



Defence and Security
Accelerator

DASA

INNOVATION
FOR A
SAFER
FUTURE

Products and Services 2023



www.gov.uk/dasa

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Welcome

DASA's Mission Statement

DASA finds and funds exploitable innovation to support UK defence and security quickly and effectively, and support UK prosperity. Our vision is for the UK to have strategic advantage through the most innovative defence and security capabilities in the world.

How do we work?

We work with customers across government and overseas to identify, and find solutions to, key challenges.

- Our government customers identify challenges
- We find and accelerate innovation
- We offer services to maximise impact

How DASA can help government customers find innovative solutions

- DASA Partners, embedded with Front Line Commands and Security Departments
- Bespoke services to find and accelerate new innovative ideas to meet Defence and Security Challenges
- Post-funding support to help SMEs pull ideas through to impact
- DASA is centrally funded, our services are free

In FY 2022/23, we provided funding for **249 innovations**, awarding a total of **£49.1 million.**



Why Government Customers Want to Work with Us

We work with customers across government and overseas to identify, and find solutions to, key challenges posed to National Security.



Our unique team of Innovation Partners are regionally based throughout the UK regions to scout out the best ideas.



DASA Partners are embedded within Front Line Commands and key government departments. They work with government users to identify challenges.



We offer bespoke services to find solutions to customer challenges that best fit the organisation, challenge and budget – from Market Explorations to full Themed Competitions.



We don't stop at finding the ideas. We work with suppliers to help them pull through their ideas into capability supporting both exploitation and commercialisation.



We don't provide competition funding but DASA costs are covered centrally meaning that our services are free. The customer can therefore spend their budget on funding innovative ideas.





How DASA Finds and Funds Innovation

DASA works collaboratively with government, industry and academia to identify ground-breaking ideas that will solve contemporary problem sets, while working to integrate these ideas into front line services. DASA provides a variety of services that assist in the development of innovative ideas.

With access to nearly 900 technical experts and assessors, DASA evaluates proposals, assists in project delivery, and collaborates with successful suppliers to help them maximise the impact of government funding.

In FY 2022/23
56% of funding
was awarded to SMEs.

Innovation Partners

DASA works to strengthen and broaden links to innovators across the UK and elsewhere, attracting the best innovative ideas for defence and security.

DASA's unique team of regionally-based Innovation Partners live and work in the 12 economic regions and devolved nations of the UK. They act as 'Innovation Scouts' creating networks and seeking out the best ideas within their regions which could have a potential application in defence and security.

Our Innovation Partners interact with and tap into local ecosystems and are well placed to help innovators understand opportunities across the defence and security community.



Open Call for Innovation

The Open Call, which is open at all times, seeks any innovative ideas to improve the defence and security of the UK. It gives bidders the opportunity to present their ideas to defence and security stakeholders at any time.

What is the Open Call?

- Open to any idea, concept, technology or service
- Open for proposals all year round
- Aims to deliver a technology model or prototype demonstration at around TRL 6 or 7
- Can include a testing and trialling phase, taking place after demonstration
- Two lanes to choose from:
 - Open Call for Innovation (defence innovations)
 - Security Open Call – Rapid Impact (security innovations)

Fundable-not funded ideas

Although there are numerous promising technologies available, budget constraints mean that not all good ideas we receive are able to be funded straight away. DASA's "Fundable not Funded" service aims to provide customers access to some of the most innovative projects, networks, research, products and services that DASA has discovered. We believe that they could be beneficial for defence and/or security, and have the potential to be brought to life.

In FY 2022/23 we awarded
£29.63 million
in funding through
the Open Call.



Cutting-Edge

Welsh SME helps trauma teams sharpen their skills

Funded through the Open Call, DASA has helped Wales-based SME, Trauma Simulation develop a whole-body model for trauma training, from the point of wounding to damage control surgery.

The training model offers Combat Medics and Medical Emergency Response Teams (MERT) a highly realistic, low-cost and repeatable training solution that is more representative of trauma control procedures. This advancement means that more lives can potentially be saved with better training.

Following their first round of funding in 2017, they acquired a second round of funding to develop modularity components and enhance the model's authenticity.

More recently, in 2023, the SME obtained a third round of DASA funding to create a whole-body model centred on female physiology. By creating a female model, teams will be better prepared for female patients, while allowing greater relevance and flexibility in existing simulation exercises.

