# Statement of Requirement (SOR)

## Contact & Project Information:

Redacted under FOIA Section 40 – Personal information

| | | | | |
|---|---|---|---|---|
| **Project Manager** | Name | | | |
| | Email | | | |
| | Telephone number | | | |
| **Technical Partner** | Name | | | |
| | Email | | | |
| | Telephone number | | | |
| **PJ number** | PJ100772 | **CHESS leaf code** | EMRPOWnENGY | |
| **Owning division** | Exploration | **Delivering division** | Platform Systems | |
| **Programme** | Support and Sustainability | | | |
| **Indicative task budget(s) £k** | Core / initial work: | £147k | Options / follow on work: | £ |

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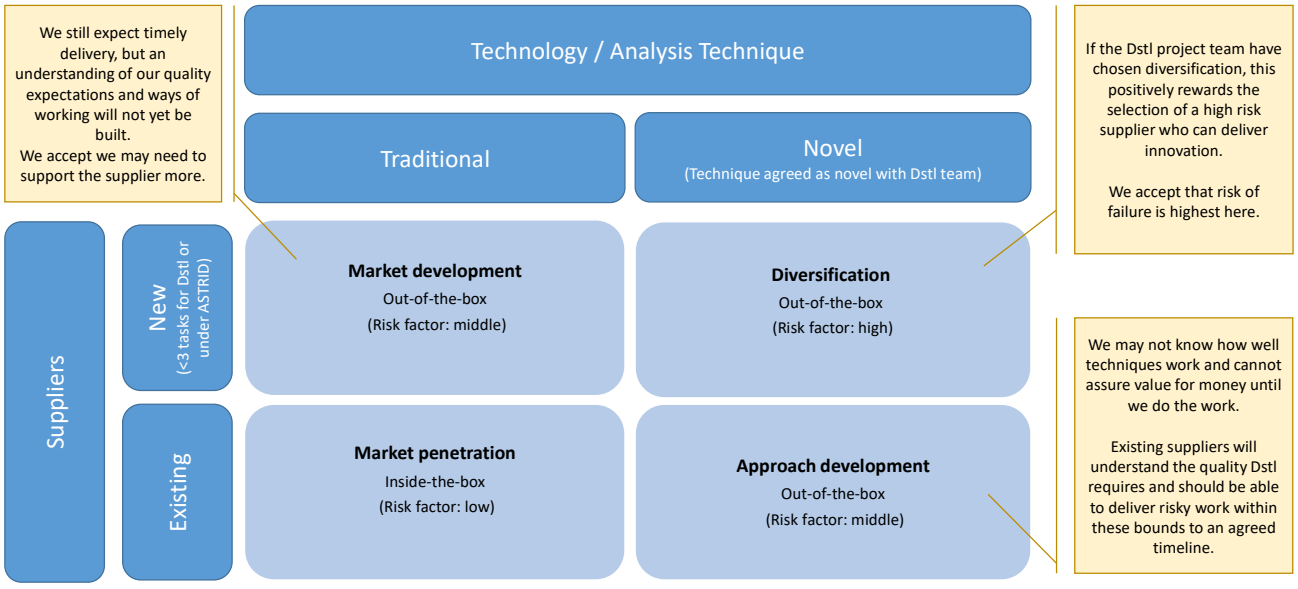
| **Innovation risk appetite:** | Low |
| **Narrative (if applicable):** | Looking for traditional industry view and buy-in |

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)* |
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| Intended uses (including the approximate time before use and any key decisions that will use the output): |
| To inform Dstl technical approach and stakeholder decision conference |
| Possible uses: |
| To inform future research, may wish to share with international partners and other government departments |
| Excluded uses: |
| None |

**Risk Assessment Process:**

Project teams are required to complete the ASTRID Liabilities spreadsheet that will look at the direct and indirect risks associated with the work. The assessment must be completed at the outset before the draft SOR is submitted, this will prevent delays and lessen negotiations when the proposal is received.

The risk assessment spreadsheet can be found in the document list on the ASTRID Nexus Homepage:

Redacted under FOIA Section 26 - Defence

Some generic risks are pre-filled so please ensure they apply to your task and delete/add as necessary. Each risk must be assessed in turn and a score entered in the spreadsheet. They will be automatically marked and a colour code produced. Please enter the results in the boxes below. A completed copy of the spreadsheet must be attached to this SOR when submitting it to the ASTRID Dstl PM for review and approval to release to CORDA.

