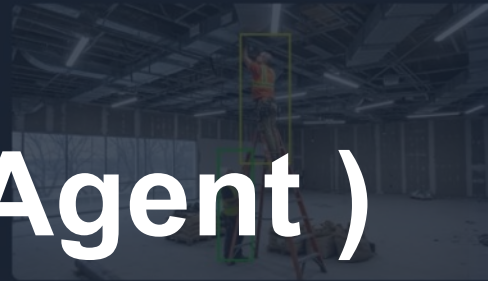


NVA (Nota Vision Agent)

Nota Vision Agent

Industrial Safety : PPE & Coworking

Monitor safety compliance, such as wearing PPE or collaboration rules



Industrial Safety : Forklift Collision Risk

Monitor the risk of collisions or accidents in the workplace



ITS : Traffic A

Discover a traffic ac
in real time



Smart City Surveillance

Detect public order issues or illegal dumping



Smart Building Security

Detect security or safety issues in the building



Retail Security

Detect security or sa



NVA (Nota Vision Agent): A Generative AI-Powered Vision Agent

NVA (Nota Vision Agent) is a Vision-Language Model (VLM)-powered surveillance solution that autonomously perceives and understands on-site situations.

It instantly detects and analyzes potential hazards from real-time video streams, dramatically enhancing safety management efficiency across industries.

Nota Vision Agent

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Key Features



Real-time Monitoring with Instant Alerts

- Accurately detects critical events from vast image and video datasets
- Delivers instant alerts to enable swift responses to hazards and prevent accidents
- Customizable alert thresholds to meet specific operational needs



Event Summaries and Analytical Reports

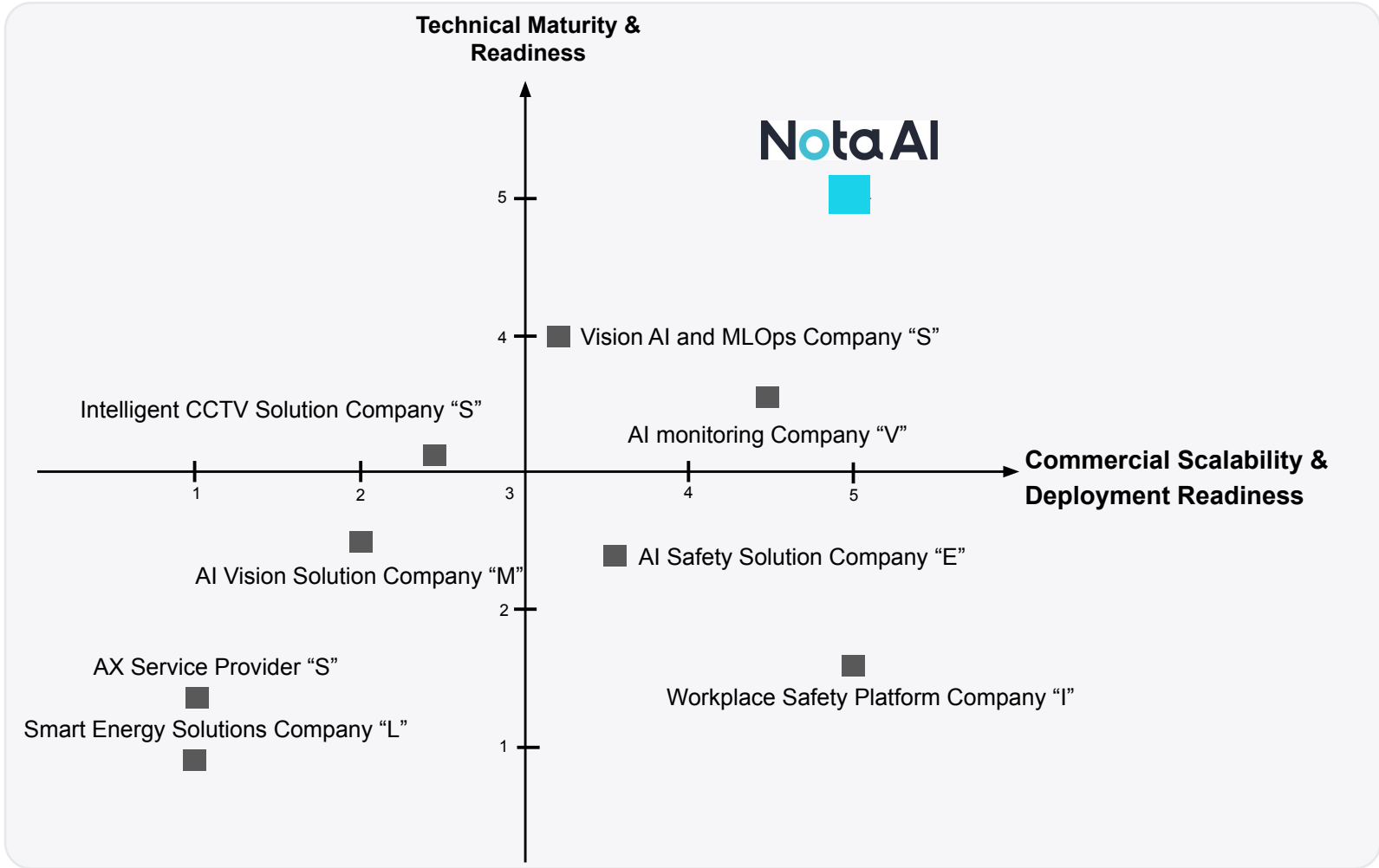
- Automatically generates analytical reports by identifying and assessing event occurrences
- Provides detailed insights into key indicators and trends based on monthly or weekly event data



