Control Orders (WCO)	This function concerns the setting of ROE, WCO for the GBAMD system and specifically concerns directives relating to where, when and at what GBAMD elements may respond and what type of action they may take in response (includes hard kill, soft kill and Electronic Attack responses).
2.2	Manage alert state	Provide the GBAMD system elements with appropriate alert state and readiness level directives.
2.3	Manage sensors	Manage the activation state and assignment of sensors – includes sensor EMCON and activation and de-activation of fire control sensors.

#	Function name	Description
2.4	Manage effectors	Manage the activation state and assignment of effectors.
2.5	Manage networks	Manage the operations of supporting communications networks.
2.6	Coordinate engagement	Determine which objects to engage and when.

Table 7. Definition of 'sense' function

#	Function name	Description
3	Sense	Produce a classified list of battlespace objects: <ol style="list-style-type: none"> 1. FIND all the objects in the battle space. 2. FIX - Locate all the objects which are detected and attach a preliminary identification from IFF or similar source. 3. Set up a TRACK for each of the objects of interest. Characterise as enemy, friendly, neutral or unknown. 4. Produce a priority list of TARGET objects in the battle space.
3.1	Search	Inspection of the assigned volume of air space for the presence of objects of interest.
3.2	Detect	Sense the presence of objects of interest in the assigned air space.
3.3	Acquire	Achieve repeated detection of one or more objects of interest
3.4	Identify	Distinguish and classify the threats, friendlies, neutrals and unknowns among acquired objects.
3.5	Track	Generate threat state data (e.g. position, bearing, bearing rate, range, range rate, elevation and velocity) that is used to control effector aiming and guidance.
3.6	Maintain situational awareness	Collate, fuse and generate a digital situational awareness picture from multiple sensors and generate a prioritised objects list.

Table 8. Definition of 'execute' function

#	Function name	Description
4	Execute	Launch or activate the effector to intercept and inflict the designed effect upon the threat. The effector may comprise a kinetic effector, directed energy, electronic attack or electronic protection.
4.1	Employ kinetic effector	Activate and launch a kinetic effector and guide it to impact the threat or to function on or in the vicinity of the threat. The kinetic effector may be either an explosive or non-explosive unitary or a carrier device. The kinetic effector function may constitute either a detonation or other non-explosive function, such as sub-projectile dispersion

#	Function name	Description
4.2	Employ directed energy effector	Activate a directed energy effector and guide the directed energy beam to intercept and remain resident on the threat for the duration required to cause the desired damage.

Table 9. Definition of 'assess' function

#	Function name	Description
5	Assess	Assess whether the engaged threats have been sufficiently damaged and the state of the GBAMD and protected assets or forces. Also assess any collateral damage and the efficacy of the Tactics, Techniques and Procedures (TTP) employed. The immediate purpose of this function is to determine whether the threats need to be re-engaged. An additional purpose is to assess if the allocation and employment of the GBAMD resources needs to be modified and how.
5.1	Assess threat state (Conduct battle damage assessment)	Assess whether the engaged threats have been sufficiently damaged for the purpose of deciding whether to re-engage.
5.2	Assess own state	Assess the state of the GBAMD post-engagement to see if any GBAMD capability was lost or degraded and how that affects the future availability of GBAMD resources. This function allows the need for battle damage repair, maintenance or resupply to be determined.
5.3	Assess supported force state	Assess the state of the supported force (or protected assets) to determine the adequacy of the protection level provided. This function will inform any resource re- allocation decision made either within the GBAMD force element or within the broader integration AMD environment.
5.4	Assess TTP effectiveness	Assess the effectiveness of the Tactics, Techniques and Procedures (TTP) employed to determine the effectiveness of GBAMD resources employment, re-assess the disposition and assignment of forces and the weapon assignment decision process employed.
5.5	Assess collateral damage	Assess whether the employment of GBAMD resources has caused any collateral damage with a view to confirming ROE compliance, the suitability of effector assignment decisions and the need for a modification of TTP.

Table 10. Definition of 'manoeuvre' function

#	Function name	Description
6	Manoeuvre	Manoeuvre the GBAMD system.
6.1	Manoeuvre into and out of the battlespace	Deploy the system and associated personnel into and out of theatre. This deployment could be by all or any of the following means: sea, air, rail and road.
6.2	Manoeuvre within the battlespace	Manoeuvre the system and associated personnel within the battlespace.

Table 11. Definition of 'protect' function

#	Function name	Description
7	Protect	Provide protection for the GBAMD mission system and associated personnel against various threats.
7.1	Protect against EM threats	Activate means such as jamming and deception to prevent or reduce threat use of EM spectrum to defeat GBAMD system.
7.2	Protect against airborne kinetic threats	Protect the system and associated personnel from airborne kinetic threats such as Suppression of Enemy Air Defence (SEAD) missiles.
7.3	Protect against ground kinetic threats	Protect the system and associated personnel from ground-based kinetic threats such as small-arms fire, mines & IEDs.

Table 12. Definition of 'support' function

#	Function name	Description
8	Support	Provide support to the GBAMD mission system.
8.1	Provide operating support	Provide operating instructions and other support necessary to effectively operate the system.
8.2	Provide engineering support	Provide ongoing design and design management services over the life of the capability to allow for system changes in response to changing needs.
8.3	Provide maintenance support	Maintain technical equipment over the life of the capability to ensure the technical system operates as intended.
8.4	Provide supply support	Provide spare parts, piece parts, consumables and packaging materials to allow the technical system to operate as intended.
8.5	Provide training support	Provide training, including simulation, for operator and support staff.

