



Challenge: Imaging hidden objects in walls

Summary of the challenge

Could your technology help reveal hidden objects concealed in walls, ceilings and floors?

This is the focus of the latest funded challenge launched by HMGCC Co-Creation, which is seeking imaging technologies able to prevent unwanted surveillance.

The tech solution should be able to uncover covert devices in the periphery of rooms, but without damaging walls.

The team is particularly interested in non-ionising radiation imaging techniques, such as portable terahertz or millimetre-wave systems. Successful solutions should aim to achieve a minimum Technology Readiness Level (TRL) 5 demonstrator within 12 weeks.

HMGCC Co-Creation will provide funding for time, materials, overheads and other indirect expenses for successful applicants.

Technology themes

Antennas, applied research, data science and engineering, electronic engineering, electro-optic, non-destructive testing, quantum technologies, radio frequency science and engineering, software development.

Key information

Total budget (ex VAT), up to	£60,000
Project duration	12 weeks
Competition opens	Monday 10 August 2026
Competition closes	Thursday 17 September 2026

Context of the challenge

Protecting sensitive locations from surveillance is an important national security requirement. Security professionals use a range of techniques to identify hidden devices that could be used to capture conversations, images or communications.

One method is to inspect walls, ceilings and floors for hidden equipment without damaging the building. Existing approaches, such as x-ray imaging, can be effective but are often large, heavy and require additional safety controls due to their use of ionising radiation.

This challenge seeks alternative approaches that can provide useful imaging capability whilst being more portable and easier to deploy.

The gap

Existing non-destructive imaging techniques each have limitations.

X-ray systems can provide detailed images through many materials but are often bulky and require additional safety measures.

Terahertz and millimetre-wave technologies use non-ionising radiation and have demonstrated success in applications such as airport security screening. However, current systems often face challenges including limited penetration depth, reduced performance in some environmental conditions, and difficulties achieving both portability and high image quality.

There remains a need for a portable imaging system that can provide useful images within walls, ceilings and floors whilst remaining practical for operational use.

Example use case

Ricky is a security professional responsible for protecting VIPs during overseas travel.

On one mission, his team is supporting a high-profile person who needs to have discreet meetings but has previously been the target of technical surveillance.

Before a sensitive meeting takes place, Ricky must ensure the temporary office being used has not been compromised by hidden surveillance devices.

His team deploys multiple systems capable of examining walls, ceilings and floors for concealed objects. Each have their trade-offs, some are quick and easy to use, others take more preparation but are more effective.

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Future developments should aim to create a system which can provide images of devices within walls, but poses minimised health hazards while being small in size and weight, and more portable.

Project scope

This challenge seeks a minimum Technology Readiness Level (TRL) 5 – technology basic validation in a relevant environment, in this 12 week project.

Essential requirements:

- Must be something that can be developed to a weight of less than 20 kg and less than 0.3 cubic metres.
- Must come with a display and a user interface suitable for a technical user.
- Must be able to produce images from penetrating a standard plasterboard wall.
- Imager must use non-ionising radiation.
- Must work from a single-phase power supply or battery.
- Work towards a device that can be transported on a commercial flight.

Desirable requirements:

- Work towards a weight of less than 10 Kg.
- Should produce images from penetrating tens of centimetres through a standard plasterboard or wooden walls.
- A stretch target is proof of concept of penetration through a few centimetres of concrete.
- Imaging process should not require access to both sides of a wall.

Constraints:

- The end use case would be within a small to medium sized room.

Not required:

- A standalone horizon scan.
- A paper report on its own, there must be some prototyping element to this project.

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Dates

Competition opens	Monday 10 August 2026
Briefing call @ 10 am Briefing Call link	Thursday 20 August 2026
Clarifying questions deadline	Friday 21 August 2026
Clarifying questions published	Friday 28 August 2026
Competition closes	Thursday 17 September 2026
Applicants notified	Friday 25 September 2026
Pitch Day	Thursday 1 October 2026
Pitch Day outcome	Monday 5 October 2026
Commercial onboarding begins*	Friday 9 October 2026
Target project kick-off	November 2026

*Please note, the successful solution provider will be expected to have availability for a one-hour onboarding call via MS Teams on the date specified to begin the onboarding/contractual process.

Eligibility

This challenge is open to sole innovators, industry, academic and research organisations of all types and sizes. There is no requirement for security clearances.

Solution providers or direct collaboration from [countries listed by the UK government under trade sanctions and/or arms embargoes](#), are not eligible for HMGCC Co-Creation challenges.

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How we evaluate

All proposals, regardless of the application route, will be assessed by the HMGCC Co-Creation team. Proposals will be scored 1-5 on the following criteria:

Feasibility	• What is the technical credibility of the minimum viable product proposed? ○ Is it technically possible? ○ Are there key technical risks overlooked? • Likelihood of the minimum viable product reaching or exceeding the minimum required Technology Readiness Level (TRL)? ○ Does the proposal aim to reach the minimum TRL? ○ Assessors' confidence in the proposal from technical perspective? ○ Will the proposal exceed the minimum TRL? • Credibility of the team regarding technical and project management skills? ○ Does the team have all the relevant expertise? ○ How experienced are they? ○ Have they delivered something similar before?
Desirability	• How closely does the proposal directly address the challenge? ○ Does the proposal achieve all essential requirements? ○ How many desirable requirements are achieved? ○ Is this something the user's want? • How well is the benefit for government and dual-use described? ○ Is the benefit to the user's well described? ○ Have the applicants identified dual-use markets? • Ambition of the proposed solution? ○ Does the solution provide an incremental step in capability or significant leap? ○ Is the proposed solution unique to the applicants?
Viability	• How well is the exploitation route described? ○ Is the proposal just aiming to deliver the minimum for the project? Or have they got a project plan post phase 1? ○ Are they thinking about commercial exploitation routes? ○ Are there rough costings for future work? • How well does the proposal demonstrate value for money and are the costs broken down and justified?

