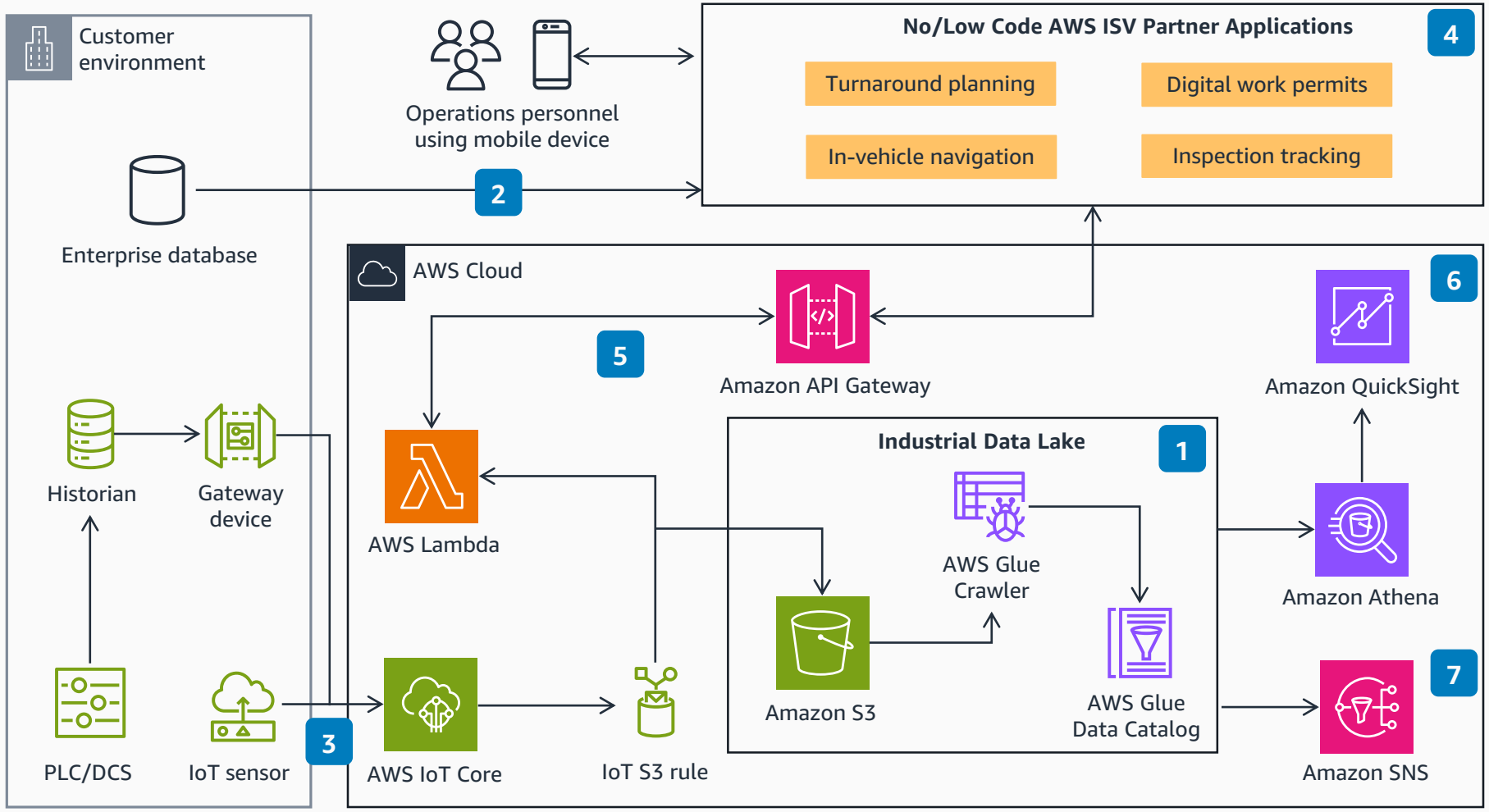
Guidance for Downstream Connected Field Work on AWS

This architecture shows how industrial energy customers can connect workers in the field and facilities with data from operational technology sensors.



1. The industrial data lake extends data availability and capture outside of the control room and into the facility or field. It turns this data into usable, contextualized datasets using **Amazon Simple Storage Service (Amazon S3)** and **AWS Glue** for field use.

2. System of record data from equipment, work order, asset specification, and other customer databases are synchronized with AWS and AWS ISV Partner software-as-a-service (SaaS) platforms.

3. The AWS Partner operational technology (OT) gateway device extracts sensor data from historians with telemetry from programmable logic controllers (PLCs) and distributed control systems (DCS). **AWS IoT Core** ingests the data into the AWS Cloud along with Internet of Things (IoT) sensor data.

4. No/low code applications from AWS ISV Partners simplify mobile device app development, configuration, distribution, and administration for field access.

5. **Amazon API Gateway** and **AWS Lambda** send or receive data updates between work processes and equipment to synchronize data between the AWS industrial data lake and AWS ISV Partner platforms.

6. **Amazon QuickSight** or AWS Partner business intelligence (BI) applications visualize and generate reports on data based on customer preference. **QuickSight** focuses on business key performance indicators (KPIs) that you can consolidate across multiple AWS Partner and external data sources.

7. Notifications from **Amazon Simple Notification Service (Amazon SNS)** keep dispatchers and field technicians aware of status and changes.

Reviewed for technical accuracy August 14, 2023

AWS Reference Architecture