Trauma Simulation has also been highly successful in gaining valuable feedback from users who have participated in trials, such as during a deployment to Mali and aboard RFA Argus. The innovation has also been adopted into the Military Operational Specialist Team Training course (MOSTT).

Trauma Simulation founder, Professor Ian Pallister, said:

"The support I have received through DASA has been game-changing. In close cooperation with Defence Medical Services colleagues, this support has enabled me to develop a system of advanced damage control surgical simulation models which are currently being used both in Military and Civilian education courses."



Themed Competitions

Themed Competitions offer our customers the opportunity to invite proposals around specific government areas of interest, to address a defence or security challenge.

Benefits of Themed Competitions

- Designed around specific challenges or opportunities
- Are open for a fixed window of time
- Customer/Sponsor-defined challenges and sub-challenges
- Often multi-phase
- Launch events and competition-specific one-to-one opportunities
- Demonstration/marketplace events at the end of the project
- Customer provides 100% funding

CASE STUDY

Developing telexistence systems for defence and security

DASA recently partnered with the Nuclear Decommissioning Authority (NDA) on two Telexistence competitions. The first competition focused on developing a complete telexistence system for Explosive Ordnance Disposal (EOD), Defence and Security Medical applications, and other related use cases.

The second competition sought telexistence solutions specifically for nuclear decommission tasks. Innovative telexistence solutions were recognised and rewarded at both competitions, with a total of £3 million being invested in 13 different projects.



Market Explorations

Market Exploration activities enable us to find solutions that already exist, those in development and solutions that potentially require further investment. DASA works with customers to determine the best way of finding new ideas.

Through DASA's Outreach service, we can assemble a wide audience of people, often new to defence, who can provide valuable insight into the market. A key requisite to launching a Market Exploration is confirming the potential exploitation route for new ideas identified.

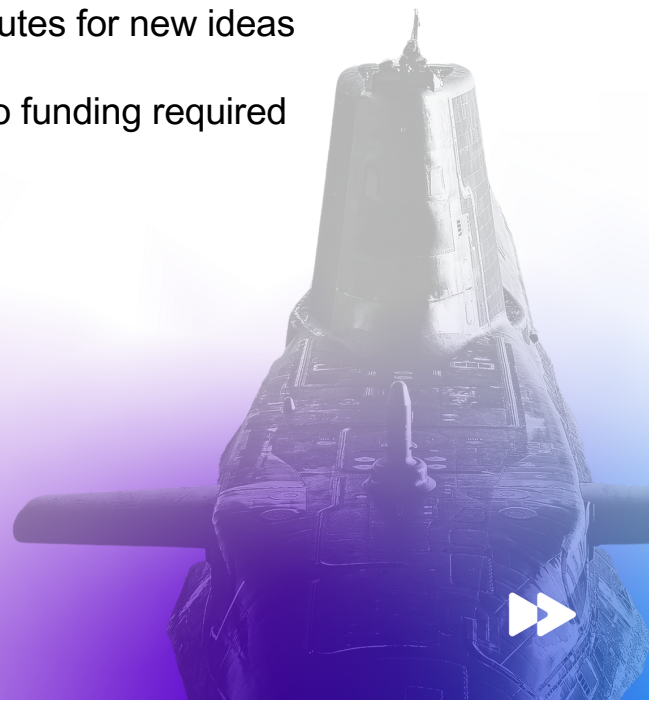
CASE STUDY

How clean is your hull?

In 2022, DASA launched a Market Exploration on behalf of the Royal Navy to find novel solutions to the issue of bio-fouling on submarines, to help keep the UK's undersea fleet clean, covert, and capable. The proposals generated by this project resulted in a report that will assist the Royal Navy in navigating challenging areas and making informed decisions going forward.

Benefits of Market Explorations

- Find solutions that already exist and are used in a non-defence setting; or are in development and require further investment
- Find solutions that provide an early indication of the innovation landscape surrounding a particular challenge
- Assemble a wide audience of innovators, often new to defence, who can provide valuable insight into the market
- Help confirm potential exploitation routes for new ideas
- No funding required



The Skies Not the Limit

Defence Innovation Loan helps commercialise data capture and analysis technology

Dublin-based SME, VRAI, have developed a solution to enable the Royal Air Force (RAF) to better measure and predict trainee pilot performance, using a combination of virtual reality and data capture technology, called HEAT.

