blaize® VSaaS.ai orionVM

Modernizing Public Safety Systems with AI for Smarter Cities

Powered by Blaize AI Platform, VSaaS.ai and OrionVM
Unleashing real-time, intelligent video analytics and urban automation at the edge

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Why it Matters

The exponential growth in urban populations and vehicle usage has placed immense pressure on traffic systems, safety operations, and infrastructure scalability. Cities around the world, especially in regions like Latin America, Southeast Asia, the Middle East, and parts of Europe and North America, are grappling with aging analog camera systems, limited connectivity, and outdated traffic management approaches.

When decisions are made slowly, or not at all, communities pay the price; avoidable risks are not minimized, time and resources can be wasted. Citizens expect better.

The need is clear: cities must evolve from reactive operations to proactive, data-driven intelligence.

Cities must **evolve** from **reactive** operations to **proactive,** data-driven intelligence

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What is the Status Quo?

Today, many urban environments rely on a patchwork of disconnected systems that make it almost impossible to act in real-time.

Legacy cameras often function as passive recorders rather than live sensors. Even when video feeds are available, operators are forced to sift through hours of footage or depend on costly, bandwidth-hungry cloud analytics to get basic insights.

This fragmented approach creates critical challenges

1. **Inability to process real-time video from legacy analog and IP cameras** limiting visibility into dynamic traffic and public safety conditions.
2. **Traffic congestion due to delayed or manual decision loops** contributing to chronic congestion, missed opportunities for optimization, and putting stress on existing control frameworks.
3. **Siloed public safety systems with poor data synchronization** transportation, public safety, and planning teams operate in isolation.
4. **Rising costs of cloud compute and high-bandwidth data streaming** complete infrastructure overhauls are often too costly or disruptive for many cities to pursue requiring expensive bandwidth and infrastructure upgrades.
5. **Lack of actionable intelligence from existing infrastructure** incidents go undetected until it's too late to respond effectively.
6. **Rigid systems that can't adapt to change** new regulations, traffic patterns, or security threats often demand months of reconfiguration.

Without a better way, cities remain locked in reactive cycles that cost time, money, and public trust.

What are the Possibilities

Imagine a city where every intersection becomes a real-time sensor, where operators have a clear, live view of what's happening across neighborhoods, and where AI automatically highlights the most important events as they unfold.

The Future of urban intelligence

Real-time detection & alerts

Incidents are identified the moment they occur.

Dynamic, adaptable workflows

Rules and policies adjust automatically by time of day, location, or risk level.

Unified operations across agencies

Traffic engineers, public safety teams, and planners share a common picture of the city.

Scalable deployments that grow with need

New sites, districts, and use cases can be added without re-architecting everything.

