HIVEMQ

How to Build an IIoT System that Shows ROI in 2024

January 2024 Webinar

HIVEMQ

The State Of Industrial IoT in 2024

Industrial IoT is fueling improved productivity and efficiency for organizations in manufacturing, transportation and logistics, automotive, and energy worldwide. As technologies advance, more companies are executing IIoT initiatives to minimize downtime, reduce costs, and become more agile to respond to changing market conditions, making IIoT essential to long-term competitiveness.

Digital transformation and deployment of IIoT projects need alignment, ownership, and support to be successful. A staggering **80% of IoT projects fail to scale** due to the complexity of integration and the inability to support scaling systems. If these challenges are not adequately addressed and accounted for at the onset, the implementations are destined to fail.

What can companies expect when implementing an IIoT strategy that can scale to the data demands of the business and prove ROI quickly? HiveMQ partnered with IIoT World on a survey of 350 IIoT professionals to delve into the challenges they are facing, which technologies they are adopting, and how they plan to show the business impact of IIoT in 2024. These are the key themes that emerged.

IIoT has significant business impact
Professionals agree that IIoT can increase productivity, improve Overall Equipment Effectiveness (OEE), and reduce overhead costs.

Stakeholder buy-in is critical
Top challenges to implementing IIoT systems include leadership support, lack of budget and uncertain ROI, and cybersecurity.

If you don't have an IIoT strategy you're falling behind
74% of the companies surveyed have already deployed or are in the process of developing an IIoT strategy.

The time is now to integrate IIoT data for AI and ML
Nearly half of respondents are integrating Machine Learning and AI applications and services into their IIoT strategy.

MQTT continues to lead as the industry-standard protocol
60% of respondents have deployed, plan to deploy, or consider MQTT as their protocol of choice for IIoT systems.

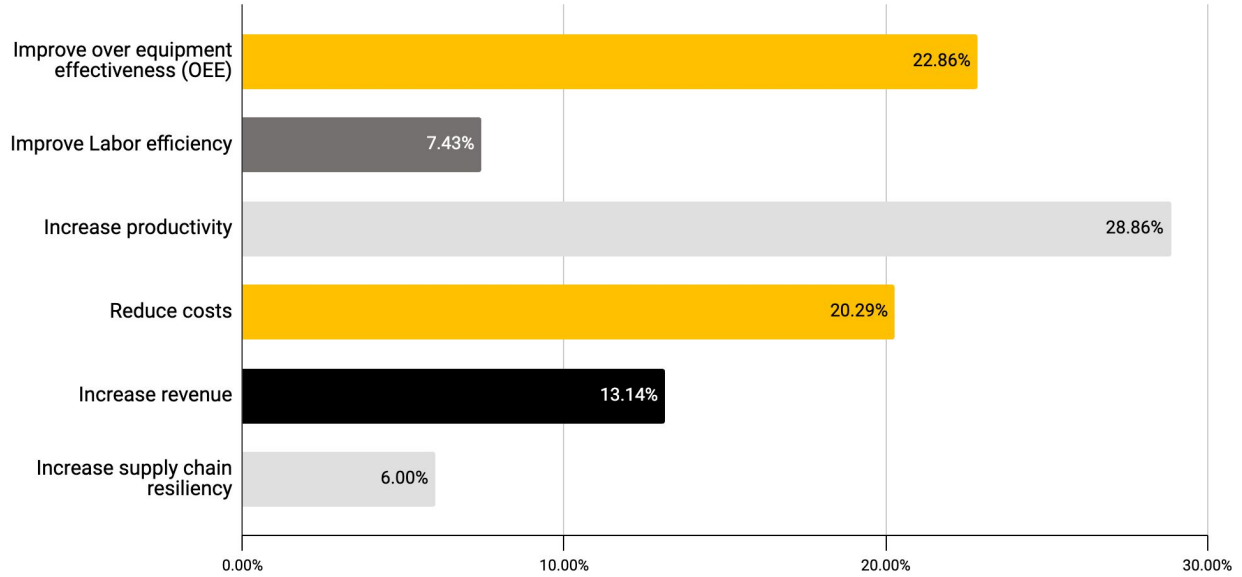
IIoT World Survey 2023

- HiveMQ sponsored a survey that IIoT World recently conducted with their community members to gain a better understanding of how companies are implementing their projects and building IIoT systems.
- The goal was to gather insights into how companies are adopting IIoT technologies, the challenges they face, which benefits they are achieving, and which key technologies are being deployed.
- A total of 350 responses were collected.
- HiveMQ released a Blog and Whitepaper on the survey results.

What best describes the greatest benefits you expect from implementing IIoT systems?

