

# State-of-the-art robot seeks out chemical agents

Dstl, the science inside UK defence and security, has developed a prototype robot so that humans and machines can now share the burden of detecting and report dangerous chemicals over large areas.

The Merlin Robot, developed by industry partner HORIBA-MIRA with funding from the MOD and the Home Office, autonomously carried out simulated chemical reconnaissance tasks over test areas covering up to 10,000 square metres. Currently a single prototype, the Merlin robot operated continuously on tasks for several hours with ease, allowing personnel to monitor and manage the test incident scene from a safe distance, away from potential harm.

[Watch the Merlin robot in action](#)

Chemical reconnaissance (recce) on foot and in specially modified vehicles is currently carried out by specialist personnel in the event of suspected or confirmed use of chemical agents, both in military battlefield and homeland security scenarios. It is a dangerous and laborious task requiring high levels of specialist training. In the future, however, autonomous systems could enable the task with significantly less burden on personnel and at lower risk to the deployed teams.

The trial, run under Dstl's Project Servitus, was a follow-on to successful previous work conducted under Project Minerva, which investigated the use of ground-based and airborne autonomous systems to tackle hazardous scene assessment in areas contaminated with chemical agents, on behalf of the MOD and the Home Office.

Initially developed as part of Project Minerva, under Servitus the Merlin robot had an off-the-shelf chemical vapour sensor mounted so that it can be accurately positioned close to the ground. The robot's AI-based object recognition and search and detection techniques were also further developed, including drawing on other Dstl-funded work on MIRA's Viking re-supply and recce unmanned ground vehicle (UGV), enhancing the system's autonomous behaviours and capability.

The Servitus trial tested different autonomous behaviours for search and mapping operations in exploring an area, obstacle avoidance and chemical mapping. The operationally realistic trial was undertaken with support from specialist C-CBRN operators from 27 Squadron RAF Regiment RAF Honington. Non-toxic chemical simulants were sprayed onto the ground within a simulated operational activity, and both the military recce teams and the robot undertook the task of searching the areas to find and map the chemicals and plot clean routes.

27 Squadron RAF Regiment operators were provided with basic training on the Merlin and its tablet-based human machine interface, and given the

opportunity to operate the robot, setup Merlin missions, monitor progress and re-task the robot as required. The users were quickly able to absorb the training and become proficient in commanding the robot, relishing the chance to work with the system.

Commenting on working with Dstl and MIRA, a spokesperson from 27 Squadron RAF Regiment said:

It was a hugely interesting project to be part of within the early development stages, and it was a pleasure to work alongside the MIRA and Dstl personnel who were very engaged, approachable and keen to listen to our observations and experience. The system has a lot of potential and testing our personnel against the AI of the robot was a good benchmark.

By the end of the trial, Merlin had successfully demonstrated autonomous operation in area recce tasks that were both clean and contaminated, and had performed tasks to find clean routes through contaminated areas. Throughout the trial the embedded AI was pushed to the limits of object and obstacle recognition and successfully demonstrated its utility within a cluttered environment.

Dstl's project technical lead, Andy Martin said:

Project Servitus has demonstrated the clear potential to make the job of military and emergency services users safer, more effective and future looking. The technology has significant potential in a number of fields, and work to explore the exploitation pathways within CBR and elsewhere is well underway. Building on Project Minerva, Servitus is another exemplar of cross-department and industry collaboration, with close working between government technical experts, industry and the military user community. It has been highly successful because of that.

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## [Domestic abuse: open letter to employers on how to help workers find the right support](#)

The Business Minister Paul Scully has written an open letter to employers on how they can support survivors of domestic abuse.

The letter outlines several practical steps employers can take to build

awareness of domestic abuse, ensuring they are noticing warning signs and helping workers access the support they need.

The letter follows the publication of the government's final report from its Review into Workplace Support for Victims of Domestic Abuse, which was launched in June to collect evidence on what more both the government and employers can do to try and tackle all forms of domestic abuse.

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## **Business Minister: employers have a duty to spot early signs of domestic abuse**

- Few employers are aware of the signs of domestic abuse, and an even smaller number have a policy in place to support survivors, a new report has found
- in an open letter, the Business Minister calls on employers to do more to help their workers
- steps employers could take include fostering an open, inclusive environment and signposting employees to free support services

Business Minister Paul Scully has today (14 January) issued a rallying call to employers across the country to take some simple steps to ensure their organisation is spotting signs of domestic abuse and helping their staff find the right support.