With an eye towards the future, VRAI secured £544,742 additional DASA funding through Defence Innovation Loans, to further develop their innovation and market readiness.

With Defence Innovation Loans funding, VRAI will apply machine learning (ML) to the innovation in order to generate more robust actionable insights to further develop trainees, whilst ensuring the RAF can utilise the system for self-training.

To help with this, VRAI will also use the funding to develop customised dashboard metrics relating to airmanship.

Niall Campion, Founder of VRAI said:

“Without DASA funding it would have been impossible for us to bring this product into the UK defence supply chain. By providing vital working capital while we demonstrate the value of the product in the defence industry, the Defence Innovation Loan will help us grow our business and deliver measurable improvements to training across both defence and other simulation markets.”



Bottoms Up!

Miniature water purification technology ensures safe drinking water for the Armed Forces

Scotland-based IF Defence received DASA funding to develop their high speed, low energy water distillation unit that can purify water from practically any source, such as sea water, swamps, wells, floods, rivers, and even waste water.

IF Defence's technology utilises innovative high temperature evaporation techniques to evaporate water vapour, leaving contaminants behind, resulting in medical grade water, suitable for drinking, field surgery and wound cleansing.

IF Defence are also using DASA funding to further develop the technology into a commercial solution by making the

user experience more intuitive, to promote company growth and to develop more variants of the miniaturised water purifier.

They are also expanding their engineering and manufacturing team in Scotland, and aiming to enhance their supply chain and business capabilities, to deliver on market interest.

Duncan Peters, Founder of IF Defence said:

“This wouldn't have been possible without DASA, and it has resulted in demonstrable support for our technology development.

“Their team has not only opened their network but also identified unknown funding options to help us bring our technology to market, and they are always looking internally for new ways to support us at every stage of its development. We've learned that the MoD really does want to fund new innovation, and working with DASA has been like having an additional member of the team, sitting remotely within the MoD framework.”



The Ideas Marketplace

An online collaboration platform for innovators and government stakeholders

The Ideas Marketplace is an online collaboration platform offering opportunities for innovative defence and security organisations to network and collaborate with government stakeholders, end users, innovators, industry and academia.

The platform can be used to forge new relationships and foster collaboration between dynamic organisations of all shapes and sizes.

Collaboration between organisations of all shapes and sizes can foster new and dynamic relationships.

The ultimate goal of the Ideas Marketplace is to support the creation of successful innovations to overcome defence and security challenges in the UK.

What can government users gain from the Ideas Marketplace?

- Visibility of cutting-edge new ideas and solutions to existing challenges
- The opportunity to form collaborative working relationships with other government departments
- The ability to promote funding opportunities and communicate your challenges directly to innovators
- The opportunity to create communities of interest for networking and collaboration

Visit the
Ideas Marketplace
www.gov.uk/dasa



Access to Mentoring and Finance

Unique to UK Defence - Supporting SME growth and helping innovators reach commercialisation

DASA is focussed on increasing the pull through of innovative ideas and supporting the impact and commercialisation of solutions into capability.

DASA's Access to Mentoring and Finance (A2MF) team supports this, providing a business growth service to innovators looking to commercialise and grow their business into the Defence & Security markets.

Working closely with innovators to understand their business needs and aspirations, A2MF is designed to help companies become business, investment, supply-chain ready. This offering is unique in Defence, acting as a vital, value-add service in helping DASA achieve its aim of not just finding ideas but realising impact.

What does the A2MF Team do?

- Offer support and guidance to help innovators become:
 - o Market ready
 - o Funder ready
 - o Higher Tier ready
- Provide access to Alternative Innovation Funding options



A2MF Services

First Customer Fund

- Provides funding for a government customer to buy pre-production samples (e.g. MVPs, Beta) from an SME at the end of a government-funded research programme
- Enables the customer to run a testing and evaluation programme
- Matures customer understanding of capabilities and provides SME suppliers with funding and a reference.

Defence Innovation Loans

- Finance option for innovators to commercialise their ideas
- Loans from £250,000 - £1.6 million
- Up to 100% of eligible project costs
- Available for up to 7 years with funds drawn in stages over the first 2 years
- No personal guarantees required
- In conjunction with Innovate UK

The Investment Showcase

Since 2018, DASA has provided a platform for companies to pitch their businesses and novel technologies to investors at the annual Investment Showcase event.

