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#DASA



Defence and Security
Accelerator

Countering Drones: Phase 2



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Defence and Security
Accelerator

Welcome and Housekeeping

Rachael Colling, DASA Delivery manager

Housekeeping

- Please keep lines muted



- We are using audio only, please turn off camera
- Optimum view: Active speaker (found in top right of the main viewing screen)



- Today's event will be recorded for internal reference
- Q&A session via Slido (www.sli.do): #DASA
- Today's slide pack can also be found attached in the guidance email

Agenda

Time	Description	Presenter
1000-1005	Welcome	Rachel Colling, Delivery Manager, DASA
1005-1020	DASA overview	Andrew Peaty, Innovation Partner, DASA
1020-1055	Phase 1 overview Phase 2 technical challenges	David Lugton, Competition Technical Lead, Dstl
1055-1100	Key information	Rachel Colling, Delivery Manager, DASA
1100-1130	Q&A	All
1130	Event Close	



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DASA Overview

Andrew Peaty, Innovation Partner



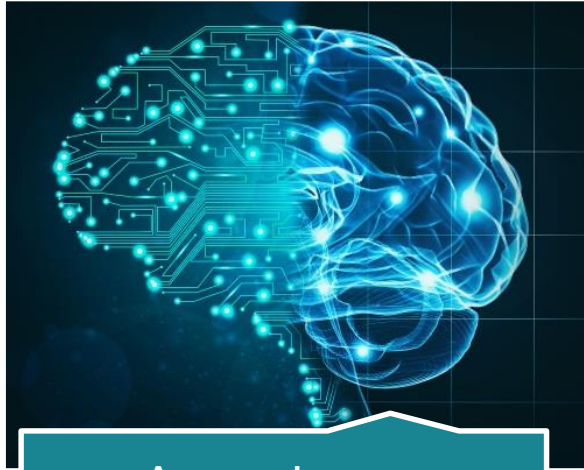
Defence and Security Accelerator

We find and fund exploitable innovation to support UK defence and security quickly and effectively, and support UK prosperity.