APPENDIX B – INDICATIVE OPERATIONAL SCENARIOS

Introduction

The intent of the scenarios contained in this appendix is to provide a basis for eliciting information for use in developing and evaluating broad costed options for Project LAND 19-7. The scenarios are:

- **Scenarios 1 and 2** represent GBAMD protection of a mobile combat team (mechanised company group) operating in open and urban terrain respectively.
- **Scenario 3** represents GBAMD protection of a fixed Forward Operating Base (FOB) situated in complex urban terrain and occupied by a battle group (battalion group) and, concurrently, protection of a mobile combat team (company group) depicted in Scenarios 1 and 2 operating from the FOB.
- **Scenario 4** represents a GBAMD capability integrated as part of a larger integrated AMD system assigned to protect an airfield required for the conduct of operations.
- **Scenario 5** represents GBAMD as part of a larger integrated AMD system assigned to protect an amphibious littoral lodgement of a brigade-sized task force.

Because the LAND 19-7 capability would usually be deployed as part of a larger (Joint or Combined) integrated AMD environment, but may have to operate independently in some instances, the following situations are defined within the context of each scenario:

- A. When the GBAMD system is operating as part of a larger (Joint or Combined) integrated AMD environment involving other capabilities such as fighter aircraft, AMD ships and Airborne Early Warning and Control (AEW&C) aircraft and where external tracks are provided to the GBAMD system.
- B. When the GBAMD system is providing stand-alone AMD with only intermittent support from other integrated AMD environment capabilities.

Nominal threat definitions

A set of nominal threat parameters have been provided in Table 13 to establish a common reference point when describing how GBAMD would be conducted in each scenario.

Table 13. Nominal threat parameters

Target class	Examples	Altitude AGL (ft)	Air speed (Mach)	RCS (m ²)	Radiant intensity (W/Sr)
Rotary-wing aircraft	Attack helicopter	50	M 0.075	10	50
Fixed-wing Aircraft	Fighter	30,000	M 0.9	1	10
Medium UAV	FW brigade asset	16,000	M 0.2	0.1	10
Mini UAV	RW battalion asset	2,000	M 0.075	0.1	5
Cruise missile	Cruise missile	200	M 0.85	0.01	25
Rocket	107 mm rocket	2,000 (apogee)	Variable	0.01	10
Artillery	155 mm projectile	30,000 (apogee)	Variable	0.001	1
Mortar	81 mm mortar	2,000 (apogee)	Variable	0.001	0.1

As with the nominal threat parameters, indicative threat profiles have been developed to establish a common reference point. These threat profiles are described in the scenarios in which they are featured.

Scenario 1 – Protect mobile combat team in open terrain

The actors in Scenario 1 are a mechanised combat team (company group) supported by a GBAMD capability and a threat force utilising a rotary-wing attack capability and mini UAVs. Figure 4 depicts the frontage, depth and rate of movement for the combat team, and the profiles for the rotary wing and mini UAV threats.

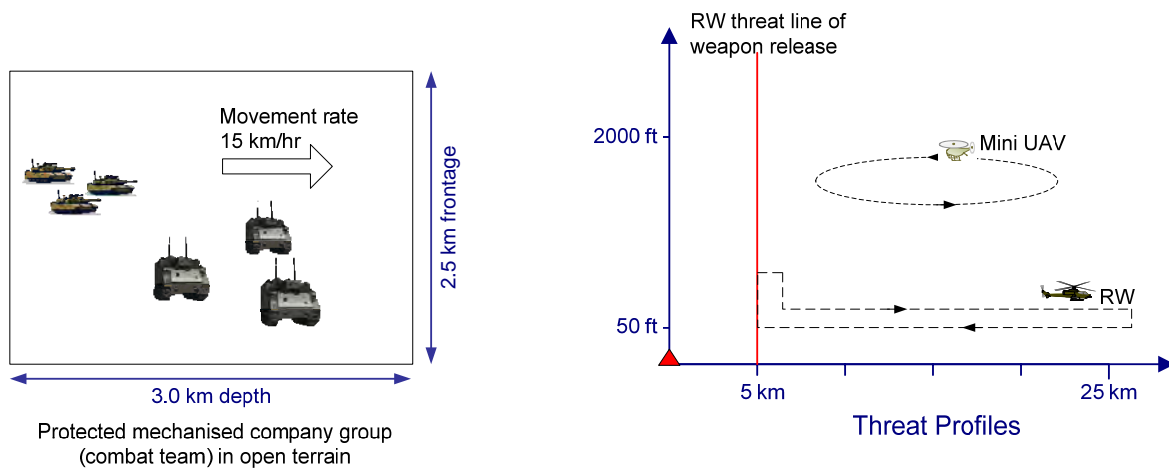


Figure 4. Scenario 1 – Mobile combat team in open terrain

Scenario 2 – Protect mobile combat team in urban terrain

The actors in Scenario 2 are a mechanised combat team (company group) supported by a GBAMD capability and a threat force utilising mortars and rocket artillery. Figure 5 (over) depicts the frontage, depth and rate of movement for the combat team, and the threat profiles for mortar and rocket artillery threats.

