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**Project Alternative Navigation (Alt Nav)**

**Technology Development**

**Request for Information (RFI) – Industry Day**

**Document Ref:**

**Version No:**  V1.0

**Disclaimer and Notice to Reader**

This RFI is issued as part of a market engagement phase and is NOT part of any competitive procedure.

The Information provided in this RFI is indicative and intended only for discussion as part of the Project Alt Nav market engagement and does not constitute a commitment to undertake any procurement exercise in the future.

No information contained in the RFI, or any communication made between DE&S and any supplier in connection with this, shall be relied upon as constituting a contract, agreement or representation that any contract shall be offered in accordance with this RFI.

Information specific to a Supplier, provided through this process, will not be shared or distributed directly to other RFI participants but may inform further discussions that MOD will have with industry during this market engagement phase and may subsequently be used to inform the terms on which the formal procurement process is conducted.

Any participation in this market engagement phase and any response to this RFI 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 Project Alt Nav and shall not be liable for any costs arising from participation in this process.

Please submit any RFI response to the SPACE DT multiuser DESSpace-DT@mod.gov.uk with file reference: *Project Alt Nav RFI Response – [Organisation Name]*

# Part A: Summary

**Value of Contract:** Likely budget for entirety of Alt Nav £52,337,250.00

**Project Background**

The UK’s Strategic Command have identified a requirement to develop technologies capable of providing alternative sources of assured Position, Navigation or Timing (PNT) data to GNSS (‘alternative PNT’), to enable UK forces to effectively operate in GNSS denied or degraded environments.

Under the Alt Nav Assessment Phase, Space Delivery Team at DE&S are seeking to identify and mature alternative PNT technologies, which will be expected to operate within a wider navigation, or precise timing, system, alongside other PNT sub-systems. Hence, the Alt Nav project is also aiming to develop real-time data fusion techniques, which may include mathematical analysis, modelling, simulation and demonstration.

**Desired Project Outcomes**

The Alt Nav assessment phase aims to:

* Develop, demonstrate, and test multiple, individual, alternative PNT solutions up to a maximum maturity of Technology Readiness Level (TRL) 7 (technology prototype demonstrated in an operational environment).
* Develop, demonstrate, and test an estimation filter / data fusion algorithm up to a maximum maturity of TRL 7.
* Where required, to develop, demonstrate and test the individual alternative PNT technologies operating as part of a PNT system, including using open interfaces to support an external data fusion capability.

**Project Scope**

When completing the following questions, please consider the below scope in your responses:

* The project intends to fund technology and data fusion development from approximately TRL 4-6 up to a maximum maturity of approximately TRL 7.
* Technologies out-of-scope are those that have a reliance on, or similar vulnerabilities to GNSS, as well as technologies with ITAR restrictions.
* The project isn’t specifically targeting any individual platform or platform type. Instead, the intent is to develop technologies that benefit multiple vehicles / platform / systems across the MOD portfolio.
* Technologies of particular interest include transportable eLoran, UK Sovereign Chip Scale Atomic Clock (CSAC), robust methods of for time transfer, as well as Data Fusion. However, consideration will also be given to other alternative PNT solutions that can provide assured PNT data (noting the caveats made in the first bullet (above)).
* The alternative PNT technologies are expected to provide their data to a separate integration/fusion engine (which could become an element of a platform mission management system). Hence, there is particular interest in technologies which make use of open interfaces / standards / architectures.
* The project is focused on developing technologies that will be used in applications which require a level of Assured PNT. Any development during this assessment phase will focus not just on improving performance, but also on developing an Assured capability e.g. through appropriate consideration of safety & security etc.

# Part B: Questionnaire

Question 1 - Please describe the alternative PNT or data fusion that your organisation has developed or intends to develop. Please include detail on the intended use case / exploiting platform or system type for your solution.

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### Question 2 – Please describe the current maturity of your technology and provide any evidence to support this. Please consider to the scope of the project, as described in the summary of this RFI.

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Question 3 – From the current maturity of your technology, please describe how you would develop your technology to best support the desired outcomes for the project. Please provide an estimate of the time and cost involved to complete this work and whether your organisation is prepared to further invest in this development?

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Q4 – Please describe any experience you have in the integration of technical solutions (involving both hardware & software) into a wider system, highlighting any PNT experience.

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Question 5 - What are the Intellectual Property (IP) limitations that may come from this requirement?

Please provide the Authority with a description of any IP limitations that may come from this requirement; This could include but is not limited to, IP policies, third party applications, and any limitations in outputs, ownership, or ability to share, Integration of Applications and Tools with other commercial and military developed applications and tools (your own or others).

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### Question 6 – As an addition to this RFI, the Authority is seeking detail from industry to outline the necessary information required from the Authority at ITT. For example, (but not limited to) stretching performance targets, integration and support requirements of the alternative PNT technology and/or Data Fusion solution. This is to ensure the procurement remains both competitive and fair across industry.

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### Question 7 – If applicable, please provide a link / or file showing a demo of the elements of the Alt Nav requirement your company would intend to provide.

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| Format: Weblink or other file format |

### NOTE: The Authority will not be carrying out face to face demonstrations at this RFI stage. There may be the opportunity at a later stage for demo’s to be arranged.