Scope



Any level of development



Any science, technology or service

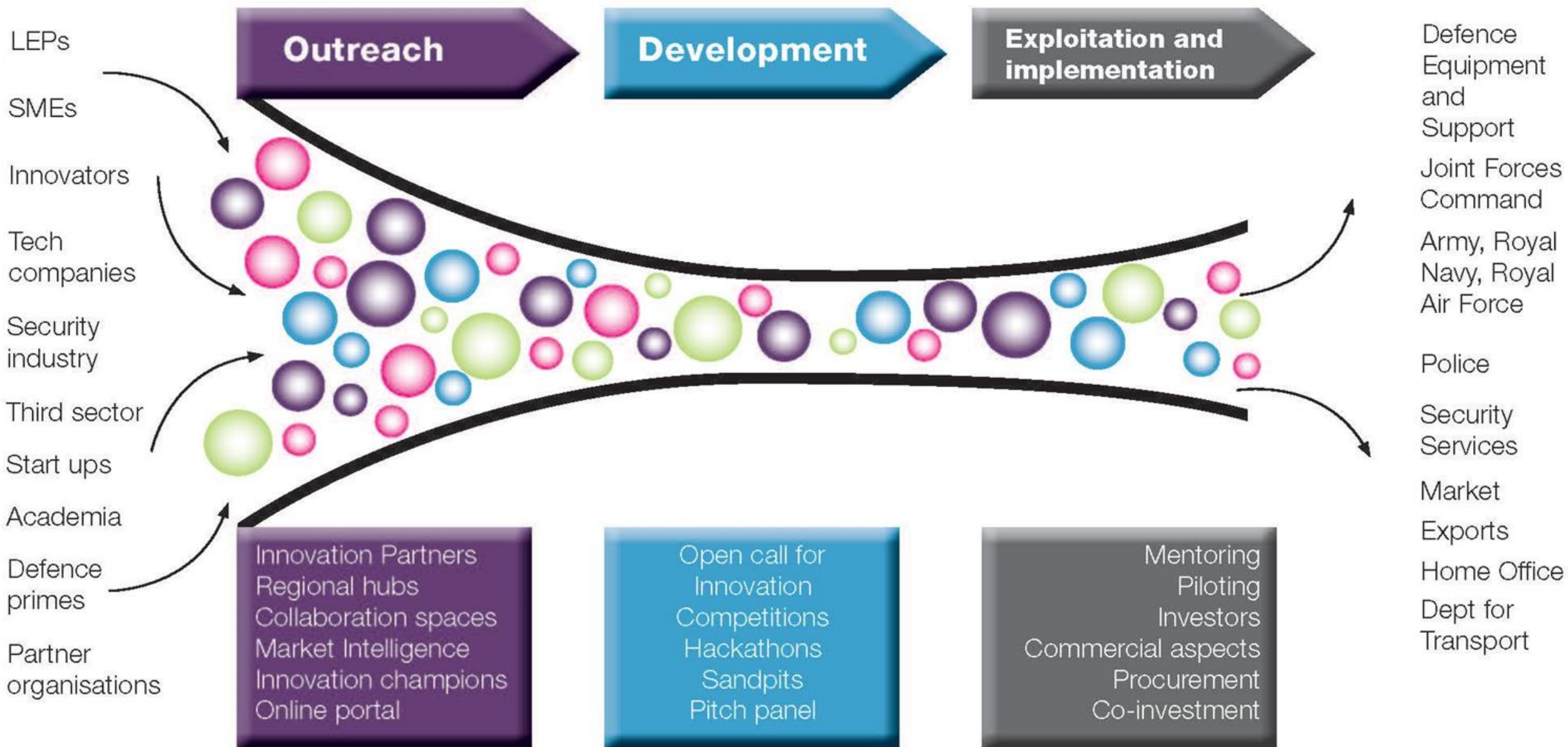


Anyone with a good idea



Any route to market

DASA Operating Model



Why work with us?

- 100% funding usually provided: no matching required
- no equity required
- intellectual property stays with you
- access to end users and technical advice
- always open for ideas
- rapid contracting
- we help identify routes to market
- events to bring together Government, end-users, private sector and academia



Funding agreed for 645 projects

Investment of £101.2m

Phase 1 1:5

Phase1 £105k

Phase2 £306k

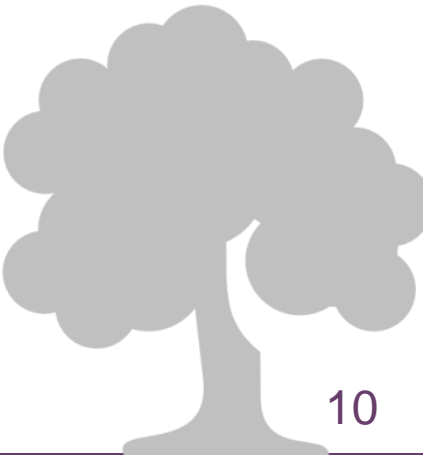
MOD Science £53.4m

FLC £9m

Security £13.4m

Defence Innovation Fund £25.4m

DASA: delivering innovation at pace



How do you get involved?

- **Themed Opportunities**
 - pre-defined challenge (and budget)
 - launched regularly
- **Open Call for Innovation**
 - always open
 - you propose the idea and its benefit
 - areas of focus



