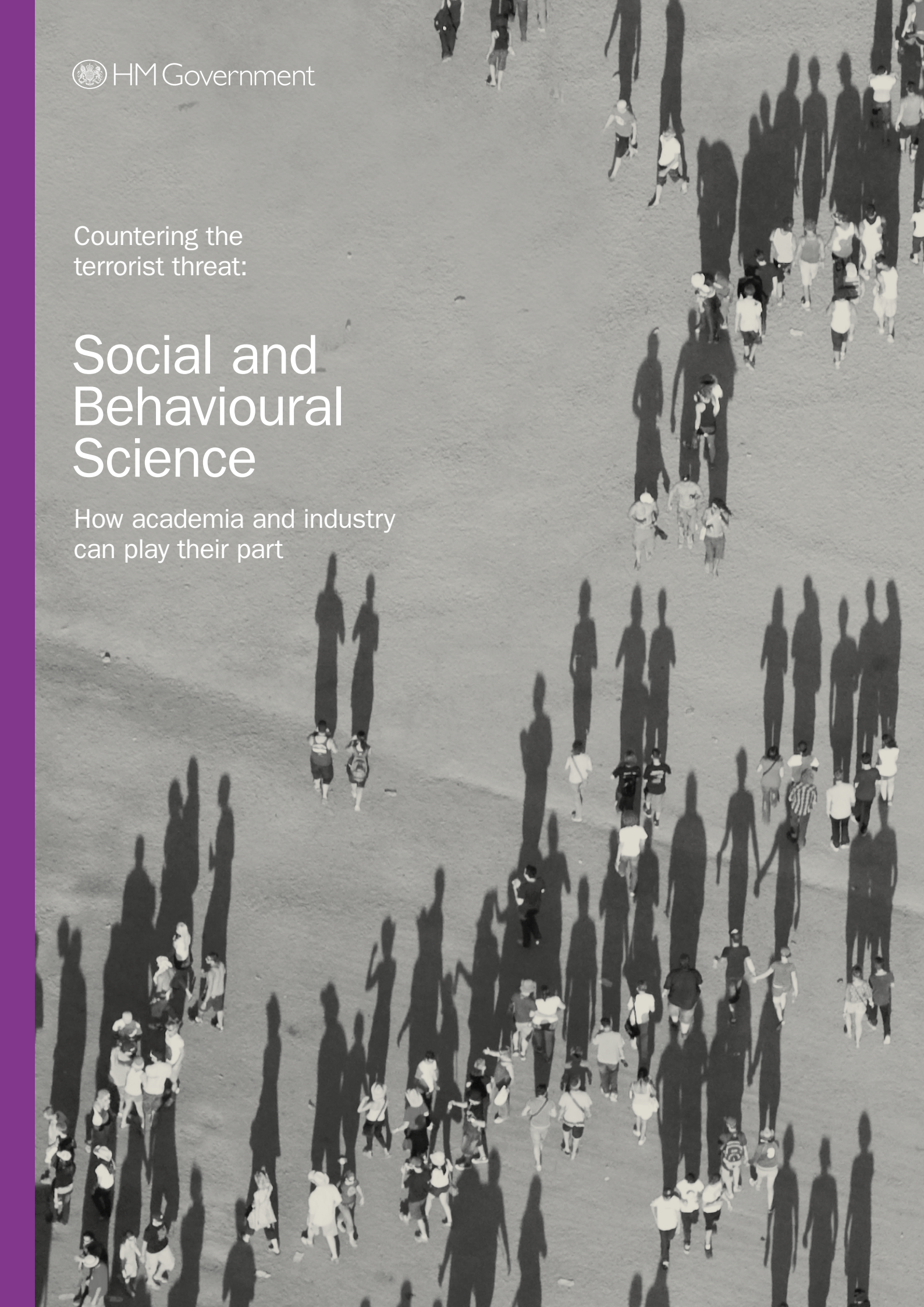


Countering the
terrorist threat:

Social and Behavioural Science

How academia and industry
can play their part



This booklet is for everyone in academia, industry and other research organisations whose work on social and behavioural science could help counter the terrorist threat to the UK.

International terrorism is a complex social phenomenon. Application of social and behavioural science can improve our knowledge and understanding of terrorism and its consequences. Social and behavioural science can directly inform strategy, policy and operations and help ensure that the Government’s response is robust and effective.

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Section 1

Social and behavioural science in CONTEST

CONTEST: International terrorism and the UK

The 2010 National Security Strategy¹ identified international terrorism as the most significant immediate security threat to the UK. While terrorism is not new, the current threat is different from those we have faced before in its scope, capability and ambition. Contemporary international terrorist organisations have an international cause, plan and conduct attacks in and from a range of countries and aim to inflict significant civilian casualties. Many seek to recruit people in this country. Some organisations aspire to use Chemical, Biological, Radiological, Nuclear (CBRN) materials as weapons*.

The nature of the threat and the Government’s response is set out in the UK’s Strategy for Countering International Terrorism (CONTEST), published in 2009² a brief review of the first year of the revised CONTEST strategy will be published shortly.

The aim of CONTEST is:

“to reduce the risk to the United Kingdom and its interests overseas from international terrorism, so that people can go about their lives freely and with confidence.”

CONTEST is based on a set of principles, reflecting our core values, the lessons we and others have drawn from our experiences of terrorism to date, and the broader security principles set out in the National Security Strategy.

- We regard the protection of human rights as central to our counter-terrorism work in this country and overseas.
- Our response to terrorism is and will be based upon the rule of law.
- We will always aim to prosecute those responsible for terrorist attacks in this country.
- We will tackle the causes as well as symptoms of terrorism.
- We will work towards reducing support for terrorism and preventing people becoming terrorists: without popular support terrorism is unsustainable.
- We will be responsive to the threat that can be created by rapidly evolving technology.
- We recognise that partnerships in this country and overseas are essential to our success and that these partnerships depend on openness and trust.
- The threat we face crosses our borders and is international in scope. We will depend upon our allies as they will depend on us.

