Challenge set to find secure speech solutions

Summary of the challenge

Can you help us develop a solution we can use to retrofit in offices or other locations used for government work to enable soundproofing for secure conversations?

In its latest challenge HMGCC Co-Creation wants to hear from organisations and individuals who are experts in materials capable of providing a high level of acoustic dampening or reflection.

Organisations are being asked to apply if, over a 12-week period, they can develop and demonstrate technology to meet this challenge. HMGCC Co-Creation will provide funding for time, materials, overheads and other indirect expenses.

Key information

Budget per single organisation, up to	**£60,000**
Budget per consortium, up to	**£120,000**
Project duration	**12 weeks**
Competition opens	**Monday 16 September 2024**
Competition closes	Thursday 24 October 2024 **at 5pm**

Context of the challenge

Government offices follow rigorous specifications outlined by the National Protective Security Agency (NPSA) to ensure any rented spaces used for government work are just as secure as bespoke government buildings Rented offices are only used when it is necessary for the nature or location of work being carried out. But additional, retrofitted protections are often required.

HMGCC Co-Creation is presenting this challenge where there is a requirement to develop and deploy materials that can be retrofitted into small sized rooms (approximately 5 x 5 metres) on the walls, floors and ceilings, to provide acoustic dampening to at least 45 dB attenuation.

Example use case

Danny is the facilities design authority for a government department in which has some staff using a commercial building. This building is about 10 years old, so has a modern feel, but was not specifically designed for the government department in mind. It has multiple floors and tenants, of which the department will be a substantial tenant, but only one of many.

Within a small area (5 x 5 metres) of the rented office is a designated zone to be accredited for heightened, sensitive conversations. This area is required by policy and procedure to offer a high level of acoustic dampening, at least 45 dB of attenuation.

Danny liaises with the buildings estates teams, architects, security accreditors and users. This office space cannot be structurally altered. It can however be retrofitted in a limited way, allowing some degree of flexibility in terms of the materials than Danny could use.

Danny also looks into sound-proof booths but this reduces the usable room space in an already space restricted area..

The agreed option between stakeholders is to retrofit panels to the existing wall. This would ideally use material offering the correct level of acoustic dampening, with the potential of being used in more, future facilities. This could include static facilities that may be in use for many years, or those used in an agile way for only a short, set period of time – to later be removed and used somewhere else. The solution needs to be easy to install and flexible in how it is used. It should be possible for it to be manipulated to allow for existing room facilities such as cabling, electrical sockets, aircon units etc and should be easy to transport.

Project scope

The outcome focus of the 12-week project should be the demonstration of a selection of materials that could potentially be used to reflect or dampen acoustics.

We would encourage the focus from TRL (Technical readiness level) 3 (critical function proof of concept) up to TRL 5 (basic validation in relevant environment).

There will be many trade-offs to consider, which may only become obvious during attempted installations. So, we would encourage you to de-risk this activity by developing/identifying multiple materials that may fulfil the critical function.

Ideally we are looking for an acoustic and materials specialist to provide novel, high spec materials.

Mandatory targets:

- Acoustic dampening must be provable to at least 45 dB attenuation. If not achieved in the 12-week project, then there should be a defined, clear pathway to achieve this later.
- Outcome of the 12 weeks must be the demonstration of acoustic attenuation testing data.

Things to consider:

- Material should be robust and capable of global transportation
- Final product must be personally transportable
- Routes to commercial exploitation should have been explored/identified
- No specialist installation should be required
- Space-saving solutions are needed, that do not take up significant areas of room. For example, large acoustic cones may be out of scope
- Retrofitted into existing office spaces should be possible.
- Solutions should not interfere with existing infrastructure, such as cabling, electrical sockets, air con units etc.

What we are not interested in:

- Horizon scanning
- Soundproofing booths

Dates

Competition opens	Monday 16 September 2024	
Deadline for clarifying questions	Tuesday 1 October 2024 at 5pm	
Clarifying questions published	Monday 14 October 2024	
Competition closes	Thursday 24 October 2024	at 5pm
Applicant notified	Tuesday 5 November 2024	
Pitch day in Milton Keynes	Wednesday 20 November 2024	
Target project kick-off	06 Jan 2025(potential for sprint 0 before Christmas)	

Eligibility

This challenge is open to sole innovators, industry, academic and research organisations of all types and sizes, including those not traditionally associated with the defence and security sector. 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.

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:

Scope	Does the proposal fit within the challenge scope, taking into consideration cost and benefit?
Innovation	Is the technical solution credible, will it create new knowledge and IP, or use existing IP?
Deliverables	Will the proposal deliver a full or partial solution, if a partial solution, are there collaborations identified?
Timescale	Will the proposal deliver a [minimum viable product](#) within the project duration?
Budget	Are the project finances within the competition scope?
Team	Are the organisation / delivery team credible in this technical area?

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 cocreation@hmgcc.gov.uk prior to the cut-off date. 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.

Routes to apply

HMGCC Co-Creation are working with a multiple and diverse set of community collaborators to broadcast and host our challenges. Please follow this link for the full list of community collaborators.

If possible, please submit applications via a community collaborator.

If the community collaborator does not host an application route, please send applications directly to cocreation@hmgcc.gov.uk, including the challenge title with a note of the community collaborator where this challenge was first viewed.

All information you provide to us as part of your proposal, whether submitted directly or via a collaborator platform, will be handled in confidence.

How to apply

Applications must be no more than six pages or six slides in length. The page/slide limit excludes 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	Description of how how the project aligns to the challenge scope.
Innovation	Description of how 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	Description of the project outcomes and their impacts.

Disclaimer: This information may be exempt from disclosure under the Freedom of Information Act 2000 and may be subject to exemption under other UK legislation. Refer disclosure requests to the originating department.

Timescale	Detail of 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.

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

HMGCC Co-Creation is part of the NSTIx Co-Creation network, which enables the UK government national security community to collaborate on science, technology and innovation activities and to deliver these in partnership with a more diverse set of contributors for greater shared impact and pace.

HMGCC Co-Creation aims to work collaboratively with the successful solution providers by using 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.

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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?

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. Can we collaborate with other organisations to form a consortium?

Yes, and additional funding may be made available as per the outlined budget.

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 advice. NPSA and NCSC's Secure Innovation Action Plan provides businesses with bespoke guidance on how to protect their business from security threats.

Further advice and guidance on how to keep your organisation secure online can also be found on the NCSC's website.