Current Themed Competitions



Biosensing over wide area
Closes 1st June



Invisible Shield
Closes 1st July

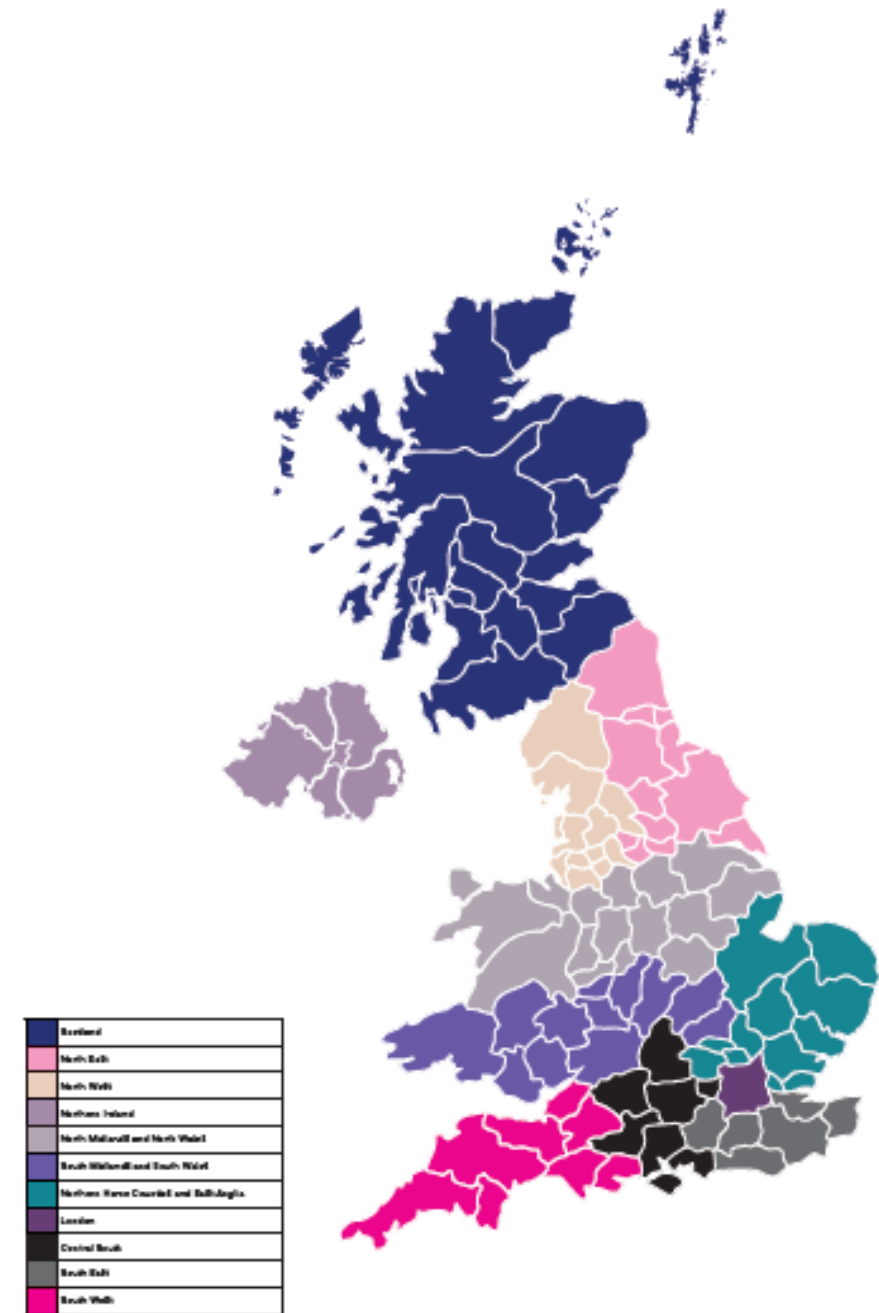


Counter UAV – Phase 2
Closes 21st July

Ask for help through our Innovation Partner network

Regional Innovation Partners

- South West
- South Central
- South East
- London (inside M25)
- East Anglia, north Home Counties
- South Midlands / South Wales
- North Midlands / North Wales
- North West
- North East
- Scotland
- Northern Ireland/ Scotland



Contact us



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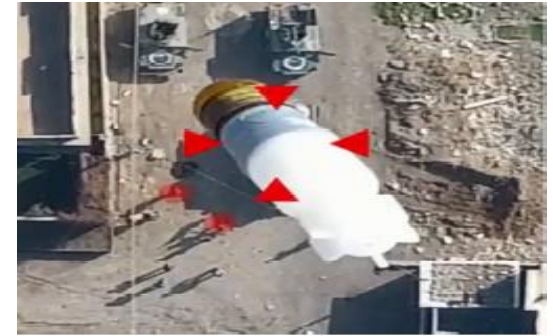
Countering Drones: Phase 2