In an [open letter to all UK employers](#), the Business Minister has outlined a few key, practical steps they can take to build awareness of domestic abuse, ensure they are noticing warning signs, and help workers access the support they need.

Warning signs for domestic abuse include changes in a person's behaviour, a sudden drop in performance, mentions of controlling or coercive behaviour in partners, or physical signs such as bruising.

Business Minister Paul Scully said:

For too long, a lack of awareness and stigma around speaking about domestic abuse has stopped workplaces from putting in place the kind of help that survivors so desperately need.

I know from personal experience that both bosses and colleagues are in a unique position to help spot the signs of domestic abuse and ensure survivors get the support they need so they no longer have to suffer in silence.

That doesn't mean making employers into counsellors or healthcare workers, but the actions I've outlined today – which can be as simple as providing a safe space to talk – can have a life-changing impact on survivors.

The open letter comes as the government publishes the final report from its Review into Workplace Support for Victims of Domestic Abuse, which was launched in June to collect evidence on what more both the government and employers can do to try and tackle all forms of domestic abuse.

In light of the findings of the report, Business Minister Paul Scully today announced plans to consult on the steps that can be taken so survivors can better exercise their existing employment rights, such as the right to request flexible working.

The government will also establish a working group including employers, representatives of domestic abuse victims and trade unions to convene regularly to establish practical solutions that employers can implement in the workplace, and to measure their impact on supporting survivors.

A lack of awareness of warning signs, stigma around talking about domestic abuse in the workplace, and a lack of knowledge about specialist services is preventing domestic abuse survivors getting the help they need in the workplace, the report found.

Safeguarding Minister Victoria Atkins said:

Domestic abuse is a devastating crime which shatters lives.

It is incredibly important that everyone works together to tackle this horrific crime, and that includes employers – whether that is supporting survivors in the workplace, ensuring staff know how to spot signs of abuse, or assisting victims in seeking help they need. Many employers are already supporting their staff who are experiencing domestic abuse in practical ways and we want this to become “business as usual” for all employers.

We have built on this relationship between retailers and the public through the development of the ‘Ask for ANI’ codeword scheme. From today, those at risk or suffering from domestic abuse can discreetly signal to trained workers at participating pharmacies that they need help in accessing support.

Elizabeth Filkin CBE, Chair of The Employer's Initiative on Domestic Abuse, said:

The coronavirus has thrown not only domestic abuse into the spotlight, but the role of employers in tackling it. We have seen critical activity from our employer members to support their staff

working at home who face domestic abuse, as well as a sharp rise in enquiries from businesses wanting help and guidance to put this support in place.

Business is taking action but cannot do it alone.

The government's commitment through the Review into Workplace Support for Victims of Domestic Abuse is welcome and timely. Only through greater awareness among employers and staff of the damage done by domestic abuse and sharing employer best practice can we make a systemic change to the way domestic abuse is thought about and handled in the UK.

Helen Lamprell, General Counsel and External Affairs Director, Vodafone UK said:

At Vodafone, we know we have a duty to help employees if they are facing domestic abuse. This is why we offer specialist training to HR and line managers; and our global domestic abuse policy provides support for employees affected by abuse, including counselling and additional paid leave.

In partnership with Hestia, Vodafone Foundation created the Bright Sky app, which gives those experiencing domestic abuse access to local help and information; and our domestic abuse toolkit is a resource to help other employers implement a domestic abuse policy. We also encourage employers to work with organisations such as EIDA – by sharing best practice, we will better support those suffering domestic violence.

The report also found that stereotyping of the types of people that can be affected by domestic abuse is hindering support, despite clear evidence showing that it can happen to anyone, no matter their gender, age, ethnicity or economic status.

While women are disproportionately affected by of domestic abuse, failure to look beyond stereotypes of the typical 'victim' may mean clear warning signs are missed and survivors are made to suffer in silence. According to the 2019 Crime Survey for England and Wales, an estimated 800,000 men suffered from domestic violence in 2018 to 2019.

Being able to work is critical for survivors of domestic abuse. Work not only provides an income but provides a sense of purpose and direction for survivors.

As well as being a place of safety and respite from their abuser, going to work allows survivors to make important social connections outside the home, which can have a massive impact on their health and wellbeing.

For many survivors, it can be one of the few places they feel safe to speak

out about what they are going through.