With the right platform, this vision can become a reality

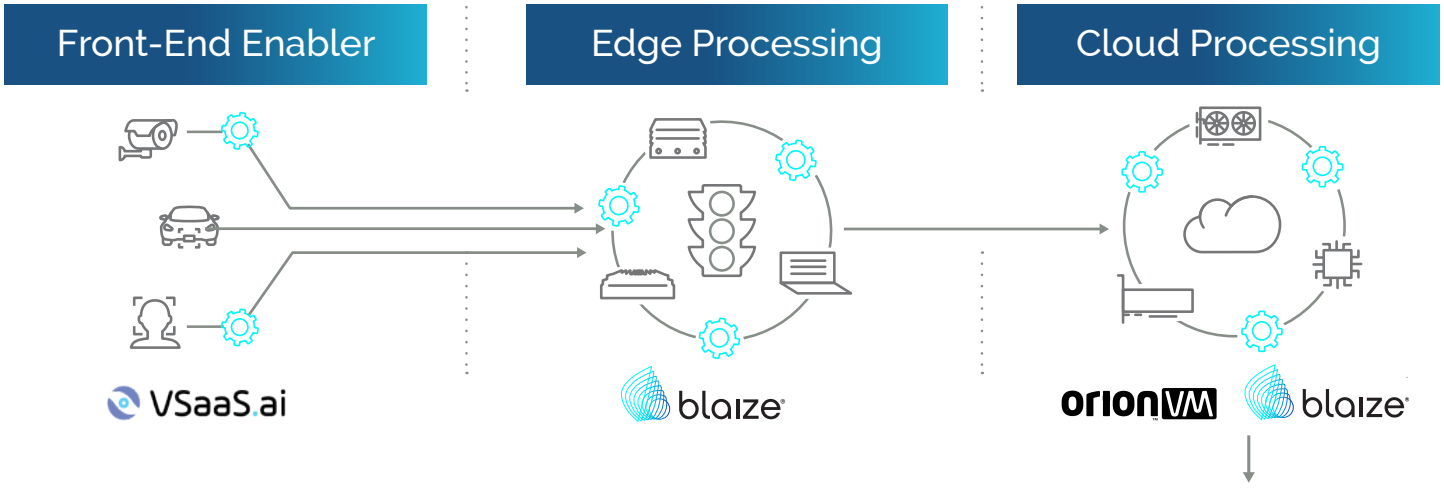
What is the Solution

Powered by the Blaize AI Platform, this joint solution brings together VSaaS.ai and OrionVM to deliver a flexible, scalable AI infrastructure for public safety and smart city operations. Designed to work with existing camera networks, it enables real-time video analytics, automated responses, and edge-to-cloud orchestration without the complexity of traditional deployments.

At the foundation, the Blaize AI Platform, built on the Graph Streaming Processor® (GSP), provides low-latency AI inference at the point of capture. This allows cities to perform tasks such as vehicle detection, license plate recognition, and crowd monitoring directly at the edge without waiting for cloud round trips.

Layered above, VSaaS.ai serves as the intelligent AI orchestration engine. Whether deployed on-premise alongside Blaize's hybrid AI infrastructure or hosted in the cloud, it transforms raw video streams from any CCTV camera into actionable intelligence smart security surveillance events through configurable analytics, rules engines, and real-time alerting.

At the infrastructure layer, OrionVM's MicroPoPs provides the hosting environment for VSaaS AI and Blaize AI workloads. This setup supports both proof-of-concept deployments and full-scale production environments, offering municipalities the flexibility to start in the cloud and scale to hybrid or edge models as needed.



Joint Value Proposition: Blaize + VSaaS.ai + OrionVM

- Blaize AI Platform GSP architecture for low-power, low-latency inference (<5W)
- Compatibility with analog and IP camera infrastructure
- VSaaS.ai analytics for vehicle classification, congestion patterning, and safety alerts
- OrionVM MicroPoPs in Equinix datacenters for metro-level proximity, ultra-low latency, and global reach
- Option to deploy in containers, customer datacenters, or on-premise for sovereignty and flexibility
- End-to-end integration with 5G for rapid deployment with minimal civil works

