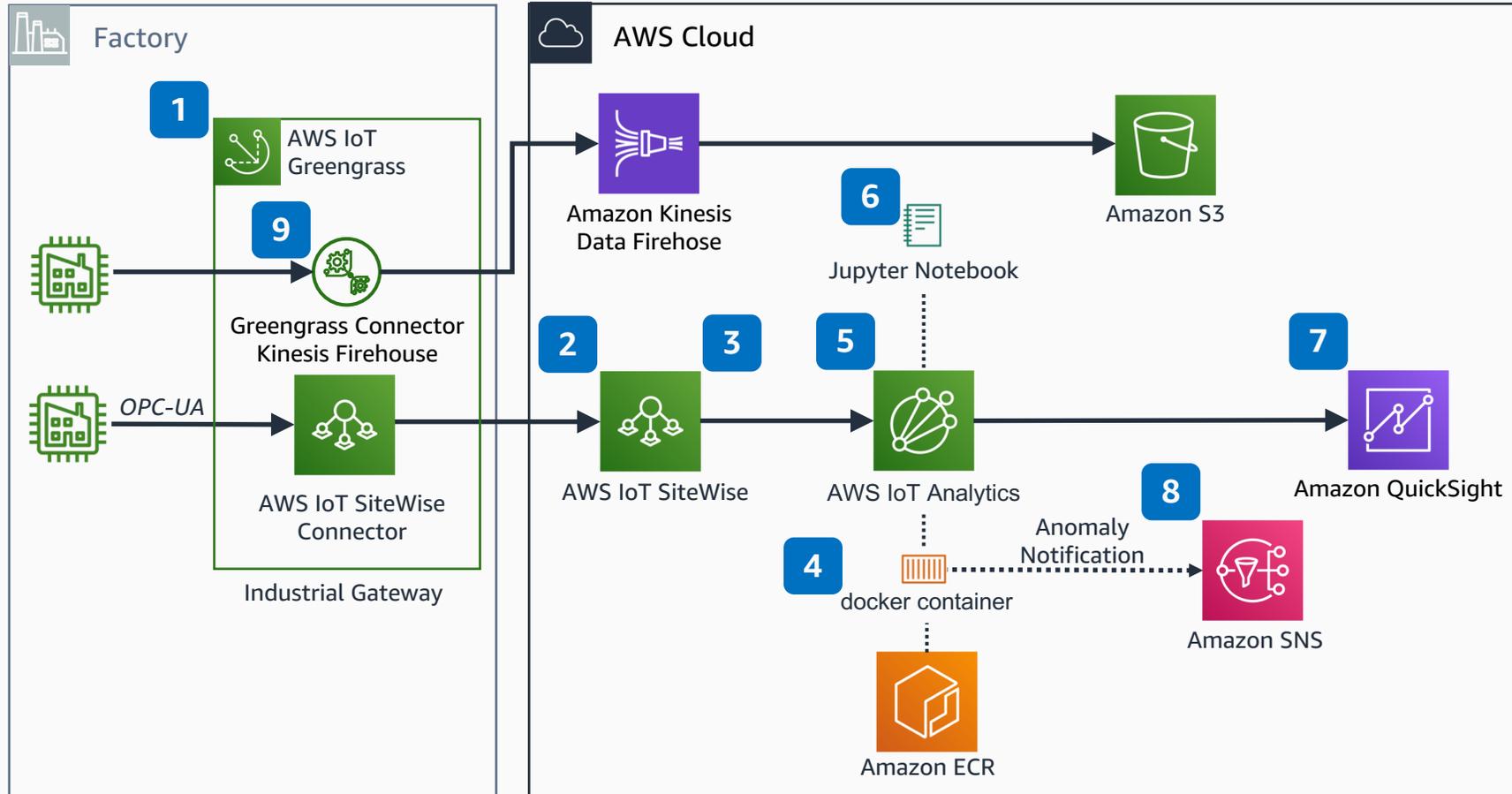


# AWS Industrial Predictive Maintenance

## Machine Learning Model with Data Storage Reference Architecture

Create a Predictive Maintenance (PdM) Machine Learning (ML) model using AWS IoT SiteWise and AWS IoT Analytics with Amazon SNS anomaly detection notifications and Amazon S3 data storage.



- 1 Deploy an **AWS IoT SiteWise Gateway** to connect to the factory machines OPC-UA Servers.
- 2 Create a view in **AWS IoT SiteWise** and define the factory machines as assets.
- 3 Define the metrics to be monitored for the factory machines.
- 4 Build a **Docker** image and add it to **Amazon Elastic Container Registry (Amazon ECR)**.
- 5 In **AWS IoT Analytics**, create a container data set from the **AWS IoT SiteWise** data store and link it to your **Docker** container.
- 6 From **AWS IoT Analytics**, create a new **Jupyter Notebook** for the data set created from **AWS IoT SiteWise** to create a Predictive Maintenance (PdM) Machine Learning (ML) model.
- 7 Visualize your analysis using **Amazon QuickSight** on the **AWS IoT Analytics** data source.
- 8 Create a topic for **anomaly detection** notifications in **Amazon Simple Notification Service (Amazon SNS)** and configure the trigger in your model.
- 9 Configure an **Amazon Kinesis Data Firehose Greengrass Connector** on **AWS IoT Greengrass** to send non OPC-UA Tags data to **Amazon S3**.