“Finding and neutralising small UAS threats”

DSTL/PUB123526

Threat Background

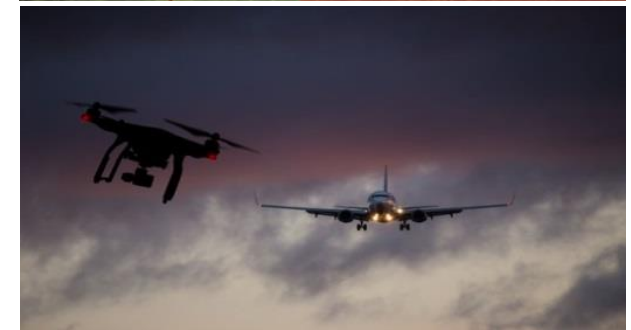
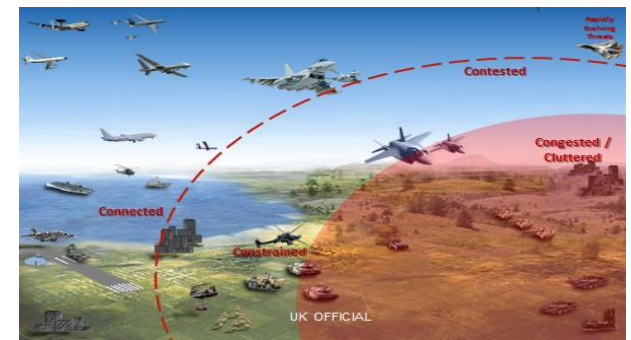
- Mitigating the threat posed by;
 - Commercial, improvised or military grade small UAS
 - Both multi-rotor and fixed wing UAVs.
- The focus is on platforms at the smaller end of NATO UAS Class I
- The UAS threat is broad and evolving rapidly;
 - Low, slow and small characteristics pose a detection and defeat challenge
 - Datalinks are diverse or may not always be used
 - The ground control station and operator is also an important target
- Emerging capabilities also of concern;
 - Autonomy is providing new capabilities
 - Faster or less detectable UAVs
 - Use of cellular networks
 - Greater ranges and/or payload
 - Passive navigation
 - Micro/Nano- UAVs



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Operational Concept

- There is no one single 'Drone Threat';
 - Includes surveillance, targeting, direct attack against assets or personnel
 - Our end users are spread across Army, Royal Navy, RAF and Joint Force Command as well as civilian agencies
- C-UAS technology is faced with operating within a wide range of environments
- Most potential UAS threats will require protection coverage 24/7 for extended periods.



Phase 1 Overview

- Delivering “proof of concept” of advanced technology and subsystems
- Projects focused on components required for a C-UAS solution, rather than full system.
- Physically demonstrated concepts in some way to prove the overall viability

GOV.UK Search

Coronavirus (COVID-19): guidance and support

Home > Countering Drones - Finding and neutralising small UAS threats

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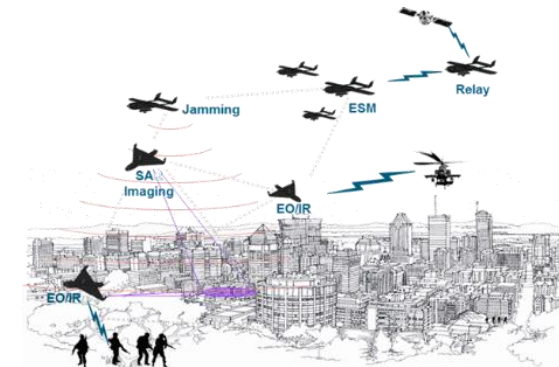
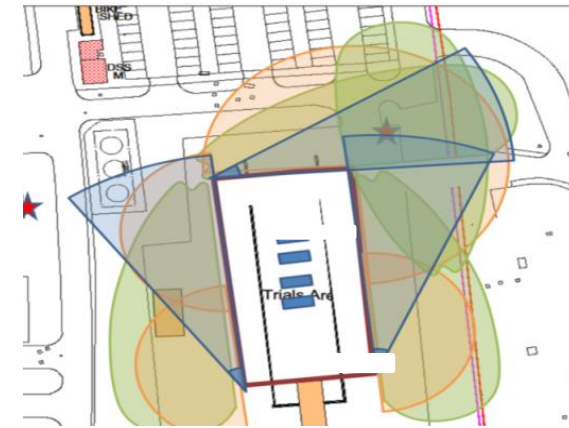
Notice
Competition document: Countering Drones - Finding and neutralising small UAS threats
 Published 9 April 2019