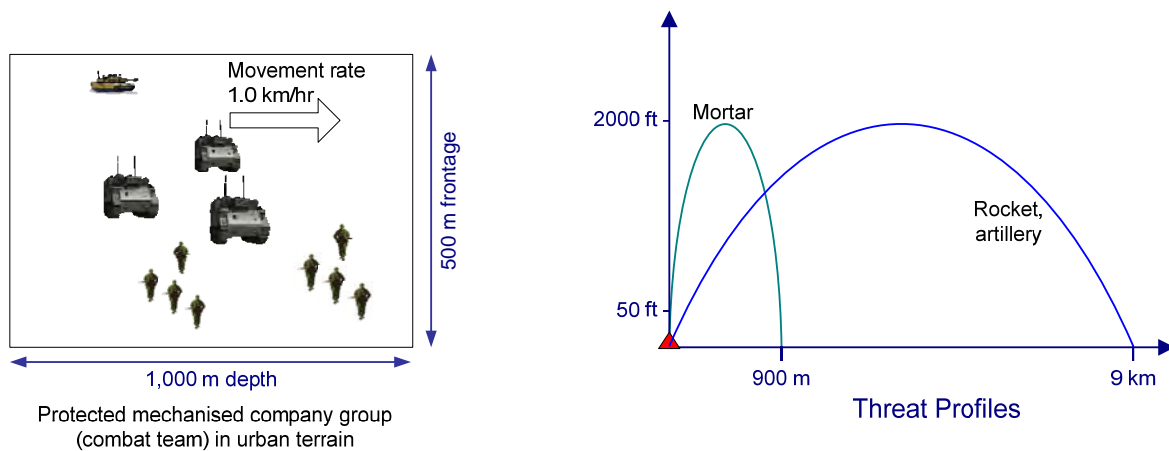


Figure 5. Scenario 2 – Mobile combat team in urban terrain

Scenario 3 – Protect FOB and mobile combat team

The actors in Scenario 3 are a battle group (battalion group) occupying a Forward Operating Base (FOB) in complex urban terrain and a mobile combat team (company group) that is supported by a GBAMD capability and fighter aircraft. The FOB and the mobile company group are vulnerable to threats posed by fixed-wing fighter ground attack aircraft, attack helicopters, cruise missiles, medium UAVs and mortars.

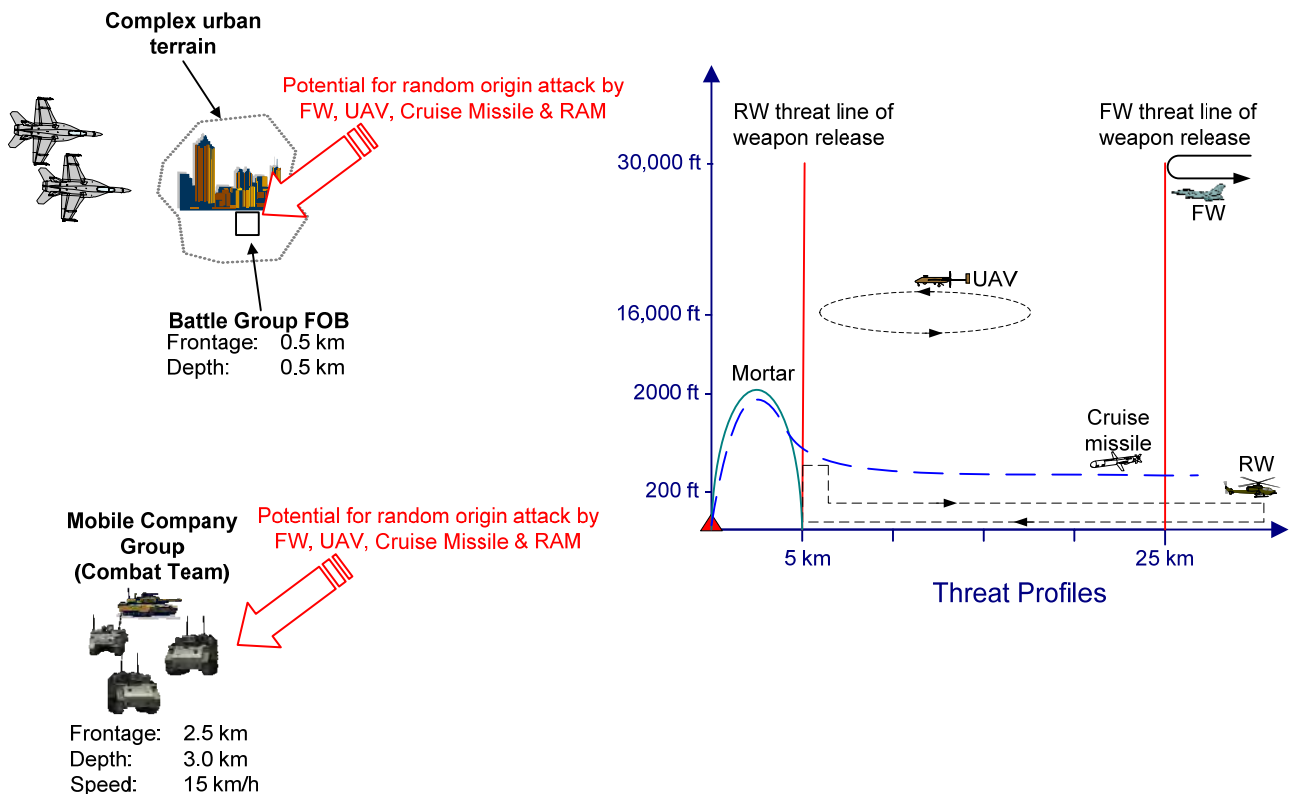


Figure 6. Scenario 3 – Fixed forward operating base & mobile force

Figure 6 depicts the deployment of the battle group and combat team and the threat profiles for fixed-wing and rotary-wing aircraft, cruise missiles and UAV threats.

The GBAMD mission is to protect the battle group FOB located in-land and to also concurrently protect the mobile combat team as it travels up to 100 km further in-land from the FOB. The FOB covers an area of 0.5 km by 0.5 km. The mobile land force element covers an area of up to 2.5 km by 3 km while it is on the move, and it is travelling in a constant direction at an average speed of 15 km/h.

The GBAMD system operates as a component of an integrated AMD environment. The other component capabilities of this environment are fighter aircraft and a remote Command and Control (C2) centre. The fighter aircraft are tasked to protect the FOB but are not assigned in sufficient numbers to provide cover on a continuous basis. The GBAMD system therefore needs to have the ability to defeat all nominated threat types.

Scenario 4 – Protect airfield on sovereign territory

The actors in Scenario 4 are the GBAMD system and the integrated AMD C2 centre with which the GBAMD system has network connectivity. Figure 7 depicts the airfield and threat profiles for fixed-wing and rotary-wing aircraft, cruise missiles, UAVs and Rocket, Artillery and Mortar (RAM) threats. There are no specified threat axes; threats may arrive from any direction.

