

# Scanning the horizons for smarter, cooperative missiles

- The Defence and Security Accelerator (DASA) has launched a new Themed Competition: It's Good For Missiles To Talk
- Funded by the Defence and Science Technology Laboratory (Dstl)
- Up to £800K funding available for advanced technologies which can underpin a future cooperative missile

The [Defence and Security Accelerator](#) (DASA) is pleased to launch a new Themed Competition called [It's Good for Missiles to Talk](#). Run on behalf of the [Defence and Science Technology Laboratory](#) (Dstl), this Themed Competition aims to identify and develop novel technologies that could be exploited in the development of a new category of missile – cooperative missiles.

Cooperative missiles can communicate with each other, share situational awareness and organise themselves to 'work together' efficiently to achieve a common objective. The aim of the work is to investigate how inter-missile communication and cooperative behaviours can be technically achieved to solve UK military challenges.

UK defence systems enabled by AI, including missiles, will always be subject to context appropriate human involvement. For this competition, we are only interested in technologies that could enable cooperation between missiles.

This themed competition focuses on the following challenge areas:

- Challenge 1: Distributed target detection and identification
- Challenge 2: Data processing onboard and between missiles
- Challenge 3: Enhanced navigation through cooperation
- Challenge 4: Application of Artificial Intelligence (AI)

## **Key dates and funding**

Total funding available for Phase 1 is up to £800,000 (ex VAT) and is expected to fund multiple proposals.

The deadline to submit a proposal is midday 2 August 2022.

[Do you have an innovation? Read the full competition document and submit a proposal.](#)

## **It's Good for Missiles to Talk in complex operational environments**

The development of cooperative missiles for future UK missile systems is a novel and key challenge that Defence is seeking to solve.

At the moment, missile development seeks to overmatch adversary capabilities

by improving the performance of individual missiles. For example, through use of more sophisticated seekers or navigation systems.

However, through the cooperative missile approach, overmatch can be achieved through leveraging networked technologies. This approach is potentially disruptive because the technologies and sub-systems used in a cooperative missile system will be less complex than current designs, while offering greater performance when working together.

This capability is important because the operating environment for UK missile systems is growing increasingly complex. For example, potential targets are often concealed and are likely to be surrounded by buildings, trees and vegetation, which can make identification and navigation challenging. Cooperative missiles will also be beneficial in environments where Global Navigation Satellite Services (GNSS) is degraded.

## **Generation-after-next cooperative missiles: Challenge areas**

Submitted proposals should choose to target one or all of the below challenge areas.

### **Challenge 1: Distributed target detection and identification**

This challenge area seeks novel ways to detect, recognise and identify intended targets using missile sensors distributed over a cooperative group. For example:

- combining sensor data to build a shared image of the target area, with multiple missiles potentially approaching the target from different directions. Increasing detection and identification range through use of multiple, low-cost sensors
- improving the accuracy of target tracking in a complex scene by combining data from multiple sources
- approaches to the above with homogenous and/ or heterogeneous arrays of sensors

### **Challenge 2: Data processing onboard and between missiles**

This challenge area seeks innovations to process large quantities of data across cooperative missile networks for particular missions. For example:

- distributed processing in a missile environment
- distributed database systems within a cooperative missile network
- edge processing – this is an alternative and complimentary technique to analyse and process strong data at the point of generation
- transmission of data within a limited bandwidth cooperative missile network

### **Challenge 3: Enhanced navigation through cooperation**

This challenge area seeks to understand how novel alternative navigation

(AltNav) technologies and distributed navigation sensors can be used. For example:

- use of multiple low cost Inertial Measurement Units (IMUs) across the cooperative missile network to improve group navigation
- use of multiple GNSS feeds across the cooperative missile network when some are jammed or degraded to improve group navigation
- use of geolocation using diverse technologies that are distributed across the missile network
- synchronisation of timing information within the cooperative missile network

#### **Challenge 4: Application of Artificial Intelligence**

This general challenge area seeks to understand how advances in AI could be exploited in cooperative missile systems. For example:

- improving the robustness of limited bandwidth communications between the cooperative missile network
- optimising the searching of a scene across the distributed cooperative missile network
- target detection in the presence of obscurance (e.g. smoke or camouflage systems) across a distributed cooperative missile network

Want to learn more about these challenge areas? [Read the full competition document here.](#)

## **Webinars and online events**

### **Competition Webinar: 20 June 2022**

This webinar will provide more information on the challenge areas and how to submit a proposal. There will be an opportunity to ask questions. If you would like to get involved, please register on the Eventbrite page.

[Register now.](#)

## **Submit a proposal**

Do you have a solution or novel approach that may help our ability to develop cooperative missile technologies? Submit an idea and help DASA and Dstl exploit cooperative missiles that can communicate with each other to complete a shared mission.

