

# NVA

Nota Vision Agent

# 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

One Agent. Any Domain.

#### 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 Accident Report

Discover a traffic accident and create a step-by-step report 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 safety issues in the store



# Key Features

## Real-time Contextual Scene Understanding



- Enables proactive awareness and accurate detection of previously unseen anomalies
- Delivers instant alerts to enable swift response and prevent accidents

## Automated Prompt-driven Intelligence



- Defines detection scenarios through natural language prompts
- Supports intuitive video search and auto-generated reports, reducing manual workload


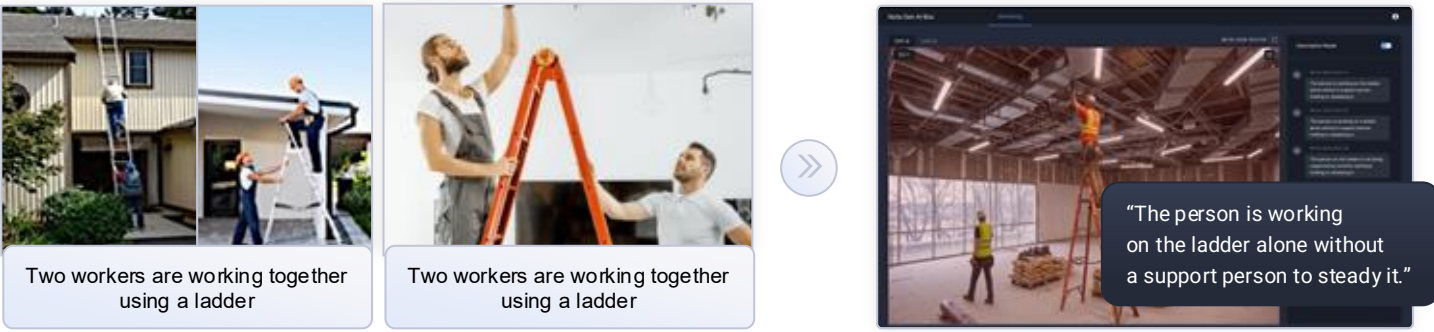
## Edge-oriented Execution



- Processes video data entirely on-site, ensuring privacy and compliance
- Delivers low-latency inference on resource-constrained hardware

# Technical Capabilities

# Combined Strengths of CV and VLM

	Detection Methodology	Strengths
CV	 <p>Ladder</p> <p>Person</p>	<ul style="list-style-type: none"><li>High-speed, high-precision detection of trained objects</li><li>Reliable for repetitive, rule-based detection tasks</li></ul>
VLM	 <p>Two workers are working together using a ladder</p> <p>Two workers are working together using a ladder</p> <p>"The person is working on the ladder alone without a support person to steady it."</p>	<ul style="list-style-type: none"><li>Interprets complex situations and environmental context</li><li>Ideal for behavior and judgment-based detection</li></ul>

**Proficient in Both CV and VLM**, Nota AI Delivers Optimal Solutions Tailored to **Each Customer's Needs**



# Technical Capabilities

# Scenario-Based Model Application

#1

## Well-Defined Object Detection



Detecting hazardous elements with distinct characteristic in specific areas

Both **CV** and **VLM** Appropriate

#2

## Requiring Value Judgement



Analyzing and predicting potential damage levels or spread areas based on current condition

