



DiagramIQ

From Static Engineering Drawings to Intelligent, Searchable Assets

Navigating Complexity in **Industrial Engineering Data**

For organizations in sectors such as **Manufacturing, Oil & Gas, Energy, and any Industry owning assets**, the volume and complexity of engineering diagrams, including P&IDs (Piping & Instrumentation Diagrams), electrical schematics, cabling diagrams, instrumentation layouts, and safety diagrams, continue to grow.

Yet, much of this data remains siloed, unstructured, and inaccessible in static formats and often not accessible via an up-to-date and company-wide Tag Registry. Often, companies have multiple Excel-based Tag Registries which are incomplete and provide no clear overview of each tag number and the drawings in which it is used.

The result?

- Disconnected and incomplete tag registries
- Outdated tag information
- Staff unable to find the relevant drawings
- Inability to trace tags across multiple documents
- Fragmented drawing systems
- No digital version of your P&IDs, making it hard to track important information
- Inefficient access to critical information
- Limited readiness for digital twin initiatives

These challenges inhibit operational agility, delay decision-making, and obstruct modernization efforts.

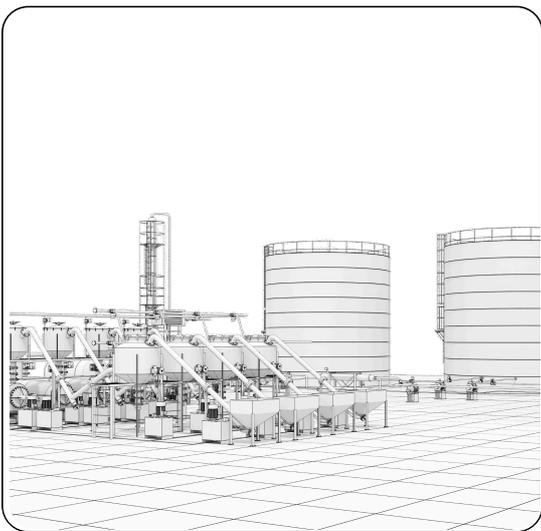
DiagramIQ: Elevating Engineering Data into Actionable Intelligence

DiagramIQ is Acuvate's AI-powered accelerator built to address the long-standing disconnect between engineering documentation and modern enterprise intelligence. It is a scalable, modular platform that digitizes, contextualizes, and enables intelligent access to technical diagrams across the organization, turning static drawings into a connected, searchable knowledge system.

KEY CAPABILITIES

AI-Powered Diagram Processing

- Leverages advanced AI models to extract tag data from diverse diagram types, including electrical, instrumentation, safety, and cabling drawings. Supports diverse formats, ensuring flexibility and broad applicability.
- Enables automated tagging, contextual mapping, and information structuring for faster and more accurate digitization.



P&ID (Piping & Instrumentation Diagrams) digitized

- Uses AI modeling to fully digitize Piping & Instrumentation Diagrams (P&IDs), extracting all tag data and connection details.
- Stores results in a graph database-based Knowledge Graph for advanced search, relationship tracing, and contextual understanding.
- Data and insights are accessible via both the Knowledge Graph UI and the Copilot interface for intuitive exploration.

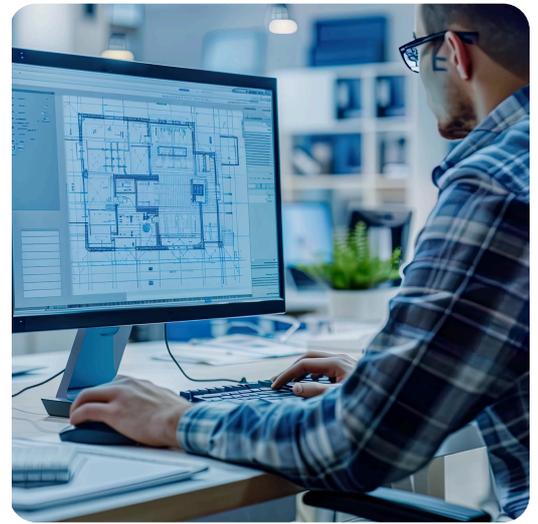
Unified Tag Registry (via Microsoft Fabric & AcuPrism)

- A centralized platform for tag lifecycle management.
- Supports create, search, update, and governance workflows.
- Integrated with Microsoft Copilot for natural language interactions.
- Interfaces with your Engineering Drawing Management Service (EDMS) to provide interactive access to all drawings and display them.
- Delivers rich dashboarding capabilities for monitoring tag completeness, changes, and lifecycle trends.



