



TraffiClair Monthly Updates

2026.04: Stronger AI, Smarter Signals

TraffiClair Team

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Important AI Power Upgrades

For Both Video Detector and Edge Server



AI POWER UPGRADES COMING...

ClairEye-i Traffic Video Detector

- AI Chip: Now 18 TOPS @ INT8
- Frame Rate: 25 fps

ClairBox-R AI Box

- AI Chip: Now 18 TOPS @ INT8
- Frame Rate: 25 fps
- Supports up to 32 x 1080p or 8 x 4K video streams

Important Notice:

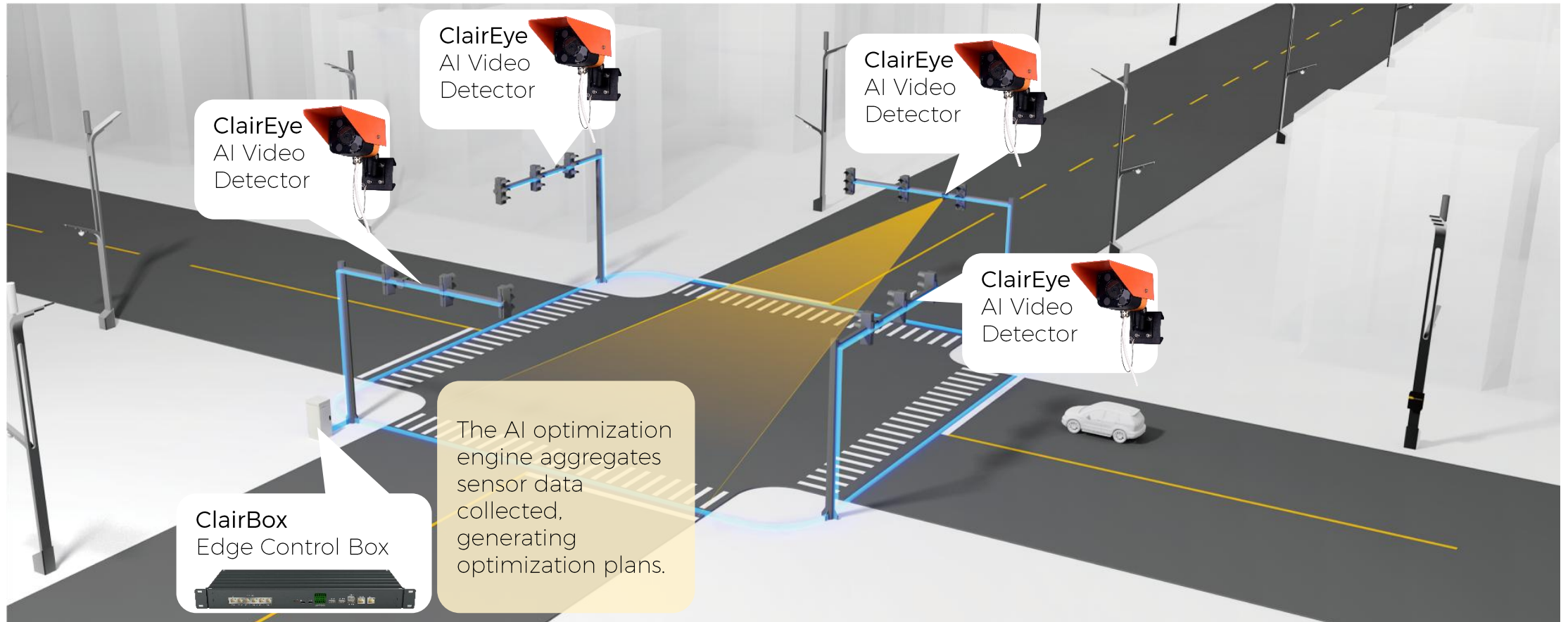
- The new ClairBox-R is ready for shipment now.
- The new ClairEye-I will be ready for shipment on July 1, 2026.

