



Application of Biometric Technologies to Force Protection and Counter-Terrorism

A call for research proposals to increase and enhance capabilities to assist UK Armed Forces in the rapid collection and processing of biometric data.

*Call Release Date: 14th October 2010
Call Closes: 22nd November 2010 (at 12 noon)*

Nothing herein shall be relied upon as constituting a contract, agreement or representation that any contract shall be offered in accordance herewith. The MoD reserves the right, subject to the appropriate procurement regulations, to change without notice the basis of, or the procedures for, or to terminate the process at any time. Under no circumstances shall MoD incur any liability in respect thereof.

Proposals for funding should be submitted by **1200 (noon) on the 22nd November 2010** using the Centre for Defence Enterprise Portal (www.science.mod.uk/enterprise). All proposals should be clearly marked "**Biometric Technologies**" as a prefix in the title

- Queries relating to the **technical aspects** of the call should be addressed to Counter Terrorism Science & Technology Centre at biometrics@dstl.gov.uk.
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- All questions relating to the **submission process** (including how to use the CDE Portal) should be addressed directly to the CDE at science-enterprise@mod.uk or by phone on 01235 438445.

www.science.mod.uk
www.dstl.gov.uk/ct-centre

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Application of Biometric Technologies to Force Protection and Counter-Terrorism

Background

The Ministry of Defence (MOD) is making a Centre for Defence Enterprise call for research proposals in biometrics technologies and systems to support Force Protection and Counter-Terrorism.

In line with other Government Departments, working under the CONTEST (Counter Terrorism Science and Technology) strategy, MOD uses innovation, science and technology to reduce the risk to UK forces, assets and overseas interests from terrorism¹.

MOD needs to increase and enhance its capabilities for the rapid collection and processing of biometric data as biometric technologies are a vital tool to assist UK Armed Forces to meet the following three challenges:

- establish and verify an individual's identity.
- protect assets by restricting logistical and physical access to authorised personnel².
- support the detection and investigation of individuals involved in terrorist-related activities.

It is anticipated that the results of this call will provide MOD with a better understanding of the capabilities available in the wider biometric systems community, and identify those organisations that are developing innovative science and technology in this vital area.

¹ The United Kingdom's Strategy for Countering International Terrorism, Cm 7547, March 2009, ISBN: 9780101754729

² Countering the terrorist threat: Ideas and Innovation. How industry and academia can play their part. HM Government, August 2009, ISBN 978-1-84726-940-9

Problem Space

Specific areas of interest include:

- the use of biometric data to prevent unauthorised access to MOD bases, whilst enabling access to those local nationals that provide labour and services;
- the use of advanced police crime science biometric-based techniques to identify those who have participated in criminal activities that have, or may endanger UK personnel;
- the use of biometrics to detect, in real time, the presence of those that are known to be engaged in terrorist activities and represent a threat to UK personnel.

This is a demanding area and potential solutions are likely to combine a number of approaches and techniques to be successful. Specific challenges that MOD seeks solutions for include:

- developing man-portable identity management systems that enable the rapid capture and analysis of biometric data under current military operating conditions;
- rapid analysis of material and samples across the biometric modes;
- stand-off collection of biometric data (e.g. a man approaching a checkpoint)
- stand-off detection of threats;
- fusion of multi-modal biometrics;
- reducing the burden on current Communication and Information Systems (CIS);
- integrating with existing and future planned systems;
- testing and evaluation of biometric systems;
- low cost (both for initial investment and running costs).

It should be noted that these are indicative requirements which have been identified. *They are not prioritised and new research projects will not necessarily be commissioned against all requirements.*

Illustrative Scenarios

Table 1 describes a small number of illustrative scenarios. These scenarios are particularly relevant to current operations, however, they are by no means exhaustive and should not constrain thinking. Any operational system that ultimately results from responses to this CDE call is likely to be of general application and, therefore, solutions offered should not be optimised for any single operational setting or scenario.