VLM Required

#3

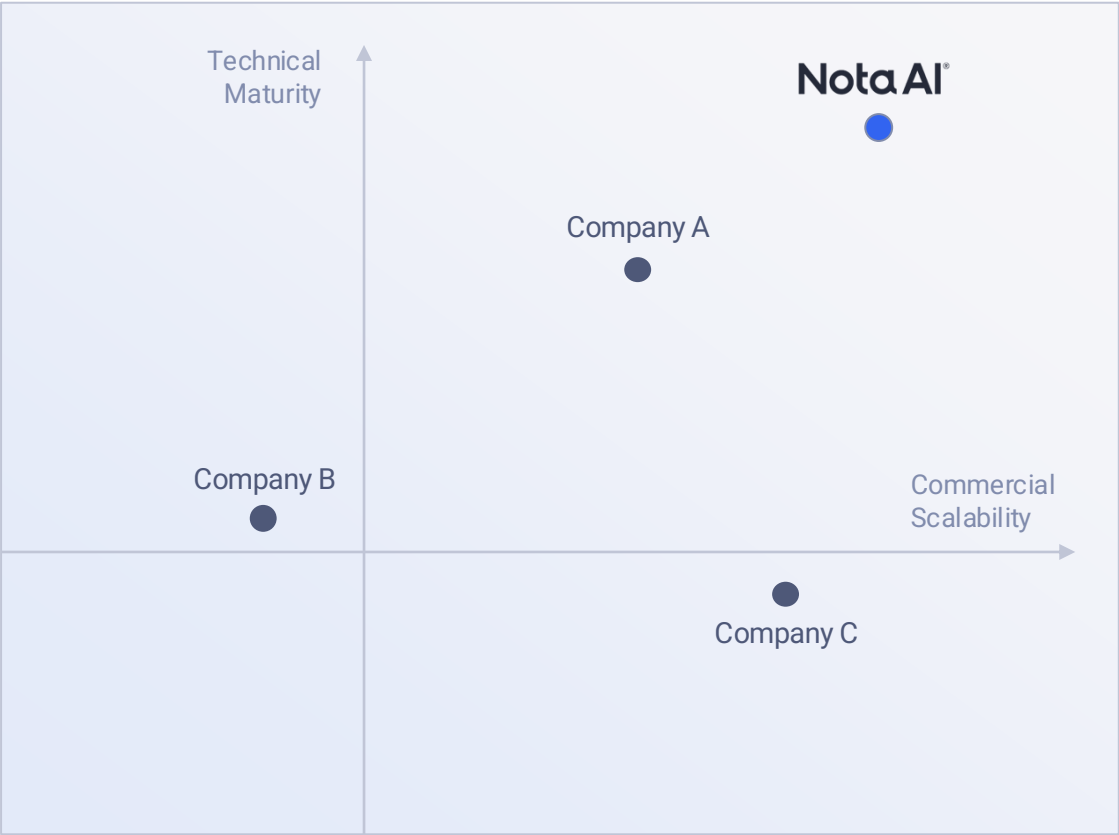
## Behavior-Based Hazard Detection



Identifying potential risks such as SOP violations, negligence, and unsafe actions to proactively prevent incidents

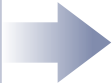
# Competitive Advantage

# Market Positioning



### Evaluation Criteria

- \* **Technical Maturity:** Expertise in developing and deploying diverse Vision AI models
- \* **Commercial Scalability:** Proven ability to deliver end-to-end solutions from PoC to full-scale production



Evaluation Criteria		Nota AI	A	B	C
Technical Maturity	VLM Capability	✓	△	✗	✗
	Vision Model Versatility	High	Limited	Low	Limited
	Edge Deployment	✓	△	✓	✗
Commercial Scalability	Commercial Deployment	High	High	High	Limited
	End-to-End Delivery	✓	△	△	✗
	PoC-to-Production	✓	✓	✓	△

### Legend

- ✓ Available  
✗ Not available  
△ Partial
- High: Multiple commercial deployments  
Limited: Few deployments  
Low: PoC-level only

## Competitive Advantage

## Key Differentiators



### 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.

# Customer Benefit



## Achieving High Detection Performance

- Combines various vision AI technologies to address a wide range of detection requirements
- Customizes model configurations based on site-specific characteristics and detection complexity



## Maximizing Business Productivity

- 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



## Improving Operational Efficiency

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



# NVA In Action

## Real-Time Monitoring

The screenshot displays the NVA Real-Time Monitoring interface. On the left, a sidebar titled '실시간 모니터링' (Real-time Monitoring) contains a '현재 목록' (Current List) section with a search bar and a list of hazard detection zones and channels. The main area shows four camera feeds labeled '출고 대기장' (Loading Area) with sub-titles '출고 대기장 1번 카메라', '출고 대기장 2번 카메라', '출고 대기장 3번 카메라', and '출고 대기장 4번 카메라'. The feeds show workers in a warehouse. A red alert banner at the bottom right states: '출고 대기장 2번 카메라에서 PPE미착용(안전모)이 검지 되었습니다.' (PPE not worn (safety helmet) detected in the 2nd camera of the loading area). The timestamp is 2025-02-15 12:49:01.

