OVERVIEW OF INDUSTRIAL SOLUTIONS

FirstStep.ai

Solution Categories

Production Intelligence

Optimise production with AI-driven quality control.

Monitoring Intelligence

Forecast and prevent downtime with AI-powered monitoring.

Safety Intelligence

Ensure safety across your plant with AI-enhanced monitoring.

Operations Intelligence

Streamline shift-based operations with AI assistance.

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Full Crate Inspector

Product Summary

The FirstStep.ai Full Crate Inspector (FCI) revolutionises crate inspection using advanced imaging technology, high-speed processing, and AI-powered accuracy. Designed for bottling companies, it ensures efficiency, accuracy, and operational control in high-volume operations.

Benefits

Handles up to 7,200 crates/hour, reduces manual interventions, enhances traceability, and ensures precise quality control. Delivers real-time insights, supports seamless adaptability, and enables data-driven decisions for improved productivity.

Unique Selling Points

1. **Advanced Technology:** Combines cameras, computer vision, and AI for detailed inspection.
2. **Non-invasive Installation:** Overhead cameras eliminate conveyor belt integration.
3. **Brand Adaptability:** Automatically handles brand changes without manual adjustments.
4. **Real-Time Reporting:** Tracks production with detailed, shift-based, and daily reports.

Key Features

- Processes up to 7,200 crates/hour with high accuracy and LED lighting.
- Central image storage for audits and traceability.
- AI-powered detection of dirt, broken bottles, and foreign objects.
- Optional features include crate rejection, dual-lane support, and failover databases.

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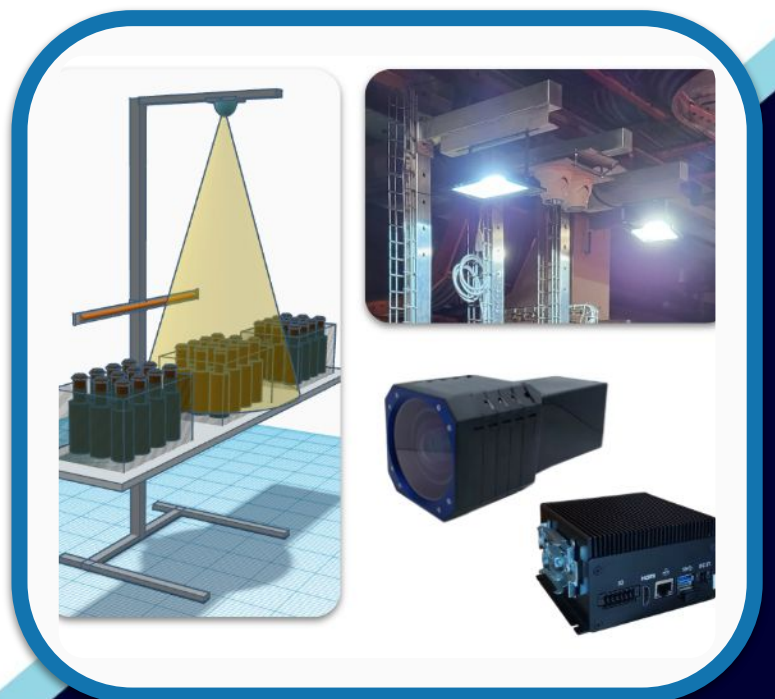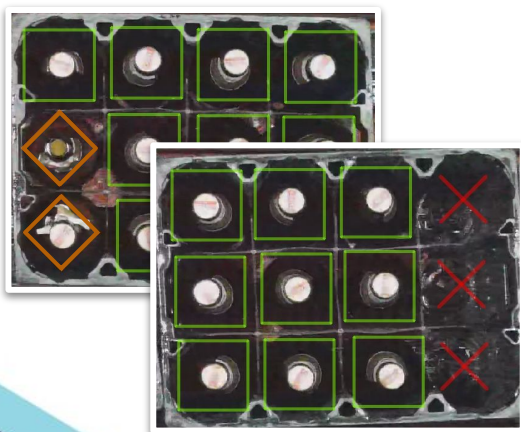
Closed Loop Rejection

Product Summary

Closed-loop Rejection provides real-time product rejection directly from the conveyor belt using AI-powered quality inspection. Integrated with the Full Crate Inspector (FCI), it ensures precise and automated quality control by detecting subpar products and confirming successful rejections.