Theme	Description
Base Access Control	Controlled routine access for locally employed contractors to UK MOD bases. For every individual requesting access, biometric data is captured and linked to a base entry management system to enable the verification of identity in real time. If the biometrics are registered, the individual is granted access.
Confirmation of Identify	Rapid biometric enrolment of an individual and comparison of their biometrics against a pre-loaded watch-list in real time. Ideally, enrolment devices would be mobile and have an automated, rapid capability for the capture of contextual data. If the individual encountered produces an identity card or has been previously enrolled, the individual's biometrics should be verified in real time against the server using a mobile connection.
Latent Biometrics collection	Rapid identification and collection of forensically valuable material in a non-destructive manner.
Stand-Off	Identification of an individual from a distance (e.g. approaching a checkpoint) A wide range of biometric signatures could be used for this, but the system must be able to capture, process and report findings to a specified level of uncertainty as rapidly as possible. Consideration should be given to any pre-enrolment required.

Table 1. Illustrative Scenarios.

Solution Space

Within the diverse space of Biometrics there are a number of ways of framing a solution. A suggested framework is provided below to help categorize proposals and to aid the process of reviewing the proposals. The framework requires the inclusion of a summary paragraph to explain which elements of the biometric system your proposal covers, such as those listed below, although this is not an exhaustive list:

- the biometric modality employed (e.g. fingerprint, face, iris, etc);
- the process stage(s) addressed i.e. enrolment, verification, identification;
- fusion of multi-modal biometrics and matching.

Getting Involved

Proposals for work should be submitted via the CDE Portal. Proposals should be for up to a maximum duration of seventy three days (10 Jan 2011 to 23 March 2011) and can be for full or partial MOD funding.

The total value of funding available to cover all proposals is £250k. There is no cap on the value of individual proposals but it is more likely that a larger number of lower value proposals will be funded than a smaller number of higher value proposals. It is likely that most proposals will be for proof of principle/concept studies.

However, proposals for the first stage of a longer project will also be considered. Reports and proposals for further work are to be submitted at the end of the seventy three day working period. The most promising strands of work may be taken forward with follow-on contracts, assuming funding is available.

Before submitting a proposal, you should read carefully the guidance on the CDE website. The timeline for CDE proposals is as follows:

Date	Event
Thurs 14 Oct 2010	Call published
Mon 22 Nov 2010	Call closes
Wed 8 Dec 2010	Target for making decisions
Mon 10 Jan 2011	Target for contract placement
Mon 10 Jan 2011	Contracted work commences
Thurs 23 March 2011	Contracted work completes/delivers

MOD will assess the proposals received. Responders will be informed by email of the outcome of the assessment after 10 December 2010. Whilst every effort will be taken to provide meaningful feedback to responders, our limited resources do not permit comprehensive feedback or detailed discussions on unsuccessful proposals.

Assessment Criteria

Proposals will be assessed against the MOD's [Performance Assessment Framework](#), which is provided on the CDE website. Potential to provide a significant improvement on capability by addressing one or more of the challenges, and the quality of the science are critical factors. A low score against either of these criteria is likely to result in the proposal being unsuccessful.

Submitting Applications

Proposals for funding should be submitted by 1200 (noon) on 22nd November 2010 using the Centre for Defence Enterprise Portal (www.science.mod.uk/enterprise). All proposals should be clearly marked "Biometric Technologies" as a prefix in the title.

Please plan the timeline for submitting your proposal carefully. If you have not used the Portal before you will need to open an account and become familiar with the CDE Portal manuals, starting with the Quick Start Guide (Version 2.1), before initiating your proposal. The manuals and guides are available on the website.

Queries relating to the **technical aspects** of the call should be sent to: biometrics@dstl.gov.uk.

All questions relating to the **submission process** (including how to use the CDE Portal) should be addressed directly to the CDE at science-enterprise@mod.uk or by phone on 01235 438445.

Do not leave it until the very last moment as past experience has shown that in the pressure to meet the deadline mistakes can be made that end up in proposals not being submitted or accepted. In particular:

- Ensure that you have submitted your proposals (this is not the same as 'published').
- Note that the standard terms and conditions of the CDE must be unequivocally accepted in order for a proposal to be considered.

Please be aware that the CDE Portal system can become very busy close to the deadline as many people submit in the last day – this can significantly slow the performance of the system.

Proposals that are submitted after the deadline will not be included in the call, but will be submitted into the CDE monthly open call process.