

# Deeper Scan – a game-changer in hardware validation, threat and anomaly detection

Airports are at risk of falling victim to a wide array of threats, but one that is persistently challenging to overcome is detecting explosives inside baggage. Both from an operational and a governance perspective, airport security is incredibly complex. Authorities need to provide effective, efficient and passenger friendly screening systems, whilst staying ahead of evolving security threats. Airports employ reliable processes and technologies to detect threats in baggage, however, these are invasive for passengers and resource intensive for airlines and airports.

In 2018, DASA launched a themed call: Finding Explosives Hidden in Electrical Items as part of the Future Aviation Security Solutions (FASS) programme managed by the Home Office and the Department for Transport.

Bedfordshire-based NWPRO Ltd received £80,000 to develop Deeper Scan – a whole object detection system which uses innovative artificial intelligence and x-ray technology to scan airline baggage and identify electronic contents, with accurate results ready in less than 15 seconds.

Deeper Scan has received significant interest from major airports, and NWPRO Ltd are working to integrate the technology with off-the-shelf CT scanning capabilities, to reduce the resource burden for airlines and airports.

Jay Richards, Managing Director of NWPRO Ltd said:

During the early stages of product development, it's difficult to get feedback from end users and stakeholders. Being part of a FASS project enabled us to form a bridge between our business and the user which ultimately helped us to develop a better product for their needs.

The technology has also found an additional use in cyber security. Deeper Scan can be used to validate electronic assets, scanning and identifying components within new electronic devices to detect tampered and counterfeit hardware.

This is hugely beneficial for government departments and other official agencies who handle and rely on sensitive information every day, and need to ensure that it is secure at all times. NWPRO Ltd has already received great feedback on their contribution to a safer cyber resilience through the supply chain from Government agencies.

In June 2021, Deeper Scan was selected as one of the UK's most innovative cyber security products in a competition run by the Department for Digital,

Culture, Media and Sport (DCMS), highlighting its capability need.

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## **MDP Dog Unit awarded national accreditation**

As the first non-Home Office Police Force to receive this national recognition for dog training, the MDP has been uniquely awarded the National Police Chiefs' Council (NPCC) dog school accreditation for each of its three training centres: at HM Naval Bases in Clyde and Devonport, and MDP headquarters in Wethersfield, Essex. The accreditation was awarded, following a NPCC Police Dog Working Group (PDWG) inspection.

**Superintendent Pam Hewitt, Head of MDP Operational Capability Centre, said:**

We're really pleased to receive national accreditation for our police dog training school. This involved a great deal of hard work by the Force Dog Officers and training teams, whose personal drive and determination to attain such high recognition has been remarkable.

**Assistant Chief Constable Andrea Bishop said:**

I'm delighted that our police dog training school has been recognised nationally. Thank you to the Force Dog Officers and everyone involved in the accreditation process.

This is a tremendous accolade for the Force, which highlights the hard work and dedication we put in to training both our dogs and handlers to the highest possible standards.

It seems particularly fitting too that this achievement coincides with our 50th anniversary celebrations, marking the role that our police dogs and handlers have carried out in the MDP throughout the past half century and prior to the formation of the Force in 1971.

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### **The path to national accreditation**

Using the nationally recognised 'Dog Handler Pathway' as a training model,

the MDP Dog Unit has developed a bespoke package of training courses. These enhance learning and development opportunities for its staff and ensure the MDP continues to deliver a professional, specialist policing service.

The bespoke courses are aimed at two levels; the 'Team Trainer Pathway', to train new instructors, and the 'Instructor Pathway', for maintaining the skills of existing training staff. The Team Trainer Pathway comprises of additional qualifications, including a L3 Teaching Qualification, IOSH Risk Assessor, Practical Training Assistant accreditation, and Canine First Aid Qualification. There are also further opportunities to complete distance learning training packages, including Understanding Canine Aggression.