New Software Features (Available on Both)

- **Real-time detection zone visualization** – see detection performance live on video stream
- **Queue length** – measured without manual marking
- **Average speed** detection
- **Persistent object ID & multi-target tracking** – avoids missed counts when vehicles pass through detection zones, even with overlapping boxes
- **Improved reliability** for fast-moving vehicles
- **Enhanced projection algorithm** – accurately distinguishes vehicles in congested scenes where detection boxes are close or overlapping; missed counts virtually eliminated

[Detailed News](#)

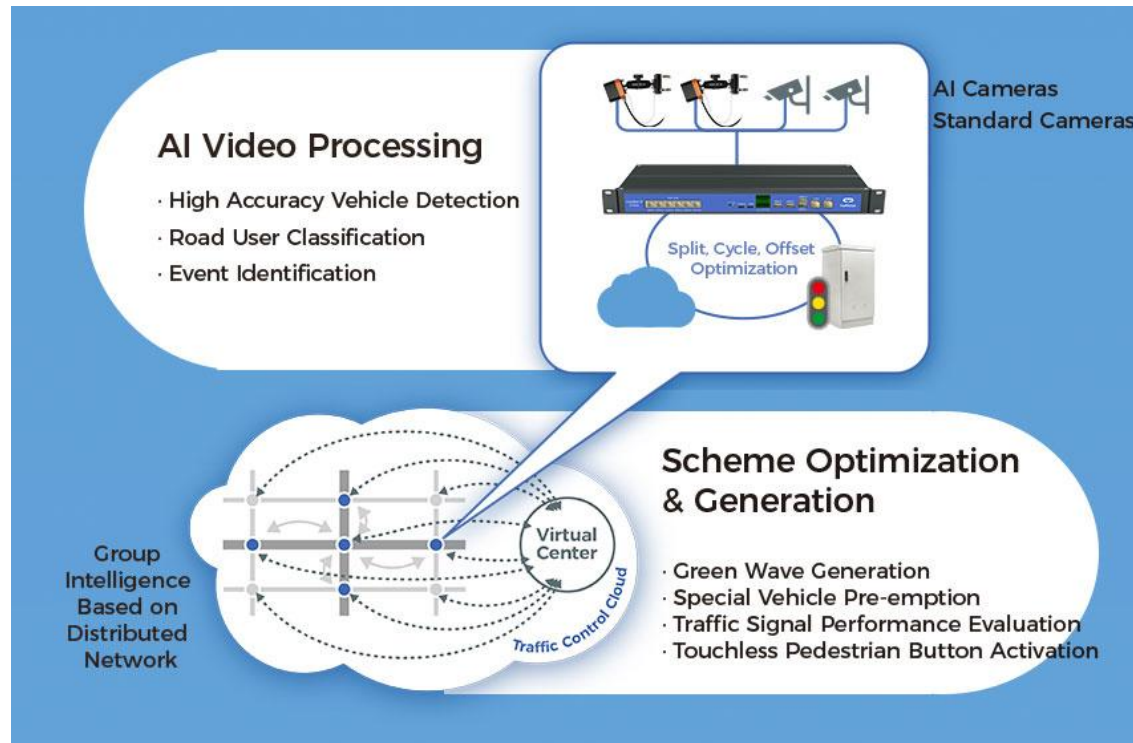
Smart Intersection Signal Control



- ClairEye AI Video Detector will realize video processing and generate the needed detection data.
- ClairBox Edge Control Server is responsible for scheme optimization and generation.
- ClairEye can also be replaced by normal cameras, in this case the ClairBox will be responsible for both video processing and scheme optimization.

ClairBox-R

AI Box for Video Processing & Signal Optimization



Key Features

- Support standard and existing cameras for video detection
- AI & neural network video processing for high accuracy vehicle detection, road user classification & event identification
- Control optimization including split, cycle, offset optimization and scheme generation
- Open protocol to any type of legacy controllers

Traffic Data Output

- Vehicle presence, traffic flow, occupancy, and road user identification.
- Road user identification
- Identification targets include truck, car, motorbike, bicycle, pedestrian, light rail.
- Event identification like fog, smoke, illegal reversing on expressway, road congestion, vehicle abnormal driving event and accident detection.

