



DNA removal to cut cross-contamination risk

Summary of the challenge

Techniques to decontaminate forensics lab tools of biological traces are being sought in the latest challenge launched by HMGCC Co-Creation.

The team are looking for effective solutions for cleaning DNA from tools, surfaces and instruments, used in forensic facilities and in the field, to reduce the risk of cross-contamination of DNA between items.

In this challenge we want to explore the use of new or existing techniques and technologies to safely and effectively clean DNA. We welcome applicants not only from science disciplines, but from other parts of industry or academia, where abilities to clean items might exist.

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.

Technology themes

Biology, chemistry, model prototyping, physical forensics, systems engineering, healthcare.

Key information

Budget per single organisation, up to	£60,000
Project duration	12 weeks
Competition opens	Monday 28 July 2025
Competition closes	Thursday 18 September 2025

Context of the challenge

Tools and equipment used in forensic labs and in the field often require thorough cleaning to remove traces of biological material, including DNA, to prevent cross-contamination.

The ever-increasing sensitivity of DNA profiling techniques poses increased risk of cross-contamination between tools and objects. Cleaning techniques used to decontaminate items need to keep up with this pace of change by being even more effective in the removal of DNA.

The gap

The effective cleaning of laboratory environments is a key recommendation by the UK Forensic Science Regulator (1).

Cleaning is needed for everything from consumables to tools, electronic equipment, and potentially whole rooms, including porous and non-porous materials. These items need to be cleaned of residual DNA without effecting their functionality.

Traditional cleaning methods, such as hypochlorite bleach or isopropanol alcohol (IPA) can fall short of cleanliness requirements and risk damaging equipment.

Whilst the market is awash with chemicals and guidance, there is still the need for a simple, quick, cost-effective mechanism for the decontamination of tools and equipment

[1] Forensic Science Regulator: DNA contamination controls: laboratory.
<https://www.gov.uk/government/publications/dna-contamination-controls-laboratory/dna-contamination-controls-laboratory-accessible>

Example use case

Nicky is a forensics advisor at a facility set up for disaster victim identification scenarios.

Due to the nature of the work, it is critical that tooling and equipment be clean to avoid the risk of DNA cross-contamination.

Typically, disposable items are used to ensure no cross-contamination, but Nicky has spotted an opportunity to use advanced tools (e.g. 3D printed parts) and new electronic equipment that are not treated as disposable, as long as they can be sufficiently cleaned between uses.

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She requires a relatively simple method to clean both inert tools and electronic equipment. It would be useful, although not essential, if the method of cleaning could be portable and relatively quick to use so that it could be used in the field. Crucially, it must be provable that DNA is removed to a certain standard.

Project scope

In this 12-week project, applicants should aim to deliver a demonstration to the sponsors. Those taking part should include specialists who have an in-depth understanding of the mechanisms of cleaning and who would be willing to bring their knowledge to focus on biomaterial and DNA contamination. We welcome applicants not only from science disciplines, but from other parts of industry or academia. We are open to adapting existing technology that is used in other sectors or new ideas for effective and safe cleaning/decontamination techniques.

This is open to Technology Readiness Levels (TRL) from 4 – 9. It is recommended that in proposals label both the existing TRL and TRL that would be expected by the end of 12 weeks. Essential and desirable targets are listed below.

Essential requirements:

- Must be willing to explore a method/methods of cleaning for both non-electrical and electrical devices.
- Must not damage the device being cleaned.
- Must be simple to use.
- Cleanliness post processing must be verifiable. Sampling and DNA profiling will be undertaken by HMGCC.

Desirable:

- Portability.
- Timescale of cleaning i.e. ideally allow for efficient use when out in the field.
- Demonstrate cleaning of non-electronic and electronic devices, detailing the efficacy of the solution.
- Ability to clean porous and non-porous materials.

Constraints:

- Could be used in a variety of spaces, from a temporary forensic facility to a clean room and out in the field.

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Not required:

- Horizon scanning only.
- Use of known existing solutions, such as bleach or IPA.

Dates

Competition opens	Monday 28 July 2025	
Briefing Call link	Tuesday 19 August 2025	1000 UK Time
Clarifying questions submission deadline	Friday 29 August 2025	Click or tap to enter a date.
Clarifying questions published	Wednesday 10 September 2025	Click or tap to enter a date.
Competition closes	Thursday 18 September 2025	1700 UK Time
Applicants notified	Tuesday 30 September 2025	Click or tap to enter a date.
Pitch days in Milton Keynes	Wednesday 8 October 2025	Thursday 9 October 2025
Commercial onboarding begins*	Friday 17 October 2025	Click or tap to enter a date.
Target project kick-off	Early November	Click or tap to enter a date.

**Please note, the successful solution provider will be expected to have availability for a 1-hour onboarding call via MS Teams on the date to be 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:

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 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.

Routes to apply

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HMGCC Co-Creation is working with a multiple and diverse set of community collaborators to broadcast and host 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 co-creation@dstl.gov.uk and cocreation@hmgcc.gov.uk including the challenge title with a note of the collaborator network 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. HMGCC Co-Creation reserve the right to stop reading after six pages if this limit is breached. 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

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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 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?

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

Yes, in fact this is encouraged, and additional funding may be made available. Please see the maximum budget of the individual challenge.

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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