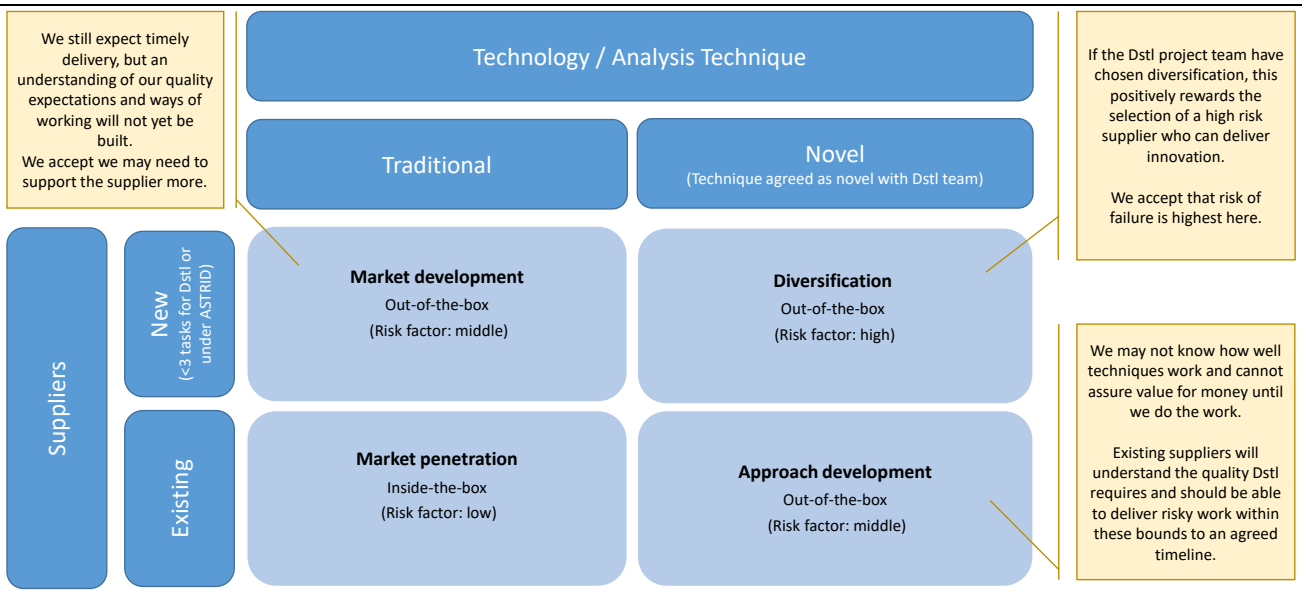
Statement of Requirement (SOR)

Contact & Project Information:

Project Manager	Name	[REDACTED – PERSONAL INFORMATION]		
	Email	[REDACTED – PERSONAL INFORMATION]		
	Telephone number	[REDACTED – PERSONAL INFORMATION]		
Technical Partner	Name	[REDACTED – PERSONAL INFORMATION]		
	Email	[REDACTED – PERSONAL INFORMATION]		
	Telephone number	[REDACTED – PERSONAL INFORMATION]		
iCas project number	711094			
Owning division	Exploration Div	**Delivering division**	Exploration Div	
Programme	Policy and Capability Enterprise Support			
Indicative task budget(s) £k	Core / initial work:	£250k	Options / follow on work:	Option 1: Up to a maximum of £250k in FY21/22 Option 2: Up to a maximum of £500k in FY22/23 Option 3: Up to a maximum of £500k in FY23/24 Option 4: Up to a maximum of £500k in FY24/25

Innovation risk appetite:	Middle - Market development
Narrative (if applicable):	The overall risk appetite is Middle. We could accept a High risk for a proportion of the industry support. E.g. alongside consideration of well-established methods a supplier could propose assessment of one, or a small number, of novel or emerging methods that could potentially offer utility.
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.

The questions make sense in the context of this task, but we would note that Yes and No should be interpreted as “Mostly Yes” and “Mostly No” in some cases.