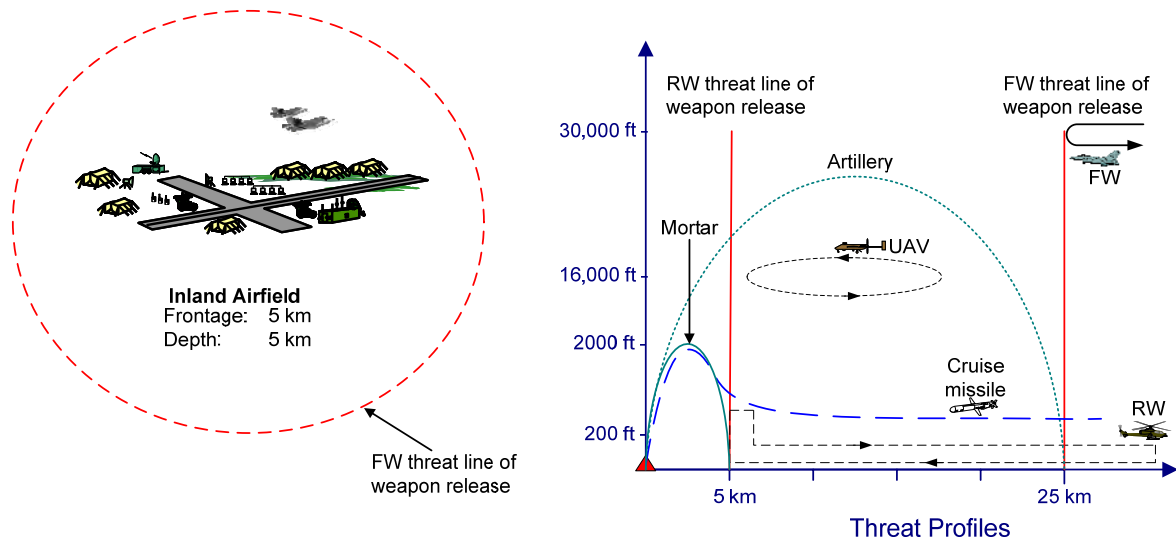


Figure 7. Scenario 4 – Inland airfield

The GBAMD mission is to protect an inland airfield that has a 5 km frontage and a depth of 5 km. Although operating within an integrated AMD environment, there are no other integrated AMD elements dedicated to defence of the airfield and therefore the GBAMD system needs to have the ability to defeat all nominated threat types.

Scenario 5 – Protect amphibious lodgement

The actors in Scenario 5 are:

- A brigade-sized Joint Task Force (JTF) undertaking an amphibious lodgement;
- An integrated AMD environment comprising:
 - A C2 operations centre,
 - The GBAMD capability,
 - An Air Warfare Destroyer (AWD),
 - AEW&C aircraft, and
 - Fighter aircraft; and
- A light infantry combat team (company group) that is undertaking an air-mobile operation concurrently with the amphibious lodgement.

The threat forces in the scenario include fixed wing aircraft, rotary wing aircraft, cruise missiles, UAVs, and Rocket, Artillery and Mortar (RAM) weapons.

Figure 8 depicts the deployment of the brigade group and the air-mobile company groups. It also shows the threat profiles for fixed-wing aircraft, rotary-wing aircraft, cruise missiles, UAVs, and RAM threats.

