VEHICLE SUPPORT TEAM

ARMOURED VEHICLE STRUCTURAL INTEGRITY MANAGEMENT (AVSIM)

REQUEST FOR INFORMATION – CONTEXT DOCUMENT

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Issued by:
DE&S Vehicle Support Team
Ministry of Defence
Abbey Wood, Bristol, BS34 8JH.

To ensure openness, transparency and propriety in the evaluation process, all enquiries and requests for clarification must be addressed in writing to the above point of contact through the Defence Supplier Portal (DSP).

Defence Equipment & Support

MINISTRY OF DEFENCE

NOTICE TO READER AND DISCLAIMER

1.1 The Ministry of Defence (MoD) is considering future options for the procurement of goods and services through the Defence Equipment and Support (DE&S) organisation. This Request For Information (RFI) has been issued as part of a process aimed at obtaining the market's views on some of the options it is considering ("pre-market engagement").

1.2 The purpose of this RFI is to seek information from the market. Specifically, this RFI is providing potential suppliers the opportunity to comment on the development of our strategy around the following aspects:

- Introduce the Armoured Vehicle Structural Integrity Management project to industry;
- Communicate our supply market engagement approach and plans;
- Ascertain interest and gather general information to help inform the format of a potential initial industry event, and enable the selection of organisations to attend the event;
- Survey the market for views to help inform a future commercial strategy for Armoured Vehicle Structural Integrity Management (AVSIM).

1.3 For the avoidance of doubt, this RFI does not constitute a commitment to launch a formal procurement procedure. Any comments, indications of interest, participation, or non-participation by any organisation at this stage will not influence the process, selection and/or award decision for any future possible procurement, nor will it be taken as a supplier's committed position. Non-participation in this pre-market engagement will not be taken into account in any related future procurement.

1.4 The information contained within this document is OFFICIAL, remains the property of MoD and may be used only for the purpose of informing a response to this document. By agreeing to complete a response to this document, you and your organisation also agree to:

- Refer any communications received from third parties regarding the content or participation in this process to DES Land Equipment Vehicle Support Team via Daniel.Morris168@mod.gov.uk and Isabelle.Hart100@mod.gov.uk.

- Not make any public statement in relation to this document without the prior written approval of DES Land Equipment Vehicle Support Team, via Daniel.Morris168@mod.gov.uk and Isabelle.Hart100@mod.gov.uk.

1.5 A key feature of the MoD's approach to market engagement for AVSIM is to hold pre-market engagement events. It is anticipated that responses to this document may form the basis for discussion during an in-person/virtual event to be held in late 2023. Interested parties have the opportunity to register their desire to attend this event when responding to this document, although suppliers are invited to respond even if they do not wish to attend. If sufficient interest is registered, and such an event is deemed useful then details of any such industry day will be passed on to interested parties ahead of time.

1.6 Please note that your responses to this document should be submitted no later than **14:00 on 8th November 2023** to enable MoD to analyse and consider responses.

1.7 The information contained in this document and any further information (whether written, electronic or oral) supplied by the Secretary of State and/or any of its representatives in respect of this document is, and will be, supplied on the condition that neither the Secretary of State, any of its representatives nor any agents, servants, officers or affiliates of the

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1.8 Participation in this process and any response to this document is entirely at your cost and risk. The MoD is under no obligation to proceed with a formal procurement or in any other way proceed with the process and shall not be liable to any participants for any costs arising from participation in this process.

1.9 You should note that any copyright in the information provided by the MoD as part of the market engagement process, any further documents issued by the MoD or its representatives in relation to this document, rests with the Crown. All other intellectual property rights in such documentation shall remain the property of the Secretary of State and no recipient shall obtain any right, title or interest therein. Such documentation may not be reproduced, copied or stored in any medium, in whole or in part, without the prior written consent of the Secretary of State, other than as strictly required for the preparation of responses to this pre–market engagement document.

2. PROJECT INTRODUCTION - AVSIM

BACKGROUND

2.1 The British Armed Forces' fleet of Armoured Vehicles is complex and varied, comprising thousands of in-service platforms across multiple types and variants. In order to maintain a safe fleet, structural integrity of the vehicles has been traditionally managed via a deep repair and overhaul programme on a time or distance basis.

