

Expression of Interest (EOI)

Futures Lab – Indirect Vision Systems

1. EOI Overview

Futures Lab is working with our Ministry of Defence (MOD) customer to deliver a programme of work that addresses the topic of ‘countering laser dazzle to prevent damage against aircrew’ and will be specifically focused on investigating Indirect Vision Systems. The overall programme will culminate in the demonstration and evaluation of candidate technical solutions designed & developed by Industry. Further technical details of the scope of the EOI are provided below. Information collected from this EOI is of high value to Futures Lab and we appreciate your effort in providing this information.

This EOI has been issued previously, but we are relaunching it following the formal commencement of the programme to give partners maximum opportunity to respond. The EOI is the primary route to engage with Industry to understand and gather technological solutions, in the form of an indirect vision system, using video pass through, that could be used to mitigate the threat posed by laser dazzle to aircrew. Please do your utmost to respond to this EOI if you have relevant technologies in order not to miss this opportunity for involvement. Responses to this EOI, and their subsequent evaluation by Futures Lab, is the first stage in identifying candidate technology solutions for future physical evaluation.

The information provided in response to this EOI will be assessed and evaluated with our MOD customer stakeholder community. This will result in the down selection of a number of preferred partners who will be invited to pitch their technologies in a ‘Dragons Den’ style event, in March 2026 (most likely at QinetiQ in Farnborough, UK). Following the pitches, one or more partners will be selected for consideration for funding to mature their approach, including the manufacture of concept technology demonstrators for further critical evaluation and testing, in support of the stated requirement in a later programme phase.

Further details of the technical scope of the EOI, the types of information we would like to receive, and some of the key evaluation criteria we will use to assess the technological solutions proposed, are outlined below.

2. Task Overview

On behalf of MOD, Futures Lab are seeking to support a technology concept demonstration of an aircrew mounted indirect vision system that can provide protection against the effects of all laser wavelengths on the visual function of aircrew.

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3. Supporting Problem Statement

Laser dazzle is a serious threat with potentially catastrophic consequences. The result of shining a laser at an aircraft's cockpit can temporarily blind or disorientate aircrew, especially during critical phases of flight such as take-off and landing. The range of threats is growing as laser power increases and a broader range of wavelengths become commercially available.

Traditional countermeasures make use of spectacles and visors designed to attenuate specific wavelengths. However, these are unable to provide protection from all threat wavelengths whilst still providing sufficient transmittance at visible wavelengths to facilitate normal flight.

Whilst tailoring the optical properties of the filters used in spectacles and visors is possible, the desire is a system that provides a method of simultaneously protecting against all wavelengths, e.g. the visible and near infra-red spectrum. Indirect vision systems offer resilience to laser dazzle by providing an opaque interface between the outside world and the eyes whilst displaying the outside world to the aircrew using mixed reality camera passthrough technologies.

Whilst the focus of this EOI is to identify indirect vision systems that could be developed into a concept technology demonstrator, there is interest in alternative technologies and solutions that can be integrated to provide protection and resilience to laser dazzle. This EOI is not interested in filtering of direct vision, in the form of spectacles or visors which the user directly looks through.

4. EOI Response Instructions

Please submit your organisation's response to this EOI using the contact details below, with information relating to the topics outlined below. Responses are limited to 5 pages of A4 paper, 11pt Arial, 1.15 line spacing including diagrams and images. If a product leaflet or short data sheet is available, this can be submitted in addition to the EOI response.

- Please provide information about your technologies and systems that could provide a method of protecting vision against all laser wavelengths and/or offer resilience in the event of a laser dazzle event. This description should provide information on how your solution will approach the following requirements:
 - The complete system should be stand alone, head worn and not require any connection to the aircraft.
 - The display system should provide a realistic image of the outside world to the aircrew with sufficient resolution, field of view, depth of view and image quality to allow an aircraft to be operated in lighting conditions from dawn/dusk (0.1lux) to full sunlight (100k lux).
 - Aircrew should be able to see both cockpit displays and the external view when wearing the system.

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- Aircrew should be able to operate aircraft controls without degradation of performance.
- The system should be able to be mounted, or can easily be developed to mount, on existing aircrew helmets, in order to maintain current levels of head protection. A current in-service example is the Gentex Alpha helmet.
- The system should be safe to use for long periods of time (minimum 2hr duration) without causing discomfort or musculoskeletal injury to the aircrew.
- Information provided should include consideration of topics such as:
 - Protection of the system from laser threats;
 - Imaging sensor characteristics/specification;
 - Display system characteristics/specification;
 - Image processing and computation element characteristics/specifications;
 - Physical characteristics and human/helmet integration;
 - Status/approach/consideration of the Assurance Level for the firmware and software components of the system.
- Please also provide an indication of the Technology Readiness Level¹ of your overall technology or system. NB: Approaches need to be sufficiently mature - if selected - to support a concept demonstration in FY27 and potentially a separate flight simulator based trial.
- Futures Lab encourages collaborative working, therefore responses from teams of suppliers are acceptable. The roles and responsibilities of the separate contributors is to be clearly defined in the EOI response.
- The next stage of the process is to select suppliers to participate in a Dragon's Den event. To assist in this process, please provide an indication of the system's expected unit price and any development cost to meet the requirements above in your EOI response.

5. Task Duration & Timeline:

All responses should be submitted by close on **19th February 2026**, via email, to the Futures Lab points of contact in section 8 below.

¹ Ministry of Defence definitions of Technology Readiness Levels (TRL) <https://www.gov.uk/guidance/defence-and-security-accelerator-terms-and-conditions-and-contract-guidance>.

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6. Security:

All EOI responses should be UNCLASSIFIED.

7. IP considerations in support of the EOI

All information provided via the EOI will be held in the strictest confidence and treated as your company's background IP and proprietary information.

8. Futures Lab points of contact

Programme and EOI queries;

Natalie Grey, natalie.grey@qinetiq.com

Andrew Foreman, andrew.foreman@qinetiq.com

Futures Lab queries;

Ben Matthews, ben.matthews@qinetiq.com