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

Title of Requirement	Effects of wearables REDACTED UNDER FOIA
Requisition No.	1000167375
SoR Version	**0.1**

1.	**Statement of Requirements**
1.1	**Summary and Background Information**
	Summary The Authority has a requirement for empirical trials to understand the effects of carrying or wearing objects (e.g. wearable devices) REDACTED UNDER FOIA Specifically, answers to the following questions are sought: - What are the maximum weight/load limits of objects REDACTED UNDER FOIA - How does the maximum weight/load limit change REDACTED UNDER FOIA - How is task performance affected by wearing/carrying objects of different weights and/or shapes on different locations REDACTED UNDER FOIA - How should objects be carried REDACTED UNDER FOIA to best avoid affecting task performance REDACTED UNDER FOIA - How can any effects of wearing/carrying objects be prevented/mitigated (e.g. habituation, weight placement/distribution, object shape, equipment REDACTED UNDER FOIA **Background** In recent years, there has been a growing interest in the development of 'wearables' REDACTED UNDER FOIA where devices such as physiological monitors, trackers or cameras are placed REDACTED UNDER FOIA However, there is limited information available on how the placement, shape or weight of such devices may affect REDACTED UNDER FOIA REDACTED UNDER FOIAIt has been suggested as an application for wearable devices, it is important to understand if there could be potential locomotory, physical, physiological, cognitive and/or behavioural effects of wearable device placement, shape and/or weight that could impact

	REDACTED UNDER FOIA performance. It is also important to understand how best to prevent or mitigate any potential effects REDACTED UNDER FOIA
1.2	**Requirement**
	The Authority has a requirement for the supplier to answer the questions outlined below. Answers should be supported by robust evidence, based on valid and objective measurement techniques wherever possible. The questions concern the potential impact of wearable device weight, shape and placement on the operational performance REDACTED UNDER FOIA Task performance should specifically focus on abilities relevant to search-related tasks (as defined below). - How can any effects of wearable device weight, shape and placement/location on REDACTED UNDER FOIA task performance (including locomotory, physical, cognitive, behavioural and physiological effects) be reliably measured? - What are the maximum weight/load limits that REDACTED UNDER FOIA can be carried in different locations on their body before their task performance is affected? (e.g. are there locomotory, physical, physiological, cognitive and/or behavioural effects and when do they occur?) - How does the maximum weight/load limit change depending on REDACTED UNDER FOIA characteristics REDACTED UNDER FOIA - How is task performance affected by placing differently weighted or shaped objects at different locations REDACTED UNDER FOIA - How should weights/objects be carried REDACTED UNDER FOIA to best avoid affecting task performance REDACTED UNDER FOIA - How can any effects of wearable devices be prevented or REDACTED UNDER FOIA The following assumptions should be made: - The work conducted will be used to inform decisions REDACTED UNDER FOIA The study design(s) should be suitable to answer the questions outlined above in relation to the topic area in an efficient manner. This should include consideration of statistical power and the impact of one study stage on latter stages. Where a design is proposed that will not provide statistically robust data, this must be made clear to REDACTED UNDER FOIA in the Statement of Work. <u>Approach</u>

Developing the methodology (1 month from start-up)

1. Develop a standard protocol suitable for scientifically valid assessment of the questions listed above.
   a) Agree the specific test wearable objects REDACTED UNDER FOIA
   b) Identify possible methods for investigating the effects of wearables REDACTED UNDER FOIA.
   c) Identify the most representative performance assessment tasks REDACTED UNDER FOIA
   d) REDACTED UNDER FOIA Conduct a literature search to identify previous relevant research.
   e) REDACTED UNDER FOIA
   f) Hold a meeting with the authority to discuss and develop the proposed methodology to meet the requirements of the project.
   g) Finalise the outline for the project and obtain approval to proceed from the Authority.

Conduct experiments

1. REDACTED UNDER FOIA
   a) Conduct a literature search to identify any relevant pre-existing answers to the questions outlined REDACTED UNDER FOIA
   b) REDACTED UNDER FOIA
   c) REDACTED UNDER FOIA.
   d) REDACTED UNDER FOIA
   e) Carry out trials in accordance with the agreed protocol. Trials may include observation of tasks REDACTED UNDER FOIA
   f) Record video evidence of trials REDACTED UNDER FOIA
   g) Statistically analyse the results of the trials using appropriate methods.
   h) Provide progress updates including an interim progress report and expected achievements by the end of March 2022. The progress report should include a summary of relevant background research REDACTED UNDER FOIA preliminary results and planned timeline detailing the way forward for project completion.
   i) Provide a Microsoft word report of the study in a suitable format for publication in a peer reviewed academic journal. Include any material developed for data collection (e.g. cognitive and behavioural tests, local operating procedures), the raw data in an excel

format, images/video examples and a detailed description of scientific methods, results, conclusions and recommendations.

j) Travel to a location in the UK REDACTED UNDER FOIA to present the results of the study to the REDACTED UNDER FOIA project team and stakeholders, including the delivery and provision of a PowerPoint presentation.

