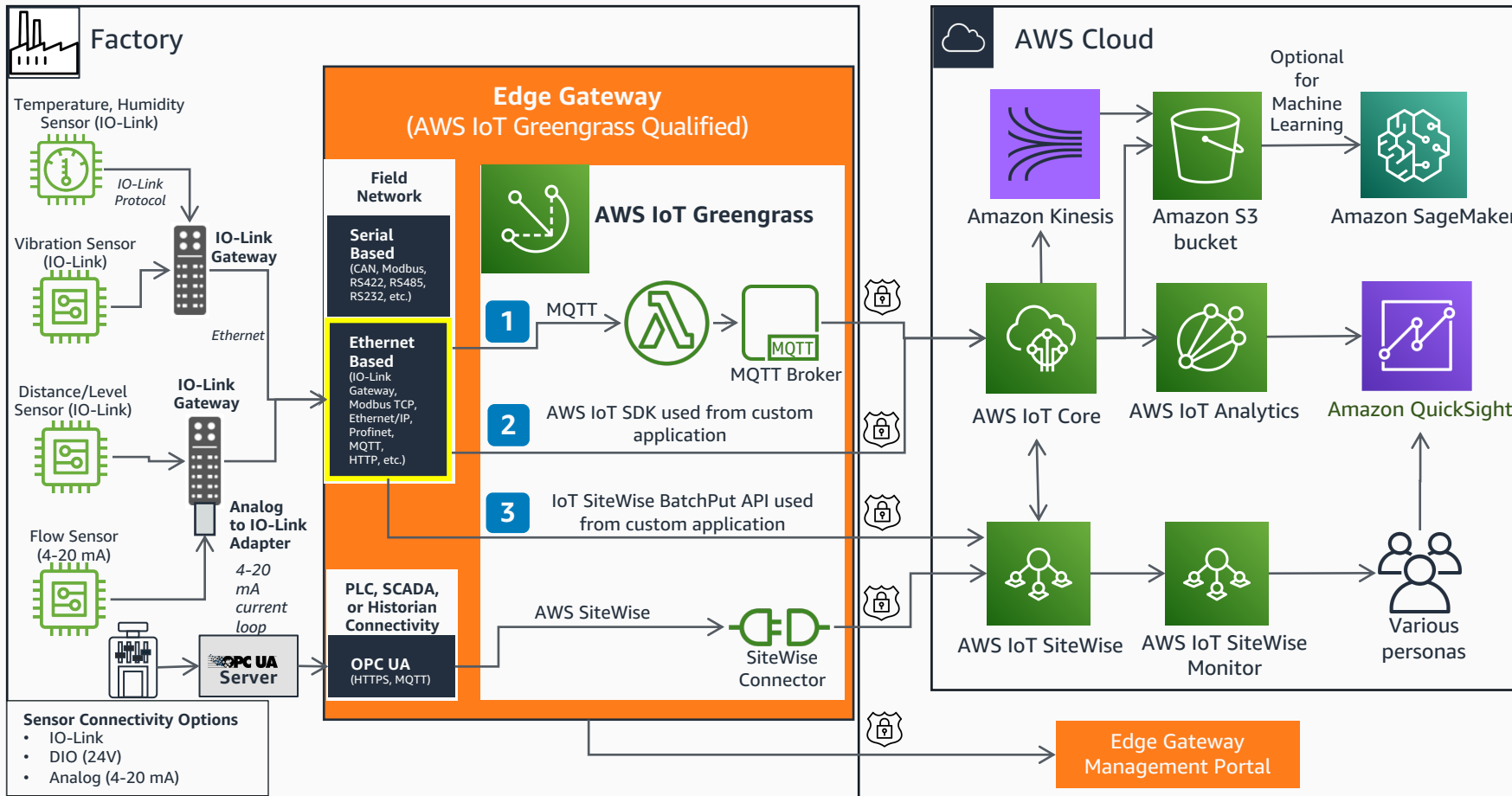


Brownfield Sensing for Manufacturing

Adding Secondary Sensing and Analytics for Smart Factories with AWS IoT

Architecture blueprint for providing secondary sensing to factory machines and equipment using IO-Link.



An **AWS IoT Greengrass** qualified edge gateway may offer a variety of connectivity options on the plant side as well as to the AWS Cloud. This architecture illustrates a connectivity strategy to collect and analyze factory floor process data by augmenting with an overlay of sensors in the factory.

Options