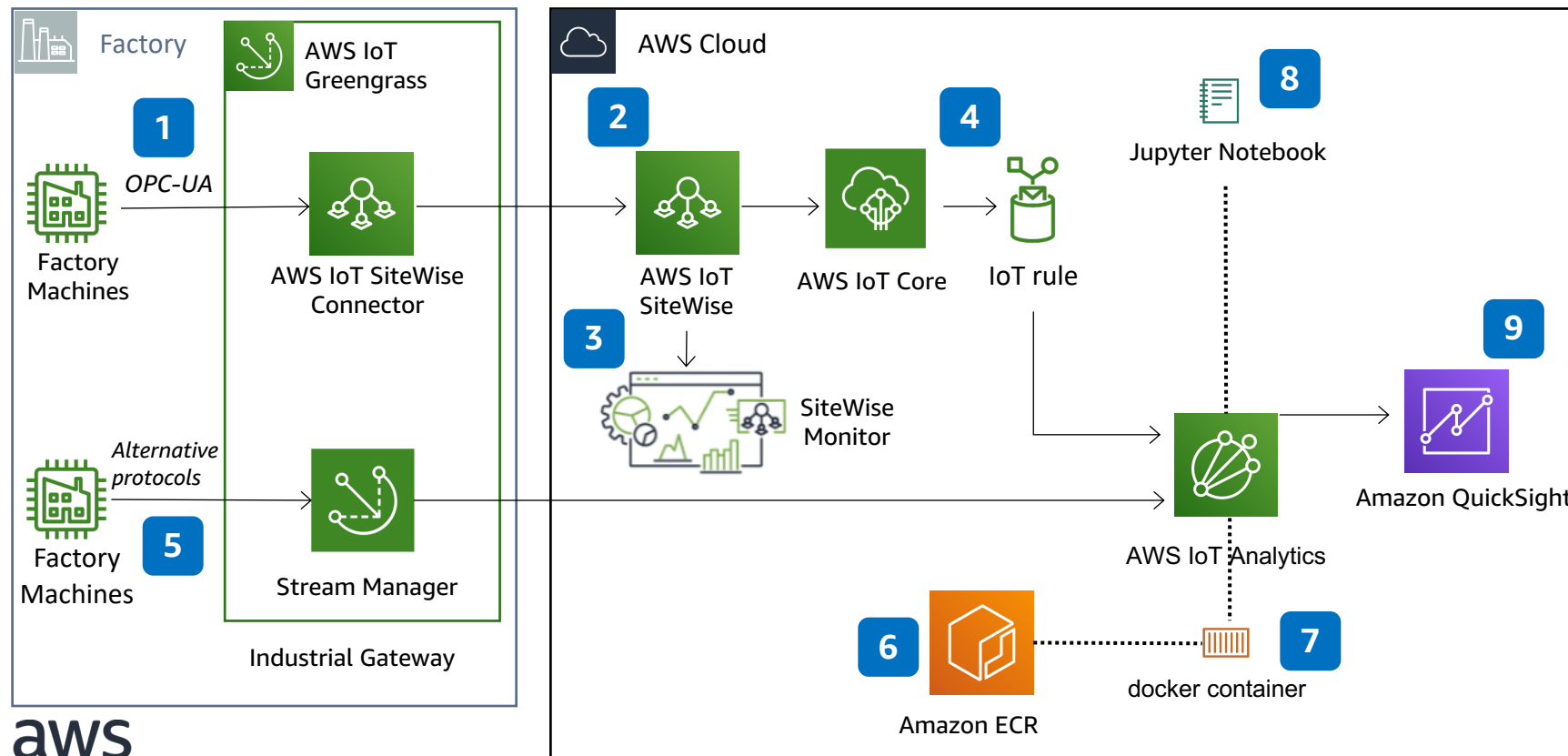


AWS Industrial IoT

Predictive Maintenance ML Model Reference Architecture

Create a Predictive Maintenance (PdM) Machine Learning (ML) model using AWS IoT SiteWise and AWS IoT Analytics. AWS IoT SiteWise collects, organizes, and stores data in the cloud making it available for data scientists to train ML models with clean, contextual, and structured data sets.



AWS Reference Architecture

Description

- 1** Configure the **AWS IoT SiteWise Connector** on **AWS IoT Greengrass** to connect and collect data from factory machines using **OPC-UA**.
- 2** Use **AWS IoT SiteWise** to model and create assets that represent on-premises devices, equipment and processes, and ingest their data into AWS.
- 3** Create a custom web portal using **SiteWise Monitor** functionality to visualize factory data and industrial performance metrics in near real-time, accessible with credentials setup in **AWS Single Sign-On**.
- 4** Using an **IoT Rules Engine** rule, get it into **AWS IoT Analytics** for additional insight on your data.
- 5** For other industrial data you want to process, you can use the **AWS IoT Greengrass stream manager** and publish to the **AWS IoT Core**.
- 6** Build a **Docker** image and add it to **Amazon Elastic Container Registry (Amazon ECR)**.
- 7** In **AWS IoT Analytics**, create a Container Data set from the **AWS IoT SiteWise** Data store and link it to your **Docker** container.
- 8** 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.
- 9** Visualize your analysis using **Amazon QuickSight** on the **AWS IoT Analytics** data source.