Throughout the project there will be monthly progress reports and update teleconferences with the Authority. Minutes of all meetings should be summarised in a short memo by the supplier.

A break clause will be included in the contract at the end of March 2022. The Authority will review the progress made and can end the contract if it does not believe that satisfactory results will be obtained by the end of the contract, or for financial reasons.

Mandatory Requirements

Suppliers should be subject matter experts REDACTED UNDER FOIA

Suppliers should also have experience in data collection beyond the laboratory (e.g. in the field or under non-typical laboratory conditions).

Subcontracting is not permitted REDACTED UNDER FOIA

The supplier must:

• Provide a written plan of work including:

- Delivery mechanism, including any subcontracts or dependencies on third parties.

- Scientific method including measurement techniques and end points.

- Timelines for each stage of the study and when these will be likely to occur.

- Cost for each stage of the study

- Quality assurance methods

• Complete the plan of work within one month of the project start date.

• Keep a list of all staff working on the project and their role (and suitability/background/qualifications) REDACTED UNDER FOIA.

REDACTED UNDER FOIA

• Have an appointed study lead that is responsible for running the study in accordance with the study plan, including ensuring all data is captured and analysed.

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• The supplier must ensure that the appropriate approvals REDACTED UNDER FOIA are in place for all activities being undertaken during this contract and for all facilities being used. REDACTED UNDER FOIA

• Provide a written interim progress report in March 2022 detailing achievements to date and expected achievements by the end of the project. The progress report should include a summary of relevant background research, REDACTED UNDER FOIA, preliminary results and planned timeline detailing the way forward for project completion.

• Provide written final reporting in a clear and concise format, of a quality suitable for publication in a peer reviewed journal if required.

• Be available to answer questions from the Authority within 48 hours unless otherwise agreed.

The suppliers will be expected to have access to appropriate facilities and resources to enable delivery REDACTED UNDER FOIA data collection equipment, data processing software (such as SPSS, R, Excel, Matlab), access to standard programming software to allow delivery REDACTED UNDER FOIA

If any novel methods of data collection and analysis are developed as part of the study e.g. to allow the administration of the tests or collection of data through automated analysis of any sort, the software must be delivered REDACTED UNDER FOIA Additionally if any bespoke analysis algorithms are developed to support the analysis these must be provided REDACTED UNDER FOIA with full rights and written in such a way to allow open access. Similarly any models or equipment developed as part of the work must also be open access and delivered REDACTED UNDER FOIA.

The Authority requires Freedom of Action so that the contract deliverables contain all of the necessary information, and adequate sharing rights, to permit the Authority to modify or improve on the project outputs, publicise and to adopt them in other uses at an appropriate level.

The suppliers must be available to answer questions from the Authority which arise up to four weeks after the delivery of the final report at the end of the contract. The suppliers must amend and clarify the final report after delivery, if required by the Authority. The Authority will provide feedback within 30 days of delivery.

If the supplier is working as part of a team, it is essential that they personally:

- have daily oversight of the work
- control the quality of the work

- provide input to determine and run the testing protocols
- interpret the findings of the testing protocols
- provide a summary of the key findings
- attend meetings and presentations to determine the protocol and discuss findings with the Authority
- be available to answer questions from the Authority that arise as an outcome of reading the report and therefore must be available for at least four weeks following delivery of the final report.

Monitoring and oversight will be conducted by meetings at the contractor(s) facilities, and by email and monthly telecons. The following requirements relate to communications REDACTED UNDER FOIA and the supplier:

- REDACTED UNDER FOIA
- The supplier must not proceed with any work without written agreement from the REDACTED UNDER FOIA project manager. Only work requested by the REDACTED UNDER FOIA project manager or their stated representative is to be conducted.
- The supplier must make REDACTED UNDER FOIA aware of any changes to the study protocols before the changes are made.
- REDACTED UNDER FOIA
- With a minimum of 24 hours' notice, the supplier must permit the observation, by REDACTED UNDER FOIA an appointed representative, REDACTED UNDER FOIA during the study.
- REDACTED UNDER FOIA shall be able to access all raw data upon request.
- The supplier may not discuss or share any information gained in the course of this contract with any other third party REDACTED UNDER FOIA) without the written agreement REDACTED UNDER FOIA. All written reporting shall be reviewed by REDACTED UNDER FOIA before release to third parties.
- The supplier may disclose any information to its regulators, where this information is required for regulatory purposes.
- The supplier shall ensure that all staff are made aware of the security associated with this project and shall manage and control dissemination of information by them.
- This work shall only be discussed on a need-to-know basis within the supplier's organisation. REDACTED UNDER FOIA.