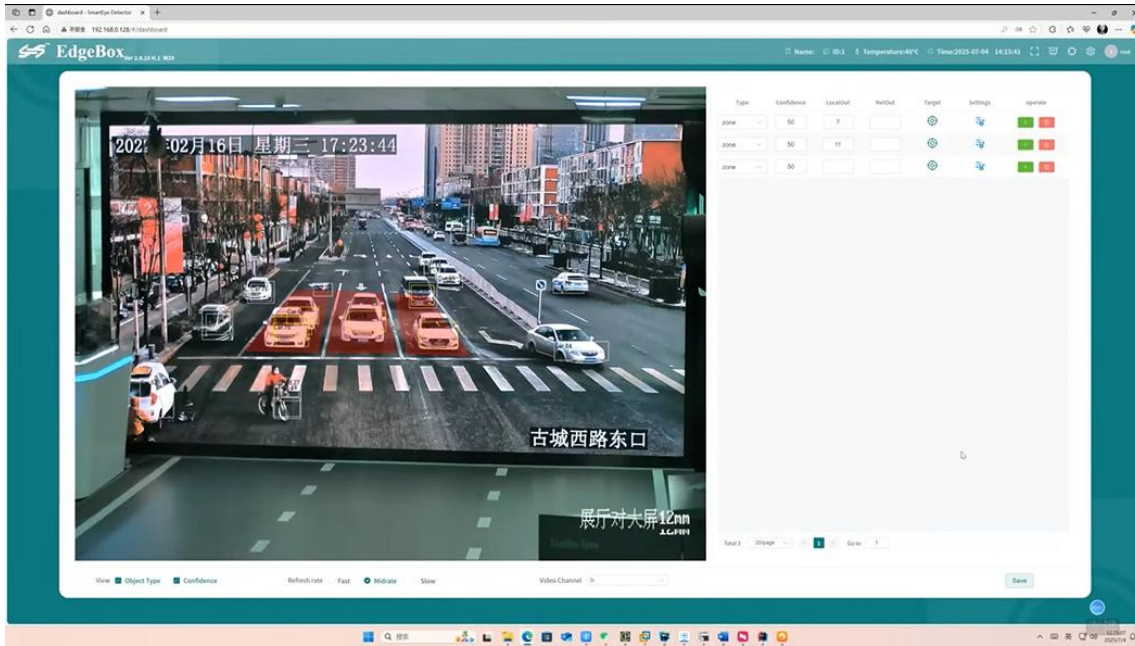
AI Signal Optimization

- Control Scheme Optimization: Split, cycle, offset optimization.
- Control Scheme Generation: Full scheme generation.

[Webpage](#) [Datasheet](#)

Leveraging Existing Traffic Cameras

ClairBox-R Transforms Raw Video Streams into Actionable Insights



Traffic management is entering a new era of intelligence with ClairBox-R AI Box—an advanced video recognition device powered by cutting-edge AI. By leveraging existing traffic cameras (violation monitoring, incident detection, or surveillance feeds), ClairBox-R transforms raw video streams into actionable insights.

Smart Detection, Smarter Traffic

With real-time processing of up to 8×1080P video streams, ClairBox-R performs:

- ✓ Vehicle detection (stop bar, flow, occupancy)
- ✓ Road user classification (cars, trucks, bikes, pedestrians, etc.)
- ✓ Traffic event alerts (congestion, accidents, fog, illegal maneuvers)

Its AI-driven detection zone customization allows precise monitoring without additional hardware, enabling:

- ✓ Accurate traffic statistics
- ✓ Vehicle labeling & flow tracking
- ✓ Automated signal optimization

Beyond Detection: Adaptive Control

ClairBox-R doesn't just analyze—it optimizes. By processing real-time data, it generates adaptive signal timing (split, offset, cycle) and supports green waves, emergency preemption, and touchless pedestrian activation.

Watch our demo video to see how ClairBox-R turns ordinary camera feeds into a dynamic traffic management tool—reducing congestion and enhancing safety with AI.

[Product Page](#) [Youtube Video](#)