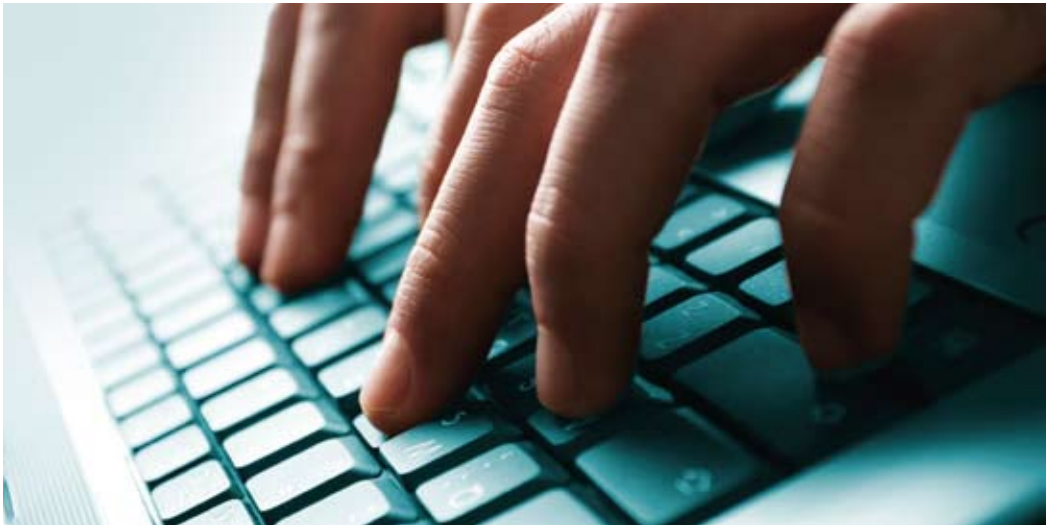
CONTEST is based on four workstreams, each with a clear objective:

- *Pursue*: to stop terrorist attacks.
 - *Prevent*: to stop people becoming terrorists or supporting violent extremism.
 - *Protect*: to strengthen our protection against terrorist attack.
 - *Prepare*: where an attack cannot be stopped, to mitigate its impact.
- Work on *Pursue* and *Prevent* reduces the threat from terrorism while work on *Protect* and *Prepare* reduces the UK’s vulnerability to attack. Together, they reduce the overall risk from international terrorism. The revised strategy also emphasises a number of priorities common to all the four main workstreams: one of these is science and technology.

CONTEST: Science and technology

In August 2009, the Government published the UK Science and Technology Strategy for Countering International Terrorism³. The strategy outlines how science and technology (including social and behavioural science) can better enable us to pursue terrorists, prevent radicalisation, protect essential services and infrastructure and prepare for a terrorist attack. It also sets out our objectives for the next three years:

- To use horizon scanning to understand future scientific and technical threats and opportunities and inform our decision making on counter-terrorism.
- To ensure the development and delivery of effective counter-terrorism solutions by identifying and sharing priority science and technology requirements.
- To enhance international collaboration on counter-terrorism related science and technology.



*A CBRN strategy will be released shortly and published at www.parliament.uk/deposits/depositedpapers/2010/DEP2010-0760.pdf

Section 1

CONTEST

The strategy commits the Government to producing a series of brochures for academia, industry and other research organisations about science and technology in counter-terrorism. The brochures outline our research and development requirements.

The first of these brochures was published alongside the strategy and identified counter-terrorism challenges that could be addressed by technical science⁴. This brochure explains the challenges that may be addressed through the application of social and behavioural science.

CONTEST: Social and behavioural science

Social and behavioural science includes many separate disciplines including sociology, psychology, criminology, anthropology, economics, political science and communication studies. The common themes of social and behavioural science are, respectively, “the study of society and the manner in which people behave and impact the world around us”⁵; and the study of the actions and reactions of people through observational and experimental methods.

Applying scientific method to such complex subjects requires a range of approaches including surveys, questionnaires, interviews, ethnographic studies, focus groups and observations. These approaches generate both qualitative and quantitative data which can be used to draw conclusions about society and the individuals within it. In this context, quantitative approaches

deal with numerical measurements whilst qualitative approaches deal with how people understand their experiences. Providing the methods used are robust, both qualitative and quantitative approaches are equally valid.

Social and behavioural science is essential to understanding why individuals and groups behave as they do, knowledge of which is essential for countering terrorism. There are challenges related to social and behavioural science in all parts of CONTEST and Section 2 of this brochure describes these in detail.

Ethical considerations

Work carried out by social and behavioural scientists on behalf of Government is carried out in accordance with strong ethical principles, such as those laid out in the Government Office for Science’s Universal Ethical Code for Scientists⁶ and the Government Social Research Service’s guidance. Researchers follow the guidelines and ethical codes of their professional organisations and where appropriate, studies have full independent ethical review.



Section 2

Key challenges

Section 2

Key challenges

This section outlines challenges for UK counter-terrorist work that may be addressed by social and behavioural science.

In each part we have identified a core challenge, some of its associated social and behavioural features, and the social and behavioural work that could help us in the future.

The section is structured around each of four main workstreams of our counter-terrorist strategy:

- Our *Pursue* work depends not just on understanding terrorist intent and planning, but also on effective analysis and decision making during complex and fast moving counter-terrorist investigations;
- For *Prevent* to make a difference we need to understand why people become radicalised, how and where we can intervene most effectively in the radicalisation process and how we can then assess our progress and identify best practice: in this context, radicalisation is the process by which people come to support violent extremism and, in some cases, to participate in terrorist groups⁷.
- Our *Protect* work will benefit from accurate detection of suspicious behaviour, whether from an individual in a crowd or an employee inside a key organisation. Our protective security measures depend not only on new technology but also on a better understanding of associated human factors.
- For our *Prepare* work we want to understand more about crowd behaviour during an emergency incident and about how the response of the emergency services can then be made more effective.