- A detailed Statement of Work will be agreed between the supplier REDACTED UNDER FOIA before any studies commence and, along with this Statement of Requirement, will form the agreement against which progress and performance will be measured and assessed.
- Specific findings of this work may not be publishable or in any other way communicated, in open fora.
- As and when required a suitably located meeting room is to be provided to ensure free flow of conversation and privacy between REDACTED UNDER FOIA and the supplier.

Written reporting should include, but is not limited to:

- An interim progress report in March 2022 outlining progress to date and anticipated achievements by the end of the project. The progress report should include a summary of relevant background research, the experimental methodology, preliminary results and planned timeline detailing the way forward for project completion. There will be a break clause at this point (March 2022) where the project can be ended by the Authority if there has not been, or is not expected to be, sufficient progress to produce useful data by the project completion date, or for financial reasons.

A final report delivered at the end of the project in February 2023, detailing:

- Evidence collated in answer to each question, including video footage and photographs (video should be provided on a USB stick in mp4 format).
- Discussion of the significance of findings in the context of current understanding
- REDACTED UNDER FOIA
- Recommendations for the next most useful scientific investigation
- Lessons learnt from existing study e.g. how the study protocol could be improved.

REDACTED UNDER FOIA requires the supplier to host the following meetings, either in person at their facilities, or via telephone. REDACTED UNDER FOIA

- Start-up meeting
- Monthly interim review meetings. These will include one meeting after the method has been finalised but before experimental trials begin. One meeting in March 2022 and one meeting after the results of the experimental trials have been analysed. Additional meetings should be scheduled between major stages of the study if the design is multi-stage.
- Project closure meeting

<u>Desirable Requirements</u>

	A wider interdisciplinary team which provides the opportunity to collaborate with personnel with locomotion, physiology and cognitive neuroscience backgrounds. Publish findings in a peer reviewed journal if appropriate. The opportunity to involve REDACTED UNDER FOIA to support data collection, analysis and/or reporting. This could include shadowing a particular element of the data collection so that the team member could learn a new data collection technique. This will obviously be dependent on the skills of the individual and the requirement for capability development, the exact conditions must be agreed between the Authority and the supplier and will be formally documented in terms of responsibilities of each party.
1.3	**Options or follow on work** *(if none, write 'Not applicable')*
	The Authority may require the following follow-on work: 1. Additional experimental trials 2. Advice on the outcomes of the work to support future decision making 3. Overseas travel to present the findings of the existing work and provide advice 4. Writing of summary articles on one or more topic areas for informal publications REDACTED UNDER FOIA
1.4	**Contract Management Activities**
	REDACTED UNDER FOIA requires the supplier to host the following meetings, either in person at their facilities, or via telephone. REDACTED UNDER FOIA • Start-up meeting (January 2022) • Monthly interim review meetings, including: - One meeting one month from project start up to discuss and develop the proposed methodology to meet the requirements of the project. Finalise the outline for the project and obtain approval to proceed from the Authority. - One meeting in March 2022. A break clause will be included in the contract at the end of March 2022. The Authority will review the progress made and can end the contract if it does not believe that satisfactory results will be obtained by the end of the contract, or for financial reasons. - One meeting after the results of the experimental trials have been analysed.

	- Additional interim meetings should be scheduled between major stages of the study if the design is multi-stage. • Project closure meeting (February 2023) Minutes of all meetings should be summarised in a short memo by the supplier.
1.5	**Health & Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement**
	REDACTED UNDER FOIA

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**
D – 1	Tasking start up meeting	T0	Presentation (.pptx)	O	Presentation pack to include but not limited to: • Team members and roles • Proposed way forward • Expected outputs • Commercial aspects • Review of deliverables • Risks/issues	Default RCloud Agreement Terms and Conditions shall apply
D - 2	Monthly tele-conference meetings	T0+1 month and monthly thereafter	Direct tele-conference verbal briefs to REDACTED UNDER FOIA	O	• Update on technical progress • Progress report against project schedule. • Review of risk management plan. • Commercial aspects. • Review of deliverables. • Risks/issues. • Supplier performance	Default RCloud Agreement Terms and Conditions shall apply

D - 3	Interim Progress Report	March 2022	MS Word report (.docx)	O	Report to include but not limited to: • Summary of relevant background research • The experimental methodology • Preliminary results • Expected outcomes of the project • Planned timeline detailing the way forward for project completion The Authority has the right to end the contract if insufficient progress has been made or is expected to be made by the end of the contract.	Default RCloud Agreement Terms and Conditions shall apply
D - 4	Final Technical Report (including videos and images)	Feb 2023	MS Word report (.docx)	O	Report to include but not limited to: • Detail the experimental trial to include background literature, methods, results, conclusions and recommendations. • Clear information on any piloting of methods and validation. • REDACTED UNDER FOIA • Written in a format suitable for a peer reviewed academic journal article.	Default RCloud Agreement Terms and Conditions shall apply