Preparation for achieving accreditation involved a peer review by Avon and Somerset Police, providing the MDP with a benchmark. Engagement with other external partners, including the Dogs Trust Lay Person Scheme, also took place, to ensure excellence in dog welfare provision.

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**Louise Crawford, Dogs Trust Animal Welfare Scheme Coordinator, said:**

Dogs Trust is delighted to work with the MDP Dog Unit and to welcome it onto the Animal Welfare Scheme in collaboration with local police forces. This is a very positive step forward as it ensures that the five welfare needs\* of all their working dogs are being adhered to.

The Dog Unit has considered all aspects of MDP dogs' welfare, both physical and mental, which enables each dog to enjoy their days of service and their retirement. These are exciting times and I look forward to supporting the MDP in the future.

\*The five welfare needs of all working dogs relate to: environment, diet, behaviour patterns, housing and protection from pain, suffering injury and disease.

**More information:**

The MDP has the second largest police dog capability in the UK, with over 200 operational police dogs and handlers across the MOD.

Dog capabilities range from General Purpose Police Dogs, to cash detection dogs with scanning ability, to dogs specially trained to detect explosives, narcotics and firearms. The Force use Tactical Firearms Support dogs, in support of operations, and Arms Explosive Search (AES) dogs also act as a high-profile deterrent, in response to the threat of terrorism.

Find out more about the work of MDP dog teams and [other specialist roles and](#)

[teams](#).

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## **Puppy power!**

Four puppies – Bria, Bonnie, Cerys and Harri – have recently joined the MDP Dog Unit. Follow #MDP\_PoliceDogs, on the Force [Facebook](#) and [Twitter pages](#), for the latest updates on their progress.

## **Coming soon...**

British Forces Broadcasting Service (BFBS) visit the MDP Dog Unit at HM Naval Base Devonport and meet puppy Harri.

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# **[GC contributes to research prioritisation in food hypersensitivity](#)**

News story

Government Chemist contributes to Food Standards Agency food hypersensitivity research horizon scanning exercise



The Food Standards Agency, FSA, [food hypersensitivity research prioritisation exercise paper](#) has been published.

The Government Chemist was pleased to contribute to the horizon scanning exercise which took place earlier this year, and in which [Michael Walker](#), former Head of the office of the Government Chemist was an invited stakeholder.

Food hypersensitivity (FHS), including food allergy, coeliac disease and food intolerance, is a major public health issue. The FSA sought to identify research priorities in the area of FHS by a UK-wide public consultation to identify unanswered research questions followed by a series of stakeholder workshops. This resulted in 10 priority uncertainties in evidence, from which 16 research questions were developed. These were summarised under the following five themes:

1. Communication of allergens both within the food supply chain and then to the end-consumer (ensuring trust in allergen communication)
2. The impact of socioeconomic factors on consumers with FHS
3. Drivers of severe reactions
4. Mechanism(s) underlying loss of tolerance in FHS
5. The risks posed by novel allergens/processing.

Allergen research needs that were identified included improving the reliability of analytical tests, although this was deemed outside of FSA scope.

The Government Chemist has worked hard to call attention to and address deficiencies in allergen analysis and is grateful to FSA for past support in this area. The Government Chemist will continue to seek support to take forward this vital aspect to help people with food allergies and businesses supplying safe food.

For more information about the work that the Government Chemist does please contact:

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## [Failure to move Thames houseboat lands owner in court](#)

The owner of a large unpowered boat used as a houseboat, who failed to comply with directions to move the barge from Environment Agency owned public moorings on the non-tidal River Thames. He has been warned about the

consequences of breaking the law in the future.

The Environment Agency prosecuted Stephen Crowe after his boat named Hope IV was moored to Environment Agency owned riverbanks in Surrey. The boat was moored for periods far longer than the maximum 24 hours allowed on that part of the Thames.