Key challenges: Pursue

The *Pursue* workstream aims to reduce the terrorist threat to the UK through the detection and investigation of terrorist networks and the disruption of their activities. Terrorists operate in secret and intelligence is vital to detect and disrupt their activities. In the past five years there has been a rapid and significant increase in intelligence resources at home and overseas, for the intelligence agencies and the police. These resources have been organised into new structures which ensure unprecedented interagency collaboration, recognised internationally as a model for successful joint working.

Improving decision-making with intelligence data

The Challenge: Intelligence and law enforcement agencies identify and disrupt terrorist activities. But the investigation of individuals engaged in a covert conspiracy to commit a crime is inherently challenging. Information is ambiguous, complicated, constantly evolving and not always accurate. Decisions must often be made in fast-moving and complex situations.

- Common features of the challenge:
- Information about terrorist activities comes from numerous sources, including digital (e.g. information in official databases, phone records, online activity), human (e.g. from members of the public, informants and the security agencies) and forensic.
 - Investigations are often carried out across multi-agency and sometimes multi-national teams.
 - Decision-makers must take account of public safety, political, legal, ethical and practical concerns.

- How can industry and academia help?** Industry and academia may be able to apply existing or new research to develop:
- Effective methods of eliciting and assessing information.
 - Improved methods for recording, searching and displaying digital information.
 - Techniques that facilitate and enhance effective decision-making in multi-agency teams.
 - Effective training to enhance investigational skills.

Understanding capability, vulnerability and attack indicators in terrorist organisations.

- The Challenge:** We also need to constantly improve our understanding about how terrorist organisations work – how capability develops, what capability creates most risk, what influences the choice of target, how behaviours may reveal intent, and what determines motivation.

- Common features of the challenge:
- Terrorist groups operate in secret and their activities are often hard to distinguish from those of the law abiding public.
 - Terrorist attacks are usually planned and conducted by groups rather than individuals.
 - Terrorist activities are influenced both by factors external to the group and by internal group dynamics.
 - A terrorist group must develop and maintain motivation and capability, whilst remaining hidden from law enforcement, the attention of communities and, sometimes, from friends and family.

- How can industry and academia help?** Industry and academia may be able to apply existing or new research to:
- Understand how terrorist groups develop the technical and psychological capability to conduct an attack and how this might be influenced by government actions.
 - Identify factors which influence a terrorist group’s choice of method and target of attack (e.g. individual, social, ideological, security and broader political factors).
 - Identify how terrorist behaviours change as they move into attack phase and how those behaviours might be identified and distinguished from the activities of innocent members of the public.
 - Understand how and why terrorists or terrorist groups develop and lose the motivation to conduct an attack, what the indicators of these changes might be and the associated implications for government policy.



Key challenges: Prevent

Preventing individuals from supporting or engaging in terrorism is one of the key objectives of CONTEST.

The most significant international terrorist threat to this country currently comes from individuals and groups who attempt to justify murder by reference to a distorted interpretation of Islam and who try to recruit people to their cause from among Muslim communities. But in the recent past other international terrorist groups have targeted different communities here and have justified killing on other grounds.

The numbers and percentiles of people who are recruited to violent extremism are very small. But the impact they can have is disproportionately large.

Domestic violent extremist groups (e.g. from the far right) are also active in this country. They have their own message, exploit a different community and seek a different range of targets.

Refining our understanding of radicalisation

The Challenge:
Violent extremist groups would not be able to operate without recruiting people who are vulnerable to their extremist message. We need to better understand vulnerability and the processes of radicalisation. It is particularly important to understand the comparative influence of ideological, psychological and social factors operating in this country and on this country from overseas⁸. The Government can continue to identify appropriate responses and evaluate the impact of existing counter-radicalisation projects⁹.

- Common features of the challenge:**
- Radicalisation is occurring for a range of reasons
 - Ideology (both extremist and violent extremist) and ideologues play a key part.
 - But people appear to be vulnerable for reasons which are more psychological than simply political.
 - And very local grievances may be as important as protest against global developments.
 - Group behaviour can be a important factor: recruitment may precede radicalisation.
 - Communities in this country are subject to influence from here and overseas.
 - *Prevent* works in an area of high political sensitivity: it can wrongly be construed as a critique of Muslim communities.

How can industry and academia help?
Industry and academia may be able to apply existing or new research to:

- Understand the reason for and process involved in the transition from extremism to violent extremism.
- Explore the techniques used by radicalisers and determine who and what makes an effective recruiter.
- Develop a greater understanding of the needs and challenges faced by communities who are targeted by radicalisers and establish what factors have made and still make communities ‘resilient’ to violent extremism.

- Develop an understanding of the comparative influence of international and domestic factors on the radicalisation process.
- Investigate the role played by new and conventional media (notably the internet) in the radicalisation process.
- Understand how perceived or real grievances are used by radicalisers to justify violence.

Developing effective Prevent interventions

The Challenge:
We need to develop effective ways to challenge the radicalisation process. Some interventions, which have been developed to address this challenge in this and other countries, seek to change behaviours (i.e. disengagement); others aim to change attitudes (i.e. de-radicalisation). Some aim to do both. Government is already funding interventions and best practice is emerging. But we need to do more.

- Common features of the challenge:**
- Measuring attitudinal or behavioural change can be difficult.
 - Evaluating outcomes is more problematic than measuring process.
 - Many effective international interventions have developed outside governments and in some cases in other policy areas.
 - Data on the extent of radicalisation internationally and trends up and down is not consistent or always reliable.

