Australian Government
Department of Agriculture, Water and the Environment

Innovation supporting stronger cargo biosecurity

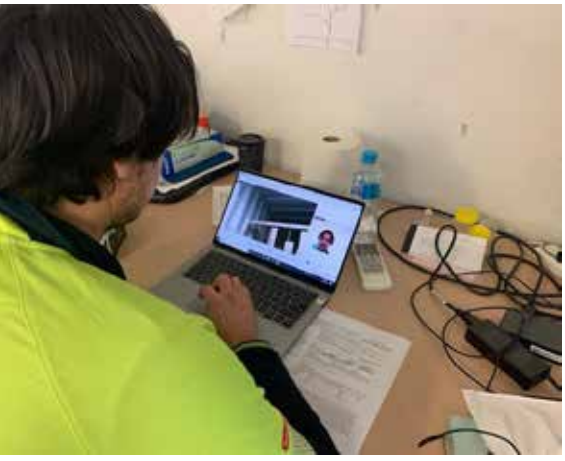
By THE DEPARTMENT OF AGRICILTURE, WATER AND THE ENVIRONMENT

Managing increasing biosecurity risks is a priority for Australia. To address these risks, it is important to identify and implement new and innovative approaches to biosecurity operations.

The Department of Agriculture, Water and the Environment is working closely with industry partners to deliver innovative projects to enhance the capacity and sustainability of Australia's biosecurity system.

The department's Biosecurity Innovation Branch is finding new ways to conduct biosecurity inspections and audits in response to increasing trade volumes and COVID-19 restrictions.

Head of Biosecurity Innovation at the Department of Agriculture, Water and the Environment, Cathryn Geiger, said the team is collaborating with clients and industry to run pilot trials for initiatives that will improve Australia's biosecurity system and help address a range of challenges.



"Earlier this year the Biosecurity Innovation Branch began trialling RealWear smart glasses technology in rural tailgate inspection and remote auditing," Ms Geiger said.

"This trial is testing the concept of using hands-free technology with live stream capability to conduct rural tailgate inspections and remote walkthrough audits."

"The smart glasses technology will test whether inspections and audits can be conducted remotely."

"One person will wear the glasses and conduct a walkthrough of the cargo, while a biosecurity officer views footage from the glasses remotely and provides advice and guidance on potential biosecurity risks."

The department procured the smart glasses technology from Bondi Labs. Bondi Labs will also provide expertise and technical support during the pilot.

Edwina Durnford, Director of the department's Inspection Group, said the pilot project was a collaborative effort which could have many benefits for the department and industry.

"With the increased volumes of cargo arriving in Australia and the predicted trade volumes out to 2025, we do not have enough resources to have our biosecurity officers in approved arrangements located all around Australia," Edwina said.

"Sometimes our officers need to travel significant distances to perform their regulatory functions. This technology allows inspections to be conducted remotely, which would be more time efficient and allow more officers to be available to provide other inspections for clients."

The use of smart glasses may provide better visibility at inspection sites, improve efficiency, and address increasing trade volumes and the spread of pest and diseases.

Industry will benefit through a potential reduction in inspection-related costs, a stronger understanding of biosecurity risks managed through inspections, and the ability to shift resources to other inspection activities.

Rural tailgate inspection was selected for the pilot, as it has a high volume of inspections, with the department inspecting up to 20 containers per week in some locations. A rural tailgate inspection involves directing containers to an approved arrangement site to check for biosecurity risks, including signs of pests, plant material and non-compliant packaging.

The Biosecurity Innovation Branch ran a successful mock trial in May 2020 to test the technology's capability to

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clearly show biosecurity risk material via live stream, particularly in areas such as twist locks, tynes and dark crevices of the container.

A biosecurity officer wore the device during an inspection exercise, while another officer viewed the live stream remotely. The trial was conducted on a sea container using mock risk material, such as grain and soil.

Phase 2 began in late July, to test the connectivity and usability of the remote technology and whether it can be fit for purpose. As part of this phase, industry representatives at Price & Speed and ANJ Container Services joined Inspections Group staff to trial the smart glasses in the depot environment.

Industry representatives will wear the device, while a biosecurity officer views the live feed from a remote location, such as at home or at a regional office. During the test, the officer can direct the industry participant to areas around the site by using the audio function of the device. The industry representative can also be directed to manage any urgent biosecurity risk matters discovered during the activity.

While the focus of these pilots is to test the concept of remote inspection and remote audit applicability, the team will investigate its use into other areas.

Edwina said while the pilot was still in its early stages, it was already delivering on the team's expectations.

"We are very excited to see where we could apply this technology, not only in other areas of Inspections, but the department more broadly," she said.

"To see the reactions of our front-line managers and staff when using this technology for the first time, along with the industry participants, has been very rewarding."

Barry Robertson, from *ANJ Containers* said the company was thrilled to be one of two depots in Australia included in the depot trial.

"This is a testament to the strength of our working relationship with the Department of Agriculture, Water and the Environment,"

"ANJ are excited to see the department, and in particular, the Biosecurity Innovation Branch, looking outside the box for new innovative ways they can engage to regulate and facilitate quarantine inspections and audits in Australia."

"The opportunities are endless with the smart glasses application, and we hope this technology can be utilised in a number of approved arrangement inspections and treatment activities to reduce onsite quarantine staff hours."

"We believe there is potential to increase quarantine inspection hours by utilising other states' or countries' time zones, which is something the industry has been craving for years."

"We look forward to seeing where the future takes the smart glasses application, and we are thankful to be playing a pivotal role working with the department in trailing the technology."

Price & Speed Managing Director Kevin Malouf said innovation was the cornerstone of their industry and was key in eliminating wasteful processes and inefficiencies, which are issues that have impacted all types of industry.

"Collaboration between the department and approved arrangements is integral to both our border and biosecurity," Mr Malouf said.

"The department's smart glasses trial to facilitate tailgate inspections at Price & Speed has been an exciting alliance."

> *The opportunities are endless with the smart glasses application*

"To be involved first-hand and to discern how quickly and thoroughly tailgate inspection can be completed with smart glasses will prove to be a game changer."

"We believe this innovation is a positive step forward, with the added potential to branch out to facilitate other inspections in the foreseeable future. Price & Speed was excited by the technology's potential."

"This will prove to be a benchmark future development in delivering a service to the industry that ensures our biosecurity is not compromised without hindering the flow of imported goods."

Co-design is the way forward in innovation and the Biosecurity Innovation Branch continues to invite new biosecurity solution ideas from stakeholders.

Earlier this year the department partnered with Canberra Innovation Network to host a fully virtual Biosecurity Industry Innovation Challenge. Over 120 participants attended from universities, research institutions and start-ups.

The program challenged innovators to propose solutions to four biosecurity problems. Innovators with successful solutions were provided with up to $50,000 in Biosecurity Innovation Program funding to develop their ideas into a feasibility study.

The department chose 3 proposals from 23 applications, including a proposal to expand and re-purpose the Zirkata real-time communication platform to determine whether the platform can be varied to assist the department with remote auditing.

The feasibility studies will be pitched to the department in late September. More information can be found at cbrin.com.au/biosecurity-challenge.

There are many benefits when industry and government collaborate and engage in innovative ways to manage biosecurity risk, whilst still ensuring that Australia's pest and disease status remains our highest priority.

Using technology to create business efficiencies within the biosecurity environment will help manage the evolving and increasing biosecurity risks facing Australia. These types of trials and innovation projects will help to redefine Australia's biosecurity operations.

The department will continue to work with industry partners to identify and implement innovative approaches to strengthen the biosecurity system into the future.