Organisation and type	Defence and Security Accelerator reference and project title
Airspeed Electronics Ltd (Micro)	ACC6006379: MANTIS: MACHine learnIng acousTic Surveillance
BAE Systems Applied Intelligence Ltd (Large/Prime)	ACC6006385: C-UAS µWDEW
Autonomous Devices Limited (Micro)	ACC6006605: Orthus
Thales UK Ltd – Glasgow (Large/ Prime)	ACC6006635: A Complex Deep Learning Classifier for a Staring Radar
QinetiQ Business Unit Farnborough (Large/Prime)	ACC6006638: JASPR
Animal Dynamics (SME)	ACC6006654: UAV Swarm as a C-UAV system
Plextek Services Limited (SME)	ACC6006690: Miniature Radar for Hunter Killer UAS
PA Consulting (Large/Prime)	ACC6006753: P045316-1 Drone Detection & Tracking using Cellular Signal Boosters/Repeaters (4G and 5G)

University College London (University)	ACC6006825: Multistatic C-UAV Target Classification
Cubica Technology Ltd (SME)	ACC6006827: Pushing the Limits of EO-based C-UAS for Recognition of Long Range and Swarming Threats
University of Cambridge (University)	ACC6007327: BAYESIAN INTENT PREDICTION FOR THREAT DETECTION IN DRONE SURVEILLANCE SYSTEMS
BAE Systems Applied Intelligence Ltd (Large/Prime)	ACC6007328: Passive & Covert Drone Detection
QinetiQ Business Unit Farnborough (Large/Prime)	ACC6007378: Countering Drones - Coherent tracking of UAS control links in complex environments
MBDA UK Ltd (Large/Prime)	ACC6007381: Novel Effects Demonstration for C-UAS
RiskAware Ltd (SME)	ACC6007382: Enhanced Drone Identification and Target Tracking System (EDITTS)
Plextek Services Limited (SME)	ACC6007409: RF Inhibition of Drones Whilst Minimising Fratricide
Northumbria University (University)	ACC6007422: D-FOCUS: Drone-Formation Control for countering future Unmanned aerial Systems
Northrop Grumman (Large)	ACC6007424: Disrupting drones through Cyber and Sensor vulnerabilities

Desirable Technology Attributes

- Automated Sensing
- Proportional Effectors
- Modular integration and autonomous sensor fusion (preferably through [SAPIENT](#))
- Meets the challenge posed by future UAS threats



Phase 2 Desired Outcomes

- Mature components towards military and security stakeholders future operational needs.
- Where sufficiently mature, integrate these technologies into a counter drone system; wide area detection, identify, track, deny or defeat hostile UAS.
- Demonstrate solutions against relevant UAS threats
- Illustrate how this performance would translate into operational settings.

Challenge 1; Fixed Site Protection

- Providing protection from small UAS to fixed sites – applicable to both defence and security
- This challenge will require:
 - Highly autonomous, multi-modal, unattended C-UAS sensing that is capable of 24/7 operation
 - Mitigation technology that has minimal risk of impact on other personnel and equipment
- In addition to complex physical environments, the challenge will include extensive “clutter” from the widespread proliferation of legitimate UAS.



Challenge 2; Mobile Protection

(mounted and dismounted)

- Providing mobile C-UAS solutions for the needs of land forces
- May also be used in domestic security settings, such as by the police.
- This challenge will require:
 - Solutions that have low Size, Weight and Power (SWaP) and are operable in a moving, contested environment
- Deployed land forces may also require C-UAS solutions to be able to work at extended range to mitigate offensive targeting.



