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# Industrial Automation & IIoT Data Pipelines

for Industry 4.0

**Unlock the potential of Industrial Automation and IIoT with a solution that enables you to swiftly and cost-effectively build robust real-time data pipelines.**

For Industrial Automation and IIoT, achieving real-time monitoring of operations and assets is paramount to ensuring safety, reliability, and efficiency. However, the complexity, time consumption, and cost associated with collecting and intelligently processing streaming data from sensors and devices can present significant challenges. Our cutting-edge solution simplifies and accelerates the process, enabling seamless real-time data collection and intelligent processing to empower businesses with actionable insights and streamlined operations.



# Industrial Automation and IoT Use Cases

## There's an even more powerful and efficient approach waiting for you

Our foundational open-source offering, Fluvio, takes real-time data streaming capabilities to the next level, empowering companies to monitor their operations and assets with unparalleled speed and efficiency. With our high-performance, low-latency platform, organizations can swiftly detect and address issues, minimizing downtime and maximizing performance. The beauty of InfinyOn lies in its agility and ease of use. Unlike traditional technologies that can take weeks or even months to set up data streaming pipelines, our solution enables businesses to create pipelines in a matter of days. This accelerated timeline empowers organizations to quickly leverage real-time insights and drive impactful decisions, gaining a competitive edge in today's fast-paced and data-driven landscape.

## Fluvio has a wide variety of use cases for Industrial Automation and IoT:



**Real-time Equipment Monitoring:** InfinyOn enables real-time equipment monitoring, collecting sensor data and providing actionable insights for businesses. It tracks performance, identifies anomalies, and triggers alerts for preventive maintenance, leading to increased operational efficiency, reduced downtime, improved equipment reliability, longevity, and enhanced safety. With its scalable and reliable data streaming platform seamlessly integrating with IoT devices, InfinyOn optimizes equipment monitoring and predictive maintenance to maximize productivity and minimize disruptions.



**Supply Chain Optimization:** InfinyOn enables real-time data streaming for supply chain optimization, collecting and analyzing data from multiple sources like inventory, logistics, and production systems. It empowers businesses with better demand forecasting, inventory management, and resource allocation. The benefits include improved inventory accuracy, reduced stock-outs, enhanced demand planning, forecasting accuracy, and streamlined logistics with reduced transportation costs. Fluvio provides real-time visibility into the supply chain, enabling data-driven decision-making and process optimization. Our solution helps companies achieve cost savings, improve customer satisfaction, and stay competitive.



**Predictive Analytics for Maintenance:** InfinyOn enables predictive maintenance through real-time data streaming and analytics. It collects and analyzes sensor data to identify patterns, predict failures, and schedule maintenance activities in advance, resulting in reduced unplanned downtime, lower maintenance costs, increased equipment lifespan and reliability, optimal resource allocation, and improved operational efficiency. Fluvio provides a comprehensive data streaming and analytics platform for predictive maintenance, helping businesses transition from reactive to proactive maintenance, optimize resource utilization, and minimize disruptions.



**Quality Control and Process Optimization:** InfinyOn facilitates real-time data streaming for quality control and process optimization, collecting, analyzing, and acting upon sensor data to ensure product quality, detect defects, and optimize manufacturing processes. The benefits include improved product quality, reduced waste, enhanced process efficiency, reduced variability, increased customer satisfaction, and a strengthened brand reputation. Fluvio offers a powerful data streaming platform that enables businesses to achieve consistent product quality, streamline operations, and deliver superior products to the market.





# Simplify Data Streaming for Industrial Automation

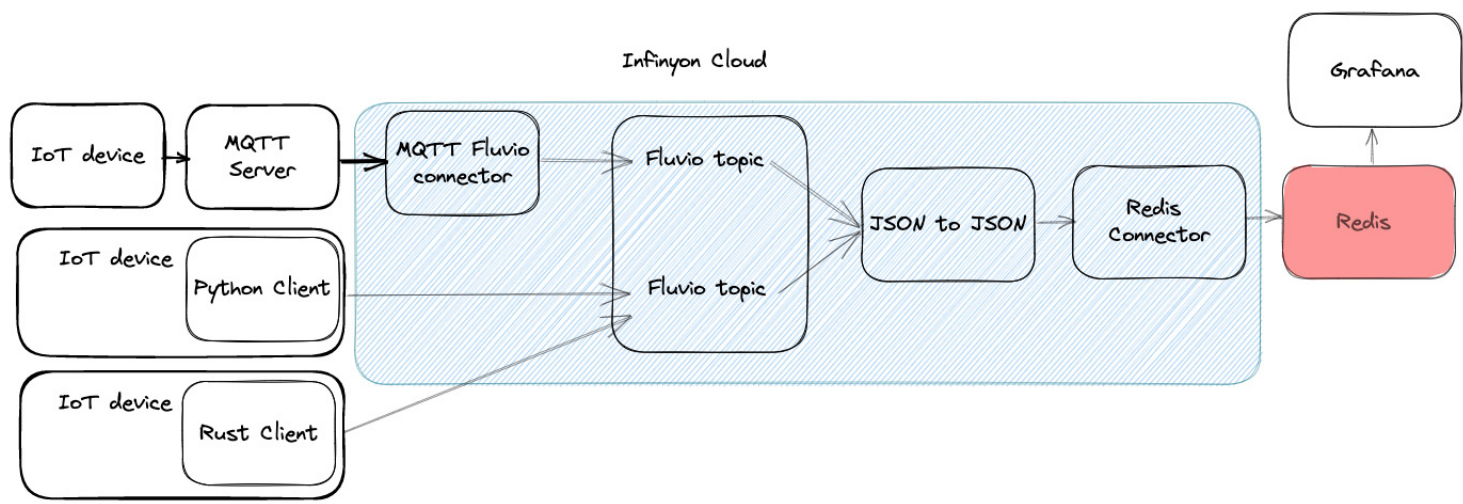
## What Makes Fluvio Different?

Revolutionize your data streaming experience with Fluvio, the world's first fully integrated platform built on modern technologies such as Rust and Web Assembly. Say goodbye to the days of piecing together various technologies like Kafka, Flink, and Spark. No more endless nights and weekends spent writing intricate glue code or relying on scripts and microservices to maintain your system. Fluvio enables you to effortlessly construct real-time data streaming pipelines without drowning in mountains of code. And the cherry on top? Fluvio boasts remarkable performance, delivering speeds up to 10 times faster than Kafka while reducing memory footprint by an astounding 50 times. Experience the future of data streaming with Fluvio and leave the complexities of the past behind.

## Reference Architecture

Implementing a real-time data platform for processing and transforming IoT data is crucial for improving uptime, reducing maintenance costs, and managing risk. InfinyOn offers a comprehensive set of tools that enable building data streaming pipelines for predictive maintenance and analytics:

- InfinyOn Cloud real-time data platform
- MQTT connector to collect data from various sensors
- Redis sink connector to load transformed data into SQL-compatible server
- SmartModules allow for cleaning, transforming, filtering and aggregating data without the need for moving data in and out of the streaming platform
- The SmartModule Hub allows for the sharing and reuse of data transformations across an entire organization, simplifying the data pipeline development process



## About InfinyOn

InfinyOn, a real-time data streaming company, has architected a programmable platform for data in motion built on Rust and enables continuous intelligence for connected apps. SmartModules enable enterprises to intelligently program their data pipelines as they flow between producers and consumers for real-time services. With InfinyOn Cloud, enterprises can quickly correlate events, apply business intelligence, and derive value from their data. To learn more, please visit [infinyon.com](https://infinyon.com).