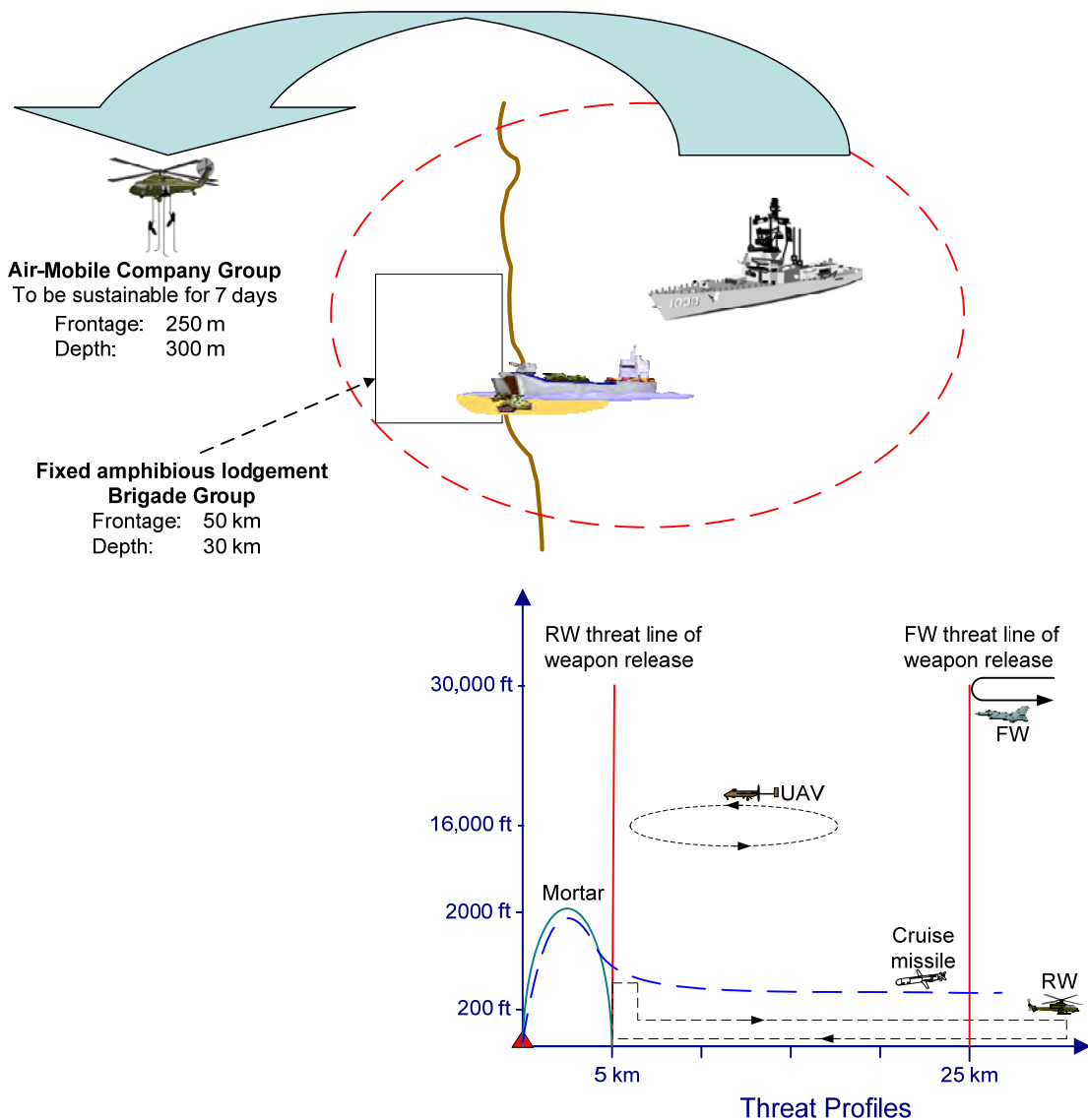


Figure 8. Scenario 5 – Amphibious lodgement with air-mobile company

The GBAMD mission is to protect a brigade-sized amphibious lodgement covering an area of 50 km by 30 km concurrently with an air mobile light infantry company group. The Company Group will be self-sustaining for up to seven days.

The GBAMD system operates as component of an integrated AMD environment. The other component capabilities of this environment are an air warfare ship and fighter aircraft. The environment C2 capability (Operations Centre) is located within the air warfare ship or within an AEW&C aircraft on station nearby. The fighter aircraft are not on station to protect the amphibious lodgement on a continuous basis but may be assigned to other tasks. The GBAMD system therefore needs to have the ability to defeat all nominated threat types.

There are no specified threat axes; threats may arrive from any direction with the exception that RAM threats can only arrive from inland.

APPENDIX C – TECHNICAL CHARACTERISTICS

Table 14. System technical characteristics

#	Characteristic
1	Sensor systems
1.1	Radar systems description
1.1.1	Is the sensor a phased array or mechanical scanned antenna?
1.1.2	How does the system measure threat elevation and / or threat height?
1.1.3	What is the azimuth and elevation coverage?
1.1.4	What are the modes of operation?
1.1.5	Solid-state or valve-based transmitter(s)?
1.1.6	Describe the System architecture?
1.1.7	What are the physical dimensions?
1.1.8	Can any additional sensors are/can be included (e.g.,IRST)?
1.1.9	Development status of the system?
1.1.10	What effector (weapon) systems does it support?
1.2	Radar systems performance parameters
1.2.1	Average power?
1.2.2	Antenna gain (Transmit and Receive)
1.2.3	Operating frequency band (frequency allocations)
1.2.4	Equivalent noise bandwidth of system?
1.2.5	Time to complete on surveillance frame?
1.2.6	Nominal system losses (RF and processing) we should use to accurately represent your radar system in Operational Analysis Mission level models?
1.2.7	Single measurement accuracy: range, azimuth, elevation, range rate (at what Signal to Noise Ratio (SNR))?
1.2.8	Single measurement resolution: range, azimuth, elevation, range rate (at what SNR)
1.2.9	Type of processing employed (incoherent, MTI, Doppler) and number of coherent processing intervals in a dwell, typical track initiation criteria?
1.2.10	For MTI and Doppler systems how are range rate "blind speeds" and ambiguity addressed?
1.2.11	Does the system include IFF (mode 5), if so at what level?
1.2.12	Free space probability of detection for 0.001, 0.01, 0.1, 1 m ² threats at 10 ⁻⁶ Probability of False Alarm as a function of range for each (main) mode of operation (state assumed fluctuation model).
1.2.13	How is electronic protection of the radar versus noise, incoherent and coherent electronic attack systems achieved?
1.2.14	Does the system incorporate non-cooperative threat recognition techniques?
1.3	Electro-optic sensor systems performance parameters (as applicable)
1.3.1	Spatial coverage in elevation?

#	Characteristic
1.3.2	Spatial coverage in azimuth?
1.3.3	Angular velocity / slew rate?
1.3.4	Imager dimensions (pixels)?
1.3.5	Field of View / Field of Regard?
1.3.6	Operating wavelength bands?
1.3.7	System sensitivity to thermal contrast (NETD or similar)?
1.3.8	Detection range for 0.1, 1.0, 10, 100 W/Sr threats in clear sky?
1.3.9	Optical detection range for fighter aircraft threat in clear sky at contrasts of 0.1 and 1.0 (Visible band)?
1.3.10	Operating wavelength and eye safe range for any lasers used externally?
1.3.11	Detection range for any laser rangefinders with threats of relevant reflectivity and size consistent with the method of operation?
2	Effector systems (e.g. guns, directed energy & missiles)
2.1	Kinetic effector systems
2.1.1	<i>Describe the operation of the kinetic effector systems against the following threats:</i>
2.1.1.1	Against a modern fighter aircraft threat at 200 ft AGL and M0.9:
2.1.1.1.1	The Kinematic performance (Range, Cross-Range and Altitude – Ideally this would be in the form of horizontal and vertical coverage envelopes)?
2.1.1.1.2	The single shot probability of kill applicable to the stated kinematic performance?
2.1.1.2	Against a mini UAV threat at 2,000 ft AGL and true air speed M0.075 (25m/s):
2.1.1.2.1	The Kinematic performance (Range, Cross-Range and Altitude – Ideally this would be in the form of horizontal and vertical coverage envelopes)?
2.1.1.2.2	The single shot probability of kill applicable to the stated kinematic performance?
2.1.1.3	Against a cruise missile threat at 200 ft AGL and M0.85:
2.1.1.3.1	The Kinematic performance (Range, Cross-Range and Altitude – Ideally this would be in the form of horizontal and vertical coverage envelopes)?
2.1.1.3.2	The single shot probability of kill applicable to the stated kinematic performance?
2.1.1.4	Against a mortar threat (example is 81 mm), the probability of kill at the ranges of:
2.1.1.4.1	500m?
2.1.1.4.2	750m?
2.1.1.4.3	1,000m?
2.1.1.4.4	2,500m?