How can industry and academia help?
Industry and academia may be able to apply existing or new research to:

- Capture best practice from around the world, notably in communities and Non-Government Organisations.
- Understand the comparative merits of approaches based on attitudinal and behavioural change.
- Understand what works from other fields of intervention such as health and crime, and investigate their application to preventing radicalisation.
- Improve methods of outcome evaluation drawing on knowledge of successful assessments in other fields
- Better understand the broader global trends: how prevalent is radicalisation to violent extremism?



Key challenges: Protect

One of the objectives in CONTEST is to reduce the vulnerability of the UK and its interests to terrorist attack. This is the purpose of *Protect*. It requires protection of critical national infrastructure, crowded places, the transport system, our borders, and our interests overseas; and protection against threats from insiders.

Reducing our vulnerability to terrorist attack involves developing ways to identify terrorist behaviours and the deployment of counter-measures that deter, disrupt and minimise the harm caused by those engaging in terrorist activities. In responding to this challenge we need to ensure that security measures command public consent, minimise intrusion and do not create disproportionate disruption to everyday life.

Identifying suspicious behaviour

The Challenge:
An individual’s behaviour may contain clues as to their intent. We need to develop techniques that enable identification of terrorist actions and behaviours in a range of contexts: these might include crowded places, key infrastructure locations or security checkpoints, such as the airport or UK border. Any approach must be proven, minimise intrusion and enable people to go freely about their day to day activities.

- Common features of the challenge:
- There is no unique set of behaviours or ‘profile’ that always reveals terrorists or their intentions.
 - Many behaviours which may be thought suspicious can be entirely innocent
 - Crowded places present high-volume movements of people.
 - Insiders have legitimate access to their organisation’s assets and premises which they can exploit for unauthorised purposes.

- How can industry and academia help?**
Industry and academia may be able to apply existing or new research to:
- Improve understanding of the behavioural indicators of concealment of small arms, explosives or other materials associated with attack planning.
 - Develop methods and approaches that might facilitate the detection of terrorist research, reconnaissance and attack planning, or help frustrate and deter such activities.
 - Improve systems and human processes to automate the detection of these indicators.

Improving protective security

The Challenge:
Protective security requires effective monitoring, detection, searching (e.g. of people at transport hubs) and response (e.g. to a suspect package). We need to improve these processes. We also need to improve the design and management of environments to make them harder targets for terrorists†. And we need to make it easier for the public and employees to follow security instructions, ensuring minimal disturbance and intrusion.

- Common features of the challenge:
- Repetitive security procedures are often poorly understood and sometimes are circumvented or ignored.
 - Operators become subject to complacency, fatigue and boredom.
 - Large numbers of people require processing at checkpoints.
 - Most positives will be false.
- How can industry and academia help?**
Industry and academia may be able to apply existing or new research to:
- Develop techniques that promote security awareness and vigilance amongst employees, notably in national infrastructure organisations.
 - Develop ways to improve the attention and response-time of security personnel.
 - Combine the social and physical sciences to optimise the performance of security personnel and improve the design and management of vulnerable sites.
 - Develop techniques that help the public to understand and follow security measures.



†Information about the Government’s approach to reducing the vulnerability of crowded places to terrorist attack will be published shortly and can be found at <http://security.homeoffice.gov.uk>

Key challenges: Prepare

The *Prepare* workstream aims to mitigate the impact of a terrorist attack where it cannot be stopped. This includes work to manage an ongoing attack as well as to recover from its aftermath. Effective *Prepare* work means ensuring that capabilities are in place to deal with a range of terrorist incidents, that there is continuity or swift recovery in our critical national infrastructure following an incident, and that crisis management structures are appropriately equipped and trained. It is essential that emergency services can respond effectively to a wide range of incidents and recover as quickly as possible.

Understanding crowd behaviour during terrorism incidents and emergencies

The Challenge:
The behaviour of crowds following an incident can determine its impact. Crowd behaviour may help to alleviate potential problems: members of the public may be the first responders on the scene and appropriate action may help to save life or prevent injury. But a crowd may create additional problems: panic and chaotic behaviour may hinder evacuation, the handling of casualties and public health interventions. We need to understand the reaction of crowds to different situations and how to respond.

- Common features of the challenge:
- Multiple situations causing variable levels of fear and public concern (for example radiation, biological, chemical incidents).
 - Multiple audiences, some with existing relationships to others in the group (e.g. families).
 - Complex links between group and individual behaviour.
 - Varying levels of leadership.
- How can industry and academia help?
- Industry and academia may be able to apply existing or new research to:
- Enhance our understanding of how crowds behave in emergencies.
 - Understand the implications of collective resilience for the management of crowds.
 - Collect evidence regarding the relationship between communications and crowd behaviour.
 - Provide clear guidance about the relative importance of pre-event and post-event (early) communications.
 - Provide clear guidance about the impact of effective command and control on crowd behaviour.
 - Develop communication tools and strategies for managing crowds.

Improving the operational effectiveness of emergency response teams

The Challenge:
Emergency Response Teams (Police, Fire and Ambulance Services), provide crucial assistance during the early stages of an incident and will help determine long-term recovery. We need to understand the factors which make a team effective, including coordination, communication, command and control, and training. We also need to understand the expectations and needs of people at the scene of an incident, and the roles and actions of Emergency Response Teams.

- Common features of the challenge:
- No two emergency situations will be exactly the same. There will be a degree of uncertainty about every emergency situation.
 - Multi-agency response teams have different priorities, training and expectations.
 - Group behaviour occurs among those involved in an incident and in Emergency Response teams.
 - There are varying levels of effective leadership in command, control, advice and coordination roles during and following an incident. Emergency advice may come from multiple sources.
- How can industry and academia help?
- Industry and academia may be able to apply existing or new research to:
- Develop training to improve the effectiveness of Emergency Response Teams.
 - Understand the impact of effective leadership, communications and coordination on the operational effectiveness of Emergency Response Teams.
 - Understand how the expectations of those affected by an incident will fit with the capabilities of Emergency Response Teams.



