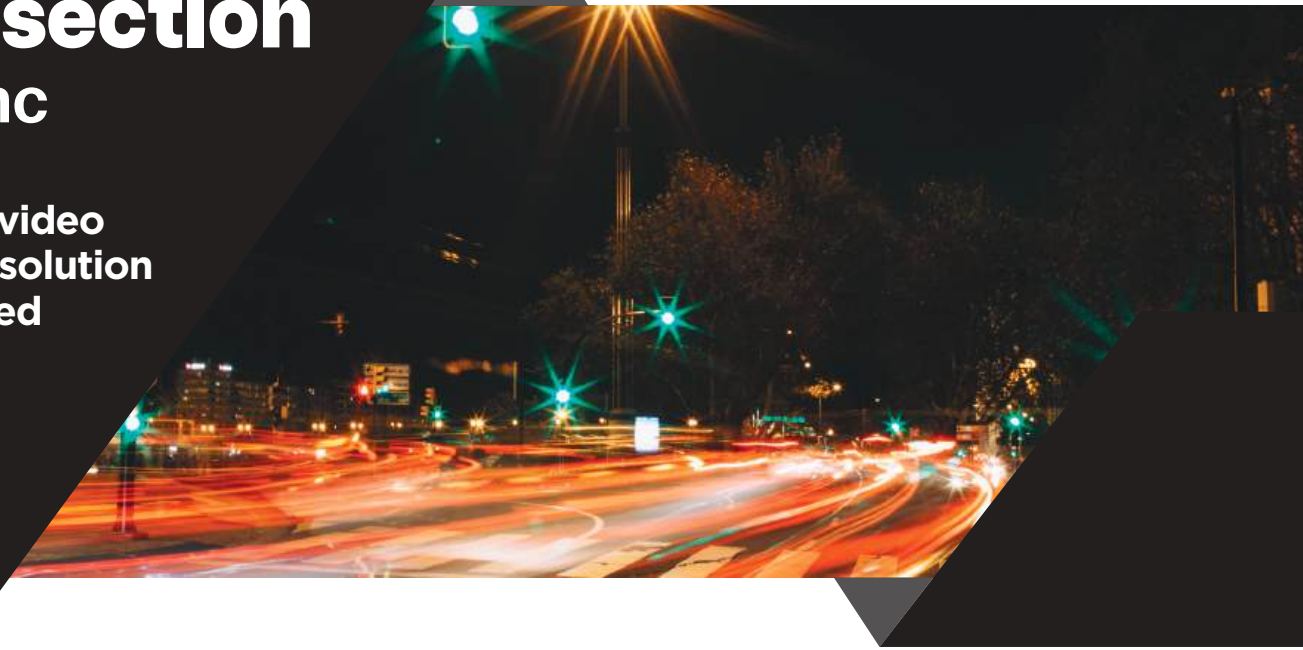


# intellisection® GridSync

End-to-end video intelligence solution for automated intersection monitoring.



## Technology Overview

**Intellisection® GridSync** is a traffic management solution built to transform how cities monitor and control intersections. By turning video data into real-time insights, it enables municipalities and traffic authorities to enhance safety, reduce congestion, and make smarter infrastructure decisions. Using advanced computer vision and edge intelligence, GridSync delivers accurate analytics directly at the intersection — ensuring fast response, scalability, and simplified integration with existing traffic systems.

Each intersection is equipped with four high-resolution cameras and an edge computing unit installed in a secure cabinet, enabling continuous on-site processing and reliable 24/7 operation.

Intellisection® GridSync helps cities achieve **Vision Zero** goals by transforming ordinary intersections into intelligent, self-monitoring hubs. With real-time incident detection, interoperability with traffic controllers, and full coverage without blind spots, it helps prevent crashes, reduce congestion, and protect vulnerable road users. Built to North American standards, GridSync is the smart city solution that delivers safer, smarter, and more efficient mobility for everyone.

## Key Features

### FULL INTERSECTION AUTOMATION

Continuous monitoring, detection, and automated response for every lane and every approach

### IMPROVED SAFETY & EFFICIENCY

Detects crashes, near-misses, red-light running and wrong-way driving.

### AI-ENGINE BUILT FOR THE REAL WORLD

Trained on diverse datasets to adapt to lighting, weather, and traffic conditions.

### TRAFFIC SIGNAL CONTROL

Connection with existing traffic signal controllers enables automated, real-time response to incidents and optimized traffic flow.

### BUILT TO LAST

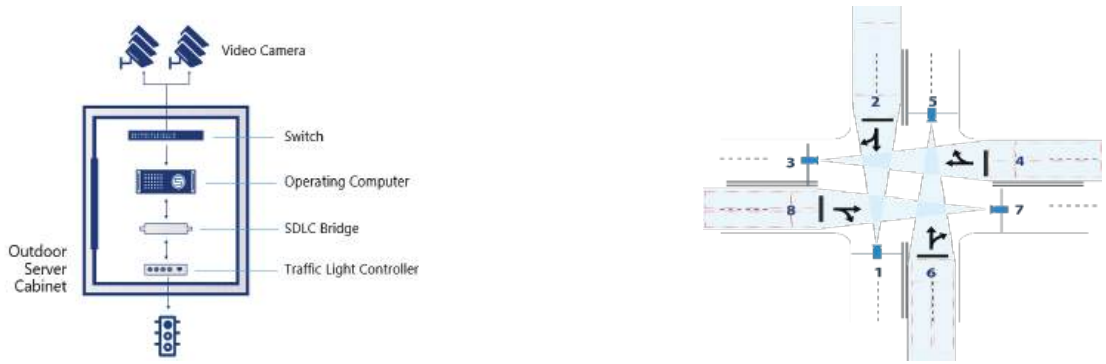
Built to NEMA TS-2 standards for maximum reliability and durability in demanding outdoor environments.