Natural Language Q&A and Video Search

- Analyzes large-scale visual data—from historical archives to real-time streams—to provide precise answers to user queries in natural language
- Understands contextual relationships in complex scenarios, such as sequential condition violations, enabling logical reasoning and informed decision-making

Competitive Advantage



Multi-Model Vision AI Expertise

Ability to develop and deploy vision AI models—including VLM and CV—in the most effective combination for each scenario.

Edge Deployment Capability

Designed to operate reliably within constrained hardware and network environments, powered by proprietary AI compression and optimization technologies.

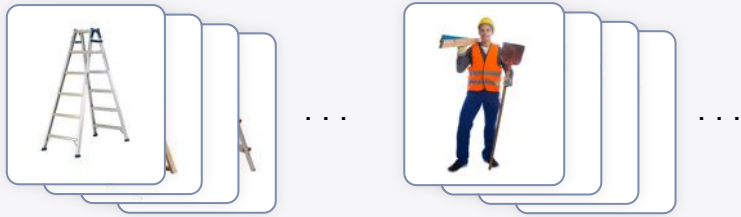
Proven End-to-End Delivery Experience

Validated through commercial deployments, scaling from PoC to full production systems.

Technical Capabilities | Differences Between CV and VLMs

Qualitative Differences in Training Data

CV

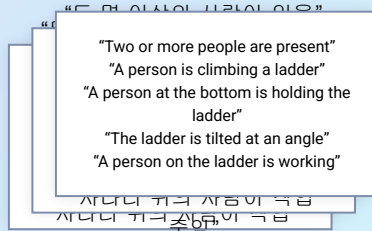


Primarily focuses on identifying and locating specific objects within an image.

VLM



+



Learns from both image and text data, capturing not only objects but also contextual information such as human actions, emotions, and locations.



Example Input Image

Detection Results

Ladder

Person

Ground

...

- ✓ Detects only trained objects
- ✓ limited understanding of surrounding context

The worker below has turned away from the ladder and stepped away, leaving the worker above working alone at height –
[a violation of safety regulations](#)

- ✓ Goes beyond simple object recognition to understand and describe the full meaning and context of an image

Technical Capabilities | Scenario-Based Model Application

#1

Well-defined object detection



- Detecting hazardous elements with distinct characteristic in specific areas
 - E.g. detecting localized flames within a specific area

Both **CV** and **VLM** appropriate

#2

Requiring value judgement



- Analyzing and predicting potential damage levels or spread areas based on current condition
 - E.g. severity analysis based on fire size and potential spread

Only **VLM**

#3

Behavior-based Hazard Detection



- Identifying potential risks such as SOP violations, negligence, and unsafe actions to proactively prevent incidents
 - E.g. operating without safety equipment (exhaust systems or gas detectors) activated; Improper handling or storage of hazardous materials

Nota AI is proficient in both CV and VLM technologies, applying the most suitable approach based on client needs and environmental condition.

