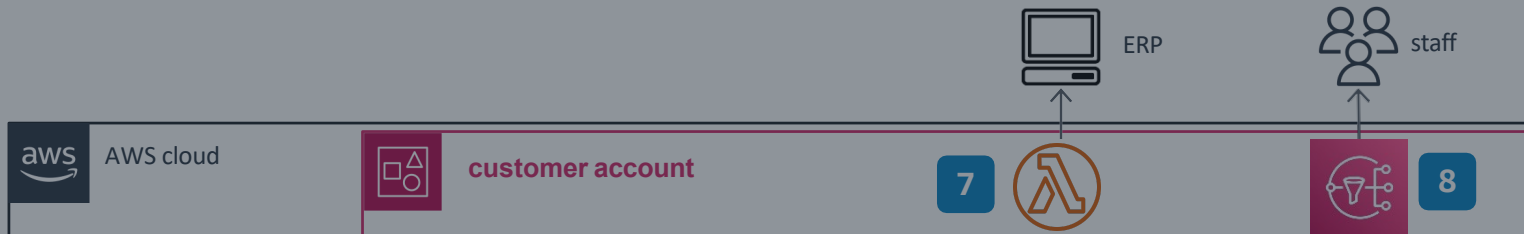


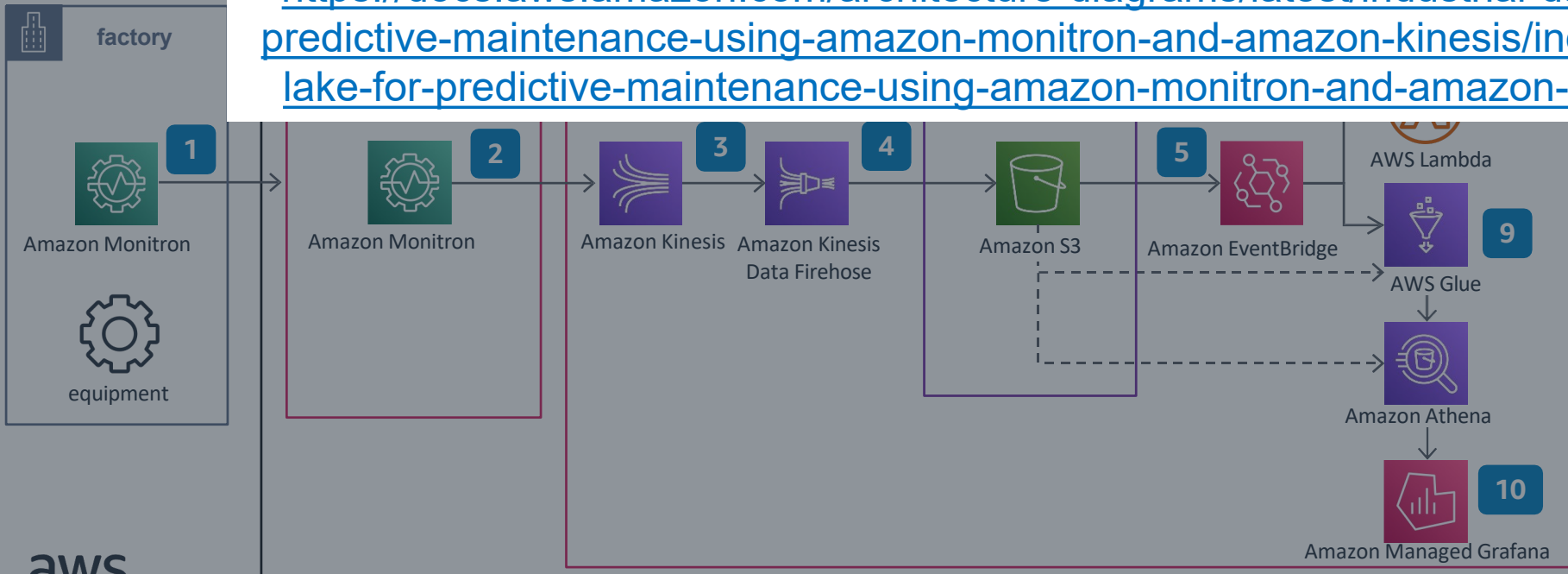
Industrial Data Lake for Predictive Maintenance using Amazon Monitron and Amazon Kinesis

Build a data lake using IoT sensors, real-time data streams, alerts, visualization, and integrated workflow with Enterprise Resource Planning (ERP) to analyze factory data for predictive maintenance and improve equipment uptime.



This version of the reference architecture diagram has been archived. For the latest version, see

<https://docs.aws.amazon.com/architecture-diagrams/latest/industrial-data-lake-for-predictive-maintenance-using-amazon-monitron-and-amazon-kinesis/industrial-data-lake-for-predictive-maintenance-using-amazon-monitron-and-amazon-kinesis.html>



- 1 Install **Amazon Monitron** sensors and gateway in a factory.
- 2 Create **Amazon Kinesis Data Stream** using **Amazon Monitron** as the data source.
- 3 Configure **Amazon Kinesis** data stream from **Amazon Monitron** managed account to customer account.
- 4 Configure **Amazon Simple Storage Service** (Amazon S3) bucket as delivery destination of **Amazon Kinesis Data Firehose**. **Amazon S3** serves as storage foundation for industrial data lake.

Amazon S3 notifications to send Amazon EventBridge

AWS Lambda function as the EventBridge destination rules. The function processes the event and sends it to an AWS IoT Events state machine.

- 7 **AWS IoT Events** responds to sensor warning state and creates ERP work order using **AWS Lambda**.
- 8 **AWS IoT Events** responds to the sensor warning state and notifies personnel using **Amazon Simple Notification Service** (Amazon SNS) topic via SMS, mobile push, and email.
- 9 Connect **AWS Glue** data pipeline to **Amazon S3** bucket and schedule **Glue** job via **EventBridge**. **Amazon Athena** then queries **S3** data as reports and metrics.
- 10 Visualize IoT metrics and state from **Athena** queries using **Amazon Managed Grafana**.