Challenge 3; Maritime Protection

- Providing C-UAS capability to Royal Navy ships
- This challenge will require:
 - Capabilities that mitigate threats at a distance away from ships, to overcome integration and interference problems.
 - For example, standoff concepts such as decoys, hunter-killer UAVs, seaborne drones and precision munitions
- Additionally solutions that utilise and extend the capability of typical existing ship-borne sensors and weapons are of interest
- We are also interested in solutions that use typical sensors on manned air vehicles, particularly helicopters.



What we don't want

- Manpower intensive detect, track and identification solutions
- Standard barrage jamming
- Highly bespoke, closed or crude integration
- Low potential for cost efficiency
- Consultancy, paper-based studies, literature reviews or solutions that cannot physically be demonstrated in some way

Other Aspects

- We want solutions to benefit users working in UK defence and security. Your proposal should include evidence of:
 - C-UAS Solutions, or a clear explanation of how technologies can be integrated into solutions
 - clear enhancement over existing C-UAS options
 - an innovative approach
 - clear explanation of how the work can be exploited
- There may be the opportunity to demonstrate technologies at a representative counter-drones test event
 - Proposals may also provide a costed option to deploy to a UK based, government hosted trial
 - Testing against a representative threat set of UAS
- The competition is being carried out as part of a wider MOD programme.
 - Provides an opportunity to showcase stakeholders across defence and across government
 - We are also collaborating with several organisations within the United States Department of Defense



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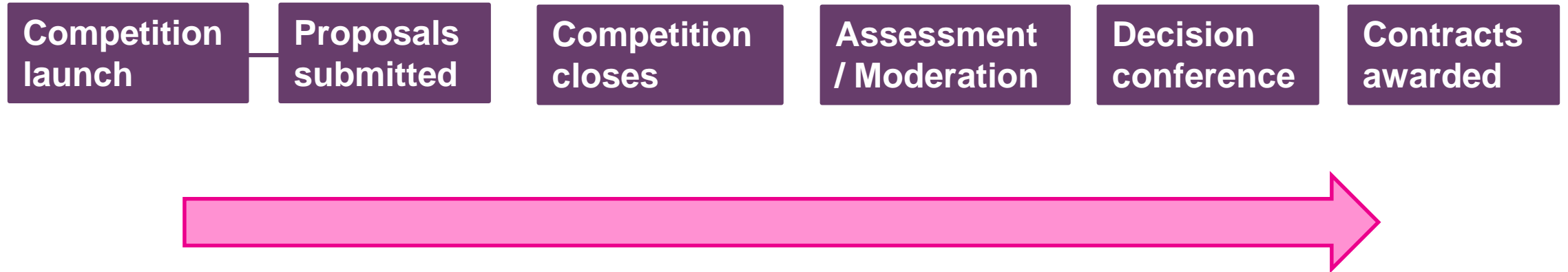
Key Information

Rachel Colling, DASA Delivery Manager

Key Dates

- **Competition Launched:** 12th May 2020
- **Competition Close:** 21 July, midday (BST)
- **Contracts Start:** October 2020

