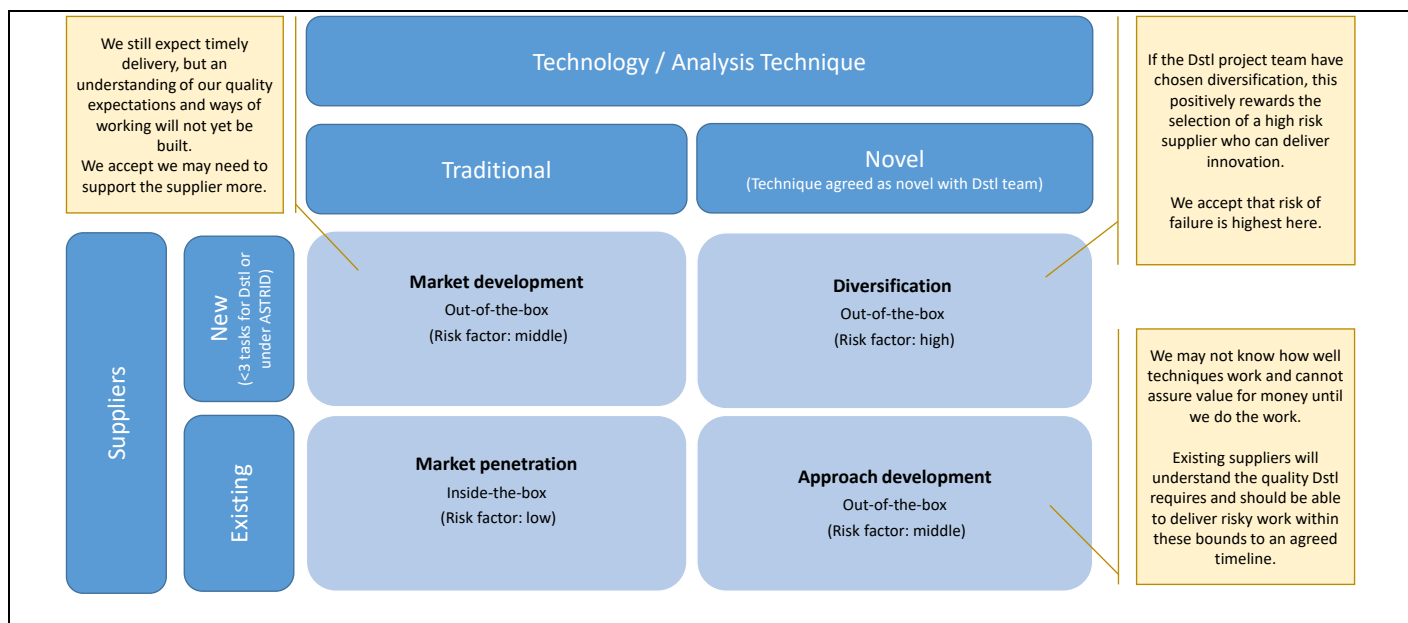


Statement of Requirement (SOR)

Contact & Project Information:

Project Manager	Name	Redacted under FOIA Section 40 – Personal information		
	Email	Redacted under FOIA Section 40 – Personal information		
	Telephone number	Redacted under FOIA Section 40 – Personal information		
Technical Partner	Name	Redacted under FOIA Section 40 – Personal information		
	Email	Redacted under FOIA Section 40 – Personal information		
	Telephone number	Redacted under FOIA Section 40 – Personal information		
iCas project number	Z66428			
Owning division	XDIV	Delivering division	XDIV	
Programme	S&T Enablers Portfolio			
Indicative task budget(s) £k	Core / initial work:	£617k	Options / follow on work:	£N/A
Innovation risk appetite:	Middle - Market development			
Narrative (if applicable):	Dstl would like to build in added resilience into the supplier base for providing software support to its Close Action Environment (CAEn) model, a Business Critical capability, by having at least a new supplier involved as either the Task Lead or Support Lead for the work			
Using the Ansoff matrix below, please indicate your risk appetite with regards to accepting innovative bids/solutions. The type of analysis/experimentation technique is included within 'Technology/Product'.				