[Read the full competition document to learn more and submit a proposal.](#)

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# Wales winners of Queen's Award for Voluntary Service announced

The highest award given to local volunteer groups, the Queen's Award for Voluntary Service, is being awarded to five organisations across Wales today in recognition of their outstanding community service.

Charities, social enterprises and voluntary groups in England, Wales, Scotland and Northern Ireland will receive the prestigious award for their volunteer-led work they have done across a wide range of fields including mental health, youth, community, arts and heritage.

This year 244 winners from across the country will receive the Queen's Award, highlighting the continued breadth and depth of voluntary service undertaken each and every day across the United Kingdom.

The awardees have all carried out critical work to enhance the lives of others with the highest number of awards this year going to the community support sector which includes food banks, village shops, community events and men's sheds.

**Minister for Civil Society and Youth Nigel Huddleston said:**

Thousands of volunteers in Wales give up their time every year and The Queen's Award for Voluntary Service recognises their kindness.

People's selfless generosity represents the best of the country and it is right that some of the most impactful groups and individuals have their tireless work recognised.

The awards are particularly notable in this special year of The Queen's Platinum Jubilee.

**Sir Martyn Lewis, QAVS Chair said:**

I warmly congratulate all the outstanding voluntary groups who have been rewarded with a Queen's Award for Voluntary Service this year. The level of commitment and innovation shown by these volunteers is truly impressive. We owe a debt of gratitude to them, and the countless others who give up their free time regularly to improve the lives of others in their community.

Empowering others is also an area well represented in this year's Queen's Award with confidence building, training opportunities, educational support, and sports all being highly recognised. Volunteers working in hospices, cancer support, long-term illness, search and rescue and first aid also

feature prominently.

Coinciding with the Queen's Platinum Jubilee celebrations, the Queen's Award for Voluntary Service recognises that volunteers continue to provide a vital social function and continue to improve access to services across the country.

**Secretary of State for Wales Simon Hart said:**

Wales has a long-standing tradition of volunteers who put considerable time and passion into making their communities better for everyone. I'm so delighted that these efforts have been recognised by this prestigious award.

I'd like to congratulate the winners and take this opportunity to thank them for all that they do. Volunteers really do make a difference to our lives and we're lucky that we have so many fantastic individuals who work tirelessly on behalf of others and contribute so much to our Nation".

This year's recipients include:

- Cymru Creations is a team of professionals who give their time to run an award-winning film academy, helping young people to create their own films and develop skills.
- The Corey Band is a long-standing and renowned brass band doing great work to engage and develop the next generation through its own academy.
- The Central Beacons Mountain Rescue Team which is providing a mountain rescue service to local people and visitors, as well as education talks to schools, youth groups and the public.
- Friends R Us Aberdare is a group providing an environment that is safe and inclusive where those struggling with social and mental health issues can relax and socialise.
- Neuadd Cwmllynfell Hall is a community hub providing a whole range of services to the whole community in an area of deprivation.

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## **[UKHSA issues self-isolation guidance for people with monkeypox infection](#)**

The advice follows [initial guidance](#) published on 30 May 2022 and will help people to look after themselves during their isolation period and protect others by reducing the risk of spreading the infection.

Household members are at the highest risk of becoming infected from a case within their house. The new guidance advises people with monkeypox infection

to take steps to try and limit transmission within the household.

Monkeypox infection mainly spreads between people through direct, skin-to-skin contact, including sexual contact. Infection can also be spread via contaminated objects such as linen and soft furnishings.

The guidance advises that, where possible, cases are encouraged to sleep and eat in a separate room and use a separate bathroom to their household if possible. Good hygiene measures, to follow at all times, have also been set out.

Where the use of a separate room isn't possible, cases should avoid physical contact and keep at least 3 steps (1 metre) away from all household members. It is particularly important that they avoid close contact with young children, pregnant women and immunosuppressed people as they may be at higher risk of serious illness.

Other advice includes keeping laundry separate from other household members and avoiding any close contact with pets. [The full advice](#) can be viewed on GOV.UK.

Dr Susan Hopkins, Chief Medical Advisor at UKHSA, said:

Self-isolation is an important measure for protecting others from monkeypox.

Staying at home and doing all we can to avoid close contact with other people in the household will prevent the spread of this virus.

We know that self-isolation is not easy for some so it's important that people ask for support if needed.

The guidance also advises on the criteria that cases should meet before they can end their isolation.

Individuals should:

- not have had a high temperature for at least 72 hours
- ensure all lesions, anywhere on the body, have scabbed over – additionally, any scabs on the face, arms and hands must have fallen off, with a fresh layer of skin formed underneath
- have had no new lesions form in the previous 48 hours
- have no lesions in their mouth

Cases will have been provided with contact details of the medical team providing their care and they will be in contact regularly. They should call this team if they have any concerns – and ending isolation should be on the advice of this team.