#	Characteristic
2.1.2	<i>Describe the kinetic effector systems in terms of:</i>
2.1.2.1	Slew Rates?
2.1.2.2	Rates of fire or firing timings?
2.1.2.3	Number of effectors (missiles or rounds of ammunition)?
2.1.2.4	Describe the reload procedure, including typical reload times, and the requirement for any support equipment?
2.2	Directed Energy (DE) effector systems
2.2.1	The directed energy technology employed?
2.2.2	The wave length, average power and peak power of the beam at the aperture?
2.2.3	The mechanism (physics) for defeat of each of the listed threats?
2.2.4	Details of the beam pointer tracker including time to lock threat, method of threat lock and track and optical details including limitations?
2.2.5	Details of adaptive optics technology employed?
2.2.6	Details of the effect of different weather conditions on the beam energy profile at the same list of ranges?
2.2.7	Any limitation of opening the optics in any weather conditions
2.2.8	The firing profile of the DE effector system, how long it can be used before it needs to be rested and how long before it can be reused?
2.2.9	What are the consumables used with the proposed DE technology
2.2.10	What is the rate of use of consumables or power when firing
2.2.11	What is the time require to recharge system or change consumable supplies
2.2.12	What is the percentage of time that a deployed system (one DE effector unit) would be available for operation in a typical ongoing deployment situation
2.2.13	What would be the typical dwell time for threat defeat (for the given set of threats) in different typical weather conditions?
2.2.14	Summarise the DE effector systems' ability to defeat multiple concurrent threats and the relevant limiting factors
3	Command and Control systems
3.1	Architecture and integration
3.1.1	Describe the GBAMD system architecture and implementation.
3.1.2	Describe the connectivity means e.g. tactical data links, field wire etc and the associated ranges.
3.1.3	Describe the flexibility of the architecture and the capacity to extend and adapt.
3.1.4	External network connectivity and compatibility with Link 16?
3.1.5	Describe the way in which subordinate and master C2 networks are implemented?
3.1.6	Data and message formats supported by the system?
3.2	Situational awareness
3.2.1	Ability to accept, use external sensor information?

#	Characteristic
3.2.2	Ability to fuse internal and external sensor data?
3.2.3	Ability to accept and use external track data?
3.2.4	Ability to merge locally-generated Air Picture (LAP) with the Recognised Air Picture (RAP) provided by the integrated AMD environment?
3.2.5	Ability to contribute to the RAP maintained by the integrated AMD environment?
3.2.6	Ability to employ the GBAMD system C2 element in an airspace control role?
3.3	Track management
3.3.1	Number of tracks supported by the system?
3.3.2	System Timings and indicative engagement timelines?
3.3.3	Track establishment delays?
3.3.4	Lost track re-establishment delays?
3.3.5	Engagement delay times?
3.3.6	Kill assessment delays?

APPENDIX D – TECHNOLOGY READINESS LEVELS

Table 15. Technology Readiness Levels (TRL)¹

TRL	Definition
1	Basic principles of technology observed and reported. Lowest level of technology readiness. Scientific research begins to be evaluated for military applications. Examples might include paper studies of the basic properties of the technology.
2	Technology concept and or application formulated. Invention begins. Once basic principles are observed, practical applications can be postulated. The application is speculative and there is no proof or detailed analysis to support the assumptions. Examples are still limited to paper studies.
3	Analytical and laboratory studies to validate analytical predictions. Analytical studies and laboratory studies to physically validate analytical predictions of separate elements of the technology are undertaken. Examples include components that are not yet integrated or representative.
4	Component and or basic sub-system technology valid in laboratory environment. Basic technology components are integrated. This is relatively 'low fidelity' compared to the eventual system. Examples include integration of 'ad hoc' hardware in a laboratory.
5	Component and or basic sub-system technology valid in relevant environment. Fidelity of sub-system representation increases significantly. The basic technological components are integrated with realistic supporting elements so that the technology can be tested in a simulated environment. Examples include 'high fidelity' laboratory integration of components.
6	System sub-system technology model or prototype demonstration in relevant environment. Representative model or prototype system, which is well beyond the representation tested for TRL 5, is tested in a relevant environment. Represents a major step up in a technology's demonstrated readiness. Examples include testing a prototype in a high fidelity laboratory environment or in simulated operational environment.
7	System technology prototype demonstration in an operational environment. Prototype near or at planned operational system. Represents a major step up from TRL 6, requiring the demonstration of an actual system prototype in an operational environment, such as in an aircraft or vehicle. Information to allow supportability assessments is obtained. Examples include testing the prototype in a test bed aircraft.
8	System technology qualified through test and demonstration. Technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of Demonstration. Examples include test and evaluation of the system in its intended weapon system to determine if it meets design specifications, including those relating to supportability.
9	System technology 'qualified' through successful mission operations. Application of the technology in its final form and under mission conditions, such as those encountered in operational test and evaluation and reliability trials. Examples include using the system under operational mission conditions.

¹ *Defence Procurement Review 2003*, page 19.

