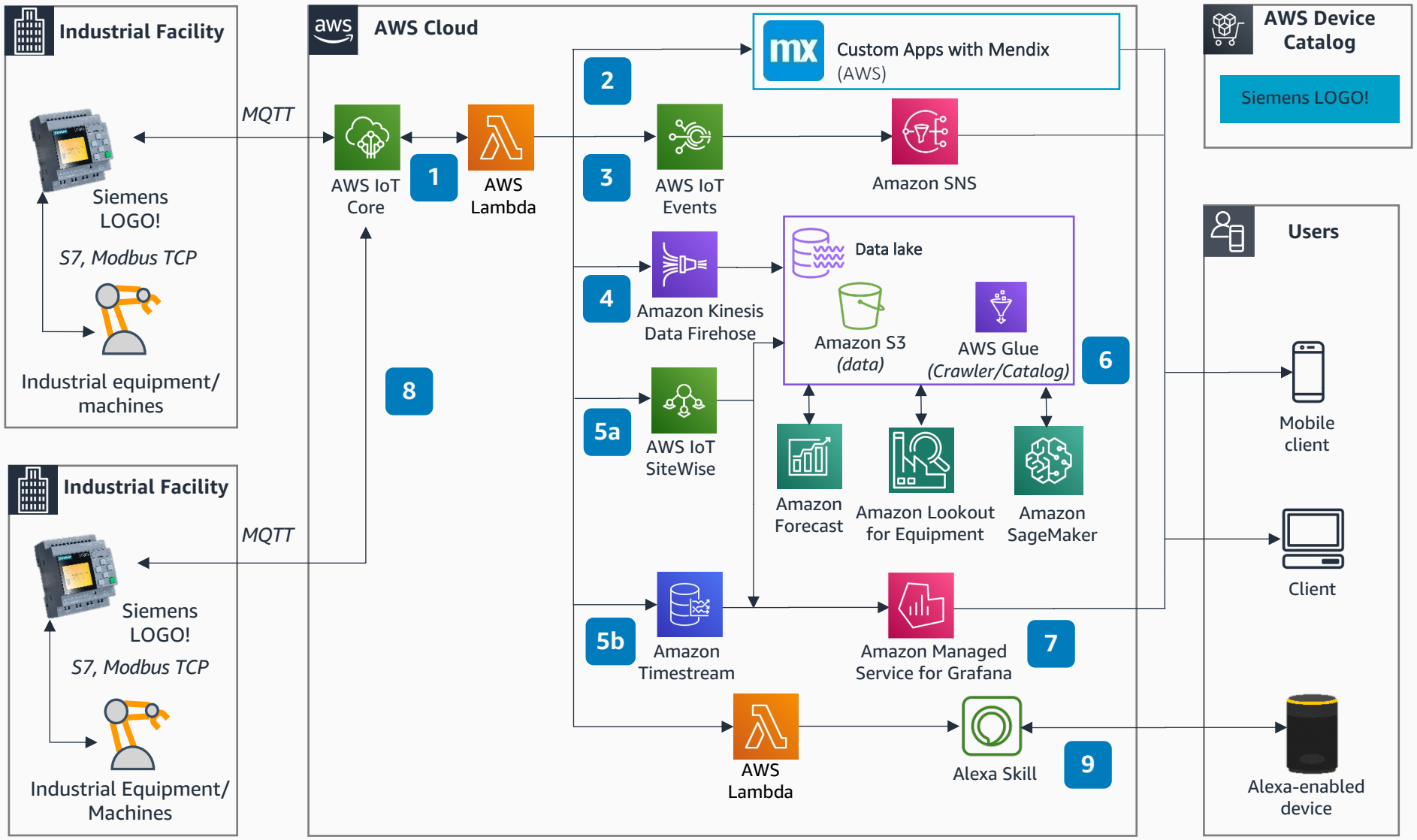
AWS Industrial Applications with Siemens LOGO!

Ingesting near real-time data from Siemens LOGO! to AWS IoT Core enables building modern end-to-end applications, including interactive dashboards, events detection, alerting, predictive maintenance and integration with Alexa. Use analytics and machine learning services operating on a data lake to derive insights to build predictive models and forecasts.



1. Siemens LOGO! controls automation equipment and ingests data to **AWS IoT Core**. **AWS Lambda** is called inside the **AWS IoT Core** statement to transform the incoming data prior to ingestion.
2. Using Mendix, users can rapidly build custom low-code web and mobile applications to monitor and control Internet of Things (IoT) enabled devices.
3. **AWS IoT Events** detects changes and anomalies, and triggers notifications using **Amazon SNS.**
4. Use **Amazon Kinesis Data Firehose** to ingest data into a data lake built on **Amazon Simple Storage Service (Amazon S3)**. **AWS Glue** performs extract, transform, load (ETL) functions and builds the data catalog.
5a. **AWS IoT SiteWise** models and stores data from equipment for large scale deployments.
5b. **Amazon Timestream** stores time series data and optimizes it for fast analytical queries.
6. Curated data from the data lake is utilized by Amazon artificial intelligence/machine learning (AI/ML) services (such as **Amazon SageMaker, Amazon Forecast**, or **Amazon Lookout for Equipment**) or third party ML services for predictive health analysis and assessment.
7. Use **Amazon Managed Service for Grafana** to visualize data on near real-time interactive dashboards.
8. Configure global data exchange between LOGO! devices using **AWS IoT Core**.
9. Custom **Alexa** skills allow users to control input and output variables in LOGO! using voice commands.

AWS Reference Architecture