Benefits

Delivers accurate real-time rejection, enhances quality assurance, ensures automated feedback loops, and reduces manual intervention. Supports seamless integration with existing systems and provides reliable, data-driven quality control for improved efficiency.

Unique Selling Points

1. **AI Integration:** Uses AI-powered inspection for precise rejection of defective products.
2. **Closed-loop Feedback:** Confirms successful rejections with real-time monitoring.
3. **Seamless Compatibility:** Designed as an add-on for the FCI for enhanced functionality.
4. **Reliable Automation:** Ensures consistent quality control with minimal manual input.

Key Features

- Real-time rejection linked to FCI inspection using EDGE computing and SCADA/DCS systems.
- Monitors rejector actions to confirm successful rejection for feedback accuracy.
- Requires direct integration with conveyor systems, ensuring precise operation.
- Installed by system integrators for robust and reliable functionality.

Predictive Analytics
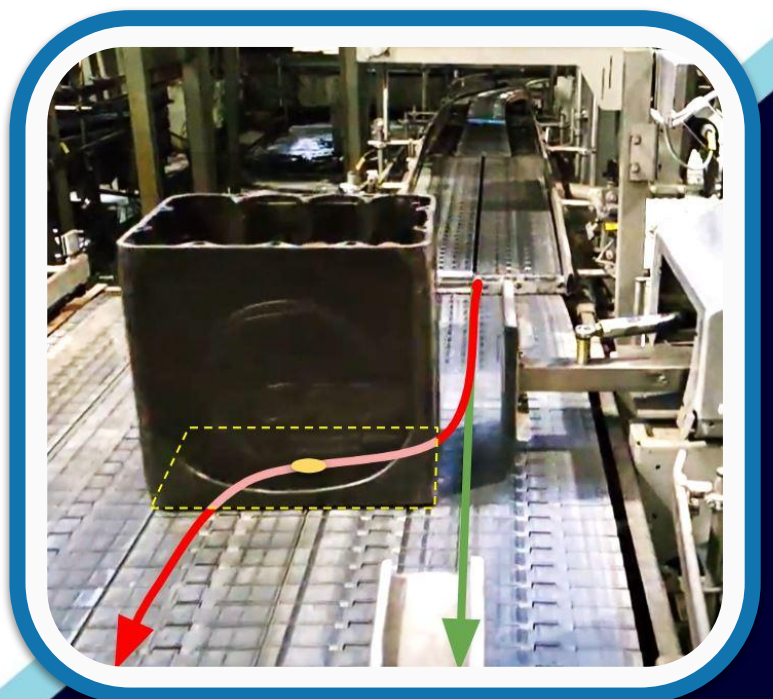
Product Summary

The Condition Monitoring system helps businesses predict equipment failures before they happen, providing up to **24-hour advance warnings** on performance issues. By identifying potential faults early, operations teams can prevent unplanned downtime, reduce costs, and keep production running smoothly.

Benefits

With **real-time monitoring and AI-driven predictions**, operators can take action before failures occur, avoiding costly breakdowns and improving efficiency. Running hourly on Windows Servers, the system continuously refines its accuracy by analysing historical data. Its lightweight, scalable design ensures seamless integration across different industrial environments.

Unique Selling Points

1. **Real-Time Monitoring:** Runs continuously on an on-premise server.
2. **Predictive Insights:** Detects potential failures up to 24 hours in advance using AI.
3. **Self-Improving AI Models:** AI models autonomously improve by analyzing historical performance data.
4. **Lightweight & Scalable:** Deployed on an on-premise virtual server without any additional hardware.