APPENDIX E – GLOSSARY

Table 16. Acronyms and abbreviations

Term	Definition
AEW&C	Airborne Early warning & Control
AMD	Air and Missile Defence
C2	Command & Control
CM	Cruise Missile
COP	Common Operating Picture
DE	Directed Energy
FOB	Forward Operating Base
FW	Fixed Wing
GBAMD	Ground-Based Air and Missile Defence
HSI	Human Systems Integration
ISTAR	Intelligence, Surveillance, Target Acquisition & Reconnaissance
JTF	Joint Task Force
LAP	Local Air Picture
MTBF	Mean Time Between Failures
MTRR	Mean Time To Repair
RAM	Rocket, Artillery and Mortar
RAP	Recognised Air Picture
RW	Rotary Wing
SEAD	Suppression of Enemy Air Defence
SHORAD	Short-Range Air Defence
TRL	Technology Readiness Level
TTP	Tactics, Techniques and Procedures
UAV	Uninhabited Air Vehicle
UCAV	Uninhabited Combat Air Vehicles

ENCLOSURE – PROFORMA DEED OF CONFIDENTIALITY

COMMERCIAL-IN-CONFIDENCE



Australian Government
Department of Defence
Defence Science and
Technology Organisation

THE COMMONWEALTH OF AUSTRALIA represented by

**THE DEFENCE SCIENCE AND TECHNOLOGY ORGANISATION
OF THE DEPARTMENT OF DEFENCE**
(ABN 68 706 814 312)

and

^INSERT ORGANISATION NAME IN BLOCK LETTERS^
^INSERT ABN DETAILS^

MUTUAL DEED OF CONFIDENTIALITY

DSTO Contact:	Mr Jim Mitkas Business and Commercialisation Office Defence Science & Technology Organisation PO Box 1500 Edinburgh SA 5111 AUSTRALIA
Reference:	Registry file/vault number here
Telephone:	+61 8 8259 78571
Facsimile:	+61 8 8259 6541
E-mail:	jim.mitkas@dsto.defence.gov.au
DSTO Unit:	Weapons Systems Division

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MUTUAL DEED OF CONFIDENTIALITY

DATE

This Deed is dated ^ **day(numeric) month(name) year(numeric) in full** ^

PARTIES

This Deed is made between and binds the following parties:

1. The **COMMONWEALTH OF AUSTRALIA** represented by the Defence Science and Technology Organisation (DSTO) of the Department of Defence (ABN 68 706 814 312), ("the Commonwealth") and
2. ^ **ORGANISATION NAME IN FULL (ABN.....)** ^ of ^ **address in full** ^, ("the Promisor")

BACKGROUND

This Deed is made in the following context:

- A The Commonwealth and the Promisor ("the Parties") possess valuable confidential and proprietary information relating to various technologies and other subject matter, as specified in Schedule 1.
- B The Commonwealth and the Promisor wish to gain access to each other's confidential information for the purposes of evaluating the possibility of a future ^ **insert type of arrangement as applicable, eg. commercial arrangement, collaborative arrangement or technology assessment** ^ between them ("the Purpose of Disclosure").
- C The Commonwealth and the Promisor have agreed to disclose their confidential information to one another, and to use one another's confidential information, in accordance with the terms of this Deed.

OPERATIVE PROVISIONS

In consideration of the mutual promises contained in this document, the parties to this Deed agree as follows:

1 INTERPRETATION

1.1 Definitions

a. In this Deed, unless the contrary intention appears:

Advisers	means a Party's agents, contractors or advisers engaged in, or in relation to, the performance or management of the Evaluation;
Confidential Information	in relation to a Party, means: a) the information described in Schedule 1; and b) the information that is agreed between the Parties in writing after the date of this Deed as constituting confidential information for the purposes of this Deed;
Disclosing Party	means the party disclosing Confidential Information,
Evaluation	means evaluation by either Party of the possibility of a future [^] insert type of arrangement as applicable, eg. commercial arrangement, collaborative arrangement or technology assessment [^] between the Parties;
Intellectual Property	includes all copyright (including rights in relation to phonograms and broadcasts), all rights in relation to inventions, plant varieties, trademarks (including service marks), designs and circuit layouts, and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields, but does not include moral rights, the rights of performers or rights in relation to Confidential Information;
Personal Information	means information or an opinion (including information or an opinion forming part of a database), whether true or not and whether recorded in a material form or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion;
Purpose of Disclosure	has the meaning given in Background Recital B;

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Receiving Party	means the party receiving Confidential Information;
Security Classified Information	means information classified as Security Classified Information by the Commonwealth;
Third Party Interest	means any legal or equitable right, interest, power or remedy in favour of any person other than the Commonwealth or the Promisor in connection with the Deed, including, without limitation, any right of possession, receivership, control or power of sale, and any mortgage, charge, security or other interest.

2 USE AND DISCLOSURE

2.1 The Receiving Party:

- a. shall not disclose any Confidential Information of the other Party to a third party, without the prior written consent of the other Party;
- b. shall not use or copy the Confidential Information or reduce it into tangible, visible or recorded form, other than for the Purpose of Disclosure or as otherwise authorised in writing by the Disclosing Party;
- c. acknowledges and agrees that use or disclosure of any Confidential Information provided to the Receiving Party other than in accordance with this Deed would be detrimental to the Disclosing Party in the performance of its functions and would cause harm to any third parties with an interest in the Confidential Information;
- d. shall not remove any proprietary or confidential designations on the Confidential Information

2.2 In giving written consent to use or disclose its Confidential Information, the Disclosing Party may impose such conditions as it thinks fit, and the Receiving Party agrees to comply with these conditions.

3 WRITTEN UNDERTAKINGS

3.1 The Receiving Party shall not disclose any Confidential Information to:

- a. its Advisers; or
- b. any person with a Third Party Interest;
- c. without the Disclosing Party's prior written consent.

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- d. If the Disclosing Party has given its consent, the Receiving Party must, before disclosing the Confidential Information, first procure from the Adviser or person with a Third Party Interest a written undertaking in the form of a deed in favour of the Disclosing Party, relating to the use and non-disclosure of the Disclosing Party's Confidential Information, in substantially the same terms as this Deed.

