

## RCloud Tasking Form – Part B: Statement of Requirement (SoR)

Title of Requirement	FAGL Phase 2 (FY22-23)
Requisition No.	0000010691
SoR Version	0.1

1.	Statement of Requirements
1.1	<b>Summary and Background Information</b> <p>Dstl has a requirement to develop a miniature, ultra-low power, self-contained device that will provide the means to capture high accuracy Global Positioning System (GPS) geo-locations, even when physical exposure to overhead GPS satellites is extremely short term, often limited to less than a second.</p> <p>QinetiQ (QQ) began work on this requirement during FY 2021-2022 (DSTLX-1000162573) that resulted in an Architectural Design Document (ADD2102660), System Requirements Document (SR2102237), and Verification Test Plan (VVP2102493).</p> <p>This task captures Dstl's requirements to progress the delivery of the FAGL capability under a proposal of 4 work packages (WP's), and additional 2 WP's provide optional scope to produce a concept demonstrator.</p>
1.2	<b>Requirement</b> <p>Dstl require a firm price costed proposal against WP's 1 to 4, stated below. Please note that each WP must be costed individually. Dstl expected that QinetiQ will focus effort within all WP's to accelerate formulation of a detailed design for the FAGL requirement should WP5 be progressed.</p> <p><b><u>WP1</u></b></p> <p><b>Engineering Design Lifecycle:</b> System requirements and architectural design outputs from the previous phase of work will be partitioned into individual subsystems including, but not necessarily limited to, Location Module (LM), Processing Module (PM) and User Interface (UI). Each subsystem may include hardware, software and test elements.</p> <p>Sub-systems will enter individual engineering lifecycles that will result in the completion of preliminary designs. All designs must have direct traceability back to the top level system requirements and should capture additional requirements as the work progresses.</p> <p>WP1 objectives:</p> <ul style="list-style-type: none"><li>• Advance the maturity and resilience of the overall project engineering design, which in turn will enable Dstl and QQ to make informed decisions on the requirements, scope and detailed design parameters essential for project delivery.</li><li>• Identify opportunities to enhance the scope and coverage of system requirements</li></ul>

- Investigate and capture a detailed understanding of system interfaces and their associated dependencies and limitations
- Develop a greater understanding of the system hardware and software constraints/limitations and report on the impact to operational requirements and project delivery

## **WP2**

**Assessment of COTS Location Module (LM) Product:** The initial study conducted in FY21/22 identified COTS equipment from **Redacted under FOIA Exemption** as being a potential candidate for the core elements of the LM hardware sub-system.

A detailed assessment of **Redacted under FOIA Exemption** capabilities is now required to ensure baselined hardware requirements can be achieved using this product and to inform the follow-on development phases of the project through to implementation. Work within WP2 will consider the available interfaces and data acquisition approach, and include data standard formats for low-bandwidth egress methods.

The assessment should include direct interaction and dialogue with **Redacted under FOIA Exemption** to identify any missing capability or opportunity compared to the original baselined requirements.

### **WP2 objectives**

- Understand the technical trade-off of custom manufacture as opposed to the modification of available COTS capabilities in this area
- Advise the authority on the **Redacted under FOIA Exemption**, to understand the impact on current development/implementation phases and more importantly future use of this capability by MOD.
- Identify and develop a detailed technical understanding of the LM and inform the authority of any shortfalls of the technology. Output from this WP should also update the design document from WP1.
- Provide the authority with a more informed and mature demonstration of the process behind the position, velocity and time (PVT) estimation process whilst also identifying possible causes for errors and system failures

## **WP3**

**Assessment of COTS Software Libraries.** The initial FY21/22 work identified a **Redacted under FOIA Exemption** product as potentially providing a suitable software library for the LM and an appropriate back-end position estimator for the Position Module (PM). The authority now seeks to conduct a full evaluation on both of these software capabilities to ensure as a COTS available solution they can meet the baselined requirements and that they are the most appropriate options.

Work should explore the functionality, portability, maintainability and longevity of both of these software capabilities. In addition, the authority requires clarification from **Redacted under FOIA Exemption** on the **Redacted under FOIA Exemption**.