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

The intended uses of the project’s outputs are:

- Inform DST and wider MOD planning regarding future S&T investment
- Inform Head Office and wider MOD planning regarding future capability investment

Possible uses:

The project may inform concept development activity at DCDC and in the wider MOD.

Excluded uses:

There are no excluded uses.

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?	Yes
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?	Yes
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?	No
8	Is the Dstl Project Team capping the maximum levels of verification and validation to be carried out on outputs?	Yes
9	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	**Dstl/7011904/ASTRID**
Version number	**V1.1**
Date	**09/09/2021**

1.	**Requirement**
1.1	**Title (including AST/ prefix)**
	AST/Proving Technological Advantage Works
1.2	**Summary**
	Undertake a range of activities to support delivery of the Proving Technological Advantage Works (PTAW) project.
1.3	**Background**
	In the 2021 Spending Review, MOD announced the intent to [REDACTED – DEFENCE] Amongst other goals this investment seeks to [REDACTED – DEFENCE]. Achieving these goals requires developing an understanding of how concepts and technologies (C&Ts) can deliver technological advantage and, through that, operational advantage. A better understanding in this area will help MOD decide how best to make near-term S&T investments that will deliver advantages in the equipment generation after next. The Proving Technological Advantage Works (PTAW) project is intended to develop a suitable toolset and then use it to deliver an understanding, and quantification, of the benefits and risks associated with fielding or not fielding advanced technologies. The project should also: a. Understand the risks and challenges associated with including the benefits and risks of technology into departmental planning b. Work with stakeholders to explore and propose options to help maximise the impact of investing in S&T.

1.4	Requirement

The requirement consists of 4 tasks this FY. These are listed in turn below.

FY21/22 – Task 1

The requirements for this task are as follows:

- Identify a number of case studies from history in which one side in a conflict had a technological advantage. The set of case studies should include a range of different actors and different types of conflict. Some should involve the UK, but it is not necessary that all do. The identified case studies should be shared with Dstl to agree a broad priority order.
- For each case study:
    - Assess what the nature of the technological advantage was.
    - Assess i) whether or not the side with a technological advantage achieved operational success and ii) what factors contributed to achieving (or not achieving) operational success.
    - Write up the case study using a common format. This format will need to be agreed with Dstl at an early stage of the work.
- Consider the collated case studies and undertake some high-level analysis to draw out important themes from them. For example, particular factors may repeatedly be found to have supported, or challenged, the translation of technological advantage into operational advantage.
- Bring together the collated case studies and the subsequent analysis into a formal MS Word or PDF report.

Case studies should be examined in accordance with the broad priority order mentioned above. The number of case studies that can be assessed will be driven by the available funding. We suggest the minimum number should be 15, but we are content to discuss this further with the supplier.

FY21/22 – Task 2: Identify potential PTAW methods outside Defence

The requirements for this task are as follows:

- Identify methods outside the UK MOD that PTAW could potentially use to assess whether particular C&Ts could offer operational advantage. Methods could be drawn from [REDACTED – DEFENCE]. We anticipate that methods will be collected via a combination of literature searches / reviews and telephone, email or in-person engagement with particular people / areas. As part of this task, the supplier may also be asked to investigate particular methods outside Defence that have come to the attention of the Dstl team.
- Collect sufficient information about the method to make a decision on whether it is worth investigating further. This decision will need to be informed by the broader PTAW approach, which will be made available as GFI. For example, if PTAW plans to operate at a force package level, a method which is only suited to exploring the impact of technology at a tank A vs tank B level is unlikely to be worth investigating further. A list in MS Excel should be maintained of those methods that were identified, but which were not judged to be worth investigating further.
- Collect more information about each of those methods that are judged to be worth investigating further. This information should include:
    - Strengths and weaknesses
    - Maturity
    - Resource and data requirements
    - Costs

- Any risks associated with its use
- Evidence (if available) of its successful previous application
- The level of 'proof' the method offers, e.g. the level of confidence in the outcome it generates.