**Searchable List of Hazard Detection Zone and Channels**

- 출고 대기장
- 1번 카메라
- 2번 카메라
- 3번 카메라
- 4번 카메라
- 입고 처리구역
- 지게차 이동통로
- 피킹 작업존

**Real-Time Hazard Alerts**

- Enables proactive safety measures through integrated real-time alerts
- Allows monitoring personnel to respond immediately to detected hazards

# NVA In Action

# Dashboard



Industrial hazards are categorized, tracked, and converted into data

Displays the precise location of each hazardous incident

Visualizes and analyzes incident occurrence data by month and category

# NVA In Action

# Rule Setting

The screenshot displays the 'Industrial Safety' dashboard with a sidebar on the left and a main configuration area on the right. The sidebar, titled 'All List', contains a search bar and a list of rules: 'NVA\_01\_PPE' (expanded to show 'Action Violation Detection Rule' and 'PPE Safety Rule'), 'NVA\_02\_Forklift' (expanded to show 'Forklift Violation Detection Rule'), and 'Forklift Violation Detection Rule'. A red arrow points from the 'List of Detection Tasks' text to the sidebar. The main area shows the configuration for 'NVA\_01\_PPE - Action Violation Detection Rule'. It has two tabs: 'Basic settings' (selected) and 'ROI settings'. The 'Basic settings' tab includes fields for 'Cropping Padding' (5), 'Crop type' (People), 'Number of Image sequence' (0), and 'Frame drop' (0). A red arrow points from the 'Video Analytics Setting' text to the 'Crop type' field. The 'ROI settings' tab includes a section for 'Assistant Detection ROI'. Below this is the 'Prompt settings' section, which 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]'. A red arrow points from the 'Add or Edit Detection Rules' text to the 'Prompt settings' text area. The 'Monitoring Specific Hazard Zone' text is also present, with a red arrow pointing to the 'Frame drop' field.

**List of Detection Tasks**

- Easily search existing rules

**Video Analytics Setting**

**Monitoring Specific Hazard Zone**

- Allows setting customizable zones for focused analysis of collected video and images

**Add or Edit Detection Rules**

- Define detection rules using natural language prompts
- No coding required

# NVA In Action

# Incident Search

## Search Specific Incident

- Search specific events by applying filters from all collected footage
- Supports natural language search
- Eliminates the need for manual review of all footage

