



## Department for Transport

### Expression of Interest - Evaluating Detection Systems for Explosives and Weapons

#### Summary

The Department for Transport (DfT) and other UK Government departments are looking to expand our pool of suppliers to test and evaluate detection systems for explosives and weapons. Can you help us?

We are seeking expressions of interest from organisations in industry and academia who have the capability to test and evaluate security technologies in areas such as: X-ray baggage screening, people screening, cargo screening, metal detection, stand-off threat detection, and explosive trace detection. Organisations should have the capability to test and evaluate in the UK, and should be independent of security equipment manufacturers.

We spend in the order of £1M per annum testing explosives and weapons detection technologies, and would welcome the opportunity to discuss how you can contribute to meeting our requirements.

#### Overview of Capability Requirements

We would like to hear from organisations, or consortia, who have capability in one or more of the following areas:

#### Performance evaluation of commercially available detection products for explosives or weapons

Technologies include:

- X-ray screening (including image quality assessment and automated threat detection algorithms);
- People screening technologies (including aviation security scanners);
- Explosive trace detection;
- Metal detectors; and
- Other commercially available detection products for screening people, cargo, freight, hold baggage and carry-on baggage.

Work could involve:

- Assessing the detection performance of simulated and real threats against defined test standards;
- Developing (or pilot testing of) test standards;
- Access to and handling of explosives, weapons, and suitable simulants;

- Conducting statistical analysis of test results, and quantifying performance, including uncertainty estimates;
- Providing technical / scientific advice in the above technology areas; and
- Applying an understanding of how commercially available detection products are used in different security environments (including transport security).

#### Testing of emerging detection technologies for explosives or weapons

Technologies include:

- Stand-off threat detection systems (microwave, millimetre wave, and infrared passive or active systems);
- Artificial intelligence (AI) based algorithms in detection systems;
- System integration technologies; and
- Innovative explosive or weapon detection technologies (based on a range of technologies including transmission X-ray, X-ray diffraction, Raman, mass spectrometry, and ion mobility spectrometry).

Work could involve:

- Developing bespoke testing methodologies;
- Assessing the detection performance of explosive or weapon detection technologies;
- Assessing the operational capability of a candidate explosive or weapon detection system;
- Access to and handling of explosives, weapons, and suitable simulants;
- Access to indoor and outdoor testing facilities.

#### **Next steps**

If you would like to express your interest, please complete the questionnaire below and return to RAD@DfT.gov.uk by Friday 24/05/2019.

This expression of interest is not a commercial activity. However, DfT and its partners are trying to better understand the market offering in this space and once you have submitted the expression of interest we would welcome the opportunity to discuss how your capability and experience can contribute to meeting our requirements. We will also keep you informed about upcoming procurements from the RAD and Future Aviation Security Solutions (FASS) team which we expect to advertise in the near future - in particular a new opportunity currently being planned from FASS for a commercial partner to support FASS, which we expect to launch following this expression of interest.

If you have any further questions, please email RAD@DfT.gov.uk