

# Serapis Tasking Form

## Tasking Form Part 1: *(to be completed by the Authority's Project Manager)*

<b>To:</b>	Lot 6 Frazer-Nash Consultancy Ltd	<b>From:</b>	The Authority
Any Task placed as a result of your quotation will be subject to the Terms and Conditions of Framework Agreement Number: LOT 6 DSTL/AGR/SERAPIS/UND/01			
<b>VERSION CONTROL</b>			
V1.0			
<b>REQUIREMENT</b>			
Proposal Required by:	[dd/mm/yyyy]	Task ID Number:	[U102]
The Authority Project Manager:	[REDACTED]	The Authority Technical Point of Contact:	[REDACTED]
Task Title:	Crafty Amulet Development and Exercise Support		
Required Start Date:	[01/10/2022]	Required End Date:	[31/03/2023]
Requisition No:	[REDACTED]	Budget Range	£150K
<b>TASK DESCRIPTION AND SPECIFICATION</b>			
Serapis Framework Lot	<input type="checkbox"/> Lot 1: Collect <input type="checkbox"/> Lot 2: Space systems <input type="checkbox"/> Lot 3: Decide <input type="checkbox"/> Lot 4: Assured information infrastructure <input type="checkbox"/> Lot 5: Synthetic environment and simulation <input checked="" type="checkbox"/> Lot 6: Understand		
<b>Statement of Requirements (SOR)</b> <b>Crafty Amulet Task</b> <b>Background</b> <p>In previous work, we have developed an AI conversational question-answer system, called Crafty Amulet, under DEFCON 703 [REDACTED]. The Crafty Amulet system takes natural language questions or utterances from users, as inputs, and matches these to the user 'intent', which in Crafty Amulet equates to the various functions required to provide a response. The system uses supervised learning to classify intent based upon the labelled utterance data. The structure of an intent is transparent by design, allowing the user to break down the various functions involved (Hepenstal et al. 2021).</p> <p>The deployment is described in detail in GFX 'U45: CA EC2 Integration Final Report'. 6 question types were chosen, based upon relevant data sources and functions, to demonstrate how Crafty Amulet could be integrated. [REDACTED]. The questions were representative and helped us to understand how the Crafty Amulet architecture supported combinations of various data sources and external functions.</p>			

The demonstration was not linked to a particular exercise scenario and therefore did not involve alignment to a real exercise scenario or interaction with real users.

[REDACTED]

The next phase for this work is to allow users to interact with the system aligned to a live exercise or use case, so that aspects such as transparency provision and the benefits of a conversational interaction with data can be evaluated. There are a number of opportunities for this throughout FY 2022/23.

The activities are not yet well-defined, so there will be a requirement for development support to align the possible question intents and functions to scenarios when chosen. [REDACTED]

## Requirements

The requirement for this task is to develop the Crafty Amulet system further [REDACTED]

The requirement has two main aspects:

1. General system developments to make deployment, tailoring to an environment, and general usage easier in the future, including:
  - a. Enhanced admin interface allowing for easier development and deployment of new capabilities: Amulet dataset testing and configuration: The final report for U45 noted that a more robust implementation would expose more information about the underlying data within the data configuration. This could include improving the ability for data configuration through the Amulet admin UI, for example of entity IDs, and configuration of classes, attributes, and decorative features such as human readable labels or units in the data. [REDACTED]The work to integrate tabular data directly into Amulet through API / database integration should be continued and improved through a more robust and clear process and mechanism to do this, for example, providing a defined API for integration or providing 'plug in and play' configuration for databases.
  - b. Improved function testing and configuration. [REDACTED]

This was an effective approach and improvements to the Amulet admin UI should be explored to make this, and the development of external functions generally, easier in the future. This was recommended by the final report for U45, to improve robustness and to also make the integration more generic to support greater re-use with other similar environments. For example, Amulet could provide an interface to test each of the function types against an external API and configure the required inputs and outputs to pass to the next function type in the pipeline.
2. Dialogue support for error management in functions. System functions require certain inputs to work properly, as functions become increasingly tailored to particular types of data and domains, a user will likely encounter errors if their queries and associated cues are not properly aligned to the matched intent. To mitigate this, the system should provide additional support to a user. [REDACTED]
  - a. Error management is required for checking and confirming the information extracted from an utterance (resolution of cues) in cases of low confidence and ambiguity i.e. that the right pieces of information have been extracted for use as cues, including classes and instances. [REDACTED] If an intent is not possible to run, due to the cues that have been extracted e.g. if an intent requires two instance cues, but only one has been extracted from the utterance, dialogue should support the user to understand this and to provide the required information. As noted in the final report for U45, this would require a change to Amulet but it would greatly improve the system for use as a conversational agent and would be a useful tool to have if the system was used as a headless client in a chat environment as opposed to a stand-alone deployed solution.