4 EXCEPTIONS TO OBLIGATIONS

- 4.1 The obligations on the Parties under this Deed will not be taken to have been breached to the extent that Confidential Information:
 - a. is disclosed by a Party to its employees solely in order to undertake the Evaluation;
 - b. is disclosed to a Party's internal management personnel, solely to enable effective management or auditing of Evaluation-related activities;
 - c. is disclosed by the Commonwealth to the responsible Minister;
 - d. is disclosed by the Commonwealth in response to a request by a House or a Committee of the Parliament of the Commonwealth of Australia;
 - e. is shared by the Commonwealth within the Department of Defence;
 - f. is authorised or required by law to be disclosed;
 - g. is information in a material form in respect of which an interest, whether by licence or otherwise, in the Intellectual Property rights in relation to that material form, has vested in, or is assigned to, the Disclosing Party under this Deed or otherwise, and that disclosure is permitted by that licence or otherwise; or
 - h. is in the public domain otherwise than due to a breach of this Deed.
- 4.2 Where a Party discloses Confidential Information to another person:
 - a. pursuant to clauses 4.1 (a), (b) or (e), the disclosing Party must:
 - A. notify the receiving person that the information is Confidential Information; and
 - B. not provide the information unless the receiving person agrees to keep the information confidential; or
 - b. pursuant to clauses 4.1 (c) and (d), the disclosing Party must notify the receiving party that the information is Confidential Information.

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5 ADDITIONAL CONFIDENTIAL INFORMATION

- 5.1 The Parties may agree in writing after the date of this Deed that certain information is to constitute Confidential Information for the purposes of this Deed, and, where they do so, this documentation is incorporated into, and becomes part of this Deed on the date by which both Parties have signed that documentation.

6 SECURITY CLASSIFIED INFORMATION

- 6.1 Where Confidential Information has been classified by the Commonwealth as Security Classified Information, the Recipient shall (in addition to complying with this Deed) treat that Confidential Information in accordance with any guidelines or requirements relating to Security Classified Information issued to it from time to time by the Commonwealth.

7 RELATIONSHIP BETWEEN THE PARTIES

- 7.1 This Deed does not create any partnership, agency or further relationship between the Parties. Nothing in this Deed shall grant to the Receiving Party, expressly or impliedly, any ownership, right, or any licence to use (other than for the Purpose of Disclosure) the Confidential Information.
- 7.2 Neither Party has an obligation under this Deed to:
- a. procure any product or service from the other Party;
 - b. provide any product or service to the other Party; or
 - c. enter any other commercial arrangement with the other Party.

8 LIABILITY

- 8.1 The Receiving Party agrees that the Disclosing Party assumes no responsibility or liability whatsoever for the Receiving Party's use of Confidential Information, and that the Disclosing Party gives no warranty that the Confidential Information will meet the Receiving Party's requirements or that, when combined with other information or when used in a particular manner by the Receiving Party, it will be sufficient or suitable for the Purpose of Disclosure.

9 DELIVERY, RETURN AND DESTRUCTION

- 9.1 The Receiving Party agrees to deliver to the Disclosing Party all documents or other material which contain or relate to any Confidential Information on the earlier of:

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- a. demand by the Disclosing Party; or
 - b. the time the documents and other material are no longer required for the Purpose of Disclosure.
- 9.2 This obligation includes delivery of any Confidential Information, or documents or other material which contain or relate to the Confidential Information, that the Receiving Party has provided to a third party under clause 3.1 of this Deed.
- 9.3 Where directed by the Disclosing Party in writing, the Receiving Party agrees to destroy any document or material in its possession, power or control which contains or relates to any Confidential Information.
- 9.4 Return or destruction of the documents or materials referred to in clauses 9.1 and 9.3 does not release the Receiving Party from its obligations under this Deed.

10 GENERAL

- 10.1 This Deed constitutes the entire agreement between the parties and supersedes all communications, negotiations, representations, arrangements and agreements, whether oral or written, between the parties with respect to the disclosure and use of Confidential Information.
- 10.2 Each party warrants that it has not relied on or been influenced by any conduct or representations of the other party which have not been expressly set out herein.
- 10.3 This Deed shall be governed by, and construed in accordance with, the laws in force in the State of South Australia, Australia.
- 10.4 None of the provisions of this Deed are to be waived, varied, discharged or released unless agreed in writing by the parties.
- 10.5 The confidentiality obligations arising out of this Deed are in addition to any obligations of confidence at common law or equity.
- 10.6 This Deed expires five (5) years from the date that appears first above. Notwithstanding, the provisions of clauses 2, 4, 6, 7 and 8 shall survive the expiry of this Deed.

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EXECUTED AS A DEED:

SIGNED SEALED AND DELIVERED

SIGNED SEALED AND DELIVERED

for and on behalf of

for and on behalf of

**THE COMMONWEALTH OF
AUSTRALIA (ABN 68 706 814 312)**

**^INSERT NAME OF PROMISOR
(ABN)^**

by:

by:

.....
(signature)

.....
(signature)

.....
Dr Bruce Ward
Chief, Weapons Systems Division

.....
(name)
(position)

in the presence of :

in the presence of :

.....
(signature of witness)

.....
(signature of witness)

.....
(name of witness)

.....
(name of witness)

COMMERCIAL-IN-CONFIDENCE

SCHEDULE 1 – CONFIDENTIAL INFORMATION OF THE PARTIES

A. COMMONWEALTH CONFIDENTIAL INFORMATION

Material provided under this Deed

Item
[^] insert brief description of nature of information, without revealing content, eg. Algorithms and software including [^]
Any information which comes to the Promisor's knowledge as a result of any visit by the Promisor to DSTO's premises.

B. PROMISOR'S CONFIDENTIAL INFORMATION

Material provided under this Deed

Item
[^] insert brief description of nature of information, without revealing content, eg. Algorithms and software including [^]