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| **Direct Risk** | **Choose an item.** |

In the event that a direct risk is scored as “Green” or “Yellow” the risk will be capped at pre-agreed limits of liability and the project team may continue with the submission of their requirement to CORDA once all necessary approvals have been issued by the Dstl ASTRID PM.

In the event that a direct risk is identified as “Amber” or “Red” project teams should discuss the requirement with their Commercial POC before the task is submitted.

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| **Indirect/Consequential Risk** | **Choose an item.** |

In the event that the indirect risk is “Excluded” project teams may continue with the submission of their requirement to CORDA once all necessary approvals have been issued by the Dstl ASTRID PM.

In the event that the indirect risk is identified as “Included” project teams should discuss their requirement with their Commercial POC before the task is submitted.

**Levels of Technical Assurance:**

The framework offers three levels of Technical Assurance Support, and you have the ability to determine which level is suitable for your task.

Full guidance listing the types of support under each level (and the trade-offs) can be found in the “ASTRID Guide – Levels of Assurer Support” here or in the document list on the ASTRID Homepage.

It may be that the level of support you require changes in the early discussion phase. Please ensure the final version of your SOR has the correct level indicated.

Please indicate below which level you require.

| Minimum ☒ | Standard ☐ | Enhanced ☐ |
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# Statement of Requirement (SoR)

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| **Project's document ref** | **PJ100772 PE SOR** |
| **Version number** | **0.2** |
| **Date** | **13/04/2022** |

| **1.** | **Requirement** |
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| **1.1** | **Title (including AST/ prefix)** |
| | AST/Power Research |
| **1.2** | **Summary** |
| | Dstl requests a study from industry to inform Dstl of the defence industry's view on power and energy research requirements. This work should build upon previous studies such as the Defence Supplier's Forum Research Technology & Innovation Group (RTIG) paper Powering Future Operations: Net Zero Challenges & Opportunities. |
| **1.3** | **Background** |
| | DST has commissioned research to understand defence specific future power & energy focused technology needs and opportunities. The aim is to support a potential business case for a dedicated power and energy focused programme from 2023 onwards. |

| 1.4 | **Requirement** |
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The main focus of the study requested here is capture the key technologies and technology themes that could create and enhance military or capability advantage in, next generation (NG) and generation after next (GAN) military platforms (or by increased power and energy performance enable a step change in exiting capability), and to understand where military specific or dedicated funding is needed to realise these benefits. It should consider technologies and interventions across all platform areas, but be focused on platforms and operational power and energy requirements rather than those of supporting infrastructure (Defence Estates). Technologies that enable other benefits such as enhanced flexibility, energy resilience and concepts such as modularity is also of interest.

While the study is focused on capability and military benefit, it should identify opportunities and synergies for the recommended technologies and interventions to also support enhanced sustainability and the Net Zero agenda.

Industry should address the following questions.

1. What is Industry's view of MODs Power and Energy capability and technical requirements now and in the future, both at a broad enabler and specific technology level?
2. Which of these requirements will be met by current or planned commercial developments?
3. What are these emerging commercial areas i.e. who might Defence's 'new' 'emerging partners be?
4. What are the main gaps that will not be addressed adequately (in scale, SWaP or capability) by commercial technology and what defence specific research is needed to plug these gaps?
5. What fundamental power and energy research does MOD need to do to address future defence needs?
6. What development (and other) activities does MOD need to do to enable it to exploit commercially evolving power and energy technologies such as advanced batteries. i.e. how does MOD enable the 'fast follow' idea of adopting commercial technology where possible.
7. What are the prioritisation of research needs across the themes and technologies identified to meet cross cutting requirements?
8. What options should MOD further develop within any future cross cutting power and energy research?

The study should engage and capture the views with as wide a technology and supplier base as possible including military stakeholders, major defence industry suppliers of both equipment and power and energy solutions and non-defence suppliers of power and energy solutions.