Key challenges: Cross-cutting

Some challenges apply across more than one of the CONTEST work-streams and may impact on all aspects of counter-terrorist work in the UK.

Reducing false positives in our counter-terrorist work

The Challenge
Many activities and characteristics of terrorists are common to those of innocent members of the public. Methods of detecting possible terrorist activity can produce many false alarms. We need to find ways to reduce them.

- Common features of the challenge:**
- The number of terrorists is very small compared to the number of people who pass through any security system.
 - There is a very high cost (human, social and financial) to the UK if a genuine positive signal is missed
 - There is also a lower but still substantial cost for each false positive to which we respond
 - Rapid expert judgements need to be made repeatedly.

How can industry and academia help?
Industry and academia may be able to apply existing or new research to:

- Develop ways to help security experts and front-line workers to understand and improve their own judgements and decision making
- Reduce the number of false positives by improving our processes for the detection of significant signals
- Reduce the impact of false positives, and the chance of missing a true positive, by improving our processes for investigating and reacting to apparently significant signals.



Communicating with the public, stakeholders and communities

The Challenge:
Communicating with the public, stakeholders and communities is a vital part of our counter-terrorism work. Used well, communications can protect the public from terrorist attacks by keeping them informed and alert, aware of both the threat we face and the measures we have in place to manage it.

Communications can deliver a clear and persuasive statement of the reasons for Government policy, in particular around questions of balancing public safety with the protection of individual human rights.

Communications can also create resilience to terrorist propaganda. Effective communications of this kind depend on an understanding of factors which make violent extremism attractive or protect communities and individuals against it.

Different audiences can react in a range of ways to the same message. Understanding how messages should be constructed and the effects they can have are vital to Government's continuing dialogue on counter-terrorism with the public.

- Common features of the challenge:**
- Delivering clear and consistent messages which are also flexible enough to reach multiple audiences that 'hear' the same message in different ways
 - measuring and influencing complex attitudes on counter-terrorism issues across a wide range of audiences, where these attitudes are privately held and sensitive
 - Some of the populations we need to understand better if we are to reach them successfully are small, difficult to access and already heavily surveyed.

How can industry and academia help?
Industry and academia may be able to apply existing or new research to:

- Develop robust ways to understand the relationship between communications and attitude and behaviour change, and to measure the effect of counter-terrorism communications in changing attitudes or behaviour (for example public understanding of Government counter-terrorism policy or of levels of threat, or community resistance to radicalisation)
- Understand the right (and wrong) audiences for communications aimed at changing attitudes to violent extremism
- Understand the relative importance of broadcast press, other media sources, communities, groups and individuals in communicating Government policy relating to the CONTEST strategy or shaping support for or resistance to violent extremism.

Section 2

Key challenges

Understanding the economic and social impacts of terrorism and counter-terrorism interventions

The Challenge:
Calculating the wider impact of terrorist events is a complex problem as such events are low-probability and high-impact (also known as ‘shocks’). They can cause significant loss of life. They may also have financial and social impacts resulting from disruption and damage to infrastructure, from loss of confidence and enforced change of lifestyle and work patterns.

The aim of CONTEST, the Government counter-terrorist strategy, is “to reduce the risk to the UK and its interests overseas from international terrorism, so that people can go about their lives freely and with confidence”. But counter-terrorism policies inevitably also have some economic and social impact. It is essential that we understand both the effects of terrorism and counter-terrorism in order to develop the best policies for addressing the threat we face.

Common features of the challenge:

- The risk from terrorism is low-probability but high-impact which makes it difficult to compare to the costs of tackling it.
- A balance needs to be drawn between measures intended to preserve our right to security and our rights to privacy.

- People will experience and respond to counter-terrorist measures in different ways and have variable understanding about them.
- In common with many other policies, counter-terrorist work will have unintended consequences.

How can industry and academia help?

Industry and academia may be able to apply existing or new research to:

- Understand the cost of shocks (low-probability, high-impact events), and how society responds to them.
- Understand the priorities people attach to privacy and security.
- Understand how people value protection from potential terrorist attacks in different circumstances, from everyday commuting to attending major events.
- Understand how this changes with any shift in public perception of the likelihood and effect of a terrorist attack.
- Improve our estimates of cost-benefit ratios for individual policies.
- Identify the direct impact of counter-terrorist measures and policies on individuals and communities.
- Assess societal attitudes towards counter-terrorism measures and communications.
- Understand how interventions will effect the complex dynamics of the social systems and predict at least some of the unintended consequences.

Section 3

How to get involved

In this section we explain how academia, industry and other research organisations can engage with Government and other relevant bodies. We set out what we are doing to develop our links with academia and industry bodies engaged in social and behavioural science.

Section 3

How to get involved

Countering the terrorist threat: Social and Behavioural Science

How academia and industry can play their part

Section 3

How to get involved

I'M IN ACADEMIA OR INDUSTRY WITH A BRIGHT IDEA. WHO SHOULD I CONTACT?

OSCT

The Office for Security and Counter Terrorism (OSCT) was set up as part of the Home Office in March 2007. It supports the development, direction, implementation and governance of CONTEST. It also delivers those aspects of CONTEST that fall to the Home Office. In relation to science and technology, including social and behavioural science, its role is to coordinate and direct research and development relevant to counter-terrorism. OSCT periodically releases open research calls in counter-terrorism science and runs the INSTINCT programme, which aims to improve the Government’s ability to be an effective customer of innovation. The Science and Technology Team in OSCT will help academics or representatives from industry access the relevant department and provide further information about research calls and INSTINCT.