ClairEye

Traffic AI Video Detector

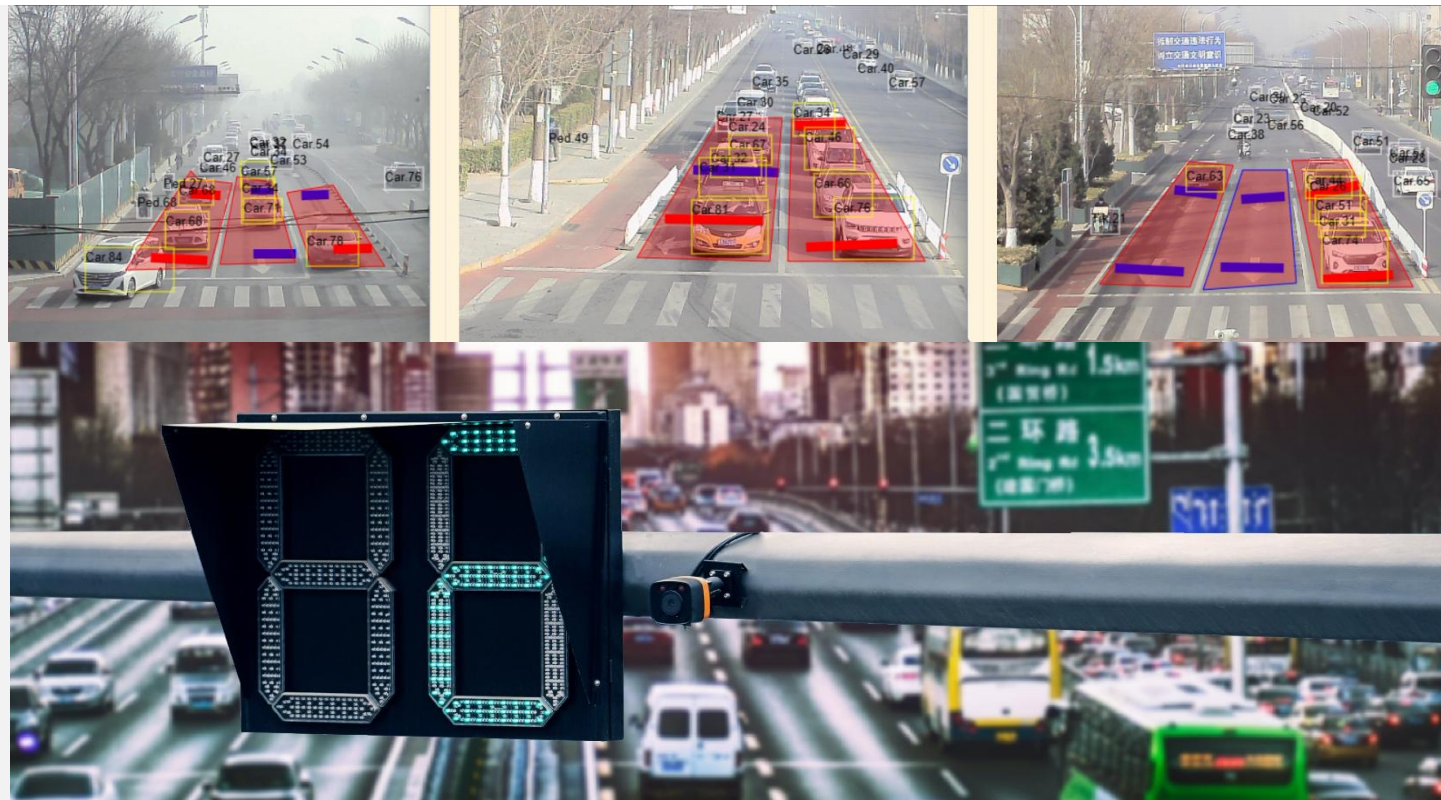


<https://bit.ly/3TO1jD8>

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[Webpage](#)

[Datasheet](#)

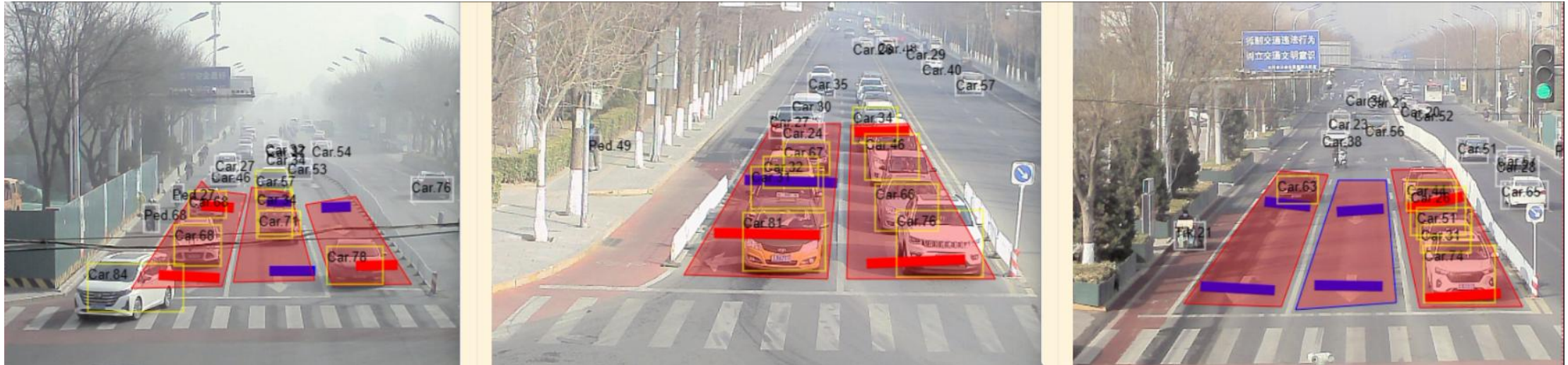


- AI & neural networks processing technology
 - Targeted large-sample training and being based on a huge quantity of real traffic data.
 - Real-time traffic data output includes presence, traffic flow, occupancy and road user identification.
 - Identification of 80 different targets and scenarios.