Cloud GSP

Deploy on-prem or DC of choice

Parity of cloud & edge models

Cloud finds patterns across sites, time & context

Audit, aggregate & upload to 53 cloud storage

Why OrionVM MicroPoPs Matter

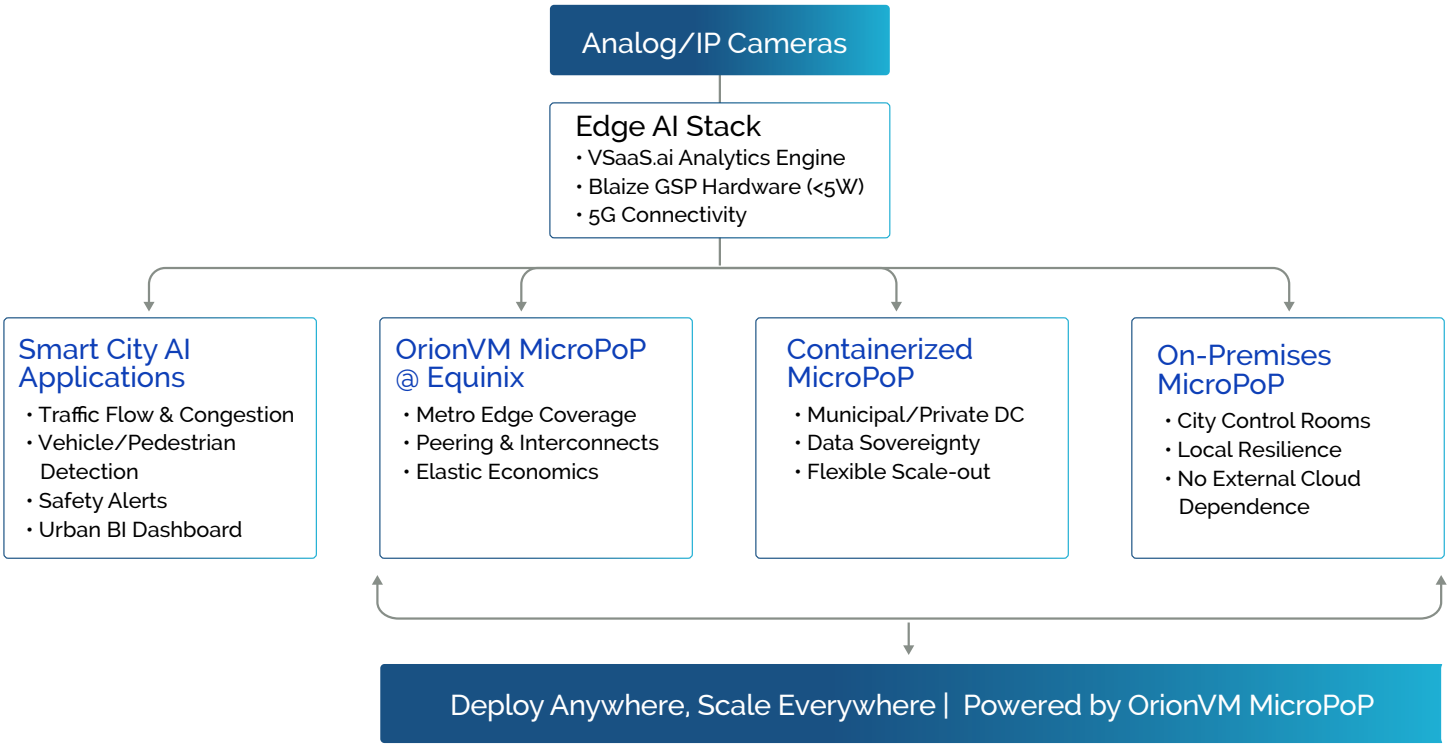
- **Equinix Presence:** Global coverage, high network density, and peering advantages are ideal for Smart City workloads.
- **Metro-Edge Latency:** Proximity hosting supports real-time analytics without backhauling video streams to hyperscalers.
- Elastic, Private Cloud Economics: Cities avoid hyperscaler costs while benefiting from carrier-grade reliability.
- Deployment Anywhere: Run as containerized instances or appliances inside municipal data centers or control rooms for sovereignty and resilience.

Solution Architecture

- **Camera Inputs:** Analog PTZ and multi-lens IP dome cameras
- **Edge Compute:** Blaize GSP modules with VSaaS.ai AI models embedded
- **Hosting Options:**
  - o OrionVM MicroPoPs in Equinix datacenters (metro-edge scale)
  - o Containerized MicroPoPs on municipal/private infrastructure
- On-premises deployments for local control rooms
- **Connectivity**: Quectel RM500Q 5G modules (N78 band)
- **Visualization**: VSaaS.ai BI tools integrated with Transpara dashboards
- **Control Integration**: Real-time loops with municipal traffic signal systems

Together, Blaize, VSaaS.ai, and OrionVM form a cohesive solution that gives cities the power to modernize incrementally deploying where it makes sense, scaling as needs evolve, and transforming infrastructure into real-time intelligence.

Flexible Edge AI Deployment



What are the Benefits?

Instead of reacting to problems after the fact, city teams can see and respond to what's happening right now. This shift creates transformative outcomes.