A variety of investors, from angel investors to brokers and venture capitalists, attend the DASA Investment Showcase to invest in DASA-funded SMEs.

During the event, SMEs can present their innovative business opportunities and technologies to potential investors in the hopes of securing funding.



Tunnel Vision

Defence Innovation Loan helps commercialise tunnel and bunker detection technology

Cambridge-based Silicon Microgravity identified the need to radically shrink, and lower the cost and power consumption of underground structure detection systems, to enhance their effectiveness for Defence.

Drawing inspiration from the civil environment and the current use of conducting gravity surveys to detect buried infrastructure, the SME sought to adapt this technology for defence. The Cambridge-based SME was granted a Defence Innovation Loan of £750,000, which they will use to further develop the underground detection technology in preparation for field trials in the first half of 2024.

The funding will also help commercialise the product, for potential use in applications such as security, border control, defence, cartography, civil engineering and infrastructures/utilities.

Francis Neill, CEO of Silicon Microgravity, said:

“DASA have been absolutely fundamental in helping to get Silicon Microgravity to the stage where we will shortly be commercialising what is becoming recognised as world leading technology in gravity sensing and inertial navigation. Not only does our technology have defence applications but it is very much in line with the UK’s strategy of creating an international technology superpower. DASA have provided both market and fund raising assistance in addition the project specific funding.”



Defence Technology Exploitation Programme

What is DTEP

The Defence Technology Exploitation Programme (DTEP) is designed to help SMEs join the defence supply chain through partnering with a higher-tier supplier.

- Up to 50% grant funding to SMEs for supply chain development projects up to £1 million (max £500,000 grant)
- Projects are aligned with MOD Enduring Capability Challenges
- The higher-tier supplier contributes time and resources to work with the lower-tier supplier
- The higher-tier supplier will get early access to novel materials, technologies or processes

With the innovation of SMEs, the resources of big suppliers and initial funding from government, DTEP is designed to bring the key components together to allow pioneering projects to flourish.

The aim is to keep the UK at the forefront of defence technology, improving the capabilities available to our Armed Forces, enhancing the competitiveness of UK industry and growing potential exports benefits.

Individual grants of up to 50% of a project's value – to a maximum of £500,000 per grant - will be available through DTEP for collaborative projects between SMEs and larger suppliers, supporting the integration of novel technologies, materials and processes into MOD's supply chains.

DTEP will be open for proposals year-round, with cycles closing at 3-month intervals for assessment of submissions.



Dynamic Duo

Two innovative SMEs receive funding through DTEP

The first two projects to receive DTEP funding are Filtronic Broadband and ISS Aerospace. Each receive a government grant and will partner with a larger supplier to develop innovative new solutions that meet defence challenges.

Filtronic Broadband is partnering with a higher-tier to manufacture and test plastic encapsulated Transmit Receive Modules (TRMs) for electronically scanned radar systems.

ISS Aerospace is working with higher-tier partner Marshall Futureworx, to develop a heavy-lift Unmanned Aircraft System (UAS) – a drone – that will use an aviation-fuelled hybrid electric turbine generator power plant instead of rechargeable battery packs.

Anita Friend, Head of DASA, said:

“Congratulations to these first two SMEs on receiving DTEP funding. Working with their higher-tier partners, their projects will deliver new innovations into the UK defence supply chain, helping to meet the MOD’s enduring capability challenges while developing their businesses.

“Through DTEP, the value to the larger partner companies is that they will have early access to new and exciting technologies, material or processes that they can to help commercialise.”



