DLR AI & safety

The Docklands Light Railway in London operates driverless trains.

The majority of our stations are unstaffed.

My name is Matt Nolan, I'm the Technical Interface Manager at Keolis AME Docklands.

Together with my colleague Carl Wim Stanley we've been working to improve safety by using technology to detect trespassers. The purpose of our innovation is to explore the use of artificial intelligence CCTV technology to automatically alert our controllers when a person goes onto the tracks. As with all railways we occasionally experience incidents where passengers are injured or killed by trains. Being driverless and having unstaffed stations we are often reliant on passengers reporting incidents. We are not always aware that someone is on the tracks until it's too late so this AI technology could solve that problem. When the AI system detects a person on the tracks the controllers will be alerted automatically. The advantages of artificial intelligence cameras is that they are capable of identifying abnormal conditions. They can be taught to recognise a person entering an area where they should not be. We set detection zones along the platform edge as our test stations. When a person enters the zone, an alert sounds and a live video image is immediately displayed in the control centre. If a person falls or jumps onto the tracks the controllers can quickly stop trains and save lives. It is essential that false alarms are kept to a minimum we have tested the system using staff working on the tracks and real customer images each false alarm is analysed and eliminated by altering the detection zones. We are now in the live operational trial phase and the results look promising if this trial is successful we will work with Transport for London to explore options to roll this life-saving technology out to other stations on the DLR. This will require significant capital investment.

QIOTIS encourage innovation, Carl and I are proud of the success so far and we are looking forward to the next stage of the project. This AI technology could also be used to detect train surfers unattended bags and overcrowding so we are excited to explore this further