1 Faster, more informed decision-making

- Real-time edge detections help deliver real-time flagging of incidents
- Operators no longer have to wait for cloud round trips or manual review

2 Modernized infrastructure without disruption

- Existing cameras and networks can be upgraded with intelligent capabilities
- Sub-5W edge modules can be installed in as little as one hour per site[1]

3 Rich, dynamic analytics for every scenario

- Multi-role detections track vehicles, monitor crowds, and detect anomalies simultaneously
- Customizable policies adapt automatically to time, place, and operational context

4 Scalable deployments with predictable costs

- OrionVM's hyperconverged infrastructure supports citywide scaling at up to 80% lower costs[2]
- Cities avoid the budget surprises of traditional cloud services

5 Proven reliability and compliance

- Up to 95% detection accuracy, even in low-light or backlit conditions[3]
- Role-based access, encryption, and regional controls help to keep data secure

7 Benefits for Municipal and Transportation Authorities

- Transform legacy camera networks into intelligent sensors
- Automate real-time detection for faster incident response
- Deploy edge-first compute inside Equinix for scalability or city DCs for sovereignty
- Eliminate expensive centralized compute with localized decision-making
- Can be deployed in as little as 1 hour per site[4]

8 Impact Summary

- Up to 95%+ detection accuracy from analog/low-res feeds[5]
- Can be 1-hour integration of analog/IP cameras to edge[6]
- City-wide dashboards for heatmaps, congestion alerts, and anomalies
- Flexible deployment: Equinix MicroPoPs, private DCs, or containerized edge
- OPEX-friendly economics vs hyperscaler dependency

[1]Sub-5W typical power consumption based on Blaize Pathfinder and Xplorer module specifications. **Source:** Blaize product datasheets and platform briefs – https://www.blaize.com/products/pathfinder/

[2]Based on OrionVM's publicly stated cost efficiency benchmarks, which report up to 80% savings compared to traditional public cloud providers, achieved via a hyperconverged infrastructure stack and InfiniBand networking. **Source**: https://www.orionvm.com/why-orionvm

[3]Based on real-world field testing in Santiago, Chile, where Blaize edge AI modules and VSaaS.ai analytics achieved over 95% detection accuracy, even in low-light and backlit conditions. **Source:** Santiago pilot deployment records and operational data, in partnership with the Ministry of Transportation.

[4]1-hour site installation time based on field deployment data from Santiago, Chile in partnership with the Ministry of Transportation. **Source:** Blaize field deployment records and pilot recap materials

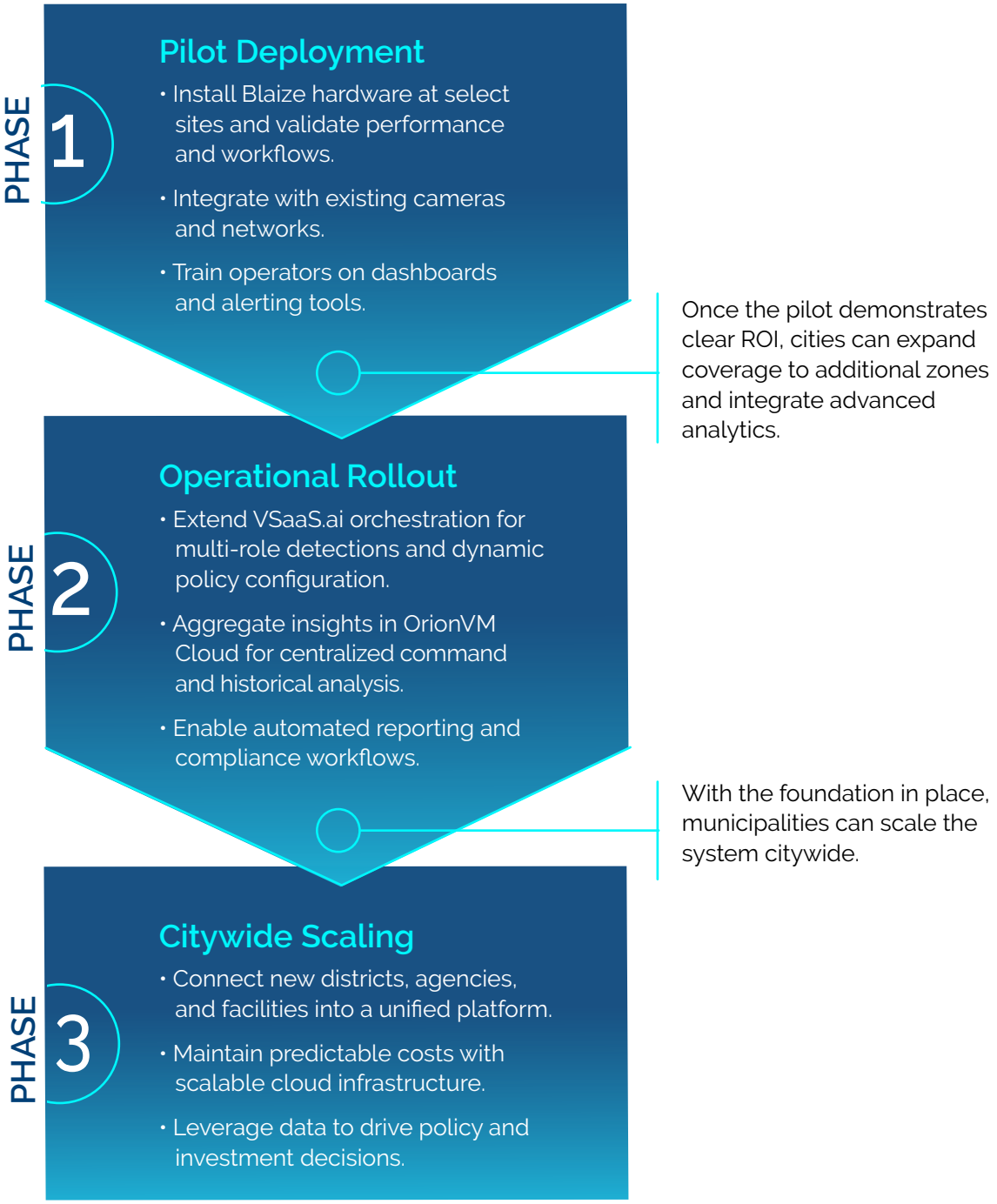
[5]Based on field deployment results in Santiago, Chile, where Blaize GSP-powered edge analytics achieved over 95% detection accuracy using existing analog and low-resolution IP cameras. **Source:** Santiago pilot data, Ministry of Transportation, in partnership with Blaize and VSaaS.ai

