

ACE EXPRESSION OF INTEREST

Commission Title:	C665 - University Innovation Concept 2024 Challenge Statements (UIC) AI and Technical Research
Required UK Security Clearance for Clarification Call	BPSS
Timescales / clarification Call Details	<p>Invitation for Expressions of Interest</p> <p>Key Dates:</p> <p>EOI released to the community – 27/09/2024</p> <p>Clarification call – 04/10/2024</p> <p>Response Deadline – 25/10/2024</p> <hr/> <p>Microsoft Teams meeting (Clarification call)</p> <h2>Microsoft Teams Need help?</h2> <p>Join the meeting now</p> <p>Meeting ID: 388 645 184 934</p> <p>Passcode: RK22kL</p> <hr/> <p>Dial in by phone</p> <p>+44 20 3321 5273,,924910542# United Kingdom, City of London</p> <p>Find a local number</p> <p>Phone conference ID: 924 910 542#</p> <p>For organisers: Meeting options Reset dial-in PIN</p>

<p>Commission Background</p>	<p>The new CTP CSO aims to bridge the gap between academia and counter-terrorism by harnessing the innovative potential of UK universities. Their goal is to integrate academic research, skills, and technology into the CT mission to drive greater innovation, and ultimately deliver operational Impact.</p> <p>Previous commissions over the past few years have demonstrated the mutual benefits of collaboration between CTP and academia. Building on this foundation, the CSO seeks to expand partnerships, pilot new initiatives, and further embed academic expertise.</p>
<p>The Problem</p>	<p>CTPHQ's ongoing collaboration with select partners has fostered proactive, insight-driven academic engagement. While progress has been made, stronger relationships with research teams are essential to address current and future mission challenges more effectively.</p> <p>This year, commission C665 will prioritise sociological, psychological, and behavioural challenges faced by HQ and regional teams.</p> <p>What follows are a set of specific themes and challenges, the premise of the ask is similar to that seen over the past few years. The ask is to review the themes and challenges as presented and consider how your current research programmes align with them and can build understanding, while also considering, if successful, how to refine future research.</p> <p><i>Whilst specific problems are presented, we remain open to ideation and approaches on novel or innovative themes or problems that support CTPHQ's Counter-Terrorism (CT) objectives.</i></p>
<p>Approach</p>	<p>ACE will serve as a bridge between academia and CTP, translating cutting-edge research into actionable solutions for public safety. CTP require support in harnessing academic expertise and insights into emerging societal, and behavioural driven challenges and threats.</p>
<p>The Challenges</p>	<p><u>1.-Research Areas and Challenge Statements</u></p> <p><u>Radicalisation</u></p> <p>Increasingly, self-initiated terrorism has come to replace organised terror cells — this means associating an individual's act of terrorism with an 'ideology' is becoming more complex. The internet has acted as a gateway for malicious actors to get access to vulnerable individuals, especially young people and co-opt them into terrorism. Radicalisation is becoming a bigger issue amongst <u>young people</u>: in 2023, 15% of offenders were young people. This constitutes a <u>significant rise</u> in this demographic. Evidence-based policing aims to target resources in a logical manner to enhance efficiency. Therefore, preventing young people and other vulnerable individuals from becoming radicalised and entering terrorist systems is a major objective.</p> <p>Challenges:</p> <ul style="list-style-type: none"> ● <i>How do different ideologies identify the 'enemy' and what are the driving concepts that establish 'otherness' and promote distrust?</i> ● <i>Can we develop a framework to identify and rank radicalising potential in propaganda material?</i> ● <i>What is the measurable impact of disinformation and misinformation, especially AI generated imagery and content on radicalisation?</i> ● <i>How can a systematic study on radicalisation disincentives (the reasons why individuals decide against engaging in terrorist violence) be used to develop a toolkit for deploying positive alternative views to disrupt terrorist propaganda?</i> <p><u>2.Interventions</u></p> <p>To keep UK communities safe from terrorism, one of the most complex challenges facing Counter Terrorism Policing and partners is that of working with, or 'managing', identified individuals across the spectrum of non-criminal, under investigation and post-conviction arenas. Intervening to prevent individuals being drawn into extremism or to stop terrorist offending or re-offending helps to minimise or mitigate risks, but there is no clear understanding of the most effective forms of interventions and</p>

no definitive measures for the success of different intervention strategies. To help inform future approaches, the following challenges have been identified.

Challenges:

- *How can we develop an attractiveness matrix to assess misinformation and disinformation influence in the UK population taking into account characteristics such as age, gender, socioeconomic status and education among others?*
- *Can we assign metrics to the impact of social network disinformation/misinformation in radicalisation and recruitment to extreme ideologies?*
- *What interventions have been proven to work and at what point in the radicalisation journey are they most effective?*
- *What lessons can be learnt from other sectors such as health, education and social care that can be transferred to interventions and utilised to combat radicalisation?*

3. Understanding, mapping and resolving human networks

The ability to discern roles in human networks and map weighted interdependencies and critical intersections has the potential to inform our understanding of the principles that underlie the operation of extremist groups. Analysis of social networks should be supplemented with additional contextual information, including geospatial and temporal data.