Email: CONTESTscience@homeoffice.gsi.gov.uk

CPNI

The Centre for the Protection of National Infrastructure (CPNI) is the Government body responsible for protective security advice to owners and operators of the UK’s Critical National Infrastructure. CPNI aims to ensure researchers understand security needs in order to stimulate and give direction to future research efforts. CPNI will also identify existing research that relates to their own research interests. CPNI works directly with individuals and research groups, supporting/funding council activities and commissioning work from university consultancies.

www.cpni.gov.uk

MINISTRY OF DEFENCE CT CENTRE

With terrorist threats becoming increasingly sophisticated and diverse, science and technology is playing an ever more important role in the planning, preparation and prosecution of military and security operations. The Counter-Terrorism Centre serves as a hub to make the most of resources in the MOD. While the primary objective of the Centre is to focus on MOD requirements, it can also help other government departments engaged in domestic counter-terrorism.

www.ctcentre.mod.uk

HOME OFFICE SCIENTIFIC DEVELOPMENT BRANCH

The Home Office Scientific Development Branch (HOSDB) is a core part of the Home Office that helps to apply technology to reduce crime and counter terrorism. It provides expert advice and support to the Home Office and its partners on any issue relating to science and technology, creating new and innovative technical solutions.

HOSDB helps the Home Office meet its strategic objectives in policing, crime reduction, counter-terrorism, border security and identity management. Examples of HOSDB’s work include:

- providing technical know-how to improve video and CCTV operations.
- developing techniques for identifying and detecting chemical and biological material.
- developing techniques for ensuring the physical safety of government and other key buildings.
- developing techniques for detecting hidden weapons and explosives
- evaluating methods of passenger screening.

Although not directly involved in social and behavioural science, HOSDB’s work often touches upon this area, especially as regards human factors.

scienceandresearch.homeoffice.gov.uk/hosdb

HOW DOES THE GOVERNMENT GAIN SCIENTIFIC ADVICE ON COUNTER-TERRORISM?

THE HOME OFFICE SCIENCE ADVISORY COMMITTEE (HOSAC)
HOSAC is the overarching scientific advisory committee at the Home Office. Chaired jointly by the Permanent Secretary and an independent member of the Committee, HOSAC’s membership comprises individuals nominated by learned societies from both the social and physical sciences and the Chairs of the other science advisory committees in the department. HOSAC currently has several sub-committees, including the CBRN advisory sub-committee and the Surveys, Design and Statistics sub-committee. HOSAC annually advises on the Home Office’s science and research plans and on a range of work across the department. Last year the Committee advised on the Science and Technology Strategy for Countering International Terrorism.

THE GOVERNMENT OFFICE FOR SCIENCE
The Government Office for Science (GO-Science) is led by the Government Chief Scientific Adviser (GCSA). GO-Science works to ensure that Government policy and decision making is underpinned by robust science and engineering evidence and long term thinking. The GCSA reports to the Prime Minister and Cabinet and works with all Government departments. GO-Science also supports the community of Chief Scientific Advisers (CSAs) across Government. There is a CSA in all major science-using departments and they are responsible for the quality of science advice in their area. This includes seeking independent advice on scientific and ethical issues. CSAs have a mix of expert backgrounds, including natural science, engineering and social science.

- SOCIAL AND BEHAVIOURAL SCIENCE IN GOVERNMENT**
There are four umbrella bodies within Government that oversee work in social and behavioural science:
- The **Government Social Research Service (GSR)** provides government with objective, reliable, relevant and timely social research. It also supports the development, implementation, review and evaluation of policy and delivery and ensures policy debate is informed by the best research evidence and thinking from the social sciences¹⁰.
 - The **Government Statistical Service (GSS)** is a decentralised community which is spread across most Government Departments, the Office for National Statistics and the devolved administrations in Scotland and Wales. The primary function of GSS is to collect, analyse and disseminate official statistics¹¹.
 - The **Government Economic Service (GES)** is a similar community covering economists working in Government¹².
 - The **Government Operational Research Service (GORS)** is a community of operational researchers which seeks to maximise the benefits Departments obtain from deploying OR skills in the design, implementation and evaluation of their policies and strategies¹³.

Associated with the above umbrella bodies are professional social and behavioural scientists, who are embedded in departments across Government, and who specialise in counter-terrorism research. These scientists work collectively to enhance the evidence base for CONTEST and to improve the delivery of the CONTEST strategy.

HOME OFFICE’S SCIENTISTS AND RESEARCHERS
The Home Office has skilled specialist staff including social researchers, statisticians, economists, operational researchers, engineers, physical scientists and veterinarians who provide support for all aspects of the Home Office’s remit.

Home Office scientists and researchers provide objective, scientific advice to help evidence-based policy decisions and support the delivery of our policies. This includes high quality economic analysis and operational research to understand the costs and benefits of Home Office policies and initiatives. In addition, our scientists have two important functions regulating the use and practice of science through the role of the Forensic Science Regulator and implementing the Animals (Scientific) Procedures Act 1986.

The Home Office carries out its own research and uses external academic review to ensure quality is maintained. Many of the department’s social researchers are embedded in policy directorates and agencies to promote close collaborative working with policy teams.

HOW IS THE GOVERNMENT COMMUNICATING WITH ACADEMIA?

RESEARCH COUNCILS

The Research Councils are an important route for Government to access the wider research community that we need to deliver the science we require. Government has, for some time, had very productive relationships with a number of Research Councils. We also have a long-standing concordat with the Economic and Social Research Council (ESRC) and have recently put in place a concordat with the Arts and Humanities Research Council (AHRC) to formalise these relationships.

We work with the Research Councils to investigate areas of common interest in both research and regulatory roles through, for example, providing expertise to contribute to research programmes or through joint funding programmes.

Research Councils UK (RCUK) is a partnership between the seven UK research councils (RCs). RCUK coordinates the delivery of multi-disciplinary research in six priority areas.