[6]Based on deployment data from the Santiago, Chile pilot, where analog and IP cameras were integrated with Blaize edge modules and operational within one hour per site. **Source:** Field pilot conducted with the Ministry of Transportation, Santiago, Chile

How do we Map into Whats' Possible?

Every city's journey starts in a different place. As an example, consider how a phased approach to deployment might work for a city wide operation.

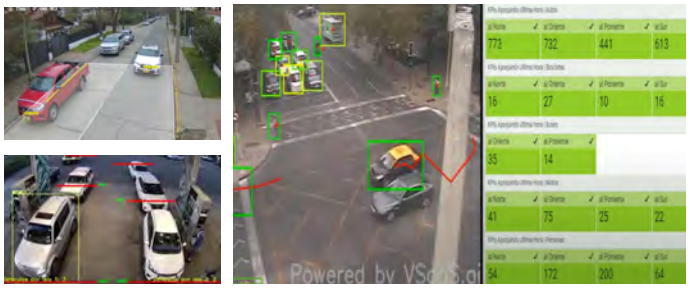
Starting with a pilot deployment of edge to cloud capability to small set of priority sites, intersections, transit hubs, or public spaces, and configured to deliver live detections.



Use Cases & Proof Points

Traffic Flow Optimization

In a downtown corridor, Blaize edge AI capability can transform basic cameras into intelligent sensors capable of real-time vehicle counts and dwell time analysis. Dynamic signal adjustments assist in reducing peak congestion.



License Plate Recognition and Enforcement

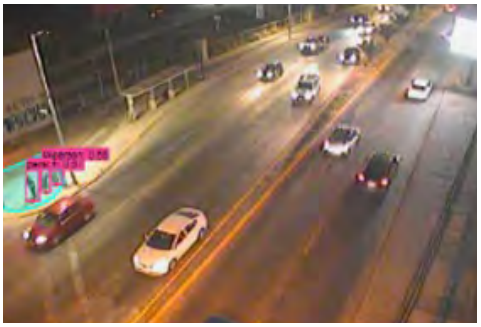
At a major transit hub, Blaize and VSaaS.ai can enable rapid recognition of vehicles on watch lists, with up to 95% detection accuracy in low-light conditions and can integrate seamlessly with OrionVM's cloud orchestration.[1]

