

KenVision for Shell Refineries

AI Video Analytics Use Cases

Safer Operations. Smarter Monitoring. Real-Time Industrial Intelligence.

KenVision is an AI-powered video analytics platform designed for refinery and industrial environments. It transforms existing CCTV infrastructure into an intelligent operational monitoring system, helping refinery operators improve safety, security, compliance, and operational efficiency in real time.

KenVision enables refinery operators to monitor critical operations, detect safety risks, optimize workforce movement, and strengthen site security — all through AI-driven analytics using existing video infrastructure without requiring new hardware.

1. PPE Compliance Monitoring

Automatically detect whether workers are wearing required safety equipment such as helmets, safety jackets, gloves, and protective eyewear.

2. Restricted Zone Access Detection

Monitor hazardous or high-security refinery zones and immediately alert security teams when unauthorized personnel enter restricted areas.

3. Worker Safety Monitoring

Detect unsafe worker behavior, falls, prolonged inactivity, or unsafe proximity to hazardous equipment and machinery.

4. Fire & Smoke Detection

Identify smoke, fire, and abnormal heat-related visual patterns in real time to improve emergency response times and reduce operational risks.

5. Vehicle & Equipment Tracking

Track refinery vehicles, forklifts, and operational equipment movement to improve logistics coordination and site efficiency.

6. Perimeter Security Surveillance

Strengthen refinery perimeter protection with real-time intrusion detection and anomaly monitoring across sensitive zones.

7. Operational Workflow Monitoring

Monitor workforce movement and operational activity across production zones to improve efficiency and reduce downtime.

8. Occupancy & Crowd Monitoring

Track occupancy levels in operational areas to maintain safe workforce distribution during shifts, maintenance, and shutdown activities.

9. Incident Investigation & Audit Support

Use AI-enhanced video analytics for rapid incident reviews, compliance reporting, and root-cause investigations.

10. Loading Bay & Tanker Monitoring

Monitor tanker loading and unloading operations to reduce delays, improve compliance, and strengthen operational safety.

11. Shift & Attendance Visibility

Track workforce presence, movement patterns, and shift transitions across refinery operations.

12. Environmental & Safety Risk Alerts

Detect unusual activity patterns, congestion, or safety violations before incidents escalate into operational risks.

13. Centralized Multi-Site Monitoring

Enable centralized monitoring and analytics across multiple refinery locations using a unified dashboard.

Key Capabilities

Capability	Operational Benefit
PPE Detection	Improve worker safety compliance
Restricted Zone Monitoring	Prevent unauthorized access

Fire & Smoke Detection	Enable faster emergency response
Vehicle Tracking	Improve operational logistics
Occupancy Monitoring	Maintain safe workforce distribution
Perimeter Security	Strengthen refinery site protection
Workflow Analytics	Optimize operations and reduce downtime
Centralized Dashboard	Monitor multiple sites in real time

Business Benefits

- Improve Refinery Safety through real-time AI-powered monitoring.
- Reduce Operational Risks with proactive alerts and anomaly detection.
- Strengthen Security across restricted and high-risk zones.
- Improve Compliance using automated monitoring and audit-ready analytics.
- Optimize Workforce Efficiency with operational visibility and movement tracking.
- Enable Faster Incident Response through intelligent real-time alerts.

KenVision empowers refinery operators with intelligent video analytics that enhance safety, improve operational efficiency, and strengthen security — helping industrial facilities operate smarter, safer, and more efficiently using their existing infrastructure.