Key Features

1. **Real-time Tag Monitoring:** Continuous data acquisition and analysis from live data streams.
2. **24-Hour Time-to-Failure Forecasts:** Estimated time-to-failure to prioritize maintenance activities.
3. **Anomaly Detection:** Early identification of deviations from expected asset behavior.
4. **Visualization of Production Data:** Graphical representation of operational data for enhanced analysis.
5. **Limits & Alarms:** Configurable alerts and notifications for performance deviations.
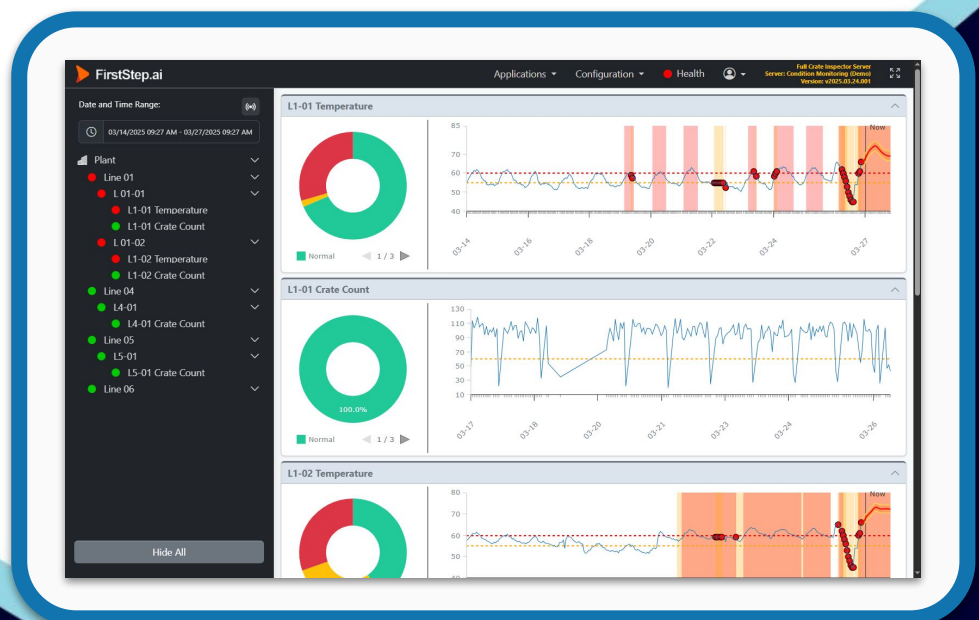
Vehicle and Personnel Monitoring

Product Summary

The Safety Intelligence system **upgrades existing CCTV networks** with AI-powered monitoring, adding advanced safety and security features without replacing hardware. It enables real-time person tracking, fall detection, PPE compliance, and vehicle monitoring, helping businesses create safer, more compliant workplaces.

Benefits

By transforming standard CCTV cameras into AI-enabled safety monitors, businesses can enhance safety and prevent incidents using their existing CCTV network—no additional cameras required. The system seamlessly integrates over LAN and requires only a simple GPU-enabled hardware module, delivering powerful real-time monitoring without disrupting current infrastructure.

Unique Selling Points

1. **Simple Installation:** Requires only a GPU-enabled hardware module, with no complex setup
2. **No Additional Cameras**: Transform existing CCTV cameras into AI-enabled monitoring tools.
3. **Real-Time Monitoring**: Monitor people, vehicles, productivity and restricted areas.

Key Features

- AI-driven person tracking, PPE compliance, and fall detection.
- Vehicle monitoring with intelligent speed estimation.
- Collision detection and hazardous area monitoring to prevent accidents.
- Plug-and-play setup - works with existing CCTV feeds, no additional cameras needed.

Early Fire Detection

Product Summary

Early Fire Detection provides **real-time fire monitoring** to enhance safety in industrial facilities and forested areas. Using AI-powered analysis and camera infrastructure, the system detects fires early, sends alerts, and provides critical data to first responders, ensuring faster emergency responses and reduced damage.

Benefits

Enables rapid fire detection, enhances safety, reduces response times, and minimises damage. Supports real-time tracking, provides actionable alerts, and integrates seamlessly with existing or new camera systems for flexible deployment.

Unique Selling Points

1. **AI-Powered Detection:** Continuously monitors for fires, detecting smoke or flames in real time.
2. **Instant Alerts:** Sends SMS/email notifications within seconds of fire confirmation.
3. **Versatile Deployment::** Compatible with cloud-based and on-premise systems.
4. **Critical Data Sharing:** Provides fire size, location, wind direction, and more for effective response.