Customer Benefit



Achieving High Detection Performance through Versatile Model Combination

- Combines various vision AI technologies including VLM, Visual Grounding, and CV to **address a wide range of detection requirements**
- **Customizes model configurations** based on site-specific characteristics and detection complexity



Maximizing Business Productivity through Easy Installation and Deployment

- **Compatible with existing CCTV and video management systems** without the need for additional equipment purchases
- **Can be applied on-site within 2–3 weeks without complex pre-training**, with support for channel expansion according to operational environments

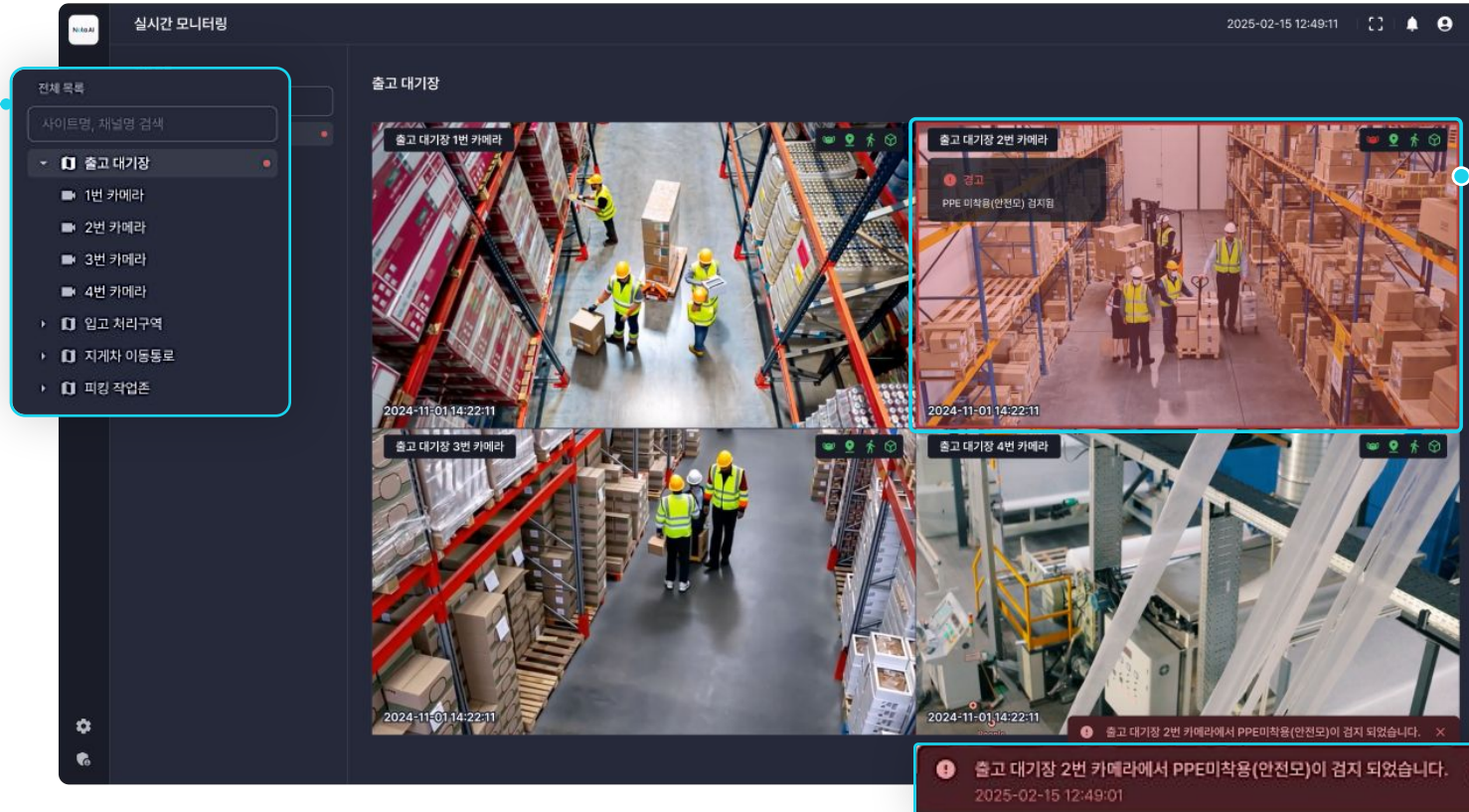


Improving Operational Efficiency

- **Reduces administrative workload** with features such as automated analysis reports and video search, enhancing operational efficiency
- **Enables efficient personnel allocation** through automated CCTV monitoring

NVA In Action | Real-Time Monitoring

Searchable List of
Hazard Detection Zone
and Channels



Real-Time Hazard Alerts

- Identifying the zone and type of incident
- With the integrated alert system, proactive preventative measure could be implemented
- Enables quick response by monitoring personnel

NVA In Action | Dashboard



NVA In Action | Rule Setting

List of Detection Tasks

- Easily search existing rules

Monitoring Specific Hazard Zone

- Allows setting customizable zones for focused analysis of collected video and images
- E.g. pedestrian-only or restricted-access areas