The government's ground-breaking [Domestic Abuse Bill](#) is continuing to make its passage through Parliament. The Bill will bring into law a statutory definition of domestic abuse that includes coercive or controlling behaviour as well as emotional and economic abuse, and also includes a wide range of measures to better protect and support survivors and their children.

Alongside the Review into Workplace Support for Victims of Domestic Abuse, the government has also announced the launch of the Ask for ANI scheme, ensuring new victims of domestic abuse will be able to access much needed support from thousands of pharmacies across the UK.

The codeword scheme, launched by the Home Office alongside Boots and independent pharmacies, allows those at risk or suffering from abuse to discreetly signal that they need help accessing support. A trained pharmacy worker will then offer a private space where they can understand if the victim needs to speak to the police or would like help to access support services such as a national or local domestic abuse helplines.

The call for evidence received 126 written responses from individuals, representatives of survivors, employers and their representatives, trade unions and others with interest.

The open letter to UK employers was shared with Business Representative Organisations today to disseminate to their members.

Government has published guidance on how to get help during the coronavirus (COVID-19) outbreak. This sets out that:

- if you are an employer, let your employees know that if they are facing domestic abuse you want to help them to get help
- stay in regular contact with employees you know, or fear, may be facing abuse and if you lose contact with them, take swift action to visit them. If you believe there is an immediate risk of harm to someone, or it is an emergency, always call 999

The [Employers' Initiative on Domestic Abuse website](#) provides resources to support employers including an employers' toolkit.

The Chartered Institute of Personnel and Development (CIPD) has also produced [guidance for employers on domestic abuse](#), produced with the Equality and Human Rights Commission (EHRC).

[SafeLives](#) provides guidance and support to professionals and those working in the domestic abuse sector, as well as [additional advice](#) for employers on supporting employees working from home.

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# Ensuring transitional government in Mali takes steps toward peace process, addresses impunity and holds timely elections

Thank you, Mr President. I'd like to thank Special Representative Annadif for his insightful and detailed briefing. And I want to begin by offering my condolences to all those who've lost their lives in the conflict, including members of the Malian and international forces and UN peacekeepers – recently, French troops serving in Operation Barkhane and including the IED attack on a convoy in Timbuktu this morning.

Mr President, during the last Council session on Mali in October, the United Kingdom called on the parties to implement fully the agreement on peace and reconciliation in Mali without further delay. We noted, in particular, that we hoped to see the transitional government taking steps to assume leadership of the peace process, address impunity and work towards holding elections within 18 months.

I commend and welcome the efforts made over the last three months in these respects by the transitional government and other signatory parties. The United Kingdom welcomes the establishment of the National Transitional Council, the publication of the roadmap for the transition and the consultations now underway on the full operationalisation of the Northern Development Zone.

We also welcome the steps taken to finalise the first phase of the DDR process and to launch the second phase and we hope that this will pave the way for wider security sector reform.

We also very much welcome the fact that, for the first time, nine women have been included as representatives of signatory movements in the Agreement Monitoring Committee. We would encourage the transitional government to continue these efforts, as well as ensuring that necessary reforms are implemented and the preparations for elections proceed without delay.

However, Mr President, much more remains to be done. We remain concerned by reports of human rights abuses and violations, including gender-based violence and cases of child recruitment by armed groups. We hope that the transitional government will ensure prompt, thorough and transparent investigations into such allegations, including those outlined in MINUSMA's recent report on the protests that took place in Bamako and wider regions in July.

As the Secretary-General has said, the cycle of violence can be broken through justice and reconciliation. We fully agree. And we continue to encourage cooperation by Malian and other regional forces with the UN's

monitoring of human rights. This is essential not only as a matter of principle, but as a pillar of peacebuilding and counter-insurgency.

In a similar vein, we also urge the transitional authorities to ensure that human rights and due process are respected with regard to the administration of the current state of emergency and the recent arrests of Malian political and media figures. The safety and security of UN peacekeepers and personnel is also of paramount importance. I agree with the Secretary-General that we need to see meaningful progress in the investigation and prosecution of crimes committed against UN peacekeepers in Mali, not least to send a strong message that such crimes will not go unpunished.

Mr President, I would like to make a final point on the importance of inclusivity. Achieving the core goals of the peace agreement relies on all parties having a sense of ownership of the process. It is very welcome that for the first time, representatives of each of the signatory movements are part of the government and that women representing each of the signatory parties have participated in meetings of the Agreement's Monitoring Committee. This is a significant step towards inclusivity.

