Seaport Case Study

Background

A major port in the Middle East that is responsible for over 50% of the import/export activity in the country oversees the movement of between 3k to 5k large trucks ferrying goods in and out of its premises every day.

As a strategic site for both the economic well-being of the country and an ideal target for terror attacks, security is a top priority for this port. In addition to the threat of attacks, the security team at the port is responsible for ensuring that incoming vehicles do not bring in hazardous materials that could put the port and surrounding areas at risk. These include biological and other high-risk materials that could cause an environmental catastrophe or endanger the residents in the large city near the port.

In the past, trucks transporting hazardous materials were being diverted to a separate area before being allowed to enter the port's grounds where their undercarriages were manually inspected by a member of the security team from a trench. These inspections took an average of five minutes to perform, were prone to human errors and limitations, and did not provide rigorous documentation that the vehicles had been thoroughly inspected.

UVeye Facilitates:

- Scanning 3-5k trucks daily
- Comprehensive inspections
- Automated threat detection

The Challenge

Given the scale of vehicles that pass through their gates on a daily basis, the time constraints of carrying out an inspection, and the security resources available to them, the port authorities were faced with the need to prioritize their inspections.

This led them to enact a policy where only the vehicles that declared that they were carrying hazardous materials, roughly 60 per day out of the 4k, were having their undercarriages inspected. All the rest passed through without an undercarriage inspection.

Only 60
Of 4K inspected daily

There was also a recognition that the manual inspections that were being carried out did not meet an adequate standard for their security needs as the undercarriage of the trucks present a large and complicated threat surface that is difficult for their team to satisfactorily cover.

Understanding that their current situation was untenable, the port's security leadership faced additional pressure to lead with the adoption of technologies would improve their capabilities and give them a competitive edge over other ports in the country.

In seeking out a technology that would increase the speed and accuracy of their inspections, the port's security leadership turned to UVeye for a solution.

The Solution

Helios by UVeye is the global standard for automated under vehicle inspections, combining proprietary hardware with patented Artificial Intelligence software to scan, detec, and alert on threats in a matter of seconds.

Offering both single and multi-lane stationary as well as mobile units, Helios is equipped with multi-angle cameras to produce hi-resolution images of the vehicle's undercarriage as it passes over the scanning hardware. These high quality images are quickly analyzed by a combination of machine learning and deep learning algorithms to determine if there is an anomaly detected that could indicate the presence of a threat. If a potential threat is identified, the system automatically alerts on and marks the location of the anomaly, allowing the security team to determine if additional attention is needed.

Advanced deep learning algorithms that have been trained on millions of vehicles allow UVeye to offer its first pass solution, UV Inspect. Built on a truly intimate understanding of what a wide range of vehicles are supposed to look like under a variety of environmental conditions, UV Inspect can be used for vehicles that have not been previously scanned by a system. UVeye is the only under vehicle inspection system (UVIS) vendor to offer a first verified first pass solution that greatly increases the effectiveness for security teams.

The Impact

After determining that UVeye offered the most advanced and reliable solution available on the market, the port integrated Helios into multiple lanes at their perimeter checkpoint.

Since integrating UVeye's under vehicle scanning technology, the port's security team is now able to inspect every truck that enters the port, raising their capacity from 60 to well over 3,500 while significantly improving inspection accuracy.

As a pass through system that scans vehicles as they drive over the device at up to 30km/h, the port's security team is now able to keep traffic flowing without compromising on the quality of their inspections.

Helios's automated process of scanning and detecting has allowed them to cut the time of inspection and decision making from around five minutes to under 20 seconds, drastically improving their ability to scale the number of inspections performed daily without added stress on their human resources.

Cut inspections from 5min to 20sec

Moreover, the security team has nearly eliminated the need to perform manual inspections of the trucks' undercarriages. Instead, they rely on the quality of the images produced by the scans as well as the automated detection and alerting to determine if there are any relevant threats in need of additional follow ups while reducing the risk to their personnel.

For the leadership, UVeye has simplified the documentation of their inspections, providing centralized, detailed reports of every truck that passes through their gates and a record that each one has been properly checked.

Conclusions

Adopting UVeye's automated UVIS technology has given the port's security team a competitive edge, establishing them as an innovative leader while vastly expanding their capacity to inspect more vehicles with a higher standard of security.

For more information please visit us at www.uveye.com or email us at hls@uveye.com

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