The screenshot shows the 'Industrial Safety' dashboard with the 'Rule Configuration' tab selected. The sidebar on the left contains a search bar and a list of rules: 'NVA_01_PPE', 'PPE Safety Rule', 'NVA_02_Forklift', and 'Forklift Violation Detection Rule'. The main panel displays the configuration for 'NVA_01_PPE - Action Violation Detection Rule'. The 'Basic settings' section includes 'Cropping Padding' (5), 'Crop type' (People), 'Number of image sequence' (0), and 'Frame drop' (0). The 'ROI settings' section shows 'Assistant Detection ROI'. The 'Prompt settings' section contains a text area with the following content:

```
<image> Analyze this CCTV footage and:  
  
Ladder Safety:  
- Detect if anyone is working on a ladder  
- Verify if there's a person supporting the ladder  
- Note if the support person is actively holding/steadying the ladder  
  
Provide response in this format:  
- Ladder Safety: [Complied/Not Complied]  
* If Not Complied: [Brief explanation of the reason]
```

Video Analytics Setting

Add or Edit Detection Rules

- Enter hazard detection requirements in natural language prompts
- Significantly faster rule creation and application compared to traditional CV solutions
- No coding required

NVA In Action | Incident Search

Search Specific Incident

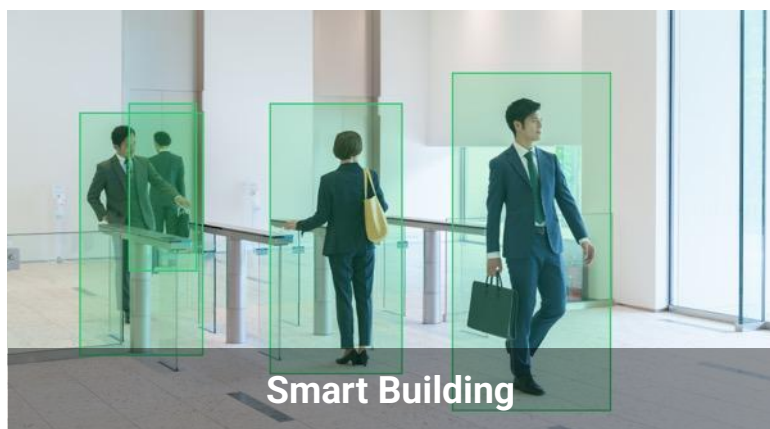
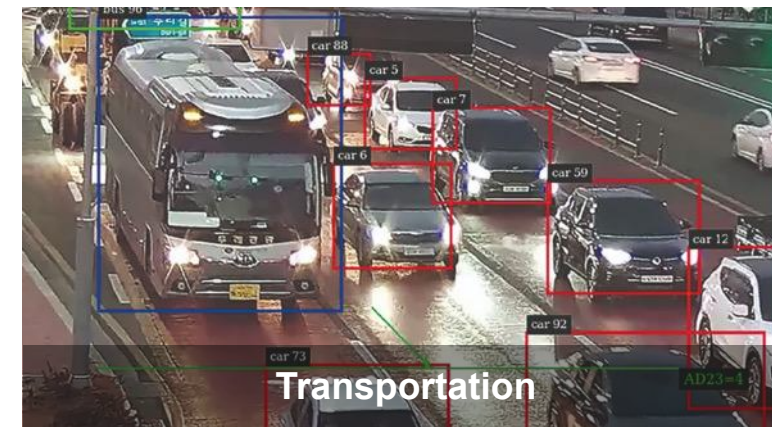
- Search specific events by applying filters (e.g. time, type of incident, etc) from all collected footage
- Supports natural language search
- Eliminates the need for manual review of all footage