					Supplementary materials in a shareable format (trial videos, raw data etc)	
D - 5	Final Technical Presentation	Feb 2023	PowerPoint presentation (.pptx)	O	Presentation pack to include but not limited to: • Output from the trial • Exploitation/impact of the results REDACTED UNDER FOIA	Default RCloud Agreement Terms and Conditions shall apply

1.7	**Deliverable Acceptance Criteria**
	• All technical reports included as Deliverables must be delivered in a Microsoft Word document and pdf by email to address the research questions posed in the requirement. • The interim progress report should include a summary of relevant background research, the experimental methodology, preliminary results and planned timeline detailing the way forward for project completion. • The final report should be of a standard/quality acceptable for publication in a peer reviewed academic journal. It should include information/summary tables of any research reviewed for literature reviews, the design of the research, REDACTED UNDER FOIA The reports on the experimental work should include all relevant technical details of any hardware, software, process or system developed there under. The technical detail shall be sufficient to permit independent replication of the study. The raw data should also be made available to the Authority in a Microsoft Excel format. • Presentations shall describe the experimental work in sufficient detail to explain comprehensively the work undertaken and results achieved. Presentation slides should be made in Powerpoint and provided to the authority. • All reports shall be free from spelling and grammatical errors and shall be set out in accordance with the Statement of Requirement (1) above. Failure to comply with the above may result in the Authority rejecting the deliverables and requesting re-work before final acceptance. Notification of acceptance by the Authority will be delivered via an email which expressly states that the report has been accepted, within 30 days of delivery.

2	**Evaluation Criteria**
2.1	Method Explanation
	Value for Money Index. Technical score divided by cost.
2.2	Technical Evaluation Criteria

Proposals should include a concise response to each evaluation criteria, adhering to the word limits stated. Supporting evidence may be provided separately, but will only be read if time allows.

	Criteria	Score	Weighting
R1	<u>Technical approach</u> In no more than 4000 words, please describe: *Mandatory* • The requirement questions you intend on addressing (as defined in Section 1.4 of this document) • The proposed approach for meeting the requirement questions including: • What you propose to do • Who will be working on the project (key people and organisations) • What facilities you will use and their suitability • Measurement techniques you propose using • REDACTED UNDER FOIA *No desirable requirements*	0 - 10	5
	<u>Management</u> In no more than 1000 words, please describe: *Mandatory* • The timelines and costs (in Pounds Sterling) associated with each stage of your proposed plan. • How canine expertise will be provided • The staffing of the project and how staff will be managed.	0 - 10	3

		• How the quality of the work will be managed. • Communication plan with the Authority *Desirable* In no more than 500 words: Provide evidence of delivery of similarly complex projects in the past.		
	R2	Subject matter expertise In no more than 2000 words, please describe: *Mandatory* • How you will provide the mandated and desirable expertise described in the Mandatory and Desirable Requirements sections. *No desirable requirements*	0 - 10	5
	R3	Scientific approach In no more than 500 words, please demonstrate your ability to: *Mandatory* • Plan, conduct and analyse REDACTED UNDER FOIA *Desirable* • Publish literature in a peer reviewed journal	0 - 10	4
	R4	REDACTED UNDER FOIA In no more than 2000 words, please describe how you intend to: *Mandatory*	0 - 10	5

	REDACTED UNDER FOIA *No desirable requirements*		
Total	(total of maximum score times weighting)		220

Scoring summary

10 = Excellent. The response addresses all elements of the requirement, and provides a comprehensive, unambiguous and thorough explanation of how the requirement will be fulfilled.

7 = Good. The response addresses all of the elements of the requirement and provides sufficient detail and explanation of how the requirement will be fulfilled.

3 = Adequate. The response addresses the majority of elements of the requirement but is weak in some areas and does not fully detail or explain how the requirement will be fulfilled.

0 = Inadequate. The response does not address or explain how the requirement will be fulfilled and fails to demonstrate the ability to meet the requirement.

Bids will be deemed to fall short of the Authority's technical requirement and therefore be technically non-compliant in the following cases:

- A total score of less than 38 marks is achieved for the technical criteria.
- A score of 0 is recorded on 2 or more occasions under the technical criteria.

The technical total score will then be weighted to make up 70% of the final score, while the total cost of the bid will be weighted to make up 30% of the final score.

2.3	Commercial Evaluation Criteria
	Submitted as Firm Price, Unpriced Technical proposal received, One fully priced commercial & technical provided, Part C returned