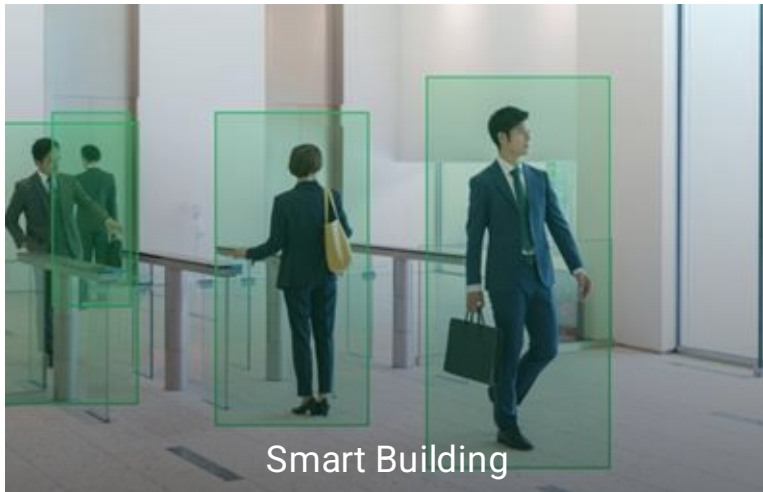
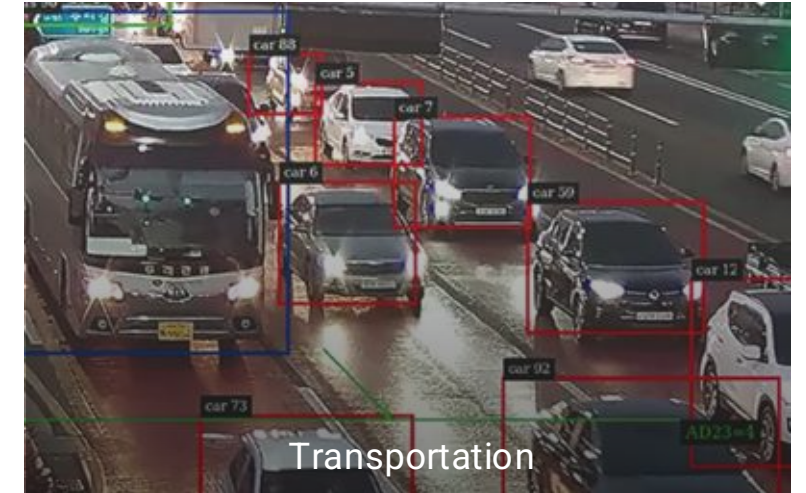
The screenshot displays the NVA Incident Search interface. At the top, there are filters for time range (2025-02-24 ~ 2025-03-10), site (사이트: 전체), event (이벤트: 전체), and risk level (위험 레벨: 전체). A search button (정렬: 최신순) is also present. Below the filters is a table of incidents. The table has columns for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

일시	사이트명	채널명	위험 이벤트	위험 레벨	확인 상태
2025-01-17 19:50:01	출고 대기장	1번 카메라	건설기계 충돌 예방	위험	미확인
2025-01-17 19:50:01	출고 대기장	2번 카메라	컨베이어 벨트 침입	경고	확인
2025-01-17 19:50:01	출고 대기장	1번 카메라	안전모 미착용	주의	확인
2025-01-17 19:50:01	지게차 이동통로	1번 카메라	안전모 미착용	주의	확인
2025-01-17 19:50:01	출고 대기장	3번 카메라	안전모 미착용	주의	확인
2025-01-17 19:50:01	피킹 작업존	2번 카메라	안전모 미착용	주의	확인
2025-01-17 19:50:01	입고 처리구역	4번 카메라	안전모 미착용	주의	확인
2025-01-17 19:50:01	출고 대기장	4번 카메라	안전모 미착용	주의	확인
2025-01-17 19:50:01	지게차 이동통로	2번 카메라	안전모 미착용	주의	확인
2025-01-17 19:50:01	출고 대기장	2번 카메라	안전모 미착용	주의	확인
2025-01-17 19:50:01	입고 처리구역	3번 카메라	안전모 미착용	주의	확인

On the right, a detailed view of the selected incident '컨베이어 벨트 침입' is shown. It includes the event time (2025-01-17 19:50:01), site name (출고 대기장), camera name (2번 카메라), event name (컨베이어 벨트 침입), risk level (경고), and status (확인). Below this, there is a video player showing the incident footage.



# Applicable Industries






Use Cases

Industrial Safety

Chemical & Textile Manufacturer “K”

Challenge	Solution	Result
<p><b>Problem 01</b></p> <p>Traditional monitoring systems lack the ability to interpret complex worker behaviors</p>	<p><b>Equipment Interlock</b></p> <p>as a potential safety mechanism to halt machinery in hazardous zones</p>	<div><div><p><b>Proactive Accident Prevention</b></p><p>Proactively detects and blocks human error-based hazards, preventing accidents at the source</p></div><div><p><b>High SOP Compliance Accuracy</b></p><p>Achieved F1 Score of 85+ for SOP compliance accuracy across all tested tasks</p></div></div>
<p><b>Problem 2</b></p> <p>Personal protective equipment (PPE) violations and unsafe behaviors often go unnoticed until incidents occur</p>	<p><b>SOP Compliance Monitoring</b></p> <p>detects violations such as improper cleaning, incorrect loading, and floor-level repackaging through VLM-powered analysis</p>	