- For each method investigated, collate the information that has been captured into a template that will be provided by Dstl as GFI.
- Completed templates should be provided to Dstl as and when they are finished.
- At the end of the task, the list of methods that were identified but which were not judged to be investigating further should be provided to Dstl.
- There is no requirement for an end of task report or similar deliverable.

FY21/22 – Task 3: Identify potential concepts and technologies outside Defence

The requirements for this task are as follows:

- Identify C&Ts outside the UK MOD that PTAW could potentially assess in subsequent years. C&Ts could be drawn from [REDACTED – DEFENCE]. We anticipate that methods will be collected via a combination of literature searches / reviews and telephone, email or in-person engagement with particular people / areas. As part of this task, the supplier may also be asked to investigate particular C&Ts outside Defence that have come to the attention of the Dstl team.
- Collect sufficient information about the C&T to make a decision on whether it is worth investigating further. This decision will need to be informed by the broader PTAW approach, which will be made available as GFI. For example, if PTAW plans to operate at a force package level, a C&T which will result in [REDACTED – DEFENCE] is unlikely to be worth exploring further. A list in MS Excel should be maintained of those C&Ts that were identified, but which were not judged to be worth investigating further.
- Collect more information about each of those C&Ts that are judged to be worth investigating further. The categories of information collected on each C&T will need to be agreed with Dstl, but at this stage it is anticipated the supplier will collect the following:
  - Classification
  - Title
  - Type (concept or technology)
  - Domain(s) that the C&T is relevant to
  - Capability area(s) that the C&T is relevant to
  - Equipment(s) that the C&T is relevant to
  - Description
  - Maturity
  - Potential in-service date (decade, e.g. 2030-2040)
  - Cost band (less than £1m; 10s of £m; 100s of £m; £bns; 10s of £bn)
  - Source
  - Point of contact and contact details
- For each C&T investigated, collate the information that has been captured into a template that will be provided by Dstl as GFI.
- Completed templates should be provided to Dstl as and when they are finished.
- At the end of the task, the list of C&Ts that were identified but which were not judged to be worth investigating further should be provided to Dstl.
- There is no requirement for an end of task report or similar deliverable.

	FY21/22 – Task 4: Engagement with technology companies outside Defence The requirements for this task are as follows: • Identify a number of technology companies outside Defence. The companies identified should then be discussed with Dstl and a broad priority order agreed. • Engage with companies to gain an understanding of how each one i) evaluates future technologies and ii) uses that information to decide their future capability investment priorities. [REDACTED – DEFENCE]. The order in which the supplier engages with companies should broadly reflect the priority order that has been agreed with Dstl. • Engagement should also seek to understand whether the method would be something companies would, in principle, be content for MOD to use. This will likely depend on what the method is. E.g. if a company has committed substantial investment to developing a sophisticated analysis tool then they may wish to be the sole user. • At the conclusion of the task, the information collected should be collated into a formal MS Word or PDF report. **Other** In general, work in FY21/22 should be conducted in accordance with the 'Standard' level of ASTRID Technical Assurance support. However, the nature of Tasks 2 and 3 means that a lesser level of technical assurance would be sufficient for those tasks. As part of routine project governance activities, we would expect a monthly progress report by email and prompt notification by telephone of any issue that arises that challenges the ability of the supplier to deliver the required work within the required timeframes. [REDACTED – DEFENCE]
1.5	**Options or follow on work**

	There may be a need to place additional tasks with industry this FY beyond the 4 that are listed in section 1.4 above. There is an option within this requirement to provide this flexibility. • Option 1: Additional support to PTAW, FY21/22. This option has a maximum ROM cost of £250k. The project plans to undertake work in FY22/23, FY23/24 and FY24/25. We anticipate a requirement for industry support in each of those years, but as future funding has not yet been confirmed such support is captured within three options: • Option 2: Support to PTAW, FY22/23. This option has a maximum ROM cost of £500k. • Option 3: Support to PTAW, FY23/24. This option has a maximum ROM cost of £500k. • Option 4: Support to PTAW, FY24/25. This option has a maximum ROM cost of £500k. The requirements for all four of these options are, as yet, undefined. If any of the options are activated then details of the requirement would be provided at that time.