One of these is Global uncertainties: security for all in a changing world. The RCs will work together to address five interrelated global threats to security – Poverty (and Inequality and Injustice), Conflict, Transnational Crime, Environmental Stress and Terrorism.

RCUK’s mission is “to optimise the ways that Research Councils work together to deliver their goals, to enhance the overall performance and impact of UK research, training and knowledge transfer and to be recognised by academia, business and government for excellence in research sponsorship.”¹⁴

Councils within RCUK that undertake social and behavioural research include:

- The **Economic and Social Research Council (ESRC)**, which is the UK’s primary research council for funding economic and social science research. The ESRC strategic plan for 2009-2014 identifies security, conflict and justice as an area of particular challenge in the social sciences. As their plan states “The challenge is about understanding the causes of insecurity, including criminal and terrorist activity, and developing effective means for promoting security, addressing vulnerabilities and encouraging resilience. Research will explore the contemporary drivers of insecurity; why competition sometimes develops into violent conflict; the nature of contemporary conflicts, how they might be resolved and the effects mitigated; and how social injustice perpetuates insecurities. It explores how notions of self, community rights, ethics and competing ideas of justice can be incorporated into new ways of predicting, managing and avoiding insecurity.”¹⁵ Previous work by ESRC has included work with AHRC (see below) and the FCO to better understand radicalisation and violence, and research into new security challenges including conflict in cities, the globalisation of private security, the role of military force in the security of civil society, and psychological dimensions of human security. Future work will include work on the causes of non-violent versus violent responses

- to social injustice and improving resilience in communities.
<http://www.esrc.ac.uk/ESRCInfoCentre/index.aspx>
- The **Arts and Humanities Research Council (AHRC)**, which funds research to improve understanding of human culture and creativity. Previous programmes have included work to understand how individuals and communities develop their ideas and beliefs about security and insecurity, why some ideas and beliefs lead to conflict, violence or criminal activity, and whether there is an acceptable balance between national security and the protection of civil liberties and human rights.
<http://www.ahrc.ac.uk/Pages/default.aspx>
- The **Medical Research Council (MRC)**, which promotes research into all areas of medical and related science with the aims of improving the health and quality of life of the UK public and contributing to the wealth of the nation.
<http://www.mrc.ac.uk/index.htm>

Although these are the primary research councils concerned with social and behavioural science, human sciences cross into the work of all the Research Councils in the UK. The remaining RCs are:

- Biotechnology and Biological Sciences Research Council (BBSRC).
- Engineering and Physical Sciences Research Council (EPSRC).
- Natural Environment Research Council (NERC).
- Science and Technology Facilities Council (STFC).

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UK ACADEMIC INSTITUTIONS

The UK’s universities are renowned for world-class research, and so have an important role to play in developing the social and behavioural understanding we need to protect the UK. In addition to working through the research councils, we are keen to engage directly with universities and other research establishments to ensure that we are making the best use of research in the UK. We use a variety of informal and formal contacts to achieve this, including academic liaison, networking at conferences, issuing formal contracts for research work, open research calls and exploring opportunities for joint working on specific projects.

The Government has links with many academic institutions in the UK. These institutions have a large amount of expertise, particularly in social and behavioural science. Over the last few years several have founded institutes specifically concerned with security and counter-terrorism and we will continue to work with these organisations.

THE LEARNED SOCIETIES

We will continue to work closely with the relevant learned societies, working with them on matters of mutual interest and prioritising research. The Royal Society has taken a positive interest in counter-terrorism issues and we have worked closely with them. With respect to social and behavioural sciences we will work with the British Academy, the Academy of Social Sciences and other social science learned societies.

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AURIL

AURIL is the Association for University Research and Industry Links. Organised by university staff, its membership comprises around 1,400 academics, nearly 100 universities, and other research establishments and companies. We use AURIL as one route to the research base in UK universities. We encourage researchers who would like to contribute to counter-terrorism research to join AURIL.

www.auril.org.uk

UNICO

Unico is the UK’s leading representative body of professionals realising the potential of university and public sector research through commercialisation. It provides a forum for the exchange of best practice in knowledge transfer through conferences and other events. Its membership includes over 90 universities and other public sector research organisations.

<http://www.unico.org.uk/>

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HOW IS GOVERNMENT COMMUNICATING WITH INDUSTRY?

OSCT works with industry through a variety of routes including trade associations, exhibitions, industry primes and the Technology Strategy Board. In counter-terrorism, our main route to industry is through RISC.

RISC – THE UK SECURITY AND RESILIENCE INDUSTRY SUPPLIERS' COMMUNITY

RISC provides a focal point for the Government to communicate with industry about its counter-terrorism needs. RISC is an alliance of suppliers, trade associations and academics, representing over 2,000 companies ranging from prime contractors and global leaders through to small and medium enterprises and start-ups.

The trade associations are:

- AIDIS, the trade body advancing UK AeroSpace, Defence and Security industries formed from the merger of the Association of Police and Public Security Suppliers (APPSS), the Defence Manufacturers Association (DMA) and the Society of British Aerospace Companies (SBAC).
- the British Security Industry Association (BSIA).
- Intellect (the UK trade association for the technology industry).

We will continue to work with industry and academia through other routes. These will include industry liaison, responding to enquiries, networking at conferences, exhibitions and events and through exploring opportunities in existing science and technology projects.

<http://www.riscuk.org/>

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WHERE CAN I LOOK INTERNATIONALLY FOR INFORMATION AND FUNDING?

US DEPARTMENT OF HOMELAND SECURITY

The Department of Homeland Security works to secure the United States against threats. This includes counter-terrorism, border security, immigration, and disaster response.

The department has a Human Factors Behavioural Science Projects section of its science and technology work. These projects develop and apply the social, behavioural, and physical sciences to improve identification and analysis of threats, to enhance societal resilience, and to integrate human capabilities into the development of technology.