The screenshot displays the NVA Incident Search interface. At the top, there are filters for time range (2025-02-24 ~ 2025-03-10), site (전체), event type (전체), and severity level (전체). A search button labeled '정렬: 최신순' is also present. Below the filters is a table of incidents. The table has columns for time, site name, channel name, event type, severity level, and status. The first row is highlighted, showing an incident at 2025-01-17 19:50:01, site '출고 대기장', channel '2번 카메라', event '컨베이어 벨트 침입', severity '경고', and status '확인'.

On the right side, a detailed view of the selected incident is shown. It includes the following information:

- 발생 정보**
 - 일시: 2025-01-17 19:50:01
 - 사이트명: 출고 대기장
 - 채널명: 2번 카메라
 - 위험 레벨: 경고
 - 확인 상태: 확인
 - 비고: 작성된 내용이 없습니다.
- 이벤트 확인**
 - 검지 기록: [Video thumbnail showing workers in a warehouse]

Applicable Industries



Use Cases - Industrial Safety

Chemical & Textile Manufacturer “K”

Challenge

- Traditional monitoring systems lack the ability to interpret complex worker behaviors
- Personal protective equipment (PPE) violations and unsafe behaviors often go unnoticed until incidents occur



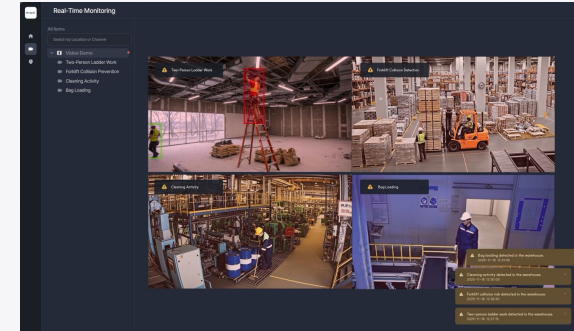
Solution

- Equipment Interlock automatically halts machinery when workers enter dangerous zones
- SOP Compliance Monitoring detects violations such as improper cleaning, incorrect loading, and floor-level repackaging through VLM-powered analysis



Result

- Proactively detects and blocks human error-based hazards, preventing accidents at the source
- Achieved F1 Score of 85+ for SOP compliance accuracy across all tested tasks



Use Cases - Surveillance

Municipal Government "G"

Challenge

- Illegal dumping is difficult to monitor consistently across widespread public areas
- Smoke and burning activities often go undetected until fire incidents escalate



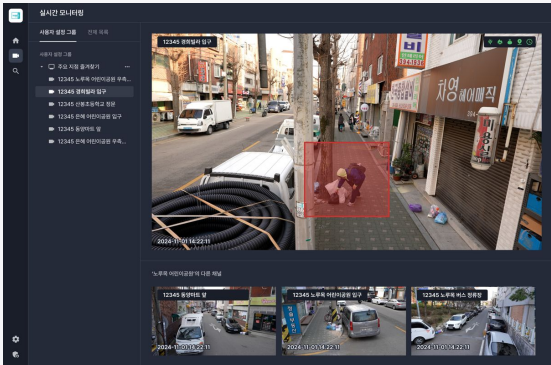
Solution

- Edge-deployed NVA detects smoke and burning activities to prevent fire incidents in real-time
- Contextual video intelligence identifies illegal dumping behaviors that traditional monitoring systems miss