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	○ How much time and resource is spent on a project for the cost? ○ Is there a perceived high ambition for the cost? ○ Is there a robust costing plan? ● How well is the project delivery described leading to the minimum viable product? ○ Is there a Gantt chart or similar? ○ Are there proposed outcomes after each sprint? ○ Are the applicants experienced in Agile methodology?
Budget	● Are the project finances within the competition scope?

Invitation to present

Successful applicants will be invited to a pitch day, giving them a chance to meet the HMGCC Co-Creation team and pitch the proposal during a 20-minute presentation, followed by questions.

After the pitch day, a final funding decision will be made. For unsuccessful applicants, feedback will be given in a timely manner.

Clarifying questions

Clarifying questions or general requests for assistance can be submitted directly to Co-Creation@dstl.gov.uk and cocreation@hmgcc.gov.uk before the deadline with the challenge title as the subject. These clarifying questions may be technical, procedural, or commercial in subject, or anything else where assistance is required. Please note that answered questions will be published to facilitate a fair and open competition.

How to apply

Please submit your application on the [HMGCC Co-Creation website](#). Any queries please email Co-Creation@dstl.gov.uk and cocreation@hmgcc.gov.uk.

All information you provide to us as part of your application will be handled in confidence.

Applications **must** be no more than six pages or six slides in length. HMGCC Co-Creation reserves the right to stop reading after six pages if this limit is breached.

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The page/slide limit excludes title pages, references, personnel CVs and organisational profiles.

There is no prescribed application format, however, please ensure your application includes the following:

Applicant details	Contact name, organisation details and registration number.
Scope	Describe how the project aligns to the challenge scope.
Innovation	Describe the innovation and technology intended to be delivered in the project, along with new IP that will be generated or existing IP that can be used.
Deliverables	Describe the project outcomes and their impacts.
Timescale	Detail how a minimum viable product will be achieved within the project duration.
Budget	Provide project finances against deliverables within the project duration.
Team	Key personnel CVs and expertise, organisational profile if applicable.

Co-Creation terms and conditions

Proposals must be compliant with the [HMGCC Co-Creation terms and conditions](#); by submitting your proposal you are confirming your organisation's unqualified acceptance of Co-Creation terms and conditions.

Commercial contracts and funding of successful applications will be engaged via our commercial collaborator, Cranfield University.

HMGCC Co-Creation supporting information

[HMGCC](#) works with the national security community, UK government, academia, private sector partners and international allies to bring engineering ingenuity to the national security mission, creating tools and technologies that drive us ahead and help to protect the nation.

[HMGCC Co-Creation](#) is a partnership between [HMGCC](#) and [Dstl](#) (Defence Science and Technology Laboratory), created to deliver a new, bold and innovative way of working with the wider UK science and technology community. We bring together the

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best in class across industry, academia, and government, to work collaboratively on national security engineering challenges and accelerate innovation.

HMGCC Co-Creation aims to work collaboratively with the successful solution providers by utilising in-house delivery managers working [Agile](#) by default. This process will involve access to HMGCC Co-Creation's technical expertise and facilities to bring a product to market more effectively than traditional customer-supplier relationships.

FAQs

1. Who owns the intellectual property?

As per the HMGCC Co-Creation terms and conditions, project IP shall belong exclusively to the solution provider, granting the Authority a non-exclusive, royalty free licence.

2. Who are the end customers?

National security users include a wide range of different UK government departments which varies from challenge to challenge. This is a modest market and so we would encourage solution providers to consider dual use and commercial exploitation.

3. What funding is eligible?

This is not grant funding, so HMGCC Co-Creation funds all time, materials, overheads and indirect costs.

4. How many projects are funded for each challenge?

On average we fund two solution providers per challenge, but it does come down to the merit and strength of the received proposals.

5. Do you expect to get a full product by the end of the funding?

It changes from challenge to challenge, but it's unlikely. We typically see this initial funding as a feasibility or prototyping activity.

6. Is there the possibility for follow-on funding beyond project timescale?

Yes it is possible, if the solution delivered by the end of the project is judged by the HMGCC Co-Creation team as feasible, viable and desirable, then phase 2 funding may be made available.

7. I can't attend the online briefing event, can I still access this?

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If a briefing event is held, any questions (and answers) will be captured and published after the event. The call itself is not recorded and use of AI notetakers is not permitted.

8. Do we need security clearances to work with HMGCC Co-Creation?

Our preference is work to be conducted at [OFFICIAL](#), we may however, request the project team undertake [BPSS](#) checks or equivalent.

9. We think we have already solved this challenge, can we still apply?

That would be welcomed. If your product fits our needs, then we would like to hear about it.

10. Can you explain the Technology Readiness Level (TRL)?

Please see the [UKRI definition](#) for further detail.

11. Can I source components from the list of restricted countries, e.g. electronic components?

Yes, that is acceptable under phase 1 - feasibility, as long as it doesn't break [UK government trade restrictions and/or arms embargoes](#).

Further considerations

Solution providers should also consider their business development and supply chains are in-line with the [National Security and Investment Act](#) and the National Protective Security Authority's ([NPSA](#)) and National Cyber Security Centre's ([NCSC](#)) [Trusted Research](#) and [Secure Innovation](#) guidance. NPSA and NCSC's [Secure Innovation Action Plan](#) provides businesses with bespoke guidance on how to protect their business from security threats, and NPSA and NCSC's [Core Security Measures for Early-Stage Technology Businesses](#) provides a list of suggested protective security measures aimed at helping early-stage technology businesses protect their intellectual property, information, and data.

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