Key Features

- Real-time monitoring with AI-enabled fire and smoke detection.
- Integrates with existing PTZ cameras or includes new camera setups.
- Cloud-based portal for live tracking and response coordination.
- Notifications delivered via SMS and email to first responders.
- 5G and Starlink modem compatible.

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AI Operator Assistant

Product Summary

The Operator Assistant is an AI-powered tool that gives operators instant access to critical information. It replaces manuals with a smart, interactive assistant that answers questions in real time. Designed for desktop and mobile, it streamlines training, troubleshooting, and daily operations.

Benefits

Operators get quick, clear answers without searching through manuals or waiting for help. This reduces training time, minimises downtime, and improves efficiency. Running **completely offline** on a **secure**, **on-premise server**, it ensures data privacy while delivering fast, reliable support.

Unique Selling Points

1. **Offline and On-Premise:** Runs on a GPU-powered device installed on-site, no internet connection.
2. **Secure:** Keeps all data within the company network, ensuring complete privacy.
3. **Accurate:** Operators receive clear, relevant answers with links to documentation.
4. **Fast Response Time:** Responses in under 5 seconds.
5. **Conversational AI:** Allows operators to ask any question, even those never asked before.

Key Features

- AI-powered assistant that provides clear, step-by-step guidance in real time.
- Easy setup – connects to existing documents via LAN for quick deployment.
- Helps operators find accurate information fast, reducing downtime and errors.

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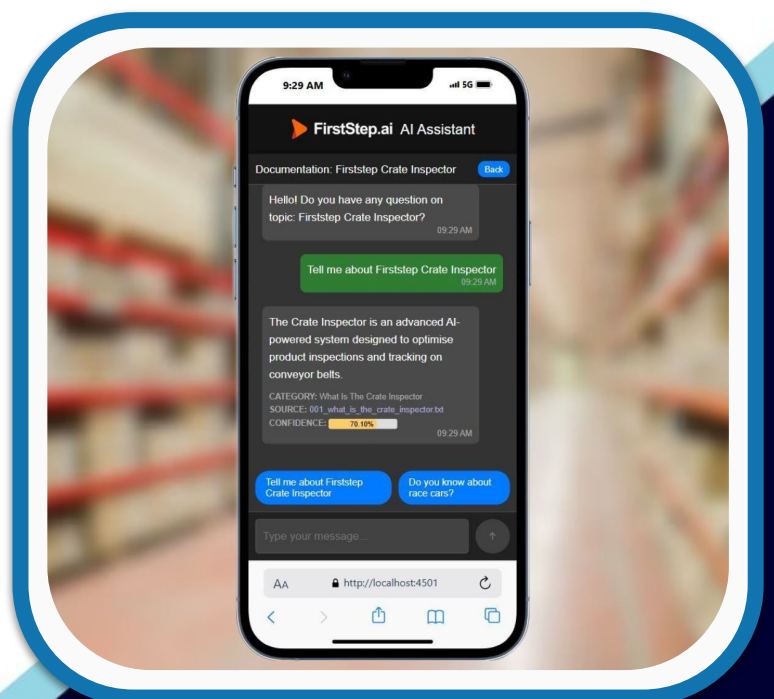
Operator Logbook

Product Summary

The Operator Logbook is a tool for tracking and managing log entries. It streamlines activity monitoring, updates, and reviews, ensuring efficient workflows. This application enhances traceability, collaboration, and transparency for improved organisational outcomes.

Benefits

Provides structured records, enhances collaboration, maintains audit trails, and ensures accountability. Improves transparency, supports traceability, resolves issues effectively, and delivers clear, actionable insights for better decisions.

Unique Selling Points

1. **Event Tracking:** Captures critical and non-critical events with timestamps and details.
2. **Categorisation:** Groups events by type (e.g., IT, Production) for easier management.
3. **Priority Highlighting:** Marks urgent events with priority levels for quick action.
4. **Progress Visibility:** Monitors statuses (Open/Closed) to track resolutions.