2.2 The current iteration of this process, known as Maintenance, Repair and Overhaul Level 4 (MRO4) is delivered by Babcock under the extant Support Provision and Transformation Contact (STPC). Experience and data gathered during this process has identified that the selection of vehicles entering this process based upon the time elapsed, or distance travelled, since manufacture or last overhaul is inefficient, with some platforms requiring little repair despite high time/distance metrics. Further investigation has identified that platforms which are not yet due to enter MRO4 (to assure the structural integrity based upon these metrics), are identifying significant indications of structural integrity degradation which may have an effect on crew and passenger safety.

2.3 Through consultation with the Design Authority for select in-service platforms, it has been identified that a condition-based selection process for MRO4 is highly likely to be possible by exploiting advances in Non-Destructive Testing (NDT) technology to monitor key, safety critical areas of the platforms during routine maintenance. This additional inspection, to be carried out by a suitable industry partner, will ensure that the platforms which are selected for MRO4 are chosen on a condition basis, minimising inefficiencies in the MRO4 process and ensuring that platforms exhibiting structural degradation are removed from use with the Army before a safety risk can materialise.

2.4 Additionally, it is envisioned that analysis of the data generated by additional inspection of the platforms will facilitate better decision-making processes about where and how the platforms can be used, and when they will require repair. The exploitation of this data is expected to increase over time, allowing a risk-based approach to be taken when considering the use and deployment of individual platforms, minimising the safety risks associated with the platforms whilst consuming fewer resources in order to maintain safe fleets.

PROJECT AIMS

2.5 The project is considering options to let future support contracts to optimise the structural integrity management of military vehicles. The following priorities underpin the intent of this work:

2.5.1 Priority 1 – Safety: Solutions for structural integrity optimisation must put the safety of the crew, passengers, and those in the general vicinity of vehicles first. The risks of operating in and around vehicles must remain As Low As Reasonably Practicable (ALARP) and the platforms must remain safe-by-design;

2.5.2 Priority 2 – Availability: The optimised solution(s) must maximise vehicle availability, with platforms remaining within the bounds of their respective safety cases;

2.5.3 Priority 3 – Efficiency: The solution(s) must make most efficient use of resources – financial, workforce, and materiel – to provide safe, available platforms to the User;

2.5.4 Priority 4 – Evidence Driven: The solution(s) must be evidence led, allowing the customer (UK Armed Forces) to make decisions on the use, deployment, and repair of vehicles taking a risk-based approach using up-to-date information underpinned by strong fundamental engineering principles;

2.5.5 Priority 5 – Evolution: The solution(s) should be able to evolve over time, exploiting new advances in technology to improve data collection, capture, and processing. This data gathered throughout the life of each platform should also be used to drive further improvements in safety, availability, and efficiency as more evidence is available to improve decision making;

2.5.6 Priority 6 – Growth: The solution(s) should be scalable, using a core set of principles for data collection, processing, and decision making to incorporate additional vehicle types in the future. This should be equally applicable to in-service vehicles as to new-to-service vehicles;

2.5.7 Priority 7 – Integration: The solution(s) should integrate as much as possible with existing systems and processes for each vehicle type. Considerations for integration include but are not limited to; software interfaces (JAMES, etc.), contractual interfaces (Design Authorities, repair organisations, etc.), and existing inspection and maintenance requirements for vehicles.

2.6 In order to deliver the aims and objectives of AVSIM two discrete, but linked, requirements have been identified. Responders to this Request For Information should state whether they are responding to one, or both, of these requirements. When responding to the questions in the attached questionnaire, please state clearly which work package(s) your response is in relation to.

2.6.1 **Work Package 1 - 'Scanning' of vehicle hulls whilst in-service**: In order to collect structural data for each platform, the vehicles must be scanned at a given periodicity – depending on the vehicle type, planned usage profile, condition, etc. – at different locations using Non-Destructive Testing (NDT) equipment and methodologies. This includes but is not limited to:

- Eddy Current
- Phase Array Ultrasonic Testing (PAUT)
- Alternating Current Field Measurement (ACFM)

The party undertaking this activity should expect to:

- Provide suitably qualified personnel to undertake the physical scanning of the equipment.
- Provide suitable test equipment to provide adequate information in accordance with requirements set by The Authority and the vehicle Design Authority.
- Assist with vehicle preparation (minor stripping of components, cleaning, etc) where required. It is expected that the vehicles will be in a mostly prepared state prior to scanning by the holding unit, however due to conflicting priorities, pace of training/operations, and user error it should be expected that some additional steps to prepare the vehicles may be required by the supporting party.
- Ensure that data is captured correctly and loaded onto whichever system is determined by the Authority.
- Comply with all security requirements, both physical when operating around the vehicles and also for the data captured.