Select up to 2 responses

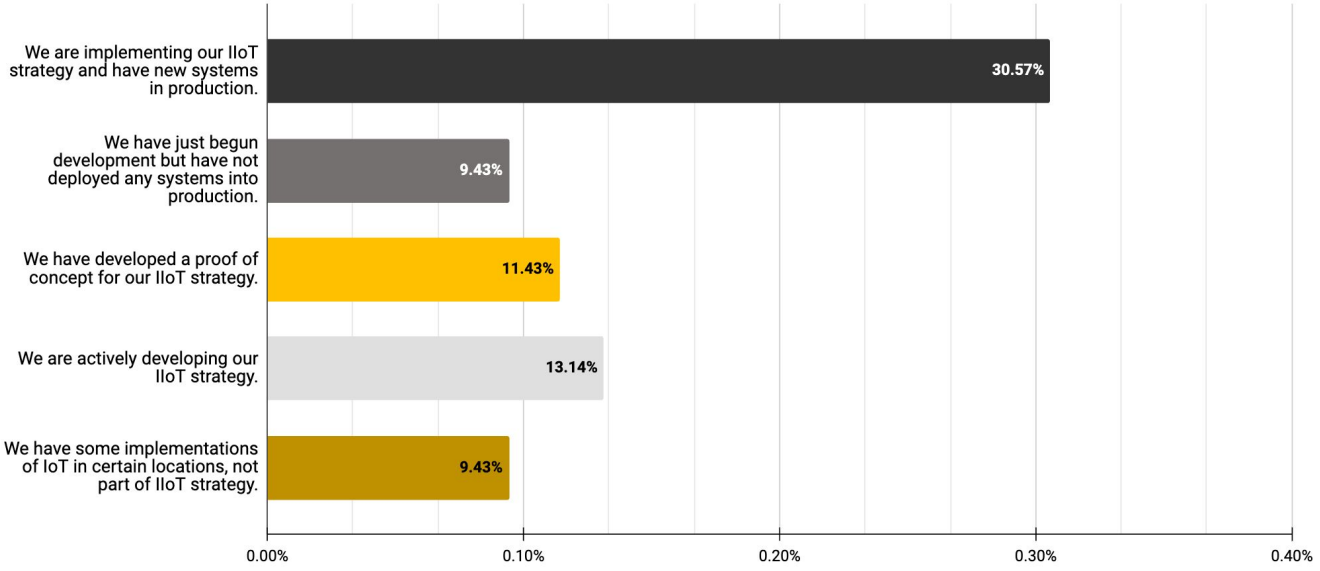
IIoT World Survey October 2023



What statement best describes your current IIoT strategy?

Select up to 2 responses

IIoT World Survey October 2023



What are the key challenges to implementing a new IIoT system?

Select up to 2 responses

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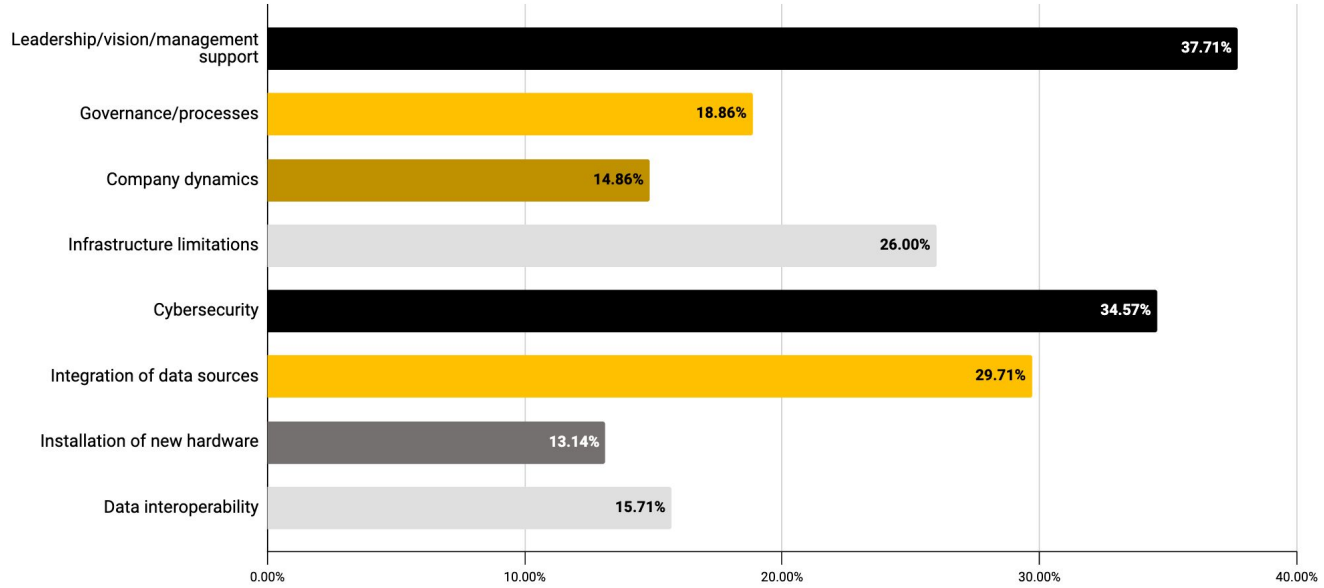

Which of the following protocols do you use today to connect your equipment?

Select up to 2 responses

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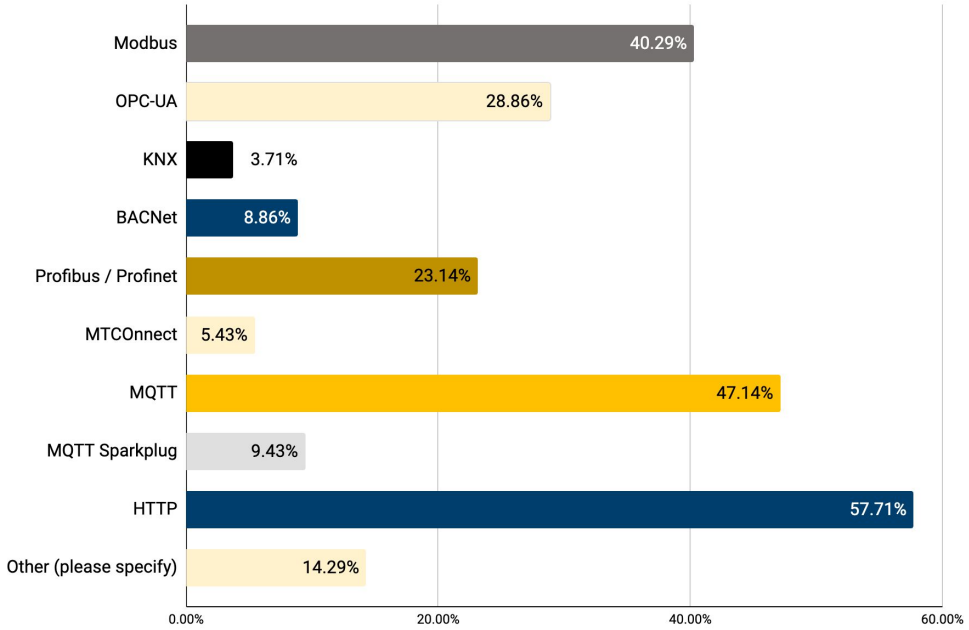

What best reflects your experience with MQTT?

Select up to 2 responses

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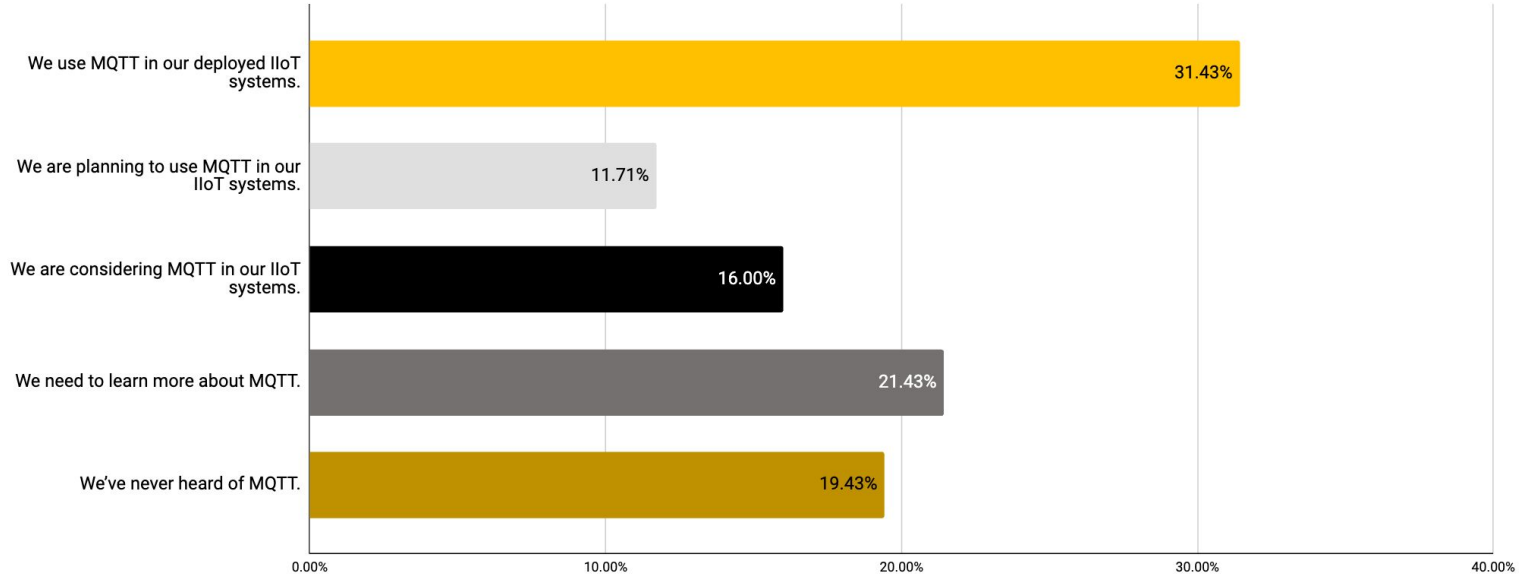

What best reflects your experience with Sparkplug?

Select up to 2 responses

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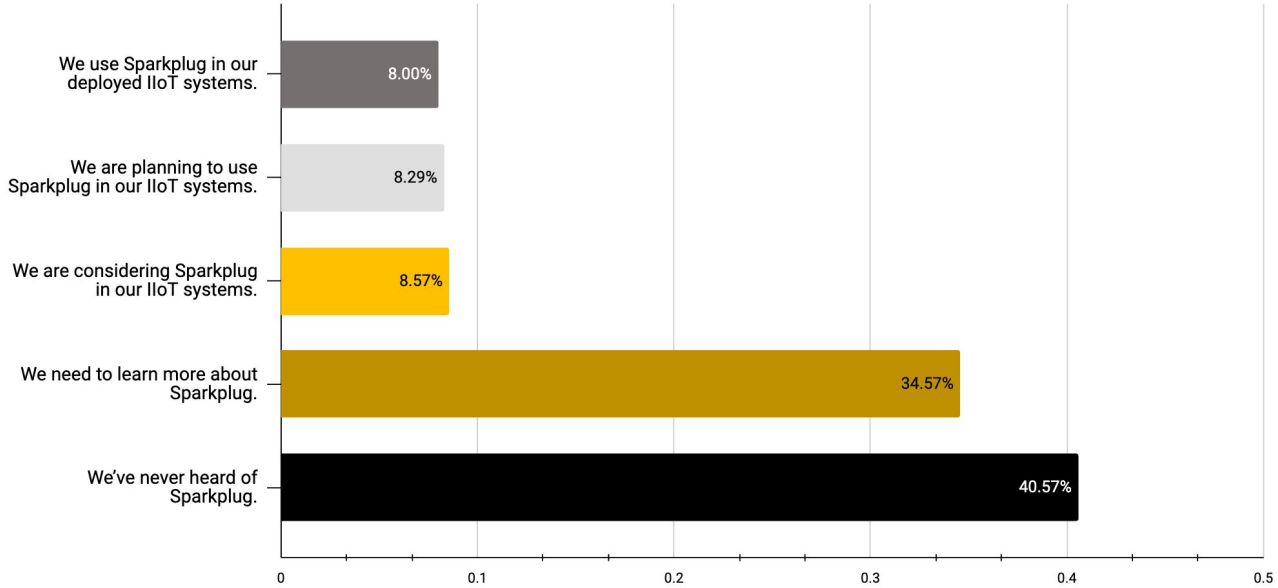

Which of the following applications and services are you integrating with your IIoT strategy?

Select up to 2 responses

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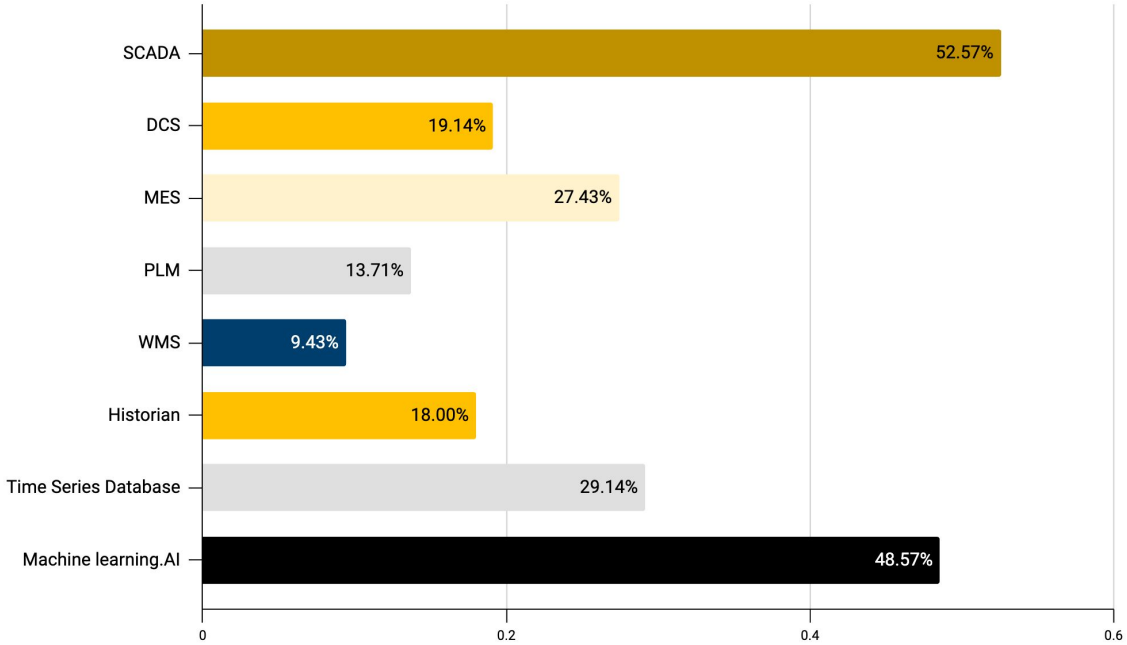

Who is leading your IIoT strategy?

Select up to 2 responses

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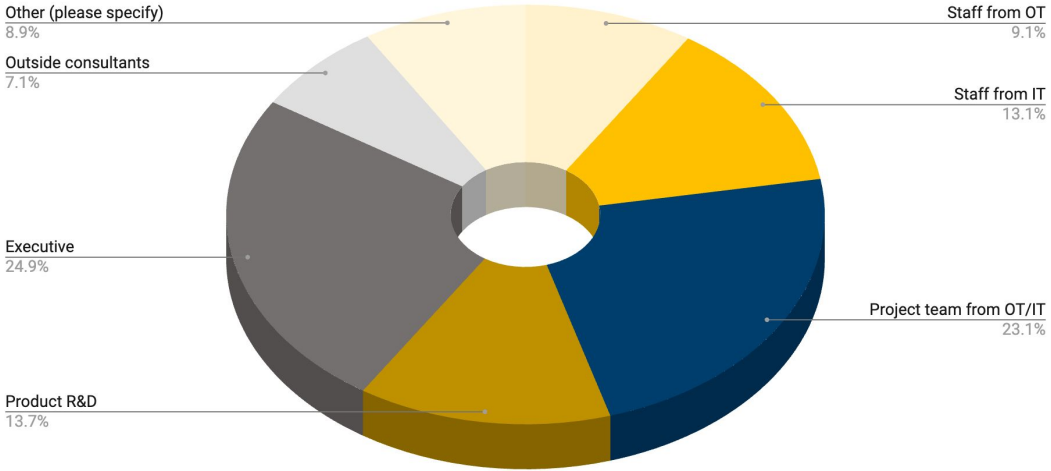
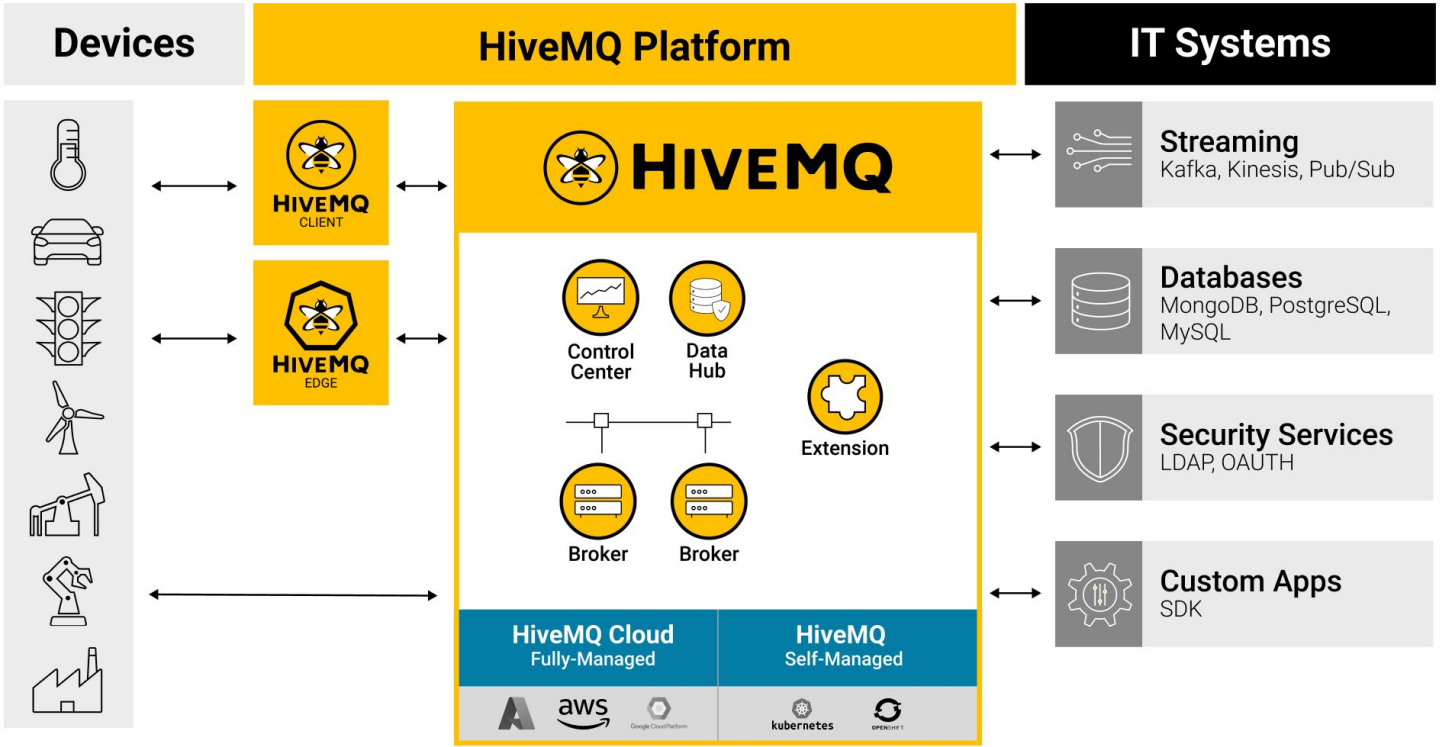
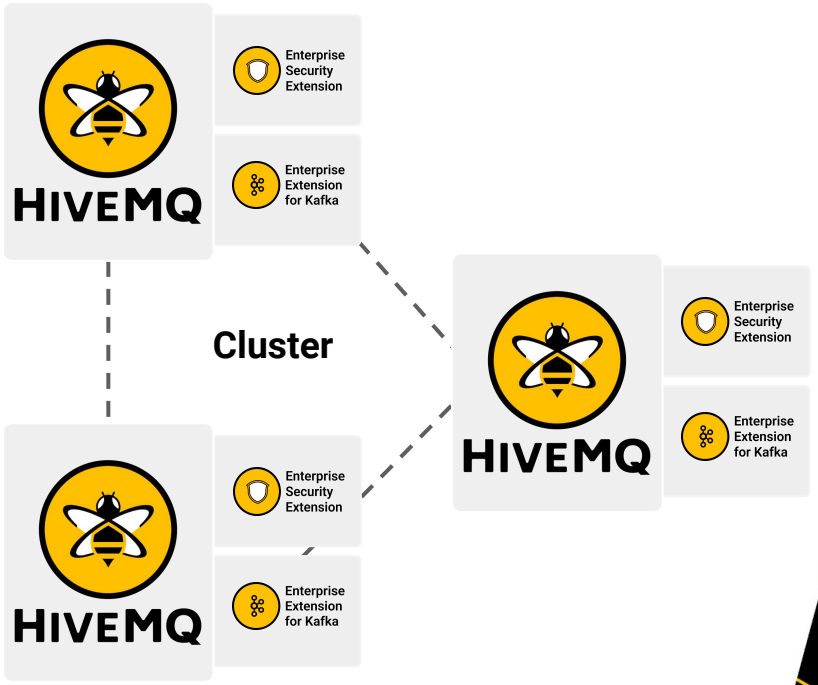


HIVEMQ | The Enterprise MQTT Platform





HiveMQ Solves Reliability

Zero message loss

Persistent messaging and replication to disk, true Quality of Service (QoS)!

Reliable communication

Connection and cluster overload protection, automatic throttling, queueing, retained messages..

No single point of failure

Masterless cluster architecture.

Zero downtime upgrades

Broker spawning with nodes seamlessly upgraded.

HiveMQ Solves Scalability

- **Proven scalability** – benchmarked to 200M active clients with 1.8B messages/hour
- **Elastic scaling** – Masterless load balancing, automatic data balancing, smart message distribution across cluster nodes
- **Linear scalability** – Scale from 2->100+ nodes with consistent hashing algorithm both vertically and horizontally

HiveMQ enables Edge

Edge Deployment

Address connectivity challenges of organizations

Machine Protocols Supported

OPC UA, Modbus, MQTT SN, ...

Enables Unified Name Space

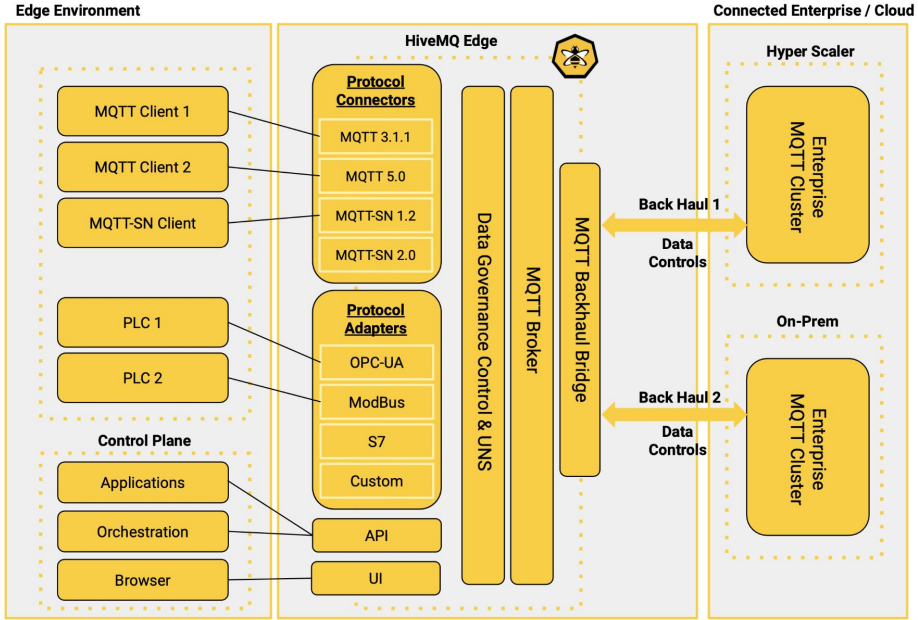
Eliminate data silos by enabling UNS

Addresses escalating deployment costs

Open source technologies

API-based Operability

Enables data sharing with enterprise



HiveMQ Solves Interoperability

Runs anywhere

Cloud, on-premises, public and private cloud

Robust streaming support

Kafka, Amazon Kinesis, Google Pub/Sub, …

Connect from everything

Client support for Java, C, C++, C#, Python, …

Database analytics support

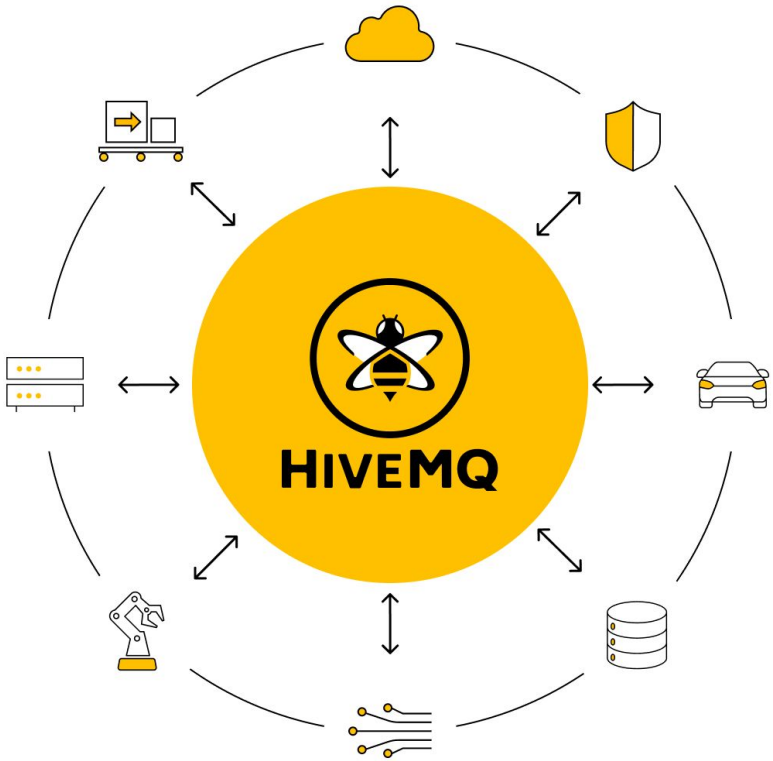
Postgres, Snowflake, Databricks, MongoDB, InfluxDB, …

Enterprise security

OAuth 2.0, LDAP, RBAC, …

Build your own!

Java SDK



HiveMQ Improves Data Quality

Data Policies

Define set of rules and guidelines to enforce how data and messages should be expected.

Data Validation and Transformation

Defining and enforcing data standards across deployments.

Data Schemas

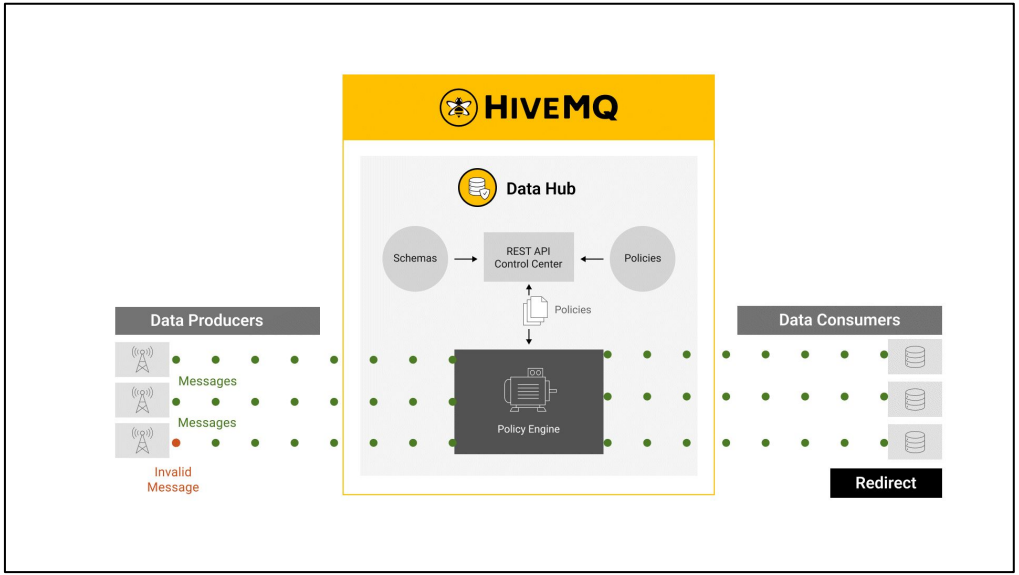
Create the blueprint for how data is formatted. JSON and Protobuf currently supported.

Policy Actions

Describe what should happen to messages/data that fail validation. Messages can be rerouted, forwarded, or simply logged and ignored.

Control Center

Simple GUI to manage schemas, data and behavior policies. Dashboard provides an overview of quality metrics making it easy to locate bad actors and bad data sources.



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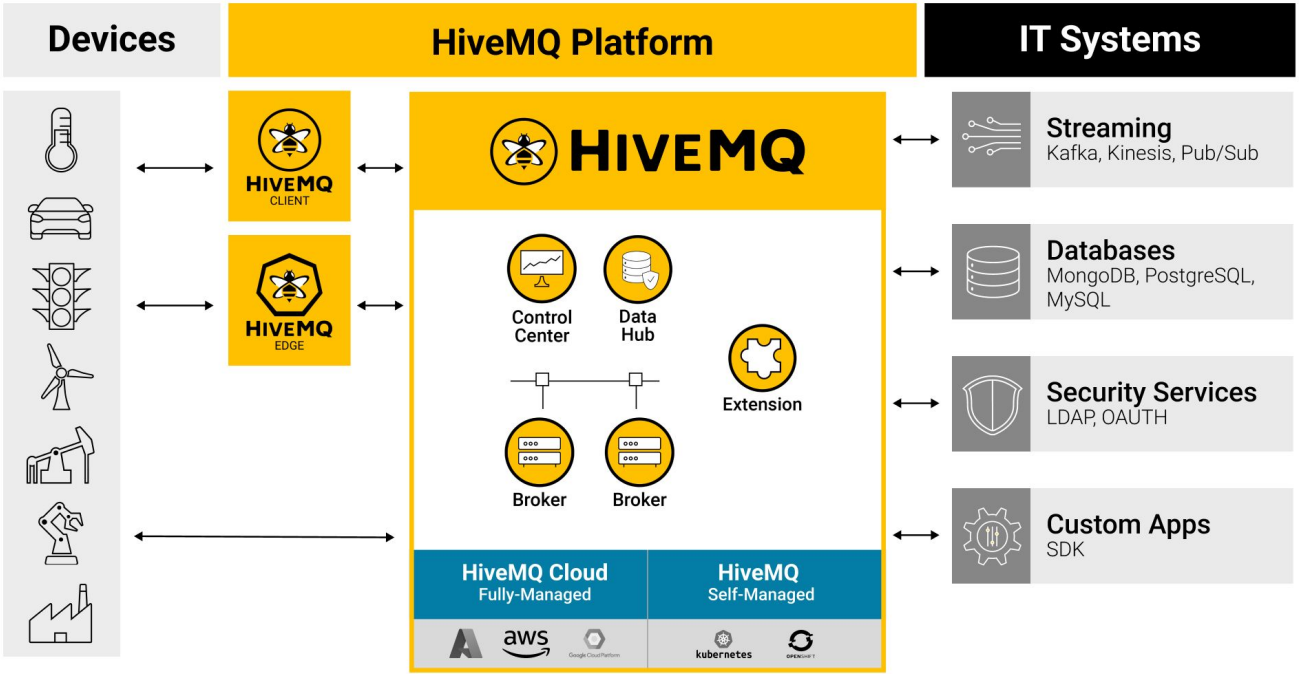

Questions and Next Steps