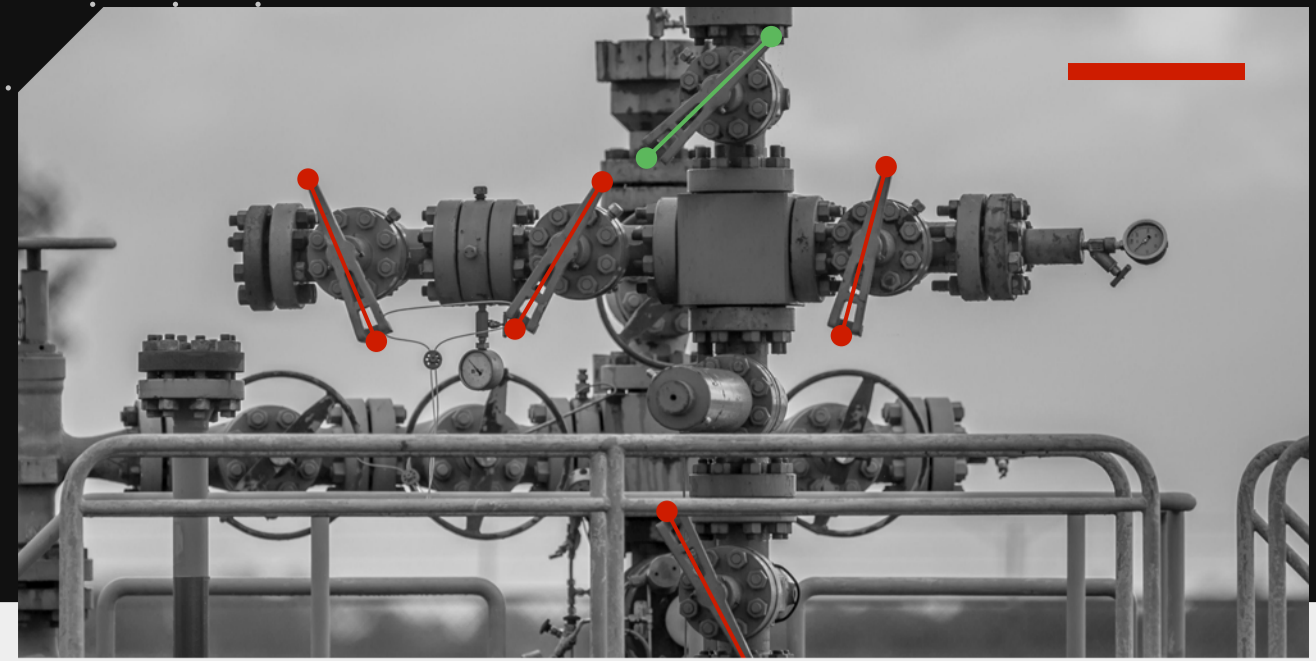


Automated Valve Monitoring



CHALLENGES

Unchecked Valves: The Critical Issue in Carbon Capture (partially opened/closed) can cause a malfunction in the carbon capture process

Valves are essential in carbon capture and storage, ensuring the proper flow and containment of carbon through pipelines. These valves regulate the transport of compressed carbon to underground storage sites, with each pipeline segment requiring its own valves and vents. Valves are also crucial for emergency shutdowns. They are the only way to maintain the

necessary pressure to inject carbon into geological formations. However, manual monitoring and scanning of valves are unreliable, leading to incorrect calibration and potential malfunctions in the carbon capture process, which can be costly and lead to hazardous incidents.