### **WP3 objectives:**

- Inform the authority of the technical and functional trade-off of between custom software development as opposed to the use or modification of available COTS software tools in this area.
- Advise the authority on **Redacted under FOIA Exemption**, whilst also understanding the impact on current development/implementation phases of the project and more importantly future use of this capability by MOD.
- Identify and develop a detailed technical understanding of the software tools available and inform the authority of any shortfalls that might affect future operational applications. Output from this WP should also update the design document from WP1.
- Provide the authority with a more informed and mature demonstration of the process behind the PVT estimation process whilst also identifying possible causes for errors and system failures

#### **WP4**

**Identify and Assess Open Source Solutions.** The initial FY21/22 work identified **Redacted under FOIA Exemption** as being a potential supplier of COTS technology to satisfy the FAGL requirements by capturing snapshot measurements and generating an associated position estimate. However, whilst **Redacted under FOIA Exemption** technology comprises both hardware and software, the majority of the system complexity resides in the supporting software. **Redacted under FOIA Exemption** to fully utilise and support the FAGL solution.

WP4 seeks to identify other potential software solutions from open sources that may offer a similar level of performance and functionally without the need for **Redacted under FOIA Exemption**. However, to better manage the available budget, the authority only requires a study to identify, collate and report on potential open source solutions. There is no requirement to take up the option of a detailed and comprehensive technical assessment at this stage.

WP4 objectives:

- Identify open source software solutions with comparable capability and functionality to the **Redacted under FOIA Exemption** software tools, and hence avoid the need to establish and maintain an **Redacted under FOIA Exemption**

Assist the authority in removing and/or reducing the risk of relying on **Redacted under FOIA Exemption** software tools to generate a post processed position estimate from captured snapshot measurements.

#### Security:

The highest classification of the work shall be **Redacted under FOIA Exemption**, and the highest classification of the deliverables / outputs is **Redacted under FOIA Exemption**.

To support the task a **Redacted under FOIA Exemption** has been provided.

The cyber risk profile has been identified as **Redacted under FOIA Exemption**, under Cyber Risk Assessment (RA) Reference: **Redacted under FOIA Exemption**

<b>1.3</b>	<b>Options or follow on work</b> <i>(if none, write 'Not applicable')</i>
	<ul style="list-style-type: none"> <li>• Additional Research &amp; Development Services (Tasking Mechanism)</li> </ul> <p>Dstl may identify additional research and development requirements in support of FAGL and associated capabilities. Where such requirements are identified, Dstl shall submit a formal for quotation quote from QinetiQ against a revised Statement of Requirement. Should Dstl wish to proceed a revised tasking form and supporting purchase order shall be issued.</p> <p>Dstl set out to confirm that a maximum limit of liability of £750,000 (Ex VAT) shall be available for additional research and development services, and this shall be available until 31/03/25.</p> <p>Dstl set out to provide the following non-exhaustive examples of the type of activity which may be subject to tasking under this mechanism:</p> <ul style="list-style-type: none"> <li>• <b>Example 1: WP5 Detailed Design:</b></li> </ul> <p>The outputs of WP1, WP2 and WP3 will be further developed to a detailed design of each sub-system, including emphasis on their egress/ingress interfaces. This may involve additional prototyping and testing using development boards.</p> <p>WP5 deliverables:</p> <ul style="list-style-type: none"> <li>• Detailed design document</li> <li>• Updated requirements document</li> <li>• Design decision presentation to the Authority</li> </ul> <ul style="list-style-type: none"> <li>• <b>Example 2: WP6 Concept Demonstrator:</b></li> </ul> <p>WP5 designs will be utilised to build a concept demonstrator system in compliance with the System Requirements Document, including any additional or modified requirements formulated through the completion of WP1, WP2 and WP3.</p> <p>WP6 deliverables:</p> <p>Comprehensive technical data pack (TDP) containing all documentation, designs, and source code required for Dstl to take the FAGL system to internal manufacture. Full TDP requirements to be supplied should WP6 be taken forwards.</p>
<b>1.4</b>	<b>Contract Management Activities</b>
	Bronze – to be managed locally by the Dstl project manager

1.5	<b>Health &amp; Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement</b>
	No requirements identified