Challenges:

- *Can a customisable in-silico model of relationships – including ways in which relationships should be weighted - be developed to model interactions and dependencies in social groups and can it be used to inform role-risk relationships and highlight critical individuals and connections in the context of extremist networks?*
- *What are the best applications of statistical and spatial mathematical models that can collectively produce informed analyses of potential connectivity within social networks, combining contextual information with social network structures?*
- *What are the best methods available to predict links between nodes in a human network, and how could these predictions be justified?*

4. AI and Accountability in Counter Terrorism Policing

Given the intrinsic potential of AI applications in policing but also the uncertainties that accompany the use of any new technology, there is a real requirement to explore the ethical and legal implications on the use of AI, the levels of confidence we should have in 'clever' algorithms' performance and result uptake, and what societal concerns and expectations there are about its responsible use as well as ways of securing public support and consent for the use of AI in policing. Moreover, AI remains a tool that can be used to the benefit or detriment (accidental or intentional) of public safety and wellbeing and the ways in which the latter can be achieved warrant our attention and a level of preparedness that is proportional to the threat.

Challenges:

- *Can we decipher public opinion on the appropriate and proportionate use of AI in CT policing and what would be an effective way of responding through engagement and policy development?*
- *What is the potential effect of public sentiment in the adoption of AI tools within CTP?*
- *Can we identify and assess potential avenues that AI technology can be used for terrorist purposes and what checkpoints and barriers can be developed to hinder such deployment tactics?*
- *Are there examples of best practice of risk models when applying AI systems into organisations?*

5. Spatial Decision Making

Terrorism remains a major asymmetric threat to national security, and it is important that the UK develops capabilities to prepare and respond at a time where the nature of the threat is evolving in parallel with new technological developments. Decision-making for terrorist target selection is governed by factors ranging from the perceived legitimacy of the target to its accessibility and symbolic value. Understanding how terrorists will select their targets in future will inform what can be done to prepare and protect vulnerabilities against attacks. To identify and unpack emerging challenges associated with terrorist target selection, we have identified the following challenges:

Challenges:

- *What are the key risk factors contributing to ‘on the fly’ opportunistic decision making or secondary target selection, and what interventions can effectively disrupt these activities?*
- *How can technology support risk reduction and the protection of public figures (elected or otherwise) from the threat posed by hostile actors?*

6. Emerging Technologies

One of our primary tasks in the CT realm is identifying technologies that can be weaponised by terrorists to design, plan and carry out attacks. Areas of interest include AI use and misuse, cyber tools and interactions with autonomous or ‘smart’ equipment: deep fakes and associated applications of AI can distort the information universe and engage vulnerable individuals in grievance narratives that deviate wildly from reality; cyber space is a rich landscape of potential applications that can be used as weaponry for future terrorist attacks (for example, the use of DDoS attacks and Ransomware by criminal groups to target UK public infrastructure and private industry). Even our most trusted technologies within automobiles and appliances can be used for extremist purposes, presenting a complex and evolving landscape.

Challenges:

- *Is it possible to establish a principle of variation between materials published/circulated by terrorists that have been created by AI in comparison with material that has been created by humans?*
- *Are there examples of generative AI currently in use that could benefit CTP for public defence practices?*
- *What cyber tools could terrorists use in future to target the UK (across both private UK industry and Critical National Infrastructure) and what would the potential scale of the impact be?*
- *What vulnerabilities exist in autonomous vehicle systems that could be hacked and utilised for terrorist activity? What would the potential impact be should they be used to target UK critical national infrastructure or the public?*

	<p><u>7. Sporting and Hunting Equipment as Weapons</u></p> <p>Ease of access to equipment of ever-increasing sophistication in the outdoor activities and sporting goods arena such as crossbows, air guns/rifles, slingshots and similar translate to an increasing probability that these items can be adapted and/or used to perpetrate terrorist activities. We seek to explore and understand the applicability and availability of such items, the culture that can subvert their use, the effect of locale and access as well as the mental and physiological attributes that leads a would-be terrorist to select such a weapon.</p> <p>Challenges:</p> <ul style="list-style-type: none"> • <i>What are the latest and upcoming trends in potentially lethal sporting and hunting goods and what are their shipping and procurement routes?</i> • <i>How does the preference for adapted lethal sporting and hunting goods map to terrorist inclination and ideology?</i> • <i>What are the interconnections between proficiency in sporting and/or hunting and the inclination towards radicalisation and instigation of terrorist activities?</i> • <i>What would an at scale threat look like using such weapons and what would the short-term and long-term implications likely be?</i> <p><u>8. Wildcard Research Proposals</u></p> <p>While our exploration of the threat and requirements landscape have led us to propose distinct areas of activity, the wildcard proposal route opens the door to the world of possibilities. This an opportunity for researchers to submit a proposal that doesn't fit with the priority areas highlighted in this report but would likely inform us further on areas that broadly fall within our counter terrorism and policing remit. The proposal should explain why the research might be an unidentified priority for Counter Terrorism Policing and the benefits it will bring.</p>
<p>Types of responses expected</p>	<p>As mentioned above: The ask is to review the themes and challenges as presented and consider how your current research programmes align with them and can build understanding, while also considering, if successful, how to refine future research.</p> <p>We will be expecting a slide pack in response to this containing the following to allow us to conduct a fair assessment;</p> <ul style="list-style-type: none"> • Experience in the domain. • What challenges you are interested in. <p>Please note: You do not have to respond to all challenges and can instead respond only to the challenges where your specific expertise aligns. However, if you wish to address all challenges, then you are also welcome to do so.</p> <p>Please make it clear at the beginning of your submission which challenge(s) you are addressing.</p>