- Cutting-edge vision with extremely high sensitivity
 - Sensor: 1080P, 1920*1080, 5-megapixel large scene coverage
 - 0.0001Lux starlight CCD eliminates the need for infrared fill light
 - Digital WDR technology (120dB) avoids blurring from headlights at night
 - Industrial lens with 2.8-12mm focal length

AI & Neural Networks Processing

Fusion of traditional machine learning and deep learning



- Targeted large-sample training is carried out for various weather conditions such as rain, snow, fog, for various environmental brightness such as day, dusk, evening and early morning, and for different density of vehicles on the road such as flat-peak hours, peak hours, etc.,
- AI training model is based on a huge quantity of real traffic data.
- Real-time traffic data output includes presence, traffic flow, occupancy and road user identification.
- Identification of 80 different targets including truck, car, motorbike, bicycle, pedestrian, and scenarios like fog, fire, accident, traffic jam etc.

TraffiClair Radar Safeguards All-Weather Smart Mobility on the G15 Shenyang-Haikou Expressway



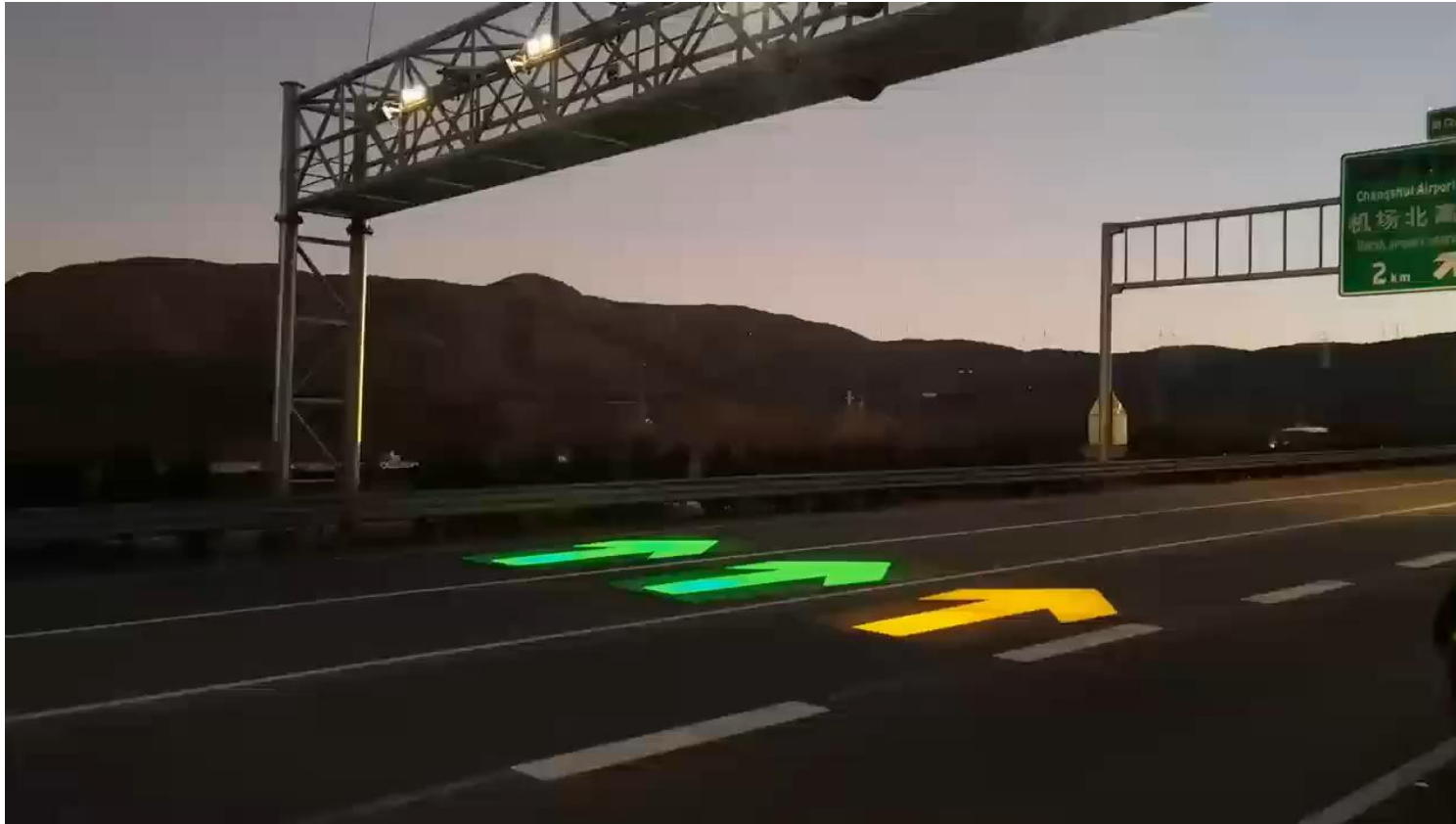
The G15 Shenyang-Haikou Expressway, a key artery linking China's eastern coastal region, now features TraffiClair's all-scenario intelligent perception system.