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)*
D1	Task 1 report	31 Jan 2022	MS Word or PDF report	n/a	[REDACTED – NATIONAL SECURITY]	Report presenting the case studies collected during Task 1 and the subsequent analysis of the factors which have supported, or hindered, the translation of technological advantage into operational advantage	DEFCON 705 shall apply
D2	Task 4 report	End of FY21/22	MS Word or PDF report	n/a	[REDACTED – NATIONAL SECURITY]	Report presenting the information collected from technology companies about how they i) evaluate future technologies and ii) use that information to decide their future capability investment priorities.	DEFCON 705 shall apply

*Technology Readiness Level required, if applicable

1.7	**Standard Deliverable Acceptance Criteria**
	Deliverable Acceptance Criteria (As per ASTRID Framework T&Cs) 1. Acceptance of Contract Deliverables produced under the Framework Agreement shall be by the owning Dstl or wider Government Project Manager, who shall have 10 **working** 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: • 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	**Specific Deliverable Acceptance Criteria**
	None beyond the items listed in section 1.7.

2.	Quality Control and Assurance
2.1	**Quality Control and Quality Assurance processes and standards that must be met by the contractor**
	[REDACTED – DEFENCE]
2.2	**Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement**
	No unusual requirements in any of these areas.

3.	Security	
3.1	**Highest security classification**	
	Of the work	[REDACTED – NATIONAL SECURITY]
	Of the Deliverables/ Output	[REDACTED – NATIONAL SECURITY]
	[REDACTED – NATIONAL SECURITY]	
3.2	**Security Aspects Letter (SAL) – Note the ASTRID framework has an overarching SAL for quotation stage (up to OS)**	
	Not applicable (NB: No SAL required at quotation stage, so 'Not Applicable' entered above. A SAL will be required once work is underway to record GFI at O-S or above). If yes, please see SAL reference- *Enter iCAS requisition number once obtained*	
3.3	**Cyber Risk Level**	
	[REDACTED – DEFENCE]	
3.4	**Cyber Risk Assessment (RA) Reference**	
	[REDACTED – DEFENCE] 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/	

4.	Government Furnished Assets (GFA)

GFA to be Issued - Yes

No GFA will be issued at the bid stage. GFA will be issued only to those companies who are undertaking tasks to which the GFA is relevant.

GFA No.	Unique Identifier/ Serial No	Description	Available Date	Issued by	Return or Disposal
GFA-1	GFA-1	[REDACTED – NATIONAL SECURITY] GFI Details of the broader PTAW approach No links to previous MOD contracts No links to specific deliverables	At start up	[REDACTED – PERSONAL INFORMATION]	Disposal
GFA-2	GFA-2	[REDACTED – NATIONAL SECURITY] GFI Blank template for capturing details of potential methods No links to previous MOD contracts No links to specific deliverables	At start up	[REDACTED – PERSONAL INFORMATION]	Disposal
GFA-3	GFA-3	[REDACTED – NATIONAL SECURITY]	At start up	[REDACTED – PERSONAL INFORMATION]	Disposal

		GFI Blank template for capturing details of potential C&Ts No links to previous MOD contracts No links to specific deliverables			
[REDACTED – DEFENCE]					

5.	Proposal Evaluation
5.1	**Technical Evaluation Criteria**
	Task 1 • Does the bidder have a relevant and compelling track record of conducting historical analysis? • Does the bidder understand the tasks and offer a credible and relevant approach? • Does the bidder have sufficient, relevant and credible SQEP available? • Efficiency – is the approach and resourcing solution efficient? **Tasks 2, 3 and 4** • Does the bidder have a relevant and compelling track record of accessing and collating information from a range of companies and other organisations outside the UK MOD? • Does the bidder understand the tasks and offer a credible and relevant approach? • Does the bidder have sufficient, relevant and credible SQEP available? • Efficiency – is the approach and resourcing solution efficient?
5.2	**Commercial Evaluation Criteria**
	As per ASTRID Framework T&Cs.