- There is a potential requirement for the operators to undertake some analysis of data prior to or during upload.
- Identify and adhere to safe ways of working on and around the platform, ensuring best practice is followed at all times.
- Identify and recommend improvements in scanning methodologies and technologies, to further improve data capture and drive efficiencies.

2.6.2 **Work Package 2 - Provision of a 'Hull Management System':** Data captured from the scanning of platforms needs to be captured, stored, and processed to allow decisions to be made about the use, deployment or repair of each individual platform. It is expected that the requirements for system will change over time and so growth should be planned into the design from the outset. At a minimum, the system shall:

- Provide a standard report template to include: Flaw type (e.g., surface breaking crack, sub surface crack, manufacturing defect etc), size, location, inspection method, inspector, date.
- Include minimum of four distinct user types; Data Input, Data Manager, Administrator, and Guest; Administrators can add, remove, edit information and export reports, Guests can only view information, Data Managers can enter and edit data, and Data Input users can only enter information.
- Provide a system for analysing the data that has been entered through a suitable design tree, to be developed in conjunction with pre agreed stakeholders. **Note**: As information is entered into the system as defects are sentenced over time, it is expected that the system will start to provide sentencing recommendations. At first these recommendations shall be reviewed, but as confidence grows the system will autonomously sentence defects without human input.
- Have the capability to store the raw data from all inspections to be reviewed later if required.
- Provide a graphical representation and overview of all vehicle data, including defect location on vehicle, length, depth (where necessary), suitable datums, etc. This must have the ability to evolve over time as platforms are scanned more than once and changes to defect lengths, depths, repair actions, etc. are recorded.
- Include the ability of an administrator to set boundaries and filters to analyse output information. For example, "cracks over 300mm only", or "defects in wheel stations only".
- Allow information to be added to the system from any location with a network connection.
- Include the ability to collect NDT data from a range of sources, ideally including direct data capture during live scanning of vehicles.
- Provide the ability for stakeholders (internal and external to MOD) to sentence vehicles remotely.
- Store all information pertaining to a sentencing decision, in a structured, auditable, manner.
- Be able to output sentencing decisions, including vehicle RAG status and identified 'restricted use conditions' to JAMES (or replacement system).
- Be able to export the data as a PDF, Word document, or Excel spread sheet.
- Store data in a non-proprietary method.

SUPPLEMENTARY INFORMATION

2.7 The Land Equipment scope includes (but is not limited to) both the in-service vehicle fleets and the new programmes including Challenger 3, BOXER and AJAX, listed within the table below. For this initiative, the focus is on Tracked Vehicles with a potential to expand to Wheeled Vehicles and General Vehicles and Equipment in the future.

2.8 Of the Tracked Vehicles, the number next to the platform name in the table below gives an indication as to how soon each platform is expected to be included, with 1 being soonest, 3 being latest.

Tracked Vehicles	
AJAX	3
Challenger 2 (incl. Driver Training Tank (DTT))	1
Challenger 3	3
AS90	2
Bulldog	1
Beach Recovery Vehicle	2
Viking	2
BV206	N/A
CRARRV	1
Titan and Trojan	1
Terrier	2
Warrior	1
Wheeled Vehicles	
BOXER	
Mastiff	
Wolfhound	
Ridgeback	
Panther	
Foxhound	
HMTV (Jackal)	
Pinzgauer	
Land Rover	
Land Rover Revised Weapons Mounted Installation Kit	
Multiple Launch Rocket System (MRLS)	
Support Vehicles (Family)	
Wheeled Tanker	
Quad Bike	
General Vehicles and Equipment	
BR90	
Bridges	
M3 (Amphibious Bridging Vehicle)	

2.9 The AVSIM solution will be required to deliver support to the fleets indicated above, across work packages of the scope in multiple locations. Whilst the majority of the support will be in the UK, AVSIM will also be required to support training and operations overseas. In addition, the AVSIM solution may potentially require contingent and enduring deployed support where specific CONDO (Contractor on Deployed Operations) requirements are necessary. Further detail regarding the types of environments where service may be required is shown in Annex B to this RFI.