On ending self-isolation, people should keep any remaining lesions (that are

not on the face, arms or hands) covered with clothing. They should avoid close contact with young children, pregnant women and immunosuppressed people until the scabs on all their lesions have fallen off and a fresh layer of skin has formed underneath.

Self-isolation guidance also recognises that staying at home for a prolonged period can be difficult, frustrating and lonely for some, particularly if they don't have much space or access to a garden.

People who are self-isolating are advised to keep in touch with family and friends by phone or social media and seek support if they need it, for example by accessing the [Every Mind Matters](#) website.

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## **Ukraine: UK statement to the International Atomic Energy Agency Board of Governors, June 2022**

Thank you, Chair.

The United Kingdom would like to thank Poland for adding this important issue to the agenda.

Chair, the Russian Federation's assault on Ukraine is an unprovoked, premeditated and barbaric attack against a sovereign democratic state. The United Kingdom continues to utterly condemn the Russian government's actions in Ukraine, which are an egregious violation of international law and the UN Charter.

We remain gravely concerned about the implications for nuclear safety, security and safeguards of Russia's invasion of Ukraine. Since the start of Russia's invasion, nuclear facilities in Ukraine have been struck by military ordnance on at least four occasions and at least five Ukrainian nuclear facilities have experienced significant disruptions to their normal operations.

On 3 March, at an extraordinary meeting of this Board we adopted a resolution on 'The safety, security and safeguards implications of the situation in Ukraine', which deplored the actions of the Russian Federation, which posed a serious threat to the safety and security of nuclear facilities in Ukraine. The resolution called for the Russian Federation to cease all its actions against nuclear facilities in Ukraine, so the competent Ukrainian authorities can ensure their safe and secure operation, and so that the Agency can resume its important safeguards verification activities.

On 4 March – one day after the resolution was adopted – Russia became the

first State in the history of the use of nuclear energy to fire at a fully fuelled and functioning nuclear reactor at the Zaporizhzhia Nuclear Power Plant.

The United Kingdom convened an urgent meeting of the UN Security Council to condemn the Russian attack on Zaporizhzhia, and to call for Russia to act in line with its international obligations. As a permanent member of the Security Council, Russia has a particular responsibility to uphold international peace and security.

Unfortunately, since then, Russia has chosen to take control of the Zaporizhzhia nuclear facility, thereby blatantly disregarding the will of this Board and the international community and putting at jeopardy the safety of millions who would be affected by a nuclear incident in Ukraine. This is not the action of a responsible nuclear State.

As the Director General said on Monday, of the seven pillars of nuclear safety and security, almost all have been violated by Russia's actions. Russia's continued control of the Zaporizhzhia nuclear power plant, including the presence of officials from ROSATOM who have overseen the work of the Ukrainian regulator, is also contrary to the principles Russia has freely signed up to in the Convention of Nuclear Safety and in the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

We also remain seriously concerned that Russia's continued control of the Zaporizhzhia facility is preventing the competent Ukrainian authorities and Agency inspectors from carrying out their essential safeguards duties.

We welcome and fully support the Director General's efforts to ensure the safety, security and safeguarding of nuclear material and facilities in Ukraine and we praise the IAEA staff who have responded to the situation.

We urgently call on the Russian Federation to cease all unlawful activities in Ukraine. It must de-escalate, withdraw its troops and cease all use of force against, and in the vicinity of, Ukrainian nuclear facilities and allow the competent Ukrainian authorities unfettered access, with no conditions, to all nuclear facilities on Ukraine's sovereign territory.

Finally Chair, the United Kingdom would like to recognise and praise the heroic efforts of the Ukrainian staff at Ukrainian nuclear facilities, particularly at Zaporizhzhia and Chernobyl, who continue to work tirelessly to ensure nuclear safety in Ukraine, despite working under immense pressure and dealing with unacceptable aggression from the Russian Federation.

Thank you, Chair.

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# CNPA Board visit Griffin Park

News story

Members of the Civil Nuclear Police Authority (CNPA) Board toured the world-class Griffin Park Tactical Training Centre in Sellafield as part of their July Board meeting.



Whilst touring Griffin Park, Board members were invited to spend time with the dogs section and received a firearms demonstration at the Tactical Training Centre, which is home to the largest 360-degree live fire range in Europe.

Sir Craig Mackey QPM, Interim Chairman of the CNPA, said: "Griffin Park is a state-of-the-art facility and a valuable asset in the training of future generations of officers.

"It was a privilege to have been able to view the world class training that is delivered at the centre first-hand."

Sgt Andrew Bailey, Firearms Instructor at Sellafield, said "We are proud of the quality of training we are able to offer at Griffin Park.

"This tour was an excellent opportunity to show the role our Authorised Firearms Officers (AFO)s and dog units play in keeping our nuclear sites and the public safe."

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