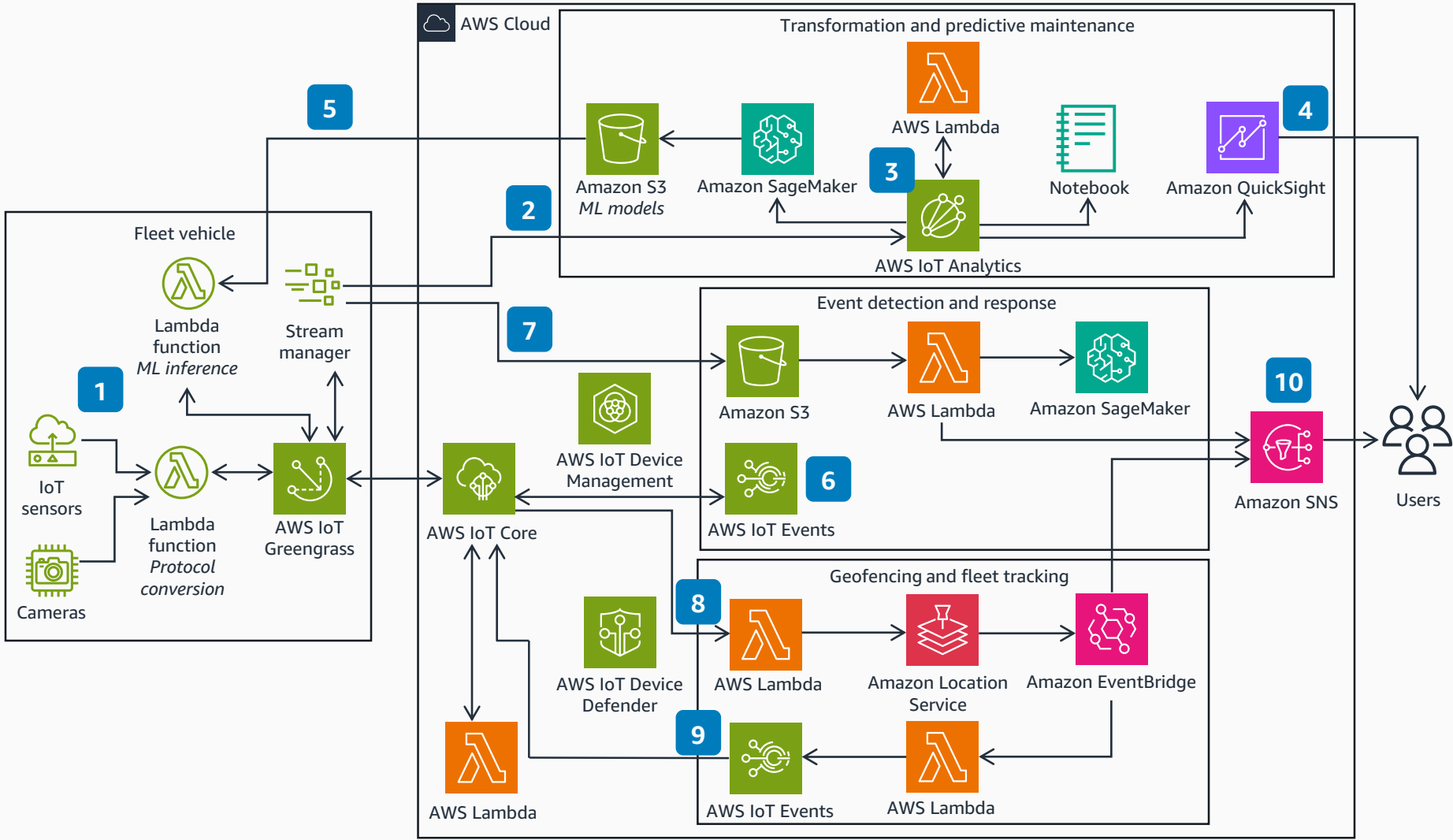


# Guidance for Fleet Management for Connected Farms on AWS

This reference architecture shows how to set up an intelligent fleet management application using IoT sensors.



- 1 Third-party sensors send data such as environmental conditions and operations data through **AWS IoT Greengrass** and **AWS Lambda** with protocol compatibility.
- 2 **AWS IoT Greengrass** streams enable ingestion from edge devices to **AWS IoT Analytics** for data processing and analysis.
- 3 **AWS IoT Analytics** stores and enriches data for use in machine learning (ML) model building. Use custom **Lambda** functions to derive new attributes to classify the data.
- 4 Analyze and visualize time-series data using **Amazon QuickSight**.
- 5 Apply ML to data with hosted Jupyter Notebooks. Build and deploy predictive maintenance models for edge inference with **Amazon SageMaker**.
- 6 **AWS IoT Events** monitors change events from IoT sensors and sends an image capture request back to edge devices through an **AWS IoT Core** Message Queuing Telemetry Transport (MQTT) topic.
- 7 Upload images to **Amazon Simple Storage Service (Amazon S3)** through **AWS IoT Greengrass** streams. **Lambda** uses **SageMaker** to run images against models and optimize operations by detecting crop conditions, the state of physical assets, and obstacles.
- 8 Geofence an area of interest in **Amazon Location Service**. Fleets send location coordinates captured through **AWS IoT Core**.
- 9 **Amazon EventBridge** routes geofence events to predefined targets in near real time.
- 10 Notify users through **Amazon Simple Notification Service (Amazon SNS)**.