2.10 The current repair agent for Land Equipment is Babcock Defence Support Group who deliver Maintenance, Repair and Overhaul activities in line with the terms of the Service Provision and Transformation Contract (SPTC). The eventual suppliers of either or both work packages outlined within section 2.6 of this document will be required to interface with the supplier of MRO activity, as well as the Authority (DE&S), the customer (UK Armed Forces) and any relevant Design and/or Engineering Authorities for individual vehicle types.

2.11 Further information can be found at Equipment | The British Army (mod.uk).

3. SUPPLY MARKET ENGAGEMENT APPROACH AND PHASE 1 EVENT

3.1 The MoD is open to guidance and challenge from the market in order to help inform its approach, and this is the initial engagement in the first phase of an intended series of activities to be undertaken as the project progresses:

- PHASE 1: Pre-Market Engagement - *Listen, Gather Information*
- PHASE 2: Market Engagement - *Learn & Evolve*
- PHASE 3: Procurement Events - *Execute Procurement Processes*

3.2 The aim of this initial phase of the process is to socialise and seek feedback on our nascent commercial approach to the AVSIM project (this includes the issuance of this RFI and the planned event).

3.3 The objectives of this initial phase are to:

- Communicate our challenges to the market - obtain insights from the market;
- Share our proposed approach - gain feedback from the market, including on alternative approaches;
- Understand market health - disruptions, capability, capacity etc.;
- Promote collaboration between suppliers and with MoD;
- Understand any key barriers to entry for suppliers with the aim of ensuring any procurement activity is as inclusive as possible for all suppliers;
- Seek better understanding of the feasibility of the project approach and delivery, associated risks, and commercial models;
- Increase supplier awareness of Government policy - e.g. UK Government Transparency Agenda, Social Value, Net-Zero Carbon Emissions obligations, and UK Prosperity.

3.4 Phase 1 comprises two elements:

3.4.1 Completion of a questionnaire that seeks initial views from the market which will enable MoD to better plan a pre-market engagement event; and

3.4.2 If responses indicate that an in-person or virtual event would be beneficial, then one will be held later in 2023, the exact date and details of which will be confirmed to those invited to attend.

3.5 It is envisaged that any engagement event will feature the following:

- A cross-section of organisations will be invited to ensure wide contribution from different perspectives. The MoD will determine the optimal balance of participants based on type of organisation, with a desire to also ensure the participation of suitable Small and Medium Enterprises (SME);

- If an in-person event is held, it is currently anticipated that due to the intended design and physical space constraints up to 35 supplier organisations will be invited to attend[1];

- The number of delegates from each participating organisation will be limited to two (2);

[1] The number of supplier organisations and delegates is subject to change if a virtual event is held.

- During the event we will present more information about MoD / DE&S, its vision, strategy and delivery expectations.

3.5 Organisations should indicate their interest in attending the event in their questionnaire response submission.

4. SUBMITTING YOUR RESPONSE

4.1 Participants should note the following when completing a response to this document:

a) Industrial participants may complete their response as a single entity and/or as a group of entities working together to complete the response.

b) All information submitted in response to the document regarding any requirement, subject matter, will be published and made available to all potential participants.

c) It is essential that any supplier wishing to submit a response and participate has opened an active account on DSP. Annex C is a guide on Supplier Registration. **Participants are also requested to register their interest via email to the following email address:** daniel.morris168@mod.gov.uk and Isabelle.Hart100@mod.gov.uk.

d) Please provide your response by completion of section four (4) of this document. Brevity is appreciated.

e) While full completion of the entire questionnaires is highly desirable, partial responses may still be valuable to inform the MoD's procurement choices and follow-up engagement.

f) Participants are invited to respond to either, or both of, the requirement (or work packages) identified in Section 2.6 of this document. Participants **are not required** to respond to both work package and the inability to do so will not penalise participants from future involvement in the commercial process.

g) Any clarification questions regarding this document must be sent to DSP portal and the email address in paragraph c) above. The deadline for submission of clarification questions is 12:00 on 1st November 2023; Please allow up to 5 days for a response. If you have not registered your interest in completing this document via DSP Suppliers Registration or via the email address in paragraph c) above, you may not receive answers to the clarification questions raised.

h) Submission of your full response is required by 14:00 on 8th November 2023 to enable MoD to analyse and consider the information. **Participants are also requested to send responses to the email address at paragraph c) above.**

i) Please send your response in English and in MS Office or PDF format.