Use of Outputs:

This section is used to inform risks, liabilities, mitigations and exploitation. Questions 1-10 below should be a Yes/No/NA response. Please indicate if the questions do not make sense in the context of your task.

Intended uses (including the approximate time before use and any key decisions that will use the output):

Outputs of the CAEn model are used to:

- Assess different technology options being considered within a MOD Equipment Procurement;
- Evaluate and test different Tactics, Techniques and Procedures (TTPs) for the British Army and other users within the wider MOD and Cross-Government;
- Provide initial feedback on the operational effectiveness of Concepts (e.g. Unmanned Ground Vehicles)

Possible uses:

Excluded uses:

Anything that falls out of the scope of the CAEn model. The CAEn Validation and Verification Logbook can be shared which provides a summary of the remit of the model

1	Will any output be directly used as part of a safety critical system, or will it be one of the most important factors in decisions on Cat A/B investments ($>£100M$), or at Ministerial level policy making?	No
2	Is this task collating and presenting previous work without making further / new recommendations?	No
3	Is this task research - for example, an exploration of new methods, models or tools?	No
4	Will a re-run of the modelling or analysis be required before outputs are presented to a decision maker?	No

5	Will the outputs form a minor part of the work that will be combined by the Dstl Project Team before being used for decision-making?	No
6	Has the approach to the work (how to undertake the work) been fixed by Dstl/MOD?	No
7	Will 100% of the technical assurance of the outputs provided by the Dstl Project Team?	Yes
8	Is the Dstl Project Team capping the maximum levels of verification and validation to be carried out on outputs?	Yes
Y9	Is this task developing or maintaining a method, model or tool (MMT) which will be used for multiple use cases over a period of time by Dstl Project Teams?	Yes
10	Can you confirm that there are no known intended uses of the outputs over and above those described here that could result in new risks if the output was incorrect?	Yes

Statement of Requirement (SoR)

Project's document ref	
Version number	1
Date	25/05/2021

1.	Requirement
1.1	Title (including AST/ prefix)
	AST/Close Action Environment (CAEn) Sustainment bid
1.2	Summary
	<p>The Close Action Environment (CAEn) model is a Dstl/MOD Business Critical model. For certain questions and Category A procurement decisions, CAEn remains a Scrutiny-endorsed method to generate the required analysis. It is a tactical-level land computer-based combat model and simulation. However, it requires substantial modernisation to ensure it remains fit for purpose to meet the anticipated customer demand from the British Army and wider Ministry of Defence over the next 10 years. CAEn needs to be sustained, and the user interface needs to be upgraded, to allow the model to answer these questions until a new Modelling and Simulation (M&S) capability using new/innovative approaches can take its place within Dstl's Land M&S hierarchy. In addition, this requirement will also allow the CAEn capability to meet Dstl's strategic sustainment aims of (a) improving the overall quality of output to the customer (b) effectively partnering with industry (c) substantially reducing operating costs and (d) supporting increased customer demand for computer-assisted wargames.</p>
1.3	Background

Most of the software development work conducted on CAEn over the past 10 years has been focussed of some of the algorithms/sub-models to enable the capability to represent new technologies in the Land environment. This development is mainly conducted through software suppliers in industry via the Analysis Support Contract (ASC) 311. However, some areas of the CAEn user interface has not been upgraded for over 10 years, and this is where substantial effort is now needed to ensure that the capability remains fit-for-purpose going forwards.

1.4	Requirement
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CAEn is a 'Business Critical' C++ / Windows based wargame and simulation owned by Dstl's DSA Division, which represents combat in the Land Environment domain up to Company (Coy) scale operations. CAEn has benefited from previous Capital Expenditure investment (in 2014-2015) addressing architectural obsolescence and improving the CAEn setup but which did not address the GUI and sub models usability.