Perimeter and Public Space Security

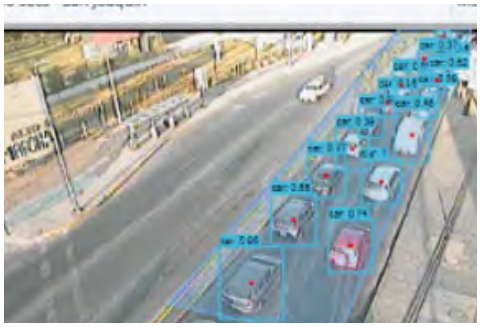
A city park can leverage dynamic policies to monitor after-hours intrusion risks. Real-time alerts can be sent to mobile devices, helping to improve response times and reduce vandalism incidents.

Unified City Command Center

Operators can use a single dashboard to view detections, alerts, and trends across all connected zones. This helps create stable OpEx costs for cloud orchestration and enable sustainable scaling across departments.



Alert – pedestrian crowding



Alert – traffic congestion

Alert – intersection obstruction

[1]Based on field deployment results in Santiago, Chile, where Blaize GSP-powered edge analytics achieved over 95% detection accuracy using existing analog and low-resolution IP cameras."

(Source: Santiago pilot data, Ministry of Transportation, in partnership with Blaize and VSaaS.ai.)

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Core Capabilities Delivered

Feature	Blaize + VSaaS.ai + OrionVM
Vehicle Detection & Classification	✓
Real-Time Traffic Flow Analysis	✓
Analog/IP Camera Enablement	✓
Detection in Low-Res/Backlit Conditions	✓
Congestion Heatmaps & Pattern Analysis	✓
Dashboards + BI Integration	✓
Edge Inference (Sub-5W)	✓
Edge-first, 5G-connected Deployment	✓
Rapid Field Installation (1 Hour)	✓

The Blaize AI Platform, working in concert with VSaaS.ai and OrionVM delivers more than just edge analytics. It provides a fully integrated edge-to-cloud AI solution that enables cities to see, decide, and act in real-time. With flexible deployment options, low-latency hosting via OrionVM MicroPoPs in Equinix, and field-proven video intelligence from VSaaS.ai, municipalities gain a scalable, future-ready foundation for traffic automation, public safety, and smart city transformation.

Blaize AI Platform: Building Blocks

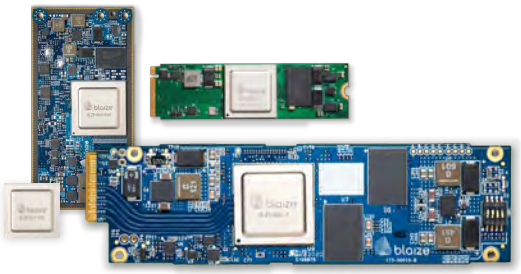
Full stack, Fully integrated Infrastructure

- Plug-and-play application onboarding
- Real-time incident visibility and response
- Self-managed topology (campus, city, facility)
- Rapid deployment with no-code AI application testing and rollout

Blaize can scale from a single site to regional or national infrastructure, **smart cities, campuses, facilities, and beyond.**

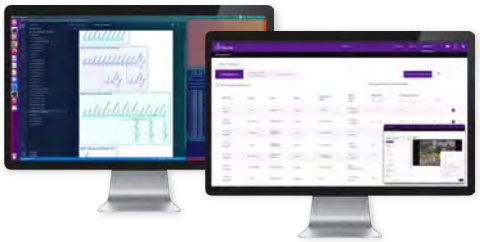
Blaize Graph-Native Architecture Processor

Blaize revolutionary Graph Streaming Processor (GSP®) architecture built to be fully programmable and efficient for AI applications.



Blaize Accelerators

SOC, embedded and accelerator platforms built for maximum system level performance and efficiency.



Blaize Software: SDK, AI Studio & Picasso

Comprehensive software portfolio – easily build, optimize and productize complete AI applications.

Blaize Systems*

A range of systems from deep edge devices to rack mount servers.

A unified AI platform delivering intelligence across Edge, Cloud, and Hybrid environments

*System configurations shown are representative examples. Actual implementations may vary based on specific requirements and deployment environments.