A Second Life for Body Armour

Veteran-run, green tech start-up develops technology to recycle body armour fibres

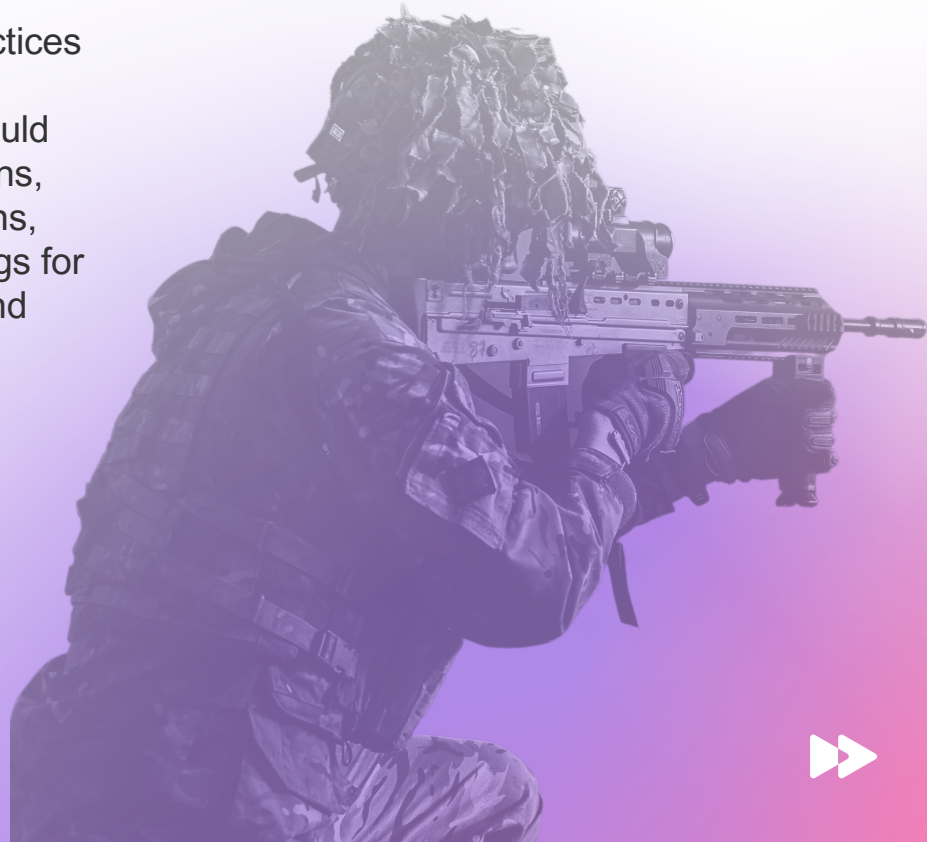
With the help of DASA funding, Uplift360 has created an eco-friendly, low-energy method of recycling fibres that are used in body armour.

Their innovation uses sustainable chemicals to turn waste para-aramid fibres into a liquid, this liquid can be spun back into a high performance material, with very similar characteristics to virgin material. Through this recycling process, high value materials can be put back into the supply chain.

By following circular materials practices and utilising low-energy recycling technologies, this breakthrough could lead to a reduction in Co2 emissions, strengthen vulnerable supply chains, and provide substantial cost savings for Defence by preserving valuable and expensive body armour materials.

Jamie Meighan, Uplift360 Chief Executive Officer and Co-Founder

“DASA has been instrumental to the success of Uplift360. From a concept to our initial investment to creating our ground-breaking technology in our labs, DASA has been there every step of the way. Supporting Uplift360 clearly shows DASA’s commitment to help achieve a more sustainable future, maintain resiliency and save money for Defence.”



Brick by Brick

Innovative building blocks for Force Protection

DASA funding helps Scottish start up develop revolutionary building blocks for Force Protection. Funded through the DASA Themed Competitions, Take Cover: Phase 2 & 3, QUICKBLOCK's innovative building block system enables the Armed Forces to build defensive structures rated for ballistics and blast protection.

QUICKBLOCK's solution started its life as a civilian product, made from a resilient plastic, for case uses such as light construction, agricultural applications, dividing walls and humanitarian aid structures.

With DASA funding, QUICKBLOCK was able to streamline the design for military use and incorporate armoured materials into the system. Extensive ballistic and blast trials have proven the overall effectiveness of the system, leading to the development of additional solutions like hostile vehicle mitigation barriers, which go beyond the original vehicle checkpoint requirement.

QUICKBLOCK CEO, Andrew Vincent said:

“We are incredibly grateful for the support from DASA. The project rapidly accelerated the development of our product for the Defence market and allowed us access to end-users that we would otherwise not have had. Its beauty is its simplicity, yet it has the potential to save many lives.

“We have developed a system which can act as a single resource to solve a variety of problems. It can flex to meet varying threat levels and also can be deployed in short-term temporary and/or longer-term semi-permanent scenarios.”





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