- b. When errors occur due to conflicts between the cues provided and the needs of a function, such as when the system attempts to trigger a function that requires two entity cues and only one can be found, there should be a dialogue with the user to resolve this.

### Procurement Strategy

☐ Lot Lead to recommend ☒ Single Source / Direct Award

### Pricing:

☒ Firm Pricing ☐ Ascertained Costs\* ☐ Other\*

Firm Pricing shall be in accordance with DEFCON 127 and DEFCON 643

Ascertained Costs shall be in accordance with DEFCON 653 or DEFCON 802.

\*only at Authority's discretion

### Task IP Conditions

Task IP Conditions (Follow the [REDACTED] guide to identify your information and IP requirements for each deliverable)	Summary of the Authority's rights in foreground IP (IP generated by the supplier in performance of the contract)
DEFCON 703 <input checked="" type="checkbox"/>	Vests ownership with the Authority
DEFCON 705 Full Rights <input type="checkbox"/>	Enables MOD to share in confidence as GFI or IRC under certain types of agreements. Can be shared in confidence within UK Government.
OTHER IP DEFCONS: 14* <input type="checkbox"/> , 15* <input type="checkbox"/> , 16* <input type="checkbox"/> , 90* <input type="checkbox"/> , 91* <input type="checkbox"/> , 126* <input type="checkbox"/>	Generally only suitable for deliverables at TRL 6 and above.
BESPOKE IP Clause <input type="checkbox"/> *	Details to be added and agreed by IP Group

\* Do not use without IPG advice and approval

*Please state in this text box if MOD or the customer has a requirement a) that one or more Other Government Departments is able to share confidentially with their own suppliers, b) to publish but you do not think there is a requirement to own or control the deliverable, or c) to share under a procurement\* Memorandum of Understanding (MOU).*

*If any of these three issues applies, please contact IPG for advice before completing this form. \*Listing research MOUs is not required, but can be a helpful courtesy to the supplier.*

**DELIVERABLES**

[REDACTED]

**DELIVERABLE: ACCEPTANCE / REJECTION CRITERIA**

Unless otherwise stated below, Standard Deliverable Acceptance / Rejection applies. This is 30 business days, in accordance with DEFCON 524 Rejection, and DEFCON 525 Acceptance.

**Standard Deliverable Acceptance / Rejection:-**

Yes ☒ (DEFCON 524 Rejection, and DEFCON 525 Acceptance)

No ☐ (if no, please state details of applicable criteria below)

**Deliverable Acceptance / Rejection Criteria:-**

*If there are any other specific acceptance/rejection criteria you would like to apply to any of the deliverables, please state them here.*

**Government Furnished Assets (GFA)**

**ISSUE OF EQUIPMENT/RESOURCES/INFORMATION/FACILITIES** (if not applicable, delete table and insert "None" in this text box)

<u>Unique Identifier/ Serial No</u>	<u>Description</u>	<u>Classification</u>	<u>Type</u>	<u>Available Date</u>	<u>Issued by</u>	<u>Return or Disposal Date</u>	<u>Any restrictions?</u>
<i>Serial no</i>	<i>Description</i>	<i>Official-Sensitive</i>	<i>Equipment</i>	<i>00/00/0000</i>	<i>Issuer</i>	<i>00/00/0000</i>	<i>Include details here</i>
CS21-SER-CA-TD	Crafty Amulet Technical Design	[REDACTED]	Report	01/04/2022	Dstl	End of contract	None
	Crafty Amulet system	[REDACTED]	Software	01/04/2022	Dstl		None
CS21-SER-U45-FR U45	U45 Crafty Amulet Spearhead Final Report	[REDACTED]	Report	01/04/2022	Dstl	End of contract	None
CS21-SER-U45-KR-20211001	U45 Knowledge Report	[REDACTED]	Report	01/04/2022	Dstl	End of contract	None
CS21-SER-U38-FR	U38 Final Report	[REDACTED]	Report	01.04.2022	Dstl	End of contract	None