This requirement will focus on the four areas of development to improve the CAEn modelling capability:

1. Redevelopment of the CAEn Graphical User Interface (GUI) to:
 - Work closely with the end user (DSTL) in the initial redesign and subsequent work
 - Overhaul of the visual representation and front-end graphics
 - Make it is less complex and more User friendly.
 - More it more intuitive and modern looking comparable to modern COTs Wargaming. Software.
 - Design a deployment GUI that combines into the main game GUI
2. Renewing CAEn's Analysis Module to make it.
 - Input a Data Abstraction Layer that outputs relevant study data
 - It is less complex and more User friendly.
 - Increase speed of analysis.
3. Update Creator and Builder, two of CAEn's key input models, to ensure:
 - More realistic and a better representation of "real world" environments
 - Must be able to combine into the main code base, removing any replications and duplications
 - Able to add complex buildings of various shapes and terrain features that can be directionally orientated over a multitude of planes (e.g. placed diagonally)
 - It is less complex and more User friendly.
 - It cuts time and cost of creating terrains, and makes them more compatible with other terrain tools.
 - Allow for the making of subterranean structures and complex scenarios
 - Implement the use of "urban/ street clutter" as line of sight blocks and provides elements of cover (parked vehicles, signs, rubble etc.)
4. Enhance CAEn's constructive simulation capability by:
 - Improving the group orders and route functionality.
 - Improving trigger / timed based orders.
 - Improving suppression / reaction behaviours.
 - Improving unit routing functionality and behaviour.

	<ul style="list-style-type: none">• Enhancing the robustness and quality of the analysis produced by CAEn.• Improve unit behaviours and reaction representation <p>Task Management:</p> <p>As per standard task management, the Dstl project team would require regular updates from the supply team. The frequency can be mutually agreed at the start-up meeting but must be at least monthly. Details to report on include but not be limited to: progress, planned work before next update, issues and risks to delivery. The progress report will need to be in a PowerPoint format and can be sent to the Dstl project team by email. It is expected to be no more than 2 slides highlighting the highlights/lowlights and any risks identified.</p> <p>The acceptance/rejection of any deliverables will be conducting in the following timeframes:</p> <ul style="list-style-type: none">- Maximum of 30 days for the software design/requirements/testing documentation/updated user guides;- Maximum of 60 days for the final software deliverable;- Maximum of 10 days for each interim software sprint.
1.5	Options or follow on work
	Not applicable

1.6	Deliverables & Intellectual Property Rights (IPR)						
Ref.	Title	Due by	Format	TRL *	Expected classification (subject to change)	What information is required in the deliverable	IPR DEFCON/ Condition (Commercial to enter later)
D-1	Software Requirements and design documentation	T0+6 months (no later than end of March 2022)	Microsoft Word document or similar	N/A	Redacted under FOIA Section 23 – National Security	<ul style="list-style-type: none"> A Software Requirement document, which covers all four areas of the proposed development highlighted in the 'Requirements' section above A Software Design Document, which covers all four areas of the proposed development highlighted in the 'Requirements' section above 	DEFCON 705
D-2	Updated software and associated technical documentation (delivered in an Agile approach using a series of software sprints)	T0+18 months (no later than end of March 2023)	Various	TBC	Redacted under FOIA Section 23 – National Security	<p>Updated software, which covers to include (but not limited to):</p> <ul style="list-style-type: none"> A presentation showing how the new Software works; Source code; Build instructions; Compiled executable code; Test code; 	DEFCON 705

						<ul style="list-style-type: none">• Test documentation;• Technical User Guide.	
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*Technology Readiness Level required, if applicable

