

BLUE-BAND TECHNOLOGIES

IntegraOS™

Operating System for Intelligent Infrastructure



One platform connects field technologies, transforms sensor data into operational intelligence, and coordinates the right response across edge, enterprise, and optional cloud deployments.

CONNECT

Multi-vendor sensors and systems

UNDERSTAND

Context, analytics, replay and health

RESPOND

Rules, alerts and automated actions

OVERVIEW BROCHURE

PLATFORM OVERVIEW

From Fragmented Systems to Coordinated Operations

Infrastructure agencies already own valuable sensors, controllers, cameras, software and field equipment. The challenge is that these systems were rarely designed to work together. IntegraOS creates a unified operational environment that translates protocols, fuses data and orchestrates multi-vendor technologies toward a common objective.

Integrate Connect radar, video, LiDAR, controllers, infrastructure devices and third-party platforms.	Translate Normalize protocols and data structures so legacy and new equipment can participate in one solution.
Orchestrate Apply user-defined rules that coordinate alerts, workflows, signs and other intervention technologies.	Visualize Combine maps, trajectories, video, event timelines and system status within a consistent framework.
Analyze Create counts, studies, safety measures, conflict trackers, specialty graphs and downloadable reports.	Operate Guide deployment and maintenance with repeatable configuration, validation and health monitoring.

Built on proven experience

IntegraOS is the evolution of Blue-Band’s established Integrator-AI platform. It carries forward practical knowledge gained through field deployments, customer collaboration and real operating environments, then extends that foundation with greater flexibility, contextual visualization, digital twins, configurable workflows and support for customer-selected artificial intelligence.

DEPLOYMENT ARCHITECTURE

Intelligence at Every Layer

IntegraOS can be deployed where the work must happen: close to field devices, across an enterprise, or through optional cloud services. A single implementation can span multiple layers while keeping mission-critical functions local.

Layer	Primary role	Operational value
Edge	Connect sensors, process data, detect events and execute local rules.	Maintains critical detection, recording and response when cloud, cellular or internet connectivity is unavailable.
Enterprise	Manage locations, users, configurations, dashboards, health and workflows.	Creates consistent operations across devices, technologies, sites and teams.
Cloud SaaS	Extend access, aggregation and scalable services when the mission allows.	Provides deployment choice without making field intelligence dependent on cloud availability.

Delivered the way the solution requires

- Standalone software
- Software with purpose-built edge computing
- Enterprise-wide platform
- Cloud-based software as a service
- Orchestration within a complete hardware and software solution

The result is a modular, vendor-agnostic architecture that helps agencies extend existing investments, add new capabilities and avoid rebuilding the operating model for every new use case.

Understand Every Event in Context



SEE

Video, map and trajectory views

REPLAY

Synchronized event development

EXPLAIN

Before, during and after context

Digital twins and synchronized playback

IntegraOS brings dynamic digital twins, geographic map overlays, recorded video and synchronized playback into one visual framework. Operators can see what happened, where it happened, how conditions developed and what occurred next—without reconstructing the story across disconnected tools.

Context extends beyond a count. The platform can preserve origin, path, speed changes, conflicts, surrounding reactions and downstream movement for traffic studies, incident review, safety analysis and operational planning.

APPLICATIONS

One Platform Supports Multiple Missions



Roadway and traffic operations

Traffic detection, counts, classification, speed, occupancy, dwell, turning movements, trajectory analysis, congestion and operational dashboards.

Safety and vulnerable road users

Conflict tracking, near-miss analysis, wrong-way detection, erratic movement, VRU detection and rules-based intervention.

Studies and planning

Automated traffic studies, dense real-time datasets, user-defined graphs and multi-format reporting.

System assurance

Equipment health, connectivity, uptime, faults, status, configuration validation and maintenance workflows.

Because the same data foundation can serve multiple applications at once, each new use case can add operational value without automatically adding another isolated system.

Move from Detection to Coordinated Action

A high-confidence event should do more than appear on a screen. IntegraOS connects detection, verification, notification, intervention and evidence within one governed workflow.

01	Detect	Sensor and analytics inputs identify an event, movement, condition or fault.
02	Understand	Data fusion adds location, trajectory, context, severity and supporting evidence.
03	Decide	User-defined operational rules determine the approved response for the situation.
04	Respond	IntegraOS issues alerts, workflow actions, equipment commands or third-party notifications.
05	Review	Video, digital-twin playback, timelines and reports support investigation and improvement.

Examples of coordinated outputs

- Operator alerts and event queues
- Email and authorized third-party notifications
- Dynamic message sign or field-device activation
- Video clips, snapshots and evidence packages
- Workflow tasks, dashboards and multi-format reports

Technology That Operators Can Own

IntegraOS was designed around deployment, configuration, daily operation and long-term maintenance. A consistent visual framework helps technicians and operators work across applications without learning a separate interface for every sensor or use case.

Guided operations

- Auto-configuration where supported
- Dropdown-based configuration choices
- Guided, repeatable deployment workflows
- Validation of critical decisions
- Unified health and status views
- Role-based operational control

Configurable AI Bridge

- Connect customer-selected AI models
- Control access to approved data and tools
- Ask natural-language operational questions
- Support pattern identification and reporting
- Assist operators within authorized workflows
- Avoid permanent dependence on one AI provider

Ask the operation a real question

For example: How many wrong-way drivers reached the highway, then self-corrected on the freeway rather than on the ramp?

With the appropriate permissions, the AI Bridge can use IntegraOS data and tools to return an immediate explanation with supporting tables, graphs and event records. The intelligence remains governed by the customer's access policies and operational rules.

Build Once and Expand with Purpose

IntegraOS gives infrastructure organizations a practical path from isolated technology to coordinated operations. It protects the value of existing equipment, supports new sensors and analytics, and creates a consistent platform for safety, efficiency, assurance and future innovation.

Protect existing investments	Use configurable drivers and bridges to extend compatible legacy equipment instead of replacing an entire technology stack.
Reduce integration burden	Normalize devices, data and workflows once, then reuse the operating framework across locations and applications.
Increase resilience	Keep critical edge detection, recording and rules-based response available during network disconnection.
Accelerate expansion	Add devices, locations, applications and approved AI capabilities through a modular architecture.
Simplify workforce readiness	Use one visual framework and guided workflows to reduce fragmented training and preserve operational knowledge.

Start with the mission that matters most

Blue-Band can align IntegraOS to a focused operational objective, connect the required technology stack, define the response workflow, and establish a repeatable path for broader deployment.



Intelligent infrastructure integration | Visualization | Analytics | Automated response

Ready to Deploy IntegraOS™? Choose one corridor or high-risk safety zone, validate performance, and scale across your network.



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