The UK Government is working with the DHS on some of these projects and more information can be found on the DHS website.

http://www.dhs.gov/files/programs/gc_1218480185439.shtm

US NATIONAL CONSORTIUM ON THE STUDY OF TERRORISM AND THE RESPONSES TO TERRORISM (START)

START is a US Department of Homeland Security centre of excellence based at the University of Maryland. It uses state-of-the-art theories, methods, and data from social and behavioural science to improve understanding of the origins, dynamics, and social and psychological impacts of terrorism.

START conducts cutting-edge research related to the terrorist threat and includes the full range of disciplines within social and behavioural science, including sociology, criminology, political science, psychology, communication, geography, economics, and anthropology. The work also includes experts in public policy, history, public health, foreign languages, and engineering. The research team provides the homeland-security community and the public with insights about how and why terrorist groups form, about the decisions and behaviours of individual terrorists and terrorist groups, and about how societies can best respond to and prepare for terrorist threats.

<http://www.start.umd.edu/start/>

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WHAT SHOULD I DO NEXT?

EU RESEARCH FUNDING

The EU invests in several research programmes in security and resilience. These include:

- Framework Programme 7 (FP7): http://ec.europa.eu/research/fp7/index_en.cfm?pg=security
- European Security Research and Innovation Forum (ESRIF): www.esrif.eu
- the European Justice Research Area: http://ec.europa.eu/justice_home/funding/intro/funding_intro_en.htm
- European Technology Platforms (ETPs): <http://cordis.europa.eu/technology-platforms>

EU: FRAMEWORK PROGRAMME 7

Of the above EU research programmes, FP7 has in the past awarded most funding to UK organisations. Security is one of the ten themes of FP7.

The Security theme will award €1.4 billion for the seven year period 2006-2013 for research related to a set of security topics defined by the EU. The topics are usually announced formally in July, inviting responses by November. Most bids are from consortia; consortium members may come from the private sector, the public sector or academia.

The bids submitted in 2008 led to the provisional award of around €14 million to UK organisations.

The UK Government contributes to the debate that leads to the selection of topics, but plays no part in determining which proposals are selected for funding. We encourage you to participate in bidding for this funding.

http://www.dius.gov.uk/dius_international/science_and_innovation/eu_framework_programme

cordis.europa.eu/fp7

We have set out in this booklet the wide range of challenges that social and behavioural science can address. If you are in academia or industry and are working in this area or have the potential to support our security and counter-terrorism work, we want to hear from you.

If you are unsure about which is the best department or body for you to contact in the first instance, please get in touch with the CONTEST Science and Technology Unit in the OSCT. We will be happy to advise you

Email: CONTESTscience@homeoffice.gsi.gov.uk

Glossary

Abbreviation	Meaning
AIDIS	Aerospace Defence and Security
AHRC	Arts and Humanities Research Council
APPSS	Association of Police and Public Security Suppliers
AURIL	Association for University Research and Industry Links
BBSRC	Biotechnology and Biological Sciences Research Council
BSIA	British Security Industry Association
CBRN	Chemical, Biological, Radiological, Nuclear
CONTEST	The United Kingdom's Strategy for Countering International Terrorism
CPNI	Centre for the Protection of National Infrastructure
CSA	Chief Scientific Adviser
CT	Counter-Terrorism
DHS	Department of Homeland Security
DMA	Defence Manufacturers Association
EPSRC	Engineering and Physical Sciences Research Council
ESRC	Economic and Social Research Council
ESRIF	European Security Research and Innovation Forum
ETP	European Technology Platform
EU	European Union
FP7	Framework Programme 7 (an EU programme)
GCSA	Government Chief Scientific Adviser
GES	Government Economic Service
GORS	Government Operational Research Service
GO-Science	Government Office for Science
GSR	Government Social Research Service
GSS	Government Statistical Service
HOSAC	Home Office Science Advisory Committee
HOSDB	Home Office Scientific Development Branch
INSTINCT	INnovative Science and Technology IN Counter-Terrorism
MOD	Ministry of Defence
MRC	Medical Research Council
NERC	Natural Environment Research Council
OSCT	Office for Security and Counter-Terrorism
RC	Research Council
RCUK	Research Councils UK
RISC UK	UK Security and Resilience Industry Suppliers' Community
SBAC	Society of British Aerospace Companies
START US	National Consortium on the Study of Terrorism and the Responses to Terrorism
STFC	Science and Technology Facilities Council

End notes

- ¹ www.cabinetoffice.gov.uk/reports/national_security.aspx
- ² security.homeoffice.gov.uk/counter-terrorism-strategy
- ³ <http://security.homeoffice.gov.uk/news-publications/publication-search/general/Science-Technology-strategy/index.html>
- ⁴ <http://security.homeoffice.gov.uk/news-publications/publication-search/general/Science-Tech-Booklet/index.html>
- ⁵ http://www.esrc.ac.uk/ESRCInfoCentre/what_is_soc_sci/
- ⁶ <http://www.berr.gov.uk/files/file41318.pdf>
- ⁷ security.homeoffice.gov.uk/counter-terrorism-strategy Section 5.0
- ⁸ security.homeoffice.gov.uk/counter-terrorism-strategy Section 5.25
- ⁹ security.homeoffice.gov.uk/counter-terrorism-strategy Section 9.29
- ¹⁰ <http://www.civilservice.gov.uk/my-civil-service/networks/professional/gsr/index.aspx>
- ¹¹ <http://www.ons.gov.uk/about-statistics/ns-standard/roles/gss/index.html>
- ¹² <http://www.civilservice.gov.uk/my-civil-service/networks/professional/ges/index2.aspx>
- ¹³ <http://www.operational-research.gov.uk/recruitment>
- ¹⁴ <http://www.rcuk.ac.uk/aboutrcuk/org/default.htm>
- ¹⁵ <http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/strategicplan/challenges/securityandconflict.aspx>

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