We encourage the transitional government to take similar steps towards a more inclusive approach as it works to achieve its other priorities. Including all stakeholders, to help build consensus on how to implement difficult but necessary reforms and how to resolve issues that have led to labour strikes.

In conclusion, Mr President, in the coming months, we hope to see further progress on the implementation of the peace process, addressing impunity and preparing for elections. In the context of continued insecurity and worsening humanitarian needs, inclusive and effective action on these priorities is more urgent than ever.

The UK stands ready to support. We recently announced more than \$10.5 million of extra emergency aid to those most vulnerable in Central Sahel. We are proud to be joining peacekeepers from over 60 different nations as part of MINUSMA. This is a testament to the importance the UK attaches to UN peacekeeping and its role in helping to achieve global peace and security.

I'd like to close by extending my thanks to UN colleagues for all their sterling support to our troops in their first weeks in Mali.

Thank you.

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**[Highways England urges local businesses to play a part in A30](#)**



# Cornwall upgrade

The improvement scheme will not only dual an 8.7-mile section of single carriageway, alleviating the impact on local communities and helping to improve journey times and increase safety by unlocking one of Cornwall's last major bottlenecks, but will also help to unlock economic growth in the county.

Costain, Highways England's contractors, have been busy with the diversion of utilities, vegetation clearance and ground investigation work, and with the main construction phase of the scheme due to start this year, local businesses are being urged to get involved.

As construction activities increase in the area, so will job opportunities, both directly with the contractors and through the supply chain. The types of services and people required will include plant, fencing, track matting, catering, cleaning, accommodation and hospitality.

Transport Minister Baroness Vere said:

I am delighted work on this long-awaited scheme is under way – this part of the A30 suffers from major delays and congestion, particularly in summer, but that will soon be a thing of the past thanks to this upgrade.

It's also going to provide a fantastic economic boost for this part of the country, with construction bringing great opportunities for local businesses looking to get involved.

Through its procurement process, the company, responsible for England's major A roads and motorways, appoints main contractors who in turn require their own supply chain, which provides opportunities for sub-contractors and sub-consultants to bid for work and become part of the extended supply chain.

Josh Hodder, Highways England's Senior Project Manager for the A30 Chiverton to Carland Cross scheme, said:

2021 is going to be a big year for the A30 project and we're urging people and businesses within the local community to get involved. We are keen to offer job opportunities to local people, ensuring that we are fully inclusive of the diverse communities of Cornwall.

Improving the A30 between Chiverton and Carland Cross is incredibly important for Cornwall's future – it's the only remaining stretch of single carriageway on the A30 between Camborne and the M5 at Exeter, journeys are regularly delayed, congestion often brings traffic to a standstill, and as a result the Cornish economy is being held back.

Employing local people will also bring economic benefits during the construction phase of the project, and we will also be engaging with local schools and colleges to inspire, offer support and advice and to promote careers within the industry.

More details around job opportunities are available at <https://www.costain.com/careers/> and any companies interested in working on the A30 project are asked to register their details at [a30suppliereng@costain.com](mailto:a30suppliereng@costain.com).

Further information and updates will be available on the [A30 Chiverton to Carland Cross web page](#), local residents and businesses can also sign up for email notifications and there is also a dedicated community relations team available to answer any questions.

If you'd prefer to speak to someone, then you can phone the project helpline on 0845 600 2664 or Highways England on 0300 123 5000 and one of the team based on the A30 Chiverton to Carland Cross scheme will call you back as soon as possible.

The £330 million upgrade includes:

- a 70mph high-quality dual carriageway
- a two-level junction at Chiverton Cross and a new roundabout to ensure the free flow of traffic on the A30
- a new partial junction at Chybucca built on two levels with west-facing slip roads to provide access onto the dual carriageway from local routes
- new bridges at Tolgroggan Farm, Pennycomequick Lane and over the Allet to Tresawsen road to provide local access
- a two-level junction at Carland Cross with a new roundabout north of the dual carriageway and re-using the existing roundabout to the south
- keeping the existing A30 as a local route with new sections where necessary to provide continuity and connectivity for local communities

The cost of developing the scheme is being partly funded by an £8 million contribution from the European Regional Development Fund, with an additional £12 million for the construction phase. The remainder of the cost of developing and delivering the scheme is being funded by central Government.

## **General enquiries**

Members of the public should contact the Highways England customer contact centre on 0300 123 5000.

## **Media enquiries**

Journalists should contact the Highways England press office on 0844 693 1448 and use the menu to speak to the most appropriate press officer.