1.6 Deliverables & Intellectual Property Rights (IPR)						
Ref.	Title	Due by	Format	Expected classification (subject to change)	What information is required in the deliverable	IPR Condition
D1	Preliminary design	To be reviewed and agreed following receipt of QinetiQ Proposal	To be reviewed and agreed following receipt of QinetiQ Proposal	Redacted under FOIA Exemption	<ul style="list-style-type: none"> <li>Preliminary design document containing all sub-systems, including hardware and software interfaces for data egress/ingest and power.</li> <li>Updated System Requirements document (if changed)</li> <li>Presentation of WP1 efforts including key design decisions and trade-offs.</li> </ul>	Default RCloud Agreement Terms and Conditions shall apply Full Rights Version
D2	LM assessment	To be reviewed and agreed following receipt of QinetiQ Proposal	To be reviewed and agreed following receipt of QinetiQ Proposal	Redacted under FOIA Exemption	<ul style="list-style-type: none"> <li>Evaluation report detailing all LM testing results and knowledge gain which will inform the make/buy/modify solution and drive the follow-on stages of this project.</li> <li>Presentation providing robust evidence of the LM meeting/not meeting system hardware requirements and recommending make/buy/modify.</li> </ul>	Default RCloud Agreement Terms and Conditions shall apply Full Rights Version

					<ul style="list-style-type: none"> <li>Updated WP1 design documentation (if changed)</li> <li>Updated System Requirements document (if changed)</li> </ul>	
D3	Software libraries assessment	To be reviewed and agreed following receipt of QinetiQ Proposal	To be reviewed and agreed following receipt of QinetiQ Proposal	Redacted under FOIA Exemption	<ul style="list-style-type: none"> <li>Evaluation report detailing all software libraries testing results and knowledge gain which will inform the make/buy/modify solution and drive the follow-on stages of this project.</li> <li>Presentation providing robust evidence of the software libraries meeting/not meeting system requirements and recommending make/buy/modify.</li> <li>Updated WP1 design documentation (if changed)</li> <li>Updated System Requirements document (if changed)</li> </ul>	Default RCloud Agreement Terms and Conditions shall apply Full Rights Version
D4	System-level demonstration	To be reviewed and agreed following receipt of	To be reviewed and agreed following receipt of	Redacted under FOIA Exemption	<ul style="list-style-type: none"> <li>A demonstration will be provided reflecting the results of WP2 and WP3. The demonstration will be comprehensive in showing potential performance characteristics of the</li> </ul>	Default RCloud Agreement Terms and Conditions shall apply Full Rights Version

		QinetiQ Proposal	QinetiQ Proposal		system (power, accuracy, trade-offs in pre-processing vs. post-processing, trade-offs in capture lengths. The remit of the demonstration will be mutually agreed between Dstl and QQ during WP3.	
D5	Open Source Study	To be reviewed and agreed following receipt of QinetiQ Proposal	To be reviewed and agreed following receipt of QinetiQ Proposal	Redacted under FOIA Exemption	<ul style="list-style-type: none"> <li>• Market trawl report on findings, including anticipated capabilities and limitations of alternative solutions.</li> <li>• Presentation of study results, including recommendations for pursuing Redacted under FOIA Exemption or further assessing alternatives.</li> </ul>	Default RCloud Agreement Terms and Conditions shall apply Full Rights Version



<b>1.7</b>	<b>Deliverable Acceptance Criteria</b>
	<p>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.</p> <p>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.</p> <p>Any 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.</p> <p>All Reports shall be free from spelling and grammatical errors and shall be set out in accordance with the Statement Of Requirement (1) above.</p> <p>Failure to comply with the above may result in the Authority rejecting the deliverables and requesting re-work before final acceptance.</p> <p><b><u>Specific Deliverable Acceptance Criteria</u></b></p> <p>Acceptance will be conducted based on the Systems Requirement Document (SRD) sensitive</p>

<b>2</b>	<b>Evaluation Criteria</b>
2.1	Method Explanation
	The proposal shall be assessed against the following criteria, and will be assessed against the Dstl affordability envelop which has been established as £240k Ex VAT.
2.2	Technical Evaluation Criteria
	Subjective Assessment of how well the QinetiQ proposal meets the Dstl requirement.
2.3	Commercial Evaluation Criteria
	The commercial assessment shall consist of the following Pass / Fail Governance Questions:

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|  | <ul style="list-style-type: none"><li>• The supplier has uploaded one full Technical Proposal (Unpriced), and one full Technical &amp; Commercial Proposal (Fully Priced),</li><li>• The proposal has been submitted against a firm price for core Work</li><li>• The proposal has been priced using the agreed RCloud rate card</li><li>• The supplier has submitted a completed DEFFORM 711, or provided a clear Nil return statement</li><li>• The supplier has provided a Supplier Assurance Questionnaire (SAQ) against the cyber risk profile</li><li>• The proposal has been submitted with a minimum validity period of 60 days</li><li>• The supplier has submitted a completed RCloud Part C</li><li>• Redacted under FOIA Exemption</li></ul> |
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