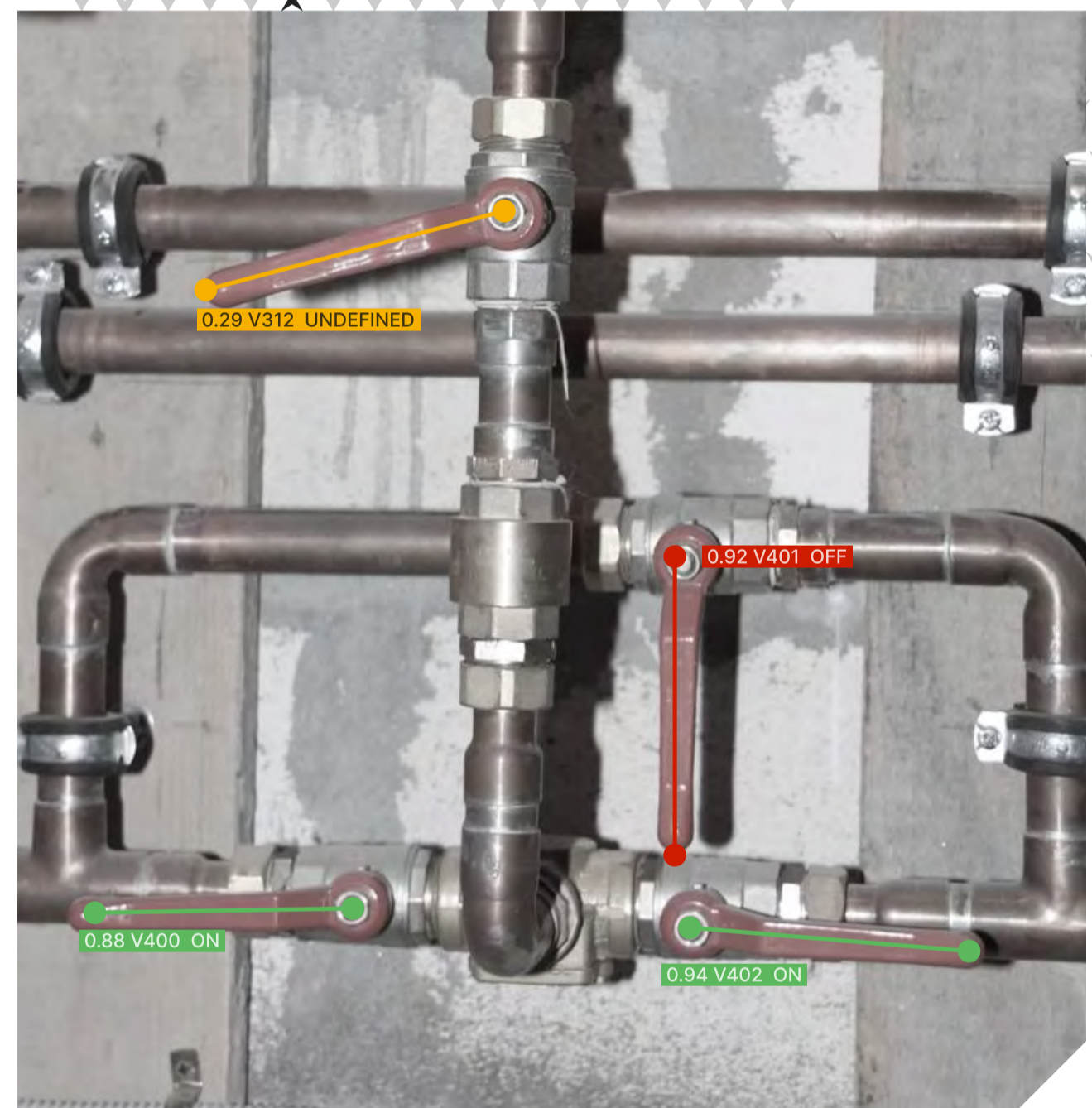
SOLUTIONS

Valve detection AI - Automated Monitoring and Alert System

Unleash live's automated valve detection leverages existing plant cameras to monitor valve status at set intervals, generating alerts based on predefined rules. This system also automatically identifies valves and updates the ladder chart for sequence control.

Operators can follow a list of relevant valves to close or open during procedures. The system verifies and updates the ladder chart in real-time. During handovers, tables highlight malfunctioning valves for better transparency.

Our solution integrates with existing camera systems and PLC/DCS systems, offering engineers an intuitive interface for monitoring valve status. The integration process is straightforward and does not require significant changes to the existing infrastructure. Detecting potential issues early enables timely, targeted maintenance, shifting strategies from reactive to predictive and significantly reducing downtime and maintenance costs.



Unleash live's Valve Detection AI in action

FEATURES

Powerful tools for faster insights, better decisions

Unleash live's product features include utilizing existing plant cameras without additional hardware, making deployment seamless and cost-effective. The solution can be extended to mobile phones, allowing operators to scan valves and verify their positions. Real-time alerting ensures immediate responses to alarms, enhancing the gravity of alerts and enabling quick actions to prevent potential issues from escalating. Highly accurate detection improves the reliability of procedures, reducing the number of operators needed in the field and enabling quicker emergency responses. The system enhances procedural ergonomics and overall usability by improving operator and trainee satisfaction.

BENEFITS

**Avoid Potential Pressure Spikes**

Prevent pressure spikes caused by pumping against closed valves, safeguarding equipment and processes.

**Reduce Human Error**

Automated monitoring reduces the risk of on-site human errors, leading to more accurate and reliable valve management.

**Increase Efficiency**

Our AI solutions streamline procedures, leading to more efficient operations. This minimizes disruptions and enhances overall productivity, empowering our audience of industrial engineers, plant operators, and maintenance crews to achieve more in their roles.

**Enhanced Safety**

Our AI-driven solutions offer enhanced safety by providing early detection of incorrect valve positions, significantly reducing the risk of accidents and equipment failures. This improvement in safety measures is designed to instill a sense of reassurance and security in our industrial engineers, plant operators, and maintenance crews.

**Significant Cost and Time Efficiencies**

Early issue detection prevents costly repairs and reduces downtime, resulting in substantial operational cost savings. This financial security is designed to give our audience of industrial engineers, plant operators, and maintenance crews confidence in the value of our solutions.

**Reduced Operational Risks**

Continuous monitoring ensures correct carbon capture, minimizing the likelihood of errors and delivering production targets.



NVIDIA

Metropolis Partner

Nvidia Partner for high performance visual computing



AWS Technology Partner

AWS Public Sector, Transport, Energy and Disaster Management Partner



Partner for edge solutions built for scale

Get started with Unleash live

We offer multiple flexible options to engage with us commercially, regardless of the size of the project

Explore the possibilities

Contact our team at unleashlive.com/contact to discuss your use case

Proof of Concept

Interested in a Proof of Concept or pilot, [contact one of our experts](#) today.

AWS Marketplace

If you are an AWS customer, Unleash live can be procured via the AWS marketplace