Key industry associations that should be involved are:

- Defence Suppliers Forum
- Power Industry Advisory Group
- ADS

Dstl will advise on key military stakeholders at the start up meeting.

| 1.5 | **Options or follow on work** |
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| | *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 | Plan of action | T0+1 month | Any | n/a | Redacted under FOIA Section 26 – Defence | Who the supplier plans to engage with | |
| D - 2 | Cross domain power and energy workshop | July 22 (latest) | Face to Face preferred | n/a | | To engage with a wide selection of relevant industry | |
| D - 3 | Workshop brief | July 22 | Any | n/a | | Back brief on workshop outcomes including list of attendees and key conclusions | |
| D - 4 | Roadmap 1 | Aug 22 | Word Document | n/a | | Industry's view of UK Defence Power and Energy needs out to 2040 | |
| D - 5 | Roadmap 2 | Sept 22 | Word Document | n/a | | Industry developments that can meet the needs in D4 (i.e. Gap analysis of shortfalls between industry developments and military needs (these can be technical, process and regulatory e.g. a different military requirements | |

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| | | | | | Redacted under FOIA Section 26 – Defence | for batteries, engines etc. or lack of regulations, processes safety standards etc.)) | |
| D - 6 | High Level Cross-Domain S&T Strategy and Roadmap | Oct 22 | Word document | n/a | | Combining the two earlier roadmaps to give a High Level Cross-Domain S&T Strategy and Roadmap – should show exploitation paths, timescales, dependencies (e.g. with civil programmes) | |
| D - 7 | Recommendations | Nov 22 | Word document | n/a | | Recommendations for research and development (and other) activities to address the gaps.<br>a) The first set of recommendations are seen as being at a high level e.g. investment required in given broad power and energy areas<br>b) Project Options Definition, including ROM costs of investment requirements. An additional set of more specific technology and investment options with broad indication of required funding | |

*Technology Readiness Level required, if applicable

| 1.7 | **Standard Deliverable Acceptance Criteria** |
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| | **Deliverable Acceptance Criteria (**As per ASTRID Framework T&Cs)<br><br>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.<br><br>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:<br>• 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.<br><br>• 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.<br><br>• 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.<br><br>3. Failure to comply with the above may result in the Authority rejecting the Deliverables and requesting re-work before final acceptance.<br><br>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 |

| 2. | Quality Control and Assurance |
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| 2.1 | **Quality Control and Quality Assurance processes and standards that must be met by the contractor** |
| | ☐ **ISO9001** (Quality Management Systems)<br>☐ **ISO14001** (Environment Management Systems)<br>☐ **ISO12207** (Systems and software engineering — software life cycle)<br>☐ **TickITPlus** (Integrated approach to software and IT development)<br>☐ **Other:** (Please specify) |
| 2.2 | **Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement** |
| | None as a paper study. |

| 3. | Security | |
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| 3.1 | **Highest security classification** | Redacted under FOIA Section 26 – Defence |
| | **Of the work** | |
| | **Of the Deliverables/ Output** | |
| | 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)** | |
| | Redacted under FOIA Section 26 – Defence | |
| 3.3 | **Cyber Risk Level** | |
| | Redacted under FOIA Section 26 – Defence | |
| 3.4 | **Cyber Risk Assessment Reference (RAR)** | |
| | Redacted under FOIA Section 26 – Defence | |
| | This must be completed before a contract can be awarded.<br>The Project Manager needs to complete a Cyber Risk Assessment. There is currently an interim process in place. Please fill in this form and email to ISSDes-DCPP@mod.gov.uk to complete the assessment. The Cyber Risk Profile and a Risk Assessment Reference (RAR) should be provided by email return within 2 working days.<br>For more information:<br>https://www.gov.uk/guidance/defence-cyber-protection-partnership | |

| 4. | Government Furnished Assets (GFA) |
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GFA to be Issued - Choose an item.

*If 'yes' – add details below. If 'supplier to specify' or 'no,' delete all cells below.*

| GFA No. | Unique Identifier/ Serial No | Description: *Classification, type of GFA (GFE for equipment for example), previous MOD Contracts and link to deliverables* | Available Date | Issued by | Return or Disposal *Please specify which* |
|---|---|---|---|---|---|
| GFA-1 | n/a | Defence suppliers forum Net Zero report | Contract award | Redacted under FOIA Section 40 - Persanal Information | Can be kept by the supplier? |
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**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).

**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

| 5. | Proposal Evaluation |
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| 5.1 | **Technical Evaluation Criteria** |
| | Process will be as per ASTRID Framework T&Cs. If particular attention should be paid to certain aspects of the requirement, please confirm here: |
| 5.2 | **Commercial Evaluation Criteria** |
| | As per ASTRID Framework T&Cs. |