Use Cases

Surveillance

Municipal Government "G"

Challenge

Problem 01

Illegal dumping is difficult to monitor consistently across widespread public areas

Problem 2

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

Enhanced Public Safety Response

Improved response efficiency for public safety incidents

Privacy-Compliant Monitoring

Enabled consistent monitoring while maintaining strict privacy and data governance compliance



Use Cases

Transportation

UAE Roads and Transport Authority

Challenge

Solution

Result

Problem 01

Rapid detection of road incidents is critical across vast highway networks with high-speed traffic

Problem 2

Cloud-dependent systems pose challenges in latency, operational costs, and data security compliance

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

High Incident Detection Accuracy

Achieved 95%+ accuracy in road incident detection during PoC validation

Operational Cost Efficiency

Reduced cloud dependency, lowering operational costs while enabling real-time response



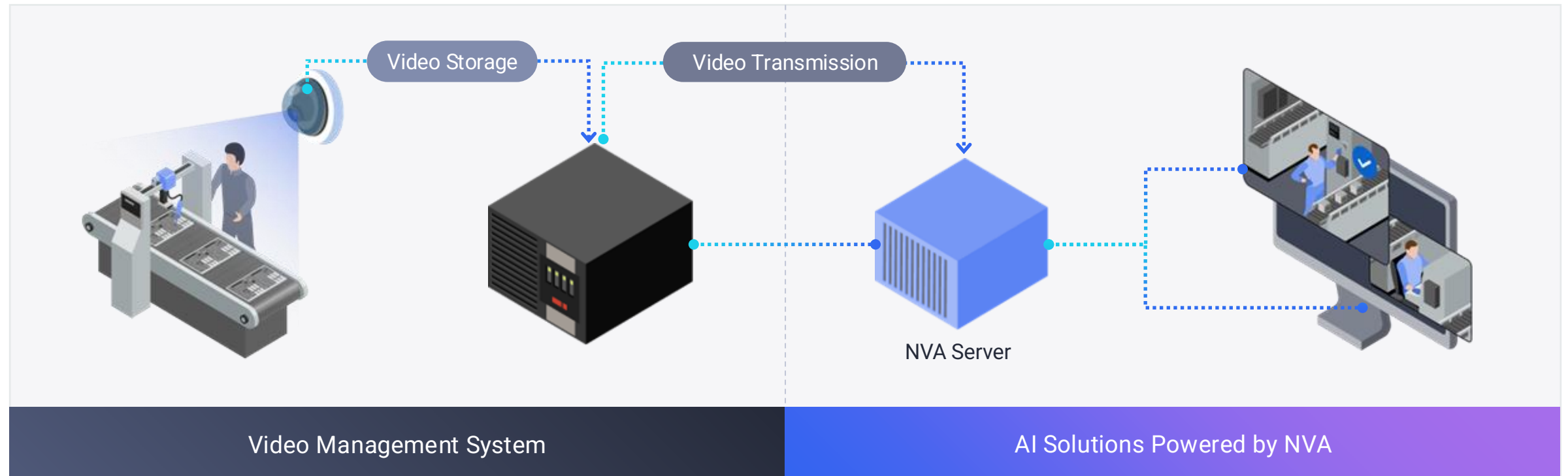
# Pipeline

## No additional equipment required

Easily integrate by connecting the 'NVA server' to existing video management systems.

## Rapid On-Site Deployment

NVA can be rapidly implemented in the field within just 2–3 weeks, without complex pre-training processes.



The background is a deep blue gradient with a large, smooth, black curved shape on the left side. From the point where the black shape meets the blue background, a series of bright, glowing blue and cyan light rays or streaks emanate, fanning out towards the right side of the image. The overall effect is futuristic and high-tech.

# Nota AI