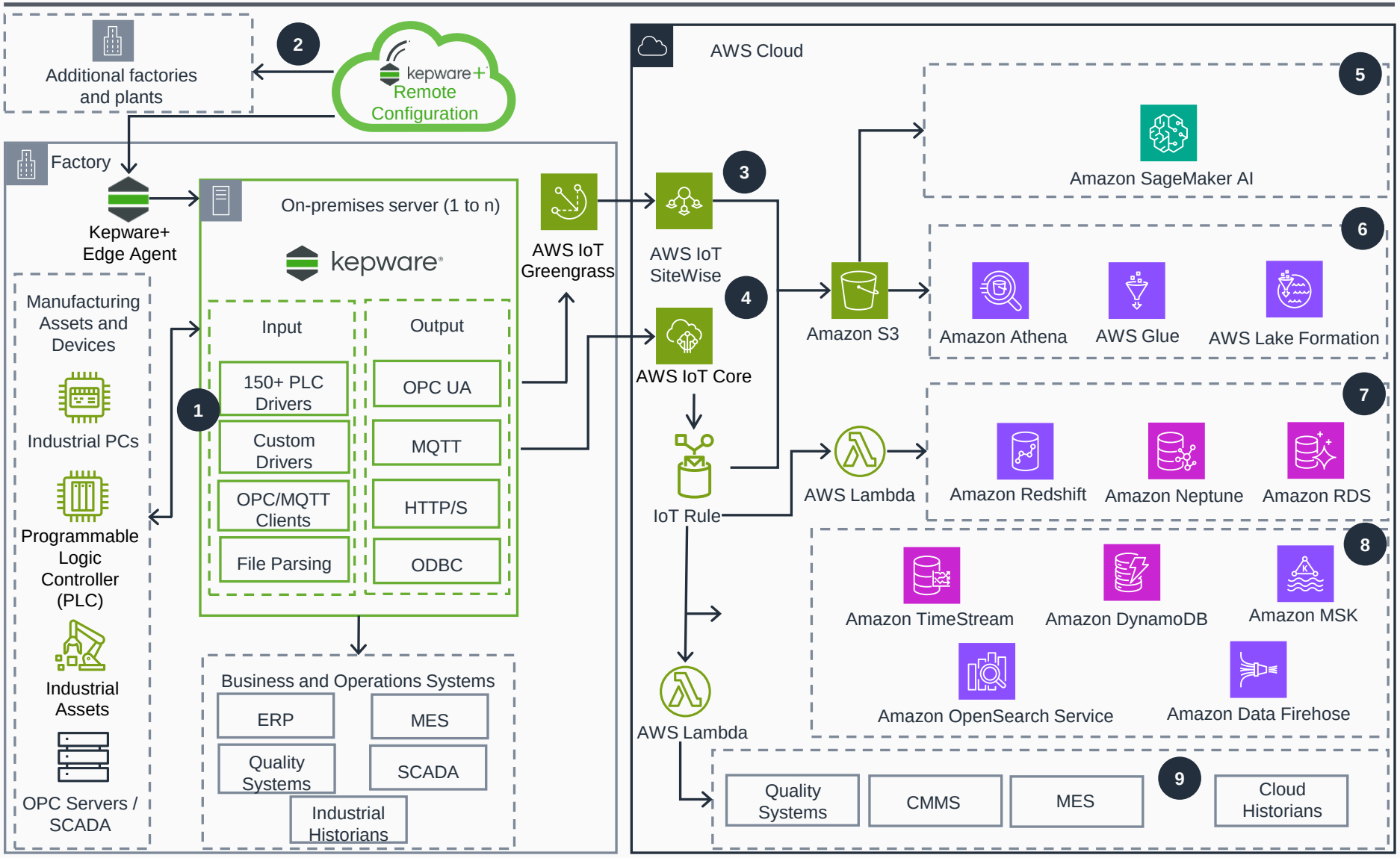
# Guidance for Industrial Data Fabric with Kepware on AWS

This architecture diagram shows how PTC Kepware provides enterprise connectivity that standardizes secure data exchange between industrial devices and AWS, enabling real-time data streaming, analytics, and enterprise-wide insights. This slide shows Steps 1-7.




1. Connect to your shopfloor devices through Kepware pre-built device drivers to access reliable operational data. Kepware standardizes data movement between industrial devices and OT/IT systems using open standard and proprietary industrial protocols. This integration enables secure data exchange across your manufacturing operations.

2. Kepware+, the enterprise management capability from Kepware, enables secure remote configuration to manage Kepware servers for all locations throughout the enterprise using Kepware+ Edge Agent.

3. Kepware streams real time data directly to **AWS IoT SiteWise** using the **AWS IoT SiteWise** open platform communications-unified architecture (OPC-UA) collector component of **AWS IoT Greengrass**. Calculate and visualize metrics from telemetry data using **AWS IoT SiteWise Monitor**.

4. Kepware MQTT interface enables communication with **AWS IoT Core** to post asset data and Industrial IoT data.

5. Use AWS AI/ML services such as **Amazon SageMaker AI** to build, train, and deploy ML models.

6. Use **AWS Glue** to discover, prepare, and integrate data from **Amazon Simple Storage Service (Amazon S3)** at scale. Create, run, and monitor extract, transform, load (ETL) pipelines through a centralized data catalog to load data into your data lakes. Query **Amazon S3** data using SQL with **Amazon Athena**. **AWS Lake Formation** discovers, catalogs, cleanses, and transforms your data sources.

7. **AWS IoT Core** triggers **AWS Lambda** functions that ingest data into **Amazon Redshift, Amazon Neptune,** or **Amazon Relational Database Service (Amazon RDS)** databases. Use **Amazon Redshift** to store structured data sets and analytics results in a data warehouse.

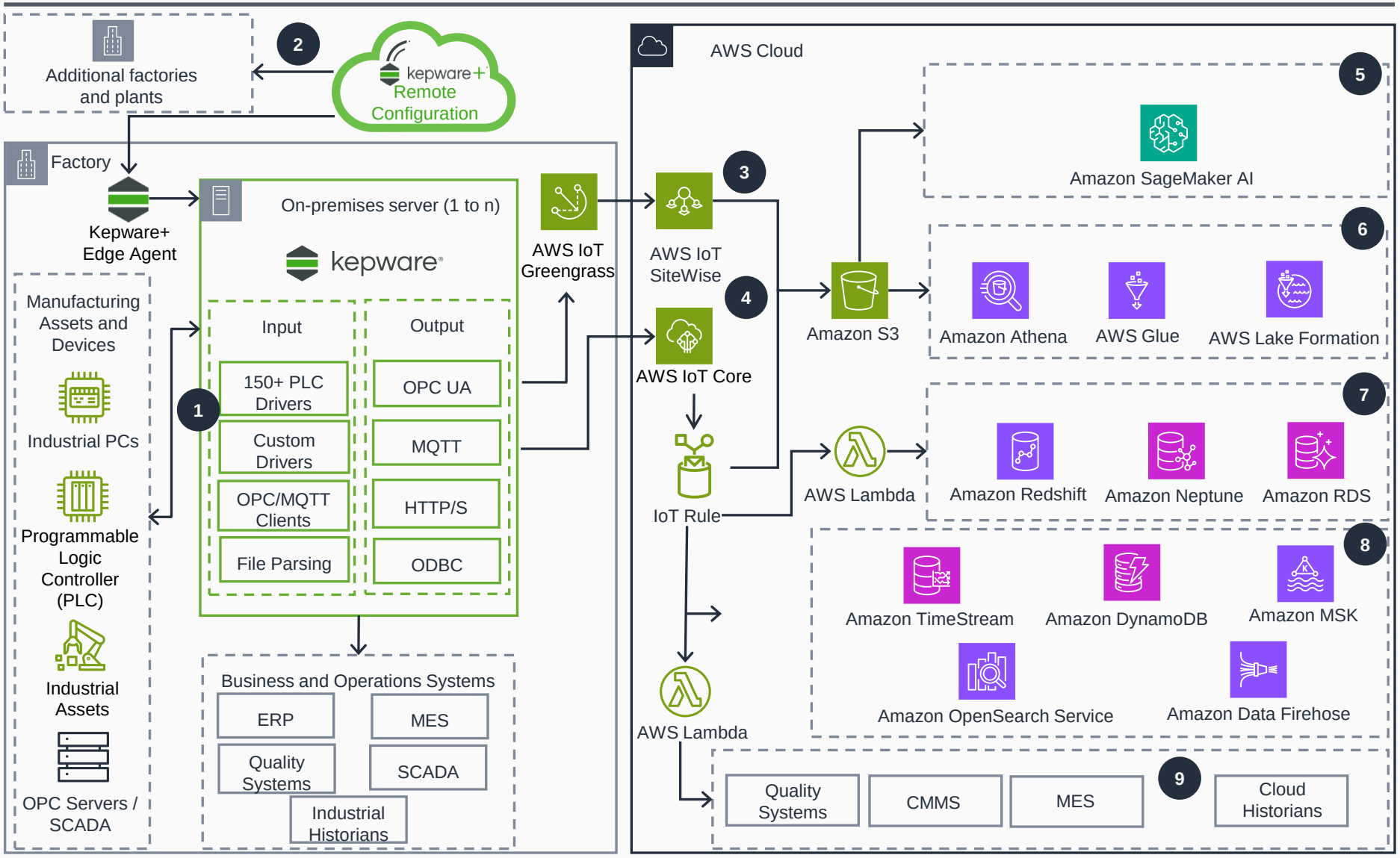
*Reviewed for technical accuracy June 24, 2025*



**AWS Reference Architecture**

# Guidance for Industrial Data Fabric with Kepware on AWS

This architecture diagram shows how PTC Kepware provides enterprise connectivity that standardizes secure data exchange between industrial devices and AWS, enabling real-time data streaming, analytics, and enterprise-wide insights. This slide shows Steps 8-9.




8 Telemetry data is published in near real-time to AWS. **AWS IoT Core** triggers IoT rules. This reliably streams the data into **Amazon S3, Amazon DynamoDB, Amazon OpenSearch Service, Amazon Data Firehose, Amazon Timestream,** and **Amazon Managed Streaming for Apache Kafka (Amazon MSK).**

9 OT data tapped by Kepware goes into business systems running on the AWS Cloud, such as quality management, computerized maintenance management systems (CMMS), manufacturing execution systems (MES), or cloud historians through **AWS IoT Core.** The configured IoT rule can trigger a **Lambda** function that encapsulates the logic to post data to these systems through API calls.

*Reviewed for technical accuracy June 24, 2025*



**AWS Reference Architecture**