Competition Process



Assessment Criteria

Desirable

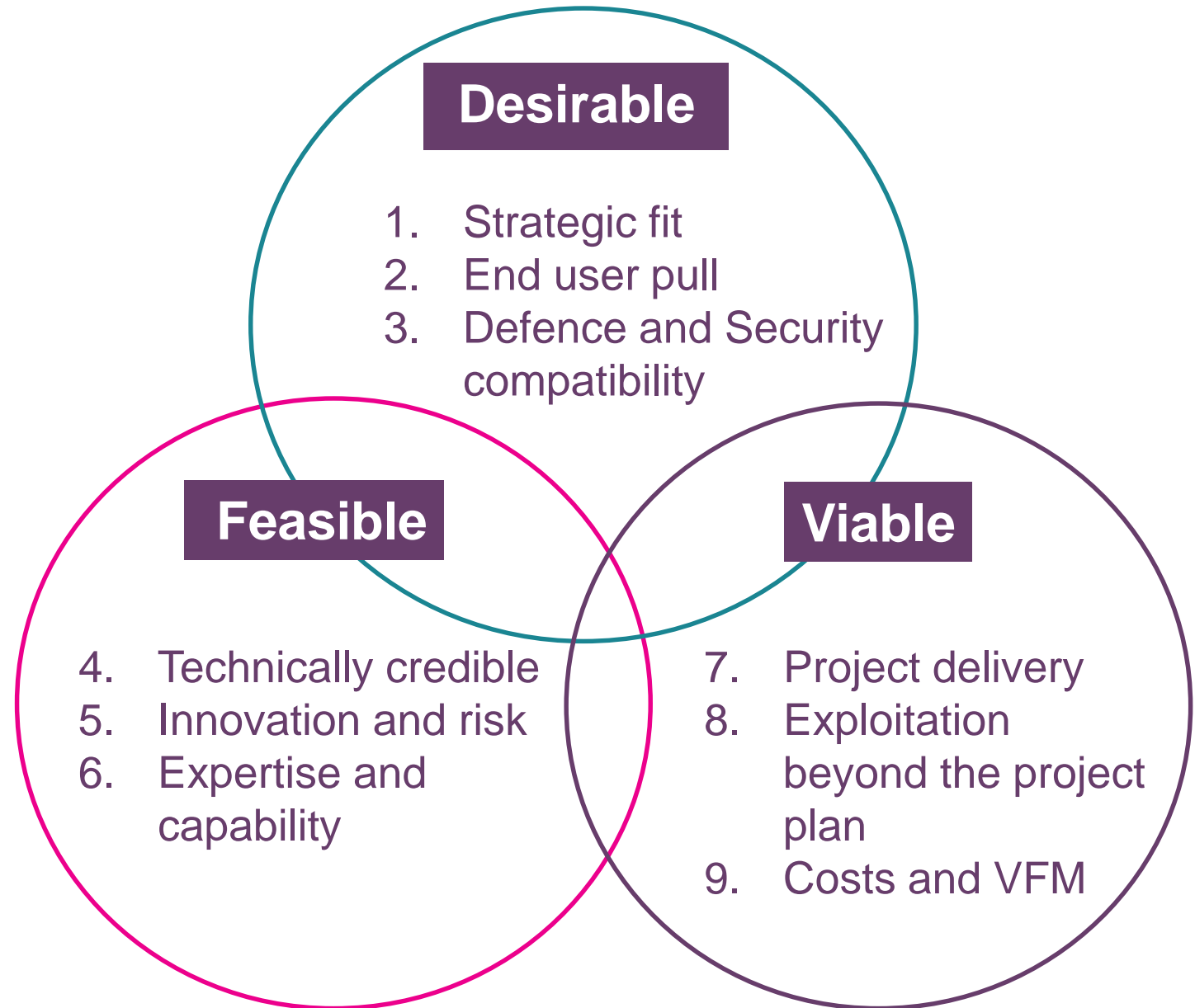
- relevance to customer

Feasible

- innovation, novelty, S&T focus

Viable

- project and business viability



Apply for funding



See live and closed competition information and apply to a competition

DASA events

Market exploration

Login/Register for an account



Click here to register for an account

Contact us



Click here to contact an Innovation Partner



28 May 2020 — News story

New funding for Defence Innovation Priorities

£1m of Defence Innovation funding has been set aside for civil sector support for the Ministry of Defence's (MOD) innovation priorities.

- There are no word limits for proposals. Make sure there is enough detail but bear in mind that assessors have a maximum of 90 minutes per proposal
- Make sure you have the authority to accept terms and conditions prior to submitting

Supplier dashboard

Before you start, make sure you are able to address the following:

1. Is your project at the right stage for our funding?
2. Is your work plan complete?
3. Have you directly addressed the specific needs in our competition document?
4. Have you got a fairly detailed breakdown of expected costs?
5. Are you aware of what information may be held or released by the Accelerator?

[Read more](#)

[Start now >](#)

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Thank you for attending!

Dstl: www.gov.uk/government/organisations/defence-science-and-technology-laboratory

DASA: www.gov.uk/dasa