SEARIDGE TECHNOLOGIES

TLAS: TRAFFIC LIGHT AUTOMATION SYSTEM

Consistent, Predictable Control of Aircraft-Vehicle Crossings

Searidge's Traffic Light Automation System (TLAS), brings controlled, system-supported management to aircraft-vehicle crossings, one of the highest-risk interaction points on the airfield surface. It supports and, where enabled, executes control of traffic lights at crossings and back-of-stand areas.

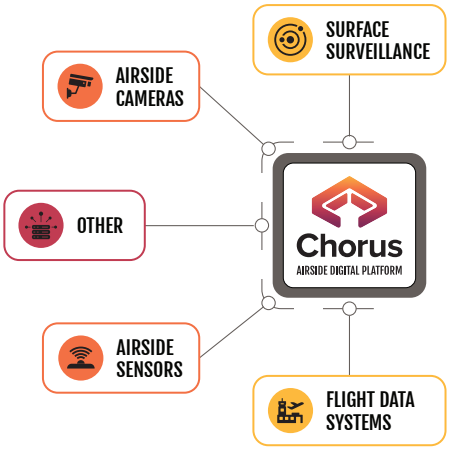
Using real-time surveillance and operational data, TLAS applies airport-defined operational logic, supported by AI-driven detection and tracking of aircraft and ground vehicle movement, to determine how crossing states should be managed.

The result is clear, consistent signals for vehicle operators, reducing reliance on radio coordination, local visibility, and manual interpretation while improving how crossing control is applied across varying operating conditions.

HOW TLAS WORKS

UNIFIED OPERATIONAL PICTURE – CHORUS

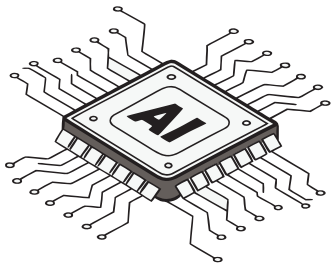
TLAS runs on Chorus, Searidge's airside digital platform.



Chorus brings together real-time surveillance and operational data - including surveillance systems, cameras, aircraft movement data, voice communications, and sensor inputs - into a single, synchronized operational picture.

PREDICTIVE MOVEMENT INTELLIGENCE – AIMEE

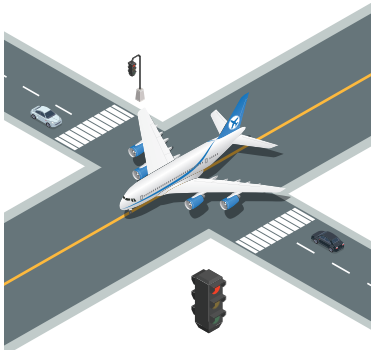
Aimee, Searidge's AI engine, processes surveillance inputs to detect and track aircraft and ground vehicle movement, including pushback activity and crossing occupancy.



Aimee provides real-time perception and near-term prediction of airfield movement, delivering predictive insight to support more precise and proactive crossing control.

CROSSING CONTROL – TLAS

Based on this movement context, TLAS determines how crossing states should be applied at aircraft-vehicle crossings.



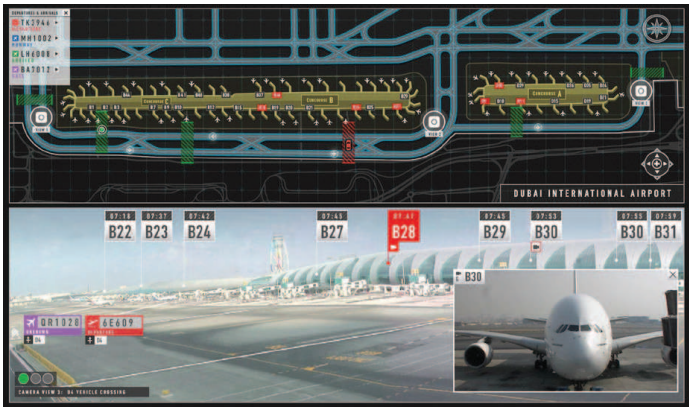
In Manual and Semi-Automatic modes, operators control traffic lights supported by system recommendations and safeguards. In Fully Automated mode, TLAS can execute traffic light state changes based on AI-driven control and pre-defined operational logic.

AUTOMATION AT YOUR PACE

TLAS supports multiple levels of automation, allowing airports to adopt system-supported and progressively automate crossing control aligned with operational and regulatory requirements.

- **MANUAL:** Operators control crossing lights with real-time system visibility and AI-supported safeguards.
- **SEMI-AUTOMATIC:** The system generates crossing recommendations; operators review and confirm light state changes.
- **FULLY AUTOMATED:** TLAS can execute traffic light changes using AI-driven logic, with human oversight maintained.

TLAS IN ACTION



WHY TLAS?

- **Reduce Exposure at High-Risk Interaction Points:** Improves consistency at aircraft-vehicle crossings by reducing variability in how crossing states are applied under pressure.
- **Strengthen Safety and Operational Control:** Supports more consistent, observable crossing control, reducing reliance on time-critical coordination and manual interpretation.
- **Improve Operational Resilience:** Maintains predictable crossing control during traffic peaks, construction activity, visibility limitations, and mixed vehicle operations without increasing staffing or procedural burden.
- **Enable Progressive Modernization:** Leverages existing surveillance and operational systems to support a transition from procedural coordination to system-supported and progressively automated crossing control, including integration with emerging autonomous ground vehicle operations.

FROM PROCEDURAL DEPENDENCY TO GOVERNED CONTROL

When aircraft-vehicle crossings become a structural safety concern, reinforcing procedures alone is not enough.

TLAS shifts crossing control from a reliance on procedural coordination to system-supported and, where enabled, system-executed operation, aligned with defined operational logic, regulatory expectations, and the realities of modern-airfield complexity.

Crossing control becomes more consistent, predictable, aligned with real-time airfield conditions, rather than dependent on time-critical coordination, low visibility, and manual interpretation under pressure.

SEARIDGE TECHNOLOGIES

Ready to transform your airside operations? Connect with our team to schedule a personalized demonstration. Discover how TLAS can bring more consistency and predictability to your airfield crossings.

For more information on our solution or to speak to our team:

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