Automated AutoCAD drawing update utility

- Smart automation utility designed to streamline AutoCAD drawing updates.
- Processes change requests submitted in CSV format.
- Automatically generates and delivers updated drawings in both AutoCAD and PDF formats.
- Seamlessly integrates with the Engineering Drawing Management System (EDMS).
- Ensures all updates are applied at the source with governance and workflow compliance.

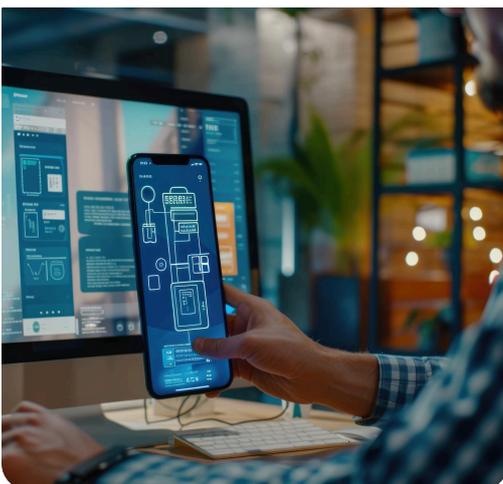
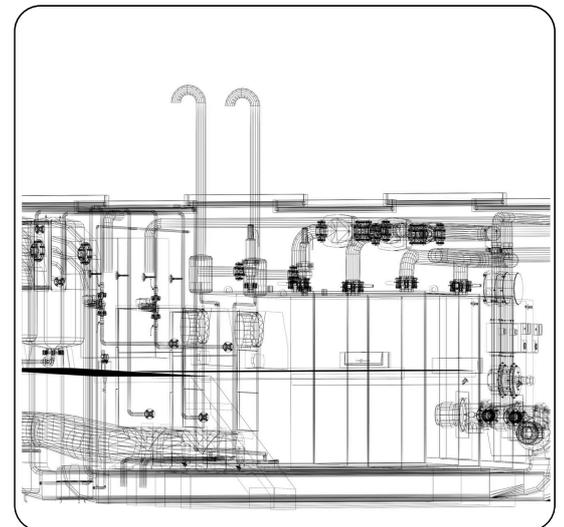


Copilot-Enabled Conversational Access

- Empowers users to ask natural language questions about diagrams and assets.
- Returns intelligent, real-time answers for improved decision support.
- Offers transparent Copilot access to both the Tag Registry and the Knowledge Graph.
- Retrieves detailed tag-related information, including descriptions, location, any other metadata, and relationships.
- Identifies tags with incomplete or missing information, as well as newly added or decommissioned tags.
- Helps users visualize and understand connections between tags for improved asset traceability and context awareness.

Seamless Integration with Existing Systems

- Interoperates with existing Engineering Drawing Management Systems.
- Synchronizes content and metadata across platforms.
- Bridges digital and legacy environments for a unified digital engineering system.



Continuously Expanding Toolkit

- Designed as a flexible, scalable accelerator with ongoing enhancements.
- Adapts to emerging use cases in compliance, maintenance, and digital twin readiness.



Strategic Business Benefits

-  Reduces engineering data retrieval time from often many hours to seconds
-  Improves quality of response
-  Immediate access to latest tag information and relevant technical drawings
-  Improves safety, maintenance planning, and operational uptime
-  Accelerates digital transformation by preparing data for advanced use cases like digital twins
-  Enables a single source of truth across engineering and operations
-  Enhances governance, traceability, and compliance workflows
-  Reduces manual effort and operational delays through intelligent automation

Ready to Rethink Engineering Intelligence?

DiagramIQ represents a significant step forward in bridging the gap between static technical documentation and intelligent, digital operations. It empowers organizations to move beyond diagram storage to diagram intelligence.

If you are facing challenges in navigating your engineering drawings, managing tag complexity, or scaling toward digital twins, we invite you to explore DiagramIQ.

Bring us your toughest use case

We're ready to help you solve it.

Contact US : advisors@acuvate.com