1.7	Standard Deliverable Acceptance Criteria
	<p>Deliverable Acceptance Criteria (As per ASTRID Framework T&Cs)</p> <ol style="list-style-type: none"> 1. Acceptance of Contract Deliverables produced under the Framework Agreement shall be by the owning Dstl or wider Government Project Manager, who shall have up to 30 calendar days to review and provide comments to the supplier. 2. Task report Deliverables shall be accepted according to the following criteria except where alternative acceptance criteria are agreed and articulated in specific Task Statements of Work: <ul style="list-style-type: none"> • All Reports included as Deliverables under the Contract e.g. Progress and/or Final Reports etc. must comply with the Defence Research Reports Specification (DRRS) which defines the requirements for the presentation, format and production of scientific and technical reports prepared for MoD. Reports shall be free from spelling and grammatical errors and shall be set out in accordance with the accepted Statement of Work for the Task. • Interim or Progress Reports: The report should detail, document, and summarise the results of work done during the period covered and shall be in sufficient detail to comprehensively explain the results achieved; substantive performance; a description of current substantive performance and any problems encountered and/or which may exist along with proposed corrective action. An explanation of any difference between planned progress and actual progress, why the differences have occurred, and if behind planned progress what corrective steps are planned. • Final Reports: shall describe the entire work performed under the Contract in sufficient detail to explain comprehensively the work undertaken and results achieved including all relevant technical details of any hardware, software, process or system developed there under. The technical detail shall be sufficient to permit independent reproduction of any such process or system. 3. Failure to comply with the above may result in the Authority rejecting the Deliverables and requesting re-work before final acceptance. 4. Acceptance criteria for non-report Deliverables shall be agreed for each Task and articulated in the Statement of Work provided by the Contractor
1.8	<p>Specific Deliverable Acceptance Criteria</p> <p>All software development will need to be subject to the limitations on the hardware/software available on Dstl's corporate networks. All software libraries/licensing/etc and availability of the required Graphical Processing will need to be agreed with Dstl Digital before being proposed within the Requirements/Software Design.</p> <p>Acceptance period for acceptance and rejection of all deliverables will be 10 working days.</p>

2.	Quality Control and Assurance
2.1	Quality Control and Quality Assurance processes and standards that must be met by the contractor
	<input checked="" type="checkbox"/> ISO9001 (Quality Management Systems) <input type="checkbox"/> ISO14001 (Environment Management Systems) <input checked="" type="checkbox"/> ISO12207 (Systems and software engineering — software life cycle) <input checked="" type="checkbox"/> TickITPlus (Integrated approach to software and IT development) <input type="checkbox"/> Other: (Please specify)
2.2	Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement
	N/A

3.	Security	
3.1	Highest security classification	
	Of the work	Redacted under FOIA Section 23 – National Security
	Of the Deliverables/ Output	Redacted under FOIA Section 23 – National Security
	Where the work requires more than occasional access to Dstl premises (e.g. for meetings), SC Clearance will be required.	
3.2	Security Aspects Letter (SAL) – Note the ASTRID framework has an overarching SAL for quotation stage (up to OS)	
	<p>Not applicable</p> <p>If yes, please see SAL reference- <i>Enter iCAS requisition number once obtained</i></p>	
3.3	Cyber Risk Level	
	Redacted under FOIA Section 26 – Defence	
3.4	Cyber Risk Assessment (RA) Reference	
	<p>Redacted under FOIA Section 26 – Defence</p> <p>If stated, this must be completed by the contractor before a contract can be awarded. In accordance with the Supplier Cyber Protection Risk Assessment (RA) Workflow please complete the Cyber Risk Assessment available at https://suppliercyberprotection.service.xgov.uk/</p>	

4. Government Furnished Assets (GFA)					
GFA to be Issued - Yes					
If 'yes' – add details below. If 'supplier to specify' or 'no,' delete all cells below.					
GFA No.	Unique Identifier/ Serial No	Description: <i>Classification, type of GFA (GFE for equipment for example), previous MOD Contracts and link to deliverables</i>	Available Date	Issued by	Return or Disposal <i>Please specify which</i>
GFA-1		All of the relevant CAEn software technical documentation	May 2021 onwards	Redacted under FOIA Section 40 – Personal information	Disposal
GFA-2		Redacted under FOIA Section 26 – Defence	May 2021 onwards	Redacted under FOIA Section 40 – Personal information	Return
<p>If GFA is to be returned: It must be removed from supplier systems and returned to the Dstl Project Manager within 2 weeks of the final Task deliverable being accepted. (Any required encryption or measures can be found in the Security Aspects Letter associated with the Task).</p> <p>If GFA is to be destroyed: It must be removed from supplier systems and destroyed. An email confirming destruction should be sent to the Dstl Project manager within 2 weeks of the final Task deliverable being accepted</p>					

5.	Proposal Evaluation
5.1	Technical Evaluation Criteria
	In agreement with CORDA
5.2	Commercial Evaluation Criteria
	As per ASTRID Framework T&Cs.