Key Features

- Structured log entries with detailed event descriptions, timestamps, and categories.
- Priority indicators for focused attention on critical events.
- Advanced search and filters for targeted data analysis.
- Source and server details to identify event origins for precise troubleshooting.

Category	Line Number	Description	Priority	Status
Production	L09-01	[2025-01-15 03:36:27]: Crates not running for the last 2 hours. [2025-01-15 05:36:27]: Crates not running for the last 4 hours. [2025-01-15 09:36:27]: Crates not running for the last 8 hours. [2025-01-15 13:36:27]: Crates not running for the last 12 hours. [2025-01-16 01:36:30]: Crates not running for the last 24 hours. [2025-01-17 04:21:27]: Crates resumed on conveyor.	Major	Closed
Production	L09-01	[2025-01-17 04:07:14] Critical alert for Main service [2025-01-17 04:09:49] Alert resolved.	Critical	Closed
Production	L08-01	[2025-01-16 15:21:27]: Crates not running for the last 2 hours. [2025-01-16 17:21:27]: Crates not running for the last 4 hours. [2025-01-16 21:21:27]: Crates not running for the last 8 hours. [2025-01-17 01:21:27]: Crates not running for the last 12 hours.	Major	Open
Production	L08-01	[2025-01-16 13:08:43] Critical alert for Main service [2025-01-16 13:09:44] Alert resolved.	Critical	Closed
Production	L08-03	[2025-01-16 00:51:27]: Crates not running for the last 2 hours. [2025-01-16 02:51:27]: Crates not running for the last 4 hours. [2025-01-16 04:06:27]: Crates resumed on conveyor.	Major	Closed
Production	L08-04	[2025-01-16 00:51:27]: Crates not running for the last 2 hours. [2025-01-16 02:51:27]: Crates not running for the last 4 hours. [2025-01-16 04:06:27]: Crates resumed on conveyor.	Major	Closed
Production	L09-03	[2025-01-16 01:36:30]: FCI EDGE device offline. [2025-01-16 03:36:31]: FCI EDGE device online.	Critical	Closed
Production	L09-01	[2025-01-16 01:36:27]: FCI EDGE device offline. [2025-01-16 03:36:27]: FCI EDGE device online.	Critical	Closed
Production	L09-01	[2025-01-16 03:25:48] Critical alert for Server connection [2025-01-16 03:26:48] Alert resolved.	Critical	Closed
Production	L09-03	[2025-01-16 03:25:37] Critical alert for Server connection [2025-01-16 03:26:38] Alert resolved.	Critical	Closed

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Shift Handover Reports

Product Summary

Shift Handover ensures smooth transitions by addressing tasks, issues, and updates. It reduces errors, enhances safety, and maintains consistency between shifts. The process minimises delays, supports efficient workflows, and improves communication for better operational outcomes.

Benefits

Ensures seamless transitions, reduces risks, minimises downtime, tracks responsibilities, equips teams with timely information, and captures essential details. Enhances operational consistency, streamlines processes, and supports decision-making with clear data.

Unique Selling Points

1. **Safe Handover:** Ensures safe handover between shift supervisors at shift change.
2. **Integrated Logs:** Combines human-entered and system-generated logs for a unified view.
3. **Unified Data:** Merges production and event data into comprehensive reports for better insights.
4. **Real-Time Visibility:** Offers organisation-wide real-time visibility on production and events.

Key Features

- Comprehensive shift records for accurate handovers, supporting continuity and accountability.
- Historical reports enable trend analysis and informed decision-making with structured data.
- Seamlessly integrates operational and event data into a single, clear view to eliminate confusion.

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Client Success Story

Client: Anheuser-Busch (AB InBev Southern Africa)

Challenge: Frequent errors in human quality inspections leading to inconsistent crate quality and internal disputes over delivery and raw material quality.

Solution: Implemented the FirstStep.ai FCI, ECI and Closed Loop Rejection.

Result: Eliminated the need for human quality inspections, strengthened brand association with quality, resolved internal disputes over delivery and raw material quality, and significantly enhanced operational efficiency.

Quotes from client:

- "Results are incredible"
- "Project payback period is looking like days, not years!"
- "No one has seen rejection done without [physical] sensors or triggers"

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