Result

- Improved response efficiency for public safety incidents
- Enabled consistent monitoring while maintaining strict privacy and data governance compliance



Use Cases - Transportation

Abu Dhabi Integrated Transport Centre (ITC)

Challenge

- Rapid detection of road incidents is critical across vast highway networks with high-speed traffic
- Cloud-dependent systems pose challenges in latency, operational costs, and data security compliance



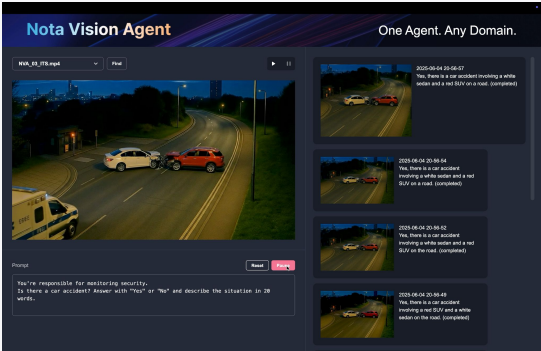
Solution

- VLM-powered NVA detects road incidents and anomalies in real-time directly on edge devices
- On-device processing ensures minimal latency while maintaining strict data privacy and security standards

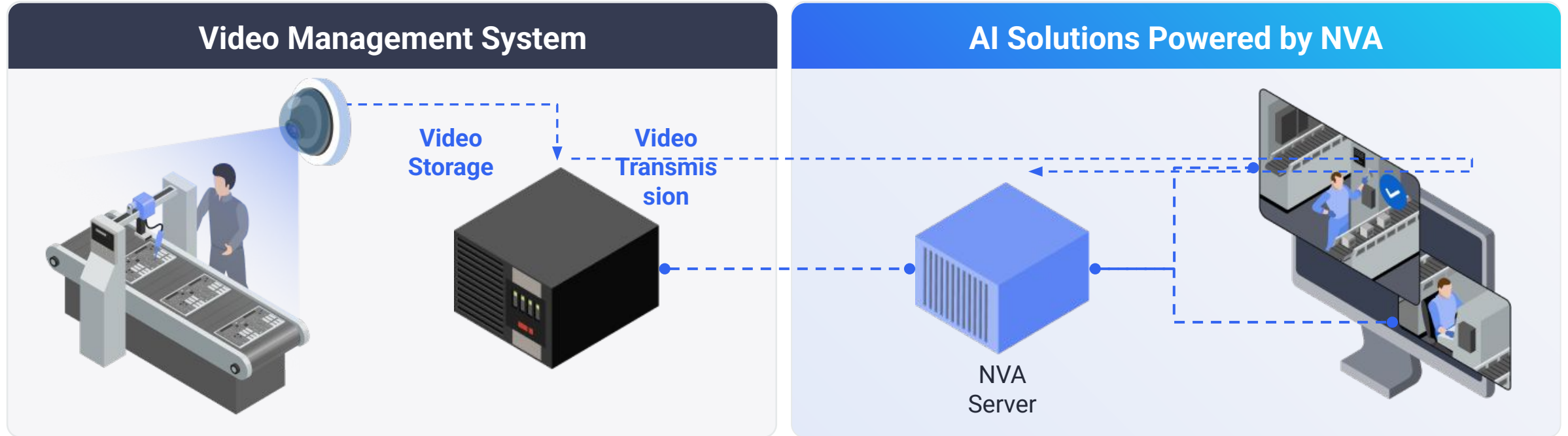


Result

- Achieved 95%+ accuracy in road incident detection during PoC validation
- Reduced cloud dependency, lowering operational costs while enabling real-time response



Pipeline



- **No additional equipment required** – Easily integrate by connecting the 'NVA server' to existing video management systems.
- While conventional computer vision (CV) solutions require large-scale data training and take 3–6 months for deployment, the Vision-Language Model (VLM)-based **NVA can be rapidly implemented in the field within just 2–3 weeks**, without complex pre-training processes.

