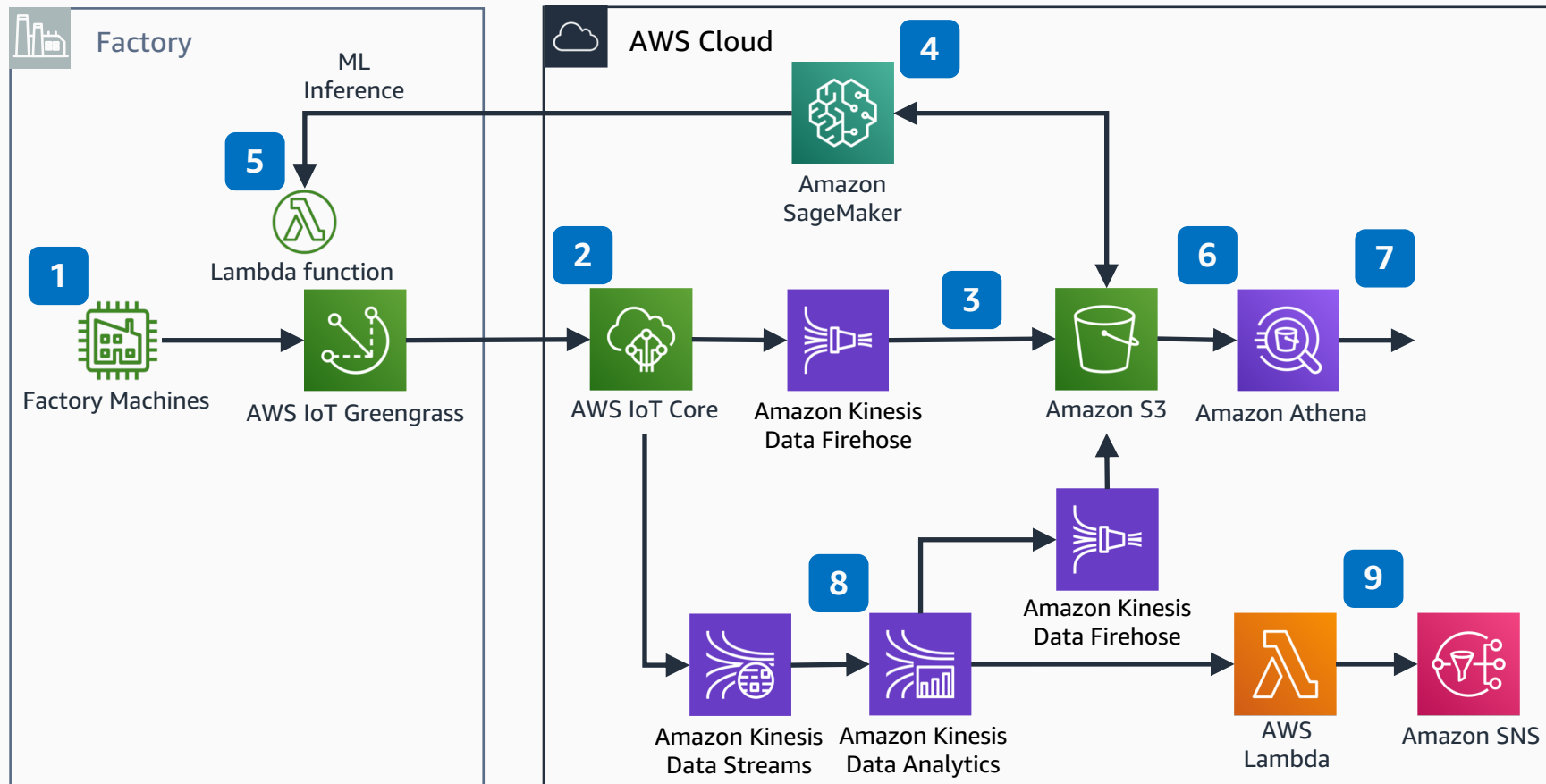


AWS Industrial Predictive Maintenance

Machine Learning Model and Anomaly Detection Reference Architecture

Create a Predictive Maintenance (PdM) Machine Learning (ML) model using Amazon SageMaker with AWS IoT Core and an anomaly detection application using Amazon Kinesis Data Analytics.



- 1** Configure **AWS IoT Greengrass** using **Greengrass Connectors** to communicate with factory machines.
- 2** Configure rules within **AWS IoT Core** to trigger events based on MQTT topics for the factory machines.
- 3** Create an **Amazon Kinesis Data Firehose** delivery stream to store the factory machines data in the data lake on **Amazon Simple Storage Service (Amazon S3)**.
- 4** Build your Predictive Maintenance (PdM) Machine Learning (ML) model with **Amazon SageMaker**.
- 5** Deploy your Machine Learning model onto your **AWS IoT Greengrass Edge Gateway**.
- 6** Build your data queries in **Amazon Athena** against your **AWS Glue Data Catalog** of the data lake on **Amazon S3**.
- 7** Visualize your analysis using **Amazon QuickSight** on the **Amazon Athena** data source.
- 8** Create an anomaly detection application in **Amazon Kinesis Data Analytics**.
- 9** Configure **AWS Lambda** as an output of **Amazon Kinesis Data Analytics** application to send anomaly detections notifications to an **Amazon Simple Notification Service (Amazon SNS)** topic