**QUALITY STANDARDS**

- |   |
|---|
| <p><input checked="" type="checkbox"/> <b>ISO9001</b> (Quality Management Systems)</p> <p><input type="checkbox"/> <b>ISO14001</b> (Environment Management Systems)</p> <p><input type="checkbox"/> <b>ISO12207</b> (Systems and software engineering — software life cycle)</p> <p><input type="checkbox"/> <b>TickITPlus</b> (Integrated approach to software and IT development)</p> <p><input type="checkbox"/> <b>Other:</b> (Please specify in free text below)</p> |
| <p><b>SECURITY CLASSIFICATION OF THE WORK</b></p> <p>[REDACTED]</p>   |
| <p><b>TASK CYBER RISK ASSESSMENT.</b> <i>(In accordance with [REDACTED] and the Risk Assessment Workflow)</i></p> <p>[REDACTED]</p>   |
| <p><b>ADDITIONAL TERMS AND CONDITIONS APPLICABLE TO THIS CONTRACT</b></p>   |

**Please ensure all completed forms are copied to [REDACTED] when sending to the Lot Lead.**

## Tasking Form Part 2: *(To be completed by the Lot Lead)*

To: The Authority		From: The Lot Lead	
Proposal Reference	018577-98221L U102 Crafty Amulet System Development and Support - Frazer-Nash Proposal (attached)		
Delivery of the requirement:			
The proposal <u>shall</u> include, but not be limited to:			
<ul style="list-style-type: none"> <li>A full technical proposal that meets the individual activities that are detailed in Statement of Requirements (Part 1 to Tasking Form).</li> <li>Breakdown of individual Deliverables, with corresponding Intellectual Property rights applied.</li> <li>Breakdown of Interim Milestone Payments, with corresponding due dates.</li> <li>A work breakdown structure/project plan with key dates and deliverables identified.</li> <li>A list of required Government Furnished Assets from the Authority, including required delivery dates.</li> <li>A clear identification of Dependencies, Assumptions, Risks and Exclusions which underpin your Technical Proposal.</li> <li>Sub-Contractors Personnel Particulars Research Worker Form and security clearances (if applicable)</li> </ul>			
<b>PRICE BREAKDOWN</b> <i>You are to use the costs detailed in Item 2 Table 1 in the Schedule of Requirement and at Annex E Table 2 of the Serapis Framework Agreement. Please also provide a price breakdown which should include, but is not limited to: Lot Lead Rates, Sub-contractors costs and rates, travel and subsistence. In support of your Proposal you are requested to provide clear details of all Dependencies, Assumptions, Risks and Exclusions that underpin your price.</i>			
<b>Offer of Contract:</b> <i>(to be completed and signed by the Contractor's Commercial or Contract Manager)</i>			
Total Proposal Price in £	£145,362.51		(ex VAT)
Start Date:	28/11/2022	End Date:	31/03/2023
Lot Leads Representative	Name	[REDACTED]	
	Tel	[REDACTED]	
	Email	[REDACTED]	
	Date	17/11/2022	
Position in Company	[REDACTED]		
Signature	[REDACTED]		

## Core Work – Breakdown

[REDACTED]

[REDACTED]

[REDACTED]

## Tasking Form Part 3:

*To be completed by the Authority's Commercial Officer and copied to the Authority's Project Manager.*

<b>1. Acceptance of Contract:</b>		
<b>Authority's Commercial Officer</b>	Name	[REDACTED]
	Tel	[REDACTED]
	Email	[REDACTED]
	Date	24/11/2022
<b>Requisition Number</b>		[REDACTED]
<b>Contractor's Proposal Number</b>		[REDACTED]
<b>Purchase Order Number</b>		[REDACTED]
<b>Signature</b>		[REDACTED]
<i>Please Note: Task authorisation to be issued by the Authority's Commercial Officer or Contract Manager. Any work carried out prior to authorisation is at the Contractor's own risk.</i>		