On the fog- and storm-prone Yancheng section, TraffiClair's phased-array radar delivers 95% detection accuracy for incidents like sudden stops, wrong-way driving, and debris—even in blizzards.

During a recent pre-Spring Festival snowstorm, the system maintained real-time tracking and instant alerts, supporting emergency snow removal and safe traffic flow.

[Detailed Case Study](#)
[Product Webpage](#)

Enhancing High-Speed Safety with LumaLane



Traditional road markings and signs often fall short in high-speed, low-light environments. Watch how the LumaLane Zebra Projector redefines safety for highways, ramps, and toll plazas by projecting ultra-bright, highly visible virtual warning signs or lane indicators directly onto the road surface.

- ✓ **High-Lumen Output (26,000–38,000 LM)** – Cuts through darkness, rain, and headlight glare with ease
- ✓ **Extreme Durability** – IP65-rated housing, operates from -60°C to +50°C with full surge/ESD protection
- ✓ **Precision Optics** – 448–455nm wavelength, Ra>95 CRI, and a 6-element Ultra HD lens for crisp, clear projection
- ✓ **Long-Range Coverage** – Projects clearly from 1 to 16 meters, ideal for high-speed approach zones
- ✓ **Robust Build** – Aluminum alloy housing with lightning and leakage protection for reliable roadside operation



[Product Webpage](#) [Product Datasheet](#)

LumaLane Product Presentation

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1. LumaLane Overview
2. Applications
 - Zebra Crossing
 - Zebra Crossing (Shifting green/red color according to the traffic light.)
 - Safety Signs
 - Highway Anti-fatigue Laser Warning Light
3. Optional Models
4. Q&A
 - Environmental Limits & Worry of Visual Distraction
 - Graphic Patterns (Slides, Lens)
 - Traffic Light Integration & Timing Plan
 - Configuration



Applications

Zebra Crossing



Applications

Zebra Crossing (Shifting green/red color according to the traffic light.)



Application

Highway Anti-fatigue Laser Warning Light



Q&A

Environmental Limits & Worry of Visual Distraction

Q. Does the projector work effectively during daytime conditions, considering ambient sunlight?

A. The daytime effect is not good due to the strong sunlight. Actually, all our projects done so far (mainly in China) are only for nighttime usage.

Q. How does the projector perform under foggy or low-visibility conditions?

A. It will certainly cause some challenges, but let's say that it will not be worse than the real painted signs on the road.

Q. Have you evaluated whether the laser could cause distraction or discomfort for drivers?

A. Regarding driver visibility, we have validated this through testing. Our lights are installed symmetrically on both sides of the crosswalk, with the projection direction forming a cross pattern relative to the driving direction. This configuration ensures that the light beam is directed primarily across the pedestrian crossing area rather than toward oncoming drivers. As a result, it does not create glare or distraction for drivers.

Q. If we were to project themed images (for example, Christmas or seasonal graphics), will this cause distraction or discomfort for drivers?

A. In our projects, most of the customers have good feedback about this. But we mostly use it to remind the pedestrian or driver for safety messages.

Product Presentation

[Product Webpage](#) [Product Datasheet](#)

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[**202602:** ClairWav Radars Now Support 9 Critical Detection Events](#)

[**202603:** Introducing ClairSaf VillagePeace & Full Safe Mobility Family](#)

[**All previous issues...**](#)

[**Catalogue V1.10**](#)



Thanks

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