This document is intended to provide you with information and to allow you to respond to the questions. You may provide case studies and other pertinent information, however, please do not include marketing material, copies of certificates, quality documentation or price lists at this stage. Responses must be submitted through DSP either in MS Office or PDF format.

ANNEX A – DEFINITIONS

CONDO	*Contractors On Deployed Operations*
DE&S	*Defence Equipment & Support*
DSIS	*Defence Security & Industrial Strategy*
DSP	*Defence Sourcing Portal (https://www.contracts.mod.uk/*
GOCO	*Government Owned Contractor Operated*
ISO44001	*International Organisation for Standardisation 44001: Collaborative Business Relationship Management Systems*
Levels of Maintenance	*The level of maintenance is determined by the extent of the engineering content. It is measured in terms of the standard of repair, the time necessary to repair to the standard required; and the complexity of the repair as measured by the engineering resources required*
Level 1 Maintenance	*Service and day-to-day preparation, including functional testing, replenishment or adjustment*
Level 2 Maintenance	*Maintenance by replacement, adjustment or minor repair, including fault diagnosis and authorized modification, within specified times, using generally provisioned resources.*
Level 3 Maintenance	*Maintenance in greater depth than Level 2, including repair, partial reconditioning and modification requiring special skills and/or special equipment*
Level 4 Maintenance	*Maintenance that includes full reconditioning, major conversions or major repairs*
LIOS	*Land Integrated Operating Services*
MOD	*Ministry of Defence (UK)*
NDA	*Non-Disclosure Agreement*
OEM	*Original Equipment Manufacturer*

PIN	*Prior Information Notice*
RFI	*Request for Information*
SME	*Small & Medium-Sized Enterprises*
SQEP	*Suitably Qualified & Experienced Personnel*
Update	*Seeks and results in renewal, continuation or extension of an existing capability and, although it does not necessarily seek it, results in additional functionality or material improvement to a capability.*
Upgrade	*Seeks and results in a material improvement to a capability.*
Upkeep	*Seeks and results in renewal, continuation, or extension of an existing capability without resulting in additional functionality or material improvement to a capability.*

ANNEX B – Operating Environments

It is anticipated that the AVSIM services will be required to support the User within three environments:

a. **Deployed tactical.** Operations which constitute a contingent commitment, especially using force elements held at readiness. This environment will place the most demanding requirements on Defence's vehicles and equipment due to the high level of threat, challenges of terrain, difficult environmental conditions, and the need to operate within a dynamic and mobile force. This environment will present the least opportunity for use of contracted elements as part of a whole force approach. This category also includes the requirement for force elements held at readiness seeking to 'train as they will fight'.

b. **Deployed benign.** Operations or training, which can be temporary or permanent in nature, in low threat and potentially remote and/or environmentally testing conditions. This environment places fewer demanding constraints on Defence's vehicles and equipment than the 'deployed tactical'. It is likely to offer opportunities for contracted elements of support, however challenges of logistics may cause limitations.

c. **Firm base.** This represents enduring UK forces locations. This category offers the greatest opportunity for contracted support, and in some instances that may be the routine form of provision.

ANNEX C - DSP SELF SUPPLIERS REGISTRATION GUIDE

- In order to participate in any early market engagement or other activity with the MoD, all suppliers are required to register their business onto the DSP (Defence Souring Portal). The DSP is the official procurement tool of the MoD, and is used for all procurement activity, correspondence, and early market engagement.

- Registration onto the DSP is a critical requirement to participate in any activity, without registration a supplier will be unable to proceed with any engagement. Please see below for a copy of the DSP registration guide for further details on how to register.

- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/956927/Defence_Sourcing_Portal_-_Supplier_Registration_Guide.pdf

- Link to the Supplier Registration page can be found on the DSP homepage - https://www.contracts.mod.uk/web/login.html