A court heard how it had become necessary for the Environment Agency to begin issuing formal enforcement notices in May and June of 2019. The notices directing Crowe to move his vessel from an Environment Agency short-stay mooring site on the riverbank at Walton-on Thames in Surrey.

His failure to then regularly move the large 85-foot unpowered boat led to a further formal enforcement notice being issued in July 2019. The notice directing Crowe to move from another nearby Environment Agency short-stay mooring at Desborough Island in Surrey. The Environment Agency began legal proceedings after a Harbour Master Notice of Directions was not complied with.

Colin Chiverton, environment manager for the River Thames at the Environment Agency, said:

The Environment Agency owns limited sections of riverbank across 144 miles of the non-tidal Thames. The majority of our customers do comply with our mooring conditions, but this is an important enforcement outcome for all river users and local communities.

We provide and maintain some limited purpose built short-stay public moorings, to encourage pleasure boating on the river and to enable safe mooring at designated locations. Our public moorings are valuable and available for all boat owners to use but subject to conditions of use. This is to ensure fair access for all pleasure boat owners.

Crowe was given countless chances to comply with our mooring conditions and formal directions to move his boat but failed to. We strongly advise all boat owners whether buying or bringing a boat on to the River, to give serious consideration to the size and type of vessel. Also how they are going to comply with landowner mooring requirements before committing to owning and keeping a boat on the River.

Similar to the keeping of a private or commercially owned vehicle on the public highway, to avoid enforcement action boat owners are responsible for ensuring the mooring of their boats. This is whether powered or unpowered, do not cause an obstruction to the public right of navigation or interfere with the rights of riparian landowners. The Environment Agency manages and maintains more than 600 miles of inland waterways across England, keeping them open and safe for thousands of river-lovers.

At Staines magistrates' court on 23 July, Stephen Crowe, now of London Road,

Kingston-upon-Thames, pleaded guilty to an offence contrary to Section 84 Thames Conservancy Act 1932 (not complying with the directions of a Harbour Master). He told the court he had sold the boat in June 2021 and was given a Conditional Discharge for 12 months and ordered to pay £5,000 towards the Environment Agency's costs, and a victim surcharge of £22.

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## [Environment Agency weeds out waste villains](#)

Press release

Swift action by Environment Agency officers has led to the closure and clearance of an illegal waste site at Parnell Street, Houghton-le-Spring.



The newly cleared site at Houghton-le-Spring

The Environment Agency was contacted by Sunderland City Council following complaints from the surrounding community after the owners of two allotments were found to be operating a rudimentary waste transfer station, sorting waste illegally collected from local house clearances.

The waste, which included tyres, refrigerators, bathtubs and doors was being sorted to recover valuables before the remainder was left in-situ, on unmade grounds, where it presented a risk to the environment and public health.

Environment Agency Area Environment Manager, Andrew Turner, said:

Our waste team acted swiftly to protect local people and the environment by shutting down this illegal waste site. This should act as a warning to any person or business who transports, treats, stores or deposits waste without the required environmental permit – you are breaking the law and we will not hesitate to take action.

Landlords and landowners also need to take care because if waste is left illegally on any land, as happened in this case, they have responsibility for removing it.

Following our initial investigations into this case, we wrote to the landowner and those renting the allotment letting them know there could be serious consequences if the illegal activity did not stop immediately and the site cleared. Thankfully our advice was taken on board and the waste has now been removed.

This is a great result for the local community and demonstrates the impact our regulation has on tackling waste crime.

### **Offence to deposit waste without a permit**

It is an offence to deposit or knowingly permit waste to be deposited on land unless in accordance with the conditions of an environmental permit, and if convicted in the Magistrates court, the maximum punishment for such offences is 12 months imprisonment and/or an unlimited fine. In the Crown Court, sentencing could be as much as a five year jail term or an unlimited fine.

Mr Turner added:

We would encourage people to use their local authority's waste collection and recycling services, but where this isn't possible, you should ensure that your waste is taken away by businesses that are properly authorised to carry it.

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