### ACTIONABLE INSIGHTS

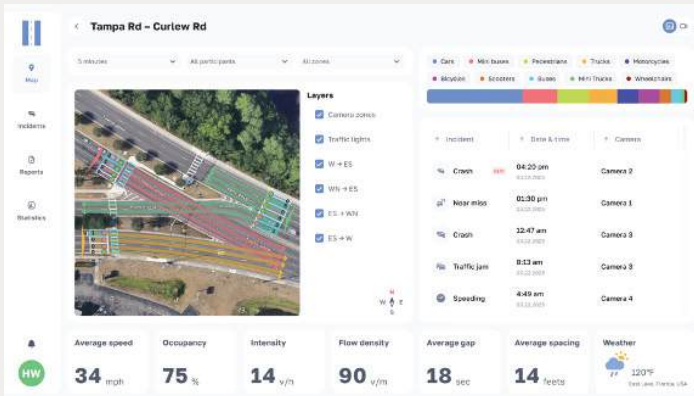
Intuitive dashboards and reports provide decision-makers with traffic and safety intelligence.

# Solution Design

The hardware and software solution for a four-way intersection includes four high-resolution cameras monitoring up to three lanes of traffic, an industrial server for data processing (with embedded POE switch), and an SDLC Bridge for communication with the traffic signal controller.



# Software Capabilities



- **Real-time detection & classification** of different types of vehicles and vulnerable road users, including pedestrians, bicyclists, wheelchairs, and other mobility devices.
- **Events Identification:** near-miss, crash, red-light violation, wrong-way driving detection.
- **Instant alerts** via email or browser notifications for faster incident response.
- **Multi-lane monitoring** across complex intersections.
- **Operator-friendly dashboard** tools for traffic statistics, trends, and incident visualization.

# Hardware Overview



- **High-definition** IP cameras with full intersection coverage.
- **Ruggedized PC** for video management and AI analytics.
- **NEMA TS-2 compliant** - Engineered to operate in extreme temperatures, humidity, dust, and vibration.

# Solution Specifications

## Product Features

<b>Pedestrian in restricted area</b>	Detects unauthorized pedestrian presence in vehicle-only zones.
<b>Traffic Jam</b>	Identifies traffic congestion and queues.
<b>Vehicle on Sidewalk</b>	Detects vehicles driving or stopped on pedestrian sidewalks
<b>Vehicle stopped in restricted areas</b>	Identifies vehicles stopped in no-stop or restricted areas.
<b>Suspected vehicle crash</b>	Detects potential collision based on speed, acceleration, and position data.
<b>Confirmed vehicle crash</b>	Confirms actual traffic collisions using advanced analytics.
<b>Wrong way driver</b>	Identifies vehicles driving against traffic flow.
<b>Speeding</b>	Identifies vehicles exceeding the allowed speed limit.
<b>Abrupt increase/decrease speed</b>	Detects sudden acceleration or harsh braking.
<b>Near Miss Detection</b>	Detects potential collision scenarios such as near-misses and unsafe maneuvers after signal changes.
<b>Red light Running</b>	Detects violations of driving through a red traffic light (without LPR).
<b>Web Interface (different configurations available when choosing a package)</b>	Graphical user interface for working with intersections

## Technical Data

<b>Supported camera types</b>	Fixed
<b>Supported camera views</b>	Overview (angled)
<b>Supported camera angles</b>	The cameras are directed at an angle of approximately 30° towards the intersection, at a height of approximately 5 meters, while continuing to film approaching vehicles.
<b>Minimal required resolution</b>	640x480 (Maximum resolution is not limited). It is recommended to use cameras that support two video streams: low resolution (640x480 @ 15 FPS) for video analytics, high resolution for video archive recording.
<b>Minimal required FPS</b>	15

## Ordering Information

<b>IF-INT-GRID-ID</b>	Intellisection® GridSync - Incident Detection Module (per standard intersection - up to 4 approaches).
<b>IF-INT-GRID-TD</b>	Intellisection® GridSync - Traffic Data Module (per standard intersection - up to 4 approaches).
<b>IF-INT-GRID-BUNDLE</b>	Intellisection® GridSync - Incident Detection + Traffic Data Bundle Module (per standard intersection - up to 4 approaches).
<b>IF-INT-GRID-ITMM</b>	Intellisection® GridSync - Intersection Traffic Management Module (per standard intersection - up to 4 approaches).
<b>IF-INT-GRID-MC</b>	Intellisection® GridSync - Monitoring Center (per standard intersection - up to 4 approaches).
<b>IF-INT-GRID-NM</b>	Intellisection® GridSync - Near-Miss Detection Module (per camera).
<b>IF-INT-GRID-1APP-EXP</b>	Intellisection® GridSync - Expansion for 1 Additional Approach
<b>IF-INT-GRID-SERVER</b>	Intellisection® GridSync - Edge Server (per standard intersection).
<b>IF-INT-GRID-CAM</b>	Intellisection® GridSync - Camera plus Accessories (per camera).
<b>IF-INT-GRID-COMP-KIT</b>	Intellisection® Intersection Cabinet Accessory Kit (per standard intersection).



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