Getting Started

Take the next step toward a smarter, safer city

Modernizing urban operations doesn't have to start from scratch. With Blaize, you can build on what you have and create a foundation for what's next.

Schedule a Consultation

Assess your goals and create a tailored deployment plan.

Request a Demo

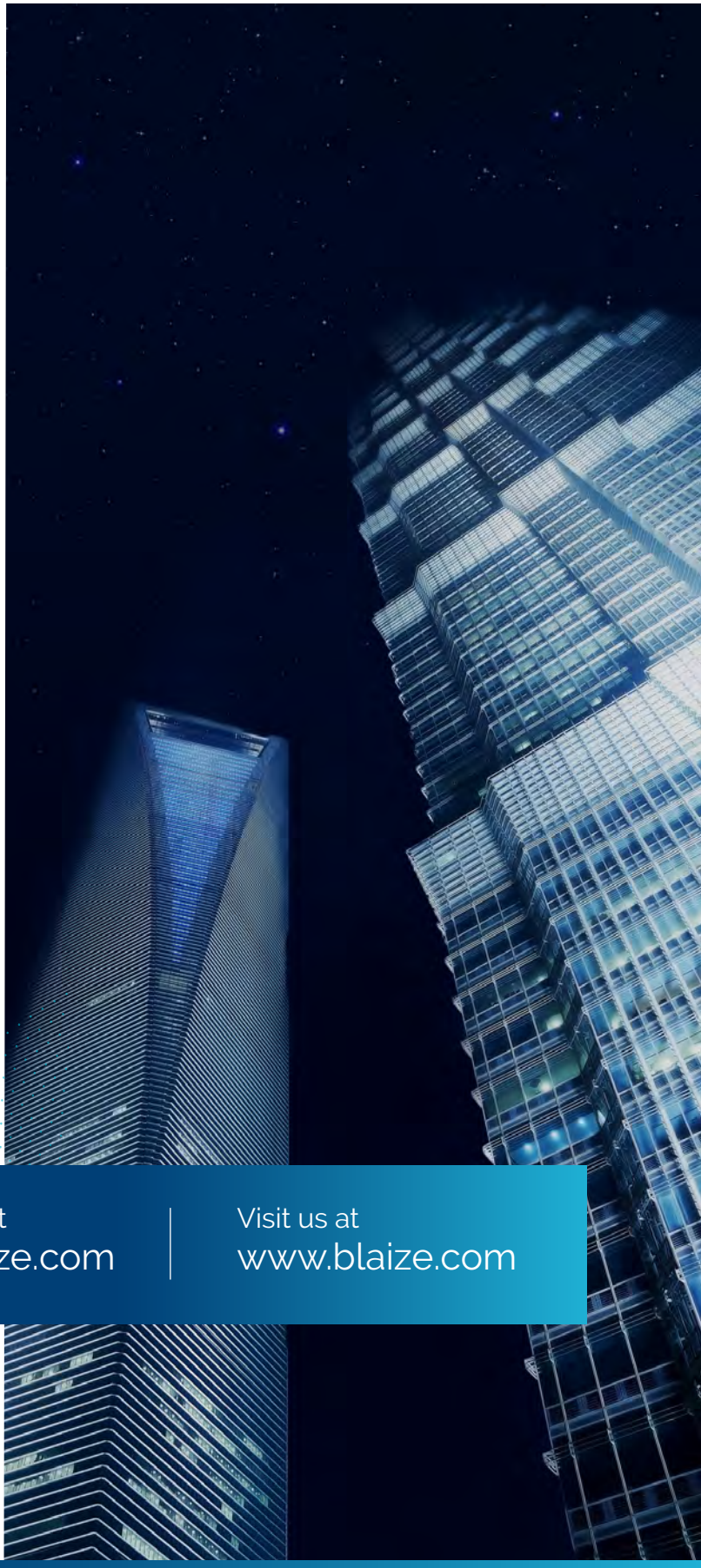
Experience real-time detections and intelligent orchestration in action.

Launch a Pilot Program

Validate performance at priority sites and prove ROI.

Plan for Citywide Scale

Develop a roadmap for phased expansion.



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