

**ACDECA/016 (701577695)**

**REQUEST FOR INFORMATION (RFI)**

**SUPPLY OF NON-DESTRUCTIVE TESTING EQUIPMENT**

**RFI Title:** Supply of Non-Destructive Testing Equipment

**Issue Date:**  Friday 17th September 2021

**Reference:** Request for Information

**Version:** 1.2

**Table of Contents**

**Contents**

[Introduction 3](#_Toc82757291)

[Background 3](#_Toc82757292)

[RFI intended outcomes 3](#_Toc82757293)

[RFI Procedure 3](#_Toc82757294)

[How to submit responses to this RFI 3](#_Toc82757295)

[Confidentiality & Proprietary Information 4](#_Toc82757296)

[Costs of preparing your RFI response 4](#_Toc82757297)

[Contact 4](#_Toc82757298)

[Annex A 5](#_Toc82757299)

[Annex B 8](#_Toc82757300)

[Annex C 9](#_Toc82757301)

[Annex D 10](#_Toc82757302)

[Annex E 11](#_Toc82757303)

[Annex F 12](#_Toc82757304)

[Annex G 13](#_Toc82757305)

[Annex H 14](#_Toc82757306)

# Introduction

This RFI is not a bidding opportunity, it is a means by which industry can provide information. Any resulting procurement activity will be conducted competitively. This RFI is an information gathering exercise, and no further discussions with industry are planned at this stage. However, any future procurement activity will be advertised in line with public procurement regulations.

# Background

There exists an emergent requirement to replace a range of Non-Destructive Testing Equipment currently in use by the United Kingdom Ministry of Defence. Associated with this document is a list of questions which we would like response to. We would be interested in any Commercial off the Shelf (COTS) equipment which could fulfil these requirements and future technical solutions. Any solutions must be supported for at least 10 years.

# RFI intended outcomes

This RFI aims to achieve 5 outcomes:

* + Explore the market to see if existing products or technology could meet the requirements. To establish what direction the market going in and how quickly.
  + Develop a procurement strategy that will deliver best Value for Defence.
  + Implement an enduring solution that allows the Authority to plan its requirement against an assured continuity of supply.
  + To inform a procurement strategy that enables the implementation of an enduring solution, for commencement between April 2022 and April 2024.
  + To establish if there is one supplier who can manage the supply of the requirements, detailed in this RFI

# RFI Procedure

Responses to this RFI will be reviewed by the DECA Managed Services Team.

Any details provided in response to this RFI will be used for information purposes only and will not be used to determine the potential suppliers who will be invited to bid, should the Authority proceed to tender.

The results and analysis of this RFI shall not constitute any form of pre-qualification exercise.

Any formal procurement process will be undertaken in accordance with the relevant Procurement Law.

Nothing in this RFI, or any other engagements with Industry prior to a formal procurement process, shall be construed as a representation as to the Authority’s ultimate decision in relation to the future requirement.

# How to submit responses to this RFI

Respondents should provide information in accordance with the format provided in Annex A, in PDF, quoting the RFI reference on all documentation and emails**.**

If upon review of your submission any clarifications or additional information is required, you will be contacted using the details provided within your RFI response.

Please do not submit additional documents such as company overviews, as the purpose of the RFI is to collect information related to the technical solution, so any additional documents will not be included in the review process. Responses should be limited to 100 words per answer.

Any responses received after the deadline will be passed to the team for information, however they may not be included in the RFI. Review meetings, which are to be held immediately following the deadline.

Once completed, please return electronically to the e-mail address shown below in section 8,no later than **23:59, Wednesday 17th November 2021.**

Responses will be acknowledged electronically by return e-mail.

# Confidentiality & Proprietary Information

No information included in your response, or in discussions connected to it, will be disclosed to any other third party.

Proprietary information, where included, should be kept to minimum and must be clearly marked.

For the purposes of this RFI, any documentation submitted should be classification OFFICIAL.

# Costs of preparing your RFI response

Any costs relating to the preparation and submission of a response to this RFI are the sole responsibility of the respondent.

# Contact

Quoting the RFI reference, please submit:

i) any requests for clarification,

ii) all responses to this RFI and,

iii) any questions regarding Classification of document(s) intended for submission, to:

[DECA.MSPROC@DECA.MOD.UK](mailto:DECA.MSPROC@DECA.MOD.UK)

# Annex A

|  |  |
| --- | --- |
| **Question** | **Answer** |
| Company Name |  |
| Company Address |  |
|  |  |
| Name of Company representative completing the RFI |  |
| Contact details (e-mail and telephone number) |  |
| Company web site address |  |
|  |  |
| Main products/services/line of business |  |
| Main market sector |  |
| Number of years in this market sector |  |

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| --- | --- | --- | --- | --- | --- | --- |
| **QUESTIONS** | | | | | | |
| **Are you able to provide the following equipment? (Top level specifications detailed in specified Annex’s)** | **Yes/No** | **If yes, will this be sub-contracted?** | **Is the equipment already used for aircraft maintenance? If so, how widely?** | **When was the equipment first introduced?** | **What is the expected end of life date for support for the equipment?** | **Additional Comments** |
| Ultrasonic Test Bond Tester Capability (Advanced) – Annex B |  |  |  |  |  |  |
| Ultrasonic Test Bond Tester Capability (Basic) – Annex C |  |  |  |  |  |  |
| Electromagnetic Testing (ET) Rotary Gun – Annex D |  |  |  |  |  |  |
| Ultrasonic Flaw Detection A Scan – Annex E |  |  |  |  |  |  |
| Ultrasonic Flaw Detection C Scan – Annex F |  |  |  |  |  |  |
| Ultrasonic Thickness Gauges – Annex G |  |  |  |  |  |  |
| Radiography Testing (RT) – X-Ray Tubes and Accessories – Annex H |  |  |  |  |  |  |

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| **Support Solution** | |
| **Are you able to provide support for the following equipment?** | **What support solution would you consider offering for your product? Your answer should consider; through-life configuration control, technical queries, repair, spares, and calibration.** |
| Ultrasonic Test Bond Tester Capability (Advanced) |  |
| Ultrasonic Test Bond Tester Capability (Basic) |  |
| Electromagnetic Testing (ET) Rotary Gun |  |
| Ultrasonic Flaw Detection A Scan |  |
| Ultrasonic Flaw Detection C Scan |  |
| Ultrasonic Thickness Gauges |  |
| Radiography Testing (RT) – X-Ray Tubes and Accessories |  |

**Innovative solutions are most welcome, even if they do not meet all of the requirements above, we would welcome the opportunity to consider further options.**

# Annex B

**Top Level Specifications of the equipment for Ultrasonic Test Bond Tester Capability (Advanced)**

|  |  |
| --- | --- |
| **Heading** | **Requirement(s)** |
| Application/usage | Suitable for NDT (ultrasonic bond testing) on aerospace materials, inclusive of CFC, Honeycomb composites, metal to metal bond delamination, crushed cores: (a)On Aircraft (b)Off Aircraft on the Flight line (c)Off Aircraft |
| Electrical | Operate and charge from standard 230v 50/60Hz AC and NATO single phase 230v 50/60 Hz. 100VAC-120VAC 200-240VAC Operate on standalone AA battery pack if no power available or field replaceable Li ion battery. |
| Temp range | Able to operate in conditions 0 degrees - +40 degrees Celsius |
| Dimensions of main equipment | Minimum display size 115mm x 70mm x 140mm (W x H x D) and ability to be portable. Maximum weight including travel case 12Kg |
| Modes of unit/probes supported, display and operating frequencies | Pitch catch, MIA and resonance with operating range between 250 Hz and 1.5Mhz. Display is to be colour LCD as a minimum with the ability to generate a C- scan image with export capabilities |
| Equipment Gain range | Minimum range 0dB – 100dB |
| Probe connection types, defect sizing reporting ability | 11 pin -11 pin 11 pin- 6 pin Fischer, 8 pin Lemo, data storage and ability to transfer files to computer, USB 2.0 capable, VGA. Ability to defect size and export data including C- scan analysis. |

# Annex C

**Top Level Specifications of the equipment for Ultrasonic Test Bond Tester Capability (Basic)**

**Currently in development, please provide specification below**

|  |  |
| --- | --- |
| **Heading** | **Requirement(s)** |
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# Annex D

**Top Level Specifications of the equipment for Electromagnetic Testing (ET) Rotary Gun**

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| --- | --- |
| **Heading** | **Requirement(s)** |
| Item 1 | The rotary drive must connect seamlessly to the ETher AeroCheck+ |
| Item 2 | Rotary drive connection to probes must be compatible with the industry standard 4 Pin Fischer |
| Item 3 | The rotary drive must be capable of operating at a range of speeds between 600 and 3000 RPM |
| Item 4 | The system must be able to operate at a range of frequencies, between 200kHz and 2MHz |
| Item 5 | Supplied probes should be adjustable and cover a range of sizes, with a minimum range of 4 – 30mm |
| Item 6 | Reference standard should have a range of holes capable of carrying out sensitivity set up on all Dynamic ET System probes |
| Item 7 | The reference standard should be manufactured from aerospace grade Aluminium Alloy and have either; a cross drilled hole or be split block construction |

# Annex E

**Top Level Specifications of the equipment for Ultrasonic Flaw Detection A Scan**

|  |  |
| --- | --- |
| **Heading** | **Requirement(s)** |
| Application/usage | Suitable for NDT (basic A scan ultrasonic inspections) on aerospace materials, inclusive of CFC, metal: (a)On Aircraft (b)Off Aircraft on the Flight line (c)Off Aircraft |
| Electrical | Operate and charge from standard 230v 50/60Hz AC and NATO single phase 230v 50/60 Hz. 100VAC-120VAC 200-240VAC Operate on standalone AA battery pack if no power available or field replaceable Li ion battery. |
| Temp range | Able to operate in conditions 0 degrees - +40 degrees Celsius |
| Dimensions of main equipment | Minimum display size 110mm x 85mm x 140mm (W x H x Diag) and ability to be portable. Maximum weight including travel case 8Kg. colour screen desirable. |
| Modes of unit/probes supported, display and operating frequencies | Energy settings from 0-400v, damping to be between 0-400 ohms. Gain 0-120db. Pulse echo, dual and through transmission. Colour screen desirable but not essential |
| Equipment Gain range | Minimum range 0dB – 100dB |
| Probe connection types, defect sizing reporting ability | BNC and number 1 Lemo. Data storage and ability to transfer files to computer, USB 2.0 capable, VGA. Ability to defect size. |

# Annex F

**Top Level Specifications of the equipment for Ultrasonic Flaw Detection C Scan**

|  |  |
| --- | --- |
| **Heading** | **Requirement(s)** |
| Application/usage | Suitable for NDT (advanced ultrasonic inspections) on aerospace materials, inclusive of CFC, Honeycomb composites, metal to metal bond delamination: (a)On Aircraft (b)Off Aircraft on the Flight line (c)Off Aircraft |
| Electrical | Operate and charge from standard 230v 50/60Hz AC and NATO single phase 230v 50/60 Hz. 100VAC-120VAC 200-240VAC Operate on standalone AA battery pack if no power available or field replaceable Li ion battery. |
| Temp range | Able to operate in conditions 0 degrees - +40 degrees Celsius |
| Dimensions of main equipment | Minimum display size 330mm x 220mm x 25mm (W x H x D) and ability to be portable. Maximum weight including travel case 12Kg |
| Modes of unit/probes supported, display and operating frequencies | Pulse-echo: L-L, T-T, and TT-TT  Self-tandem: LL-L, TT-T, TT-L, TL-T, LT-T, TTT-TT, and TL-L, A scan, B scan, C scan, (scans D and S, Time of flight 3D amplitude & time of flight stitching are desirable but not essential) Display is to be colour LCD as a minimum with the ability to generate a C- scan image with export capabilities. Frequency from 0.2Mhz to 30Mhz. Minimum phased array channels 64x64. |
| Equipment Gain range | Minimum range 0dB – 100dB |
| Probe connection types, defect sizing reporting ability | PA and UT connector ports or quadrant encoder and GPIO, DSUB-9. Encoder capability for large area mapping. Data storage and ability to transfer files to computer, USB 2.0 capable, VGA. Ability to defect size and export data including C- scan analysis. |

# Annex G

**Top Level Specifications of the equipment for Ultrasonic Thickness Gauges**

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| --- | --- |
| **Heading** | **Requirement(s)** |
| Item 1 | Handheld, battery powered |
| Item 2 | Suitable for aircraft use on metals and composites |
| Item 3 | Supplied with single and dual element probes |
| Item 4 | Capable of data logging and export of readings |
| Item 5 | Provide direct readout of thickness (metric & imperial units) |
| Item 6 | Provide basic A-Scan display with adjustable Gain, Range and Delay |
| Item 7 | ATEX Compliant for Zone 0/1/2 |

# Annex H

**Top Level Specifications of the equipment for Radiography Testing (RT) – X-Ray Tubes and Accessories**

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| --- | --- |
| **Heading** | **Requirement(s)** |
| Application | Suitable for industrial aerospace NDT radiography: on-aircraft, off-aircraft and enclosure (lead cabin) |
| X-Ray Generation | Constant potential, hot cathode type  Line focus, directional beam (side window configuration) |
| Safety | Mains powered  Key operation  Fail-safe in use  Remote control unit with exposure timer  Remote warning beacon |
| Dimensions of head unit (inc handles) | Length 725mm  Diameter 350mm |
| Performance | High voltage range: 40 to 200 kV  Current range: 1.0 to 6.0 mA  Focal spot size: 0.5 to 2.0 mm  Beam angle: 35 to 65 degrees  Ingress protection: IP54 minimum |
| Accessories | Adjustable stand (height & direction)  Grab handles  Laser pointer  Lead plug  Collimator  Cables  Transit case(s)  Manual |