



Architecture Diagrams

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



# Industrial Data Lake for Predictive Maintenance using Amazon Monitron and Amazon Kinesis: Architecture Diagrams

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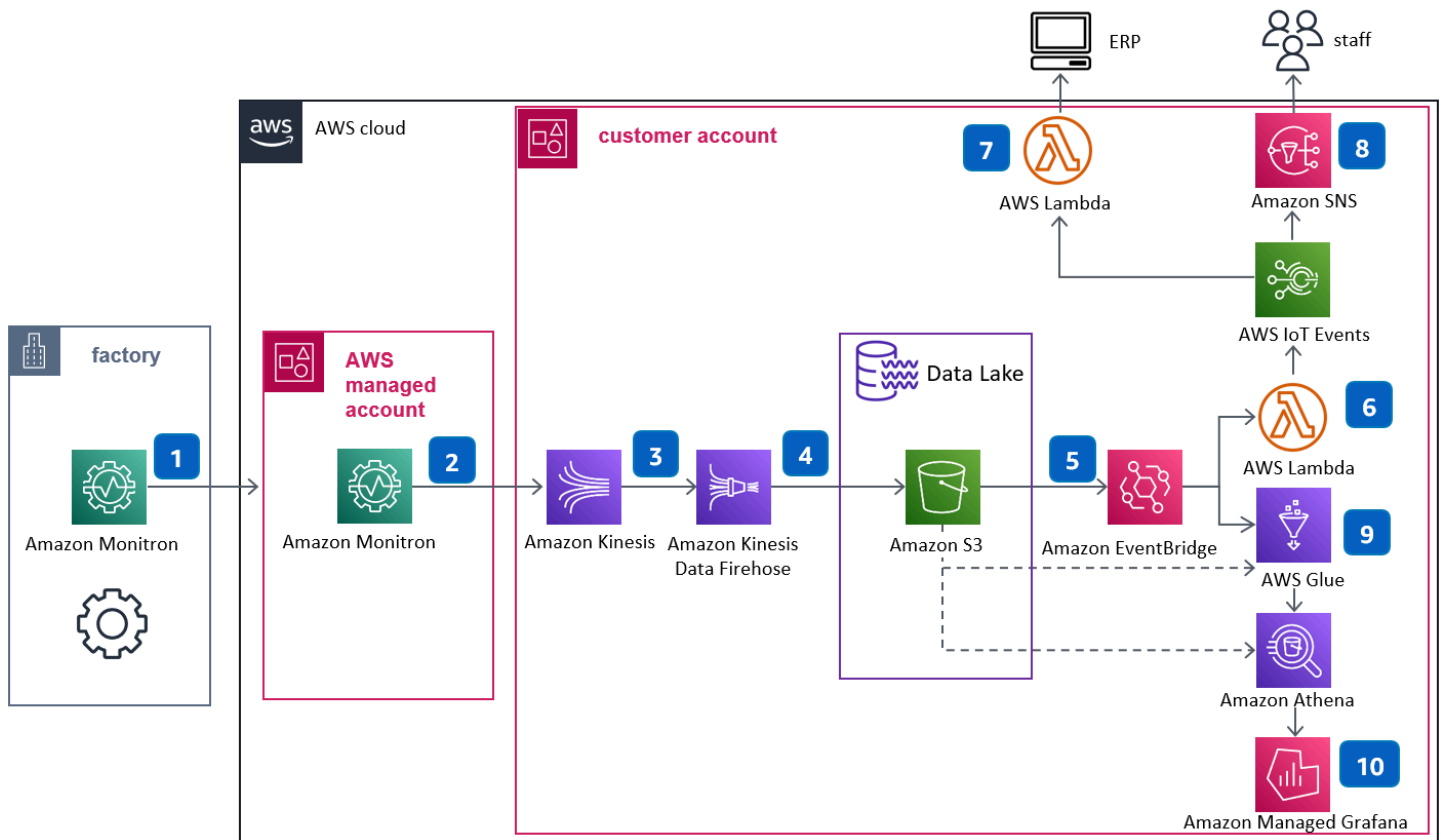
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# Industrial Data Lake for Predictive Maintenance using Amazon Monitron and Amazon Kinesis

Publication date: September 28, 2022 ([Diagram history](#))

This architecture diagram shows you how to build a data lake using AWS 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.

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



1. Install **Amazon Monitron** sensors and gateway in a factory.
2. Create **Amazon Kinesis Data Streams** using **Amazon Monitron** as the data source.
3. Configure **Amazon Kinesis Data Streams** from **Amazon Monitron** managed account to customer account.

4. Configure **Amazon Simple Storage Service (Amazon S3)** bucket as delivery destination of **Amazon Data Firehose**. **Amazon S3** serves as storage foundation for industrial data lake.
5. Configure **Amazon S3** notifications to send events to the **Amazon EventBridge** destination.
6. Configure an **AWS Lambda** function as the target of **Amazon EventBridge** destination rules. The **Lambda** function processes the **Amazon S3** 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 **Amazon EventBridge**. **Amazon Athena** then queries S3 data as reports and metrics.
10. Visualize IoT metrics and state from **Athena** queries using **Amazon Managed Grafana**.

## Download editable diagram

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## Further reading

For additional information, refer to

- [AWS Architecture Icons](#)
- [AWS Architecture Center](#)
- [AWS Well-Architected](#)

## Diagram history

To be notified about updates to this reference architecture diagram, subscribe to the RSS feed.

Change	Description	Date
<a href="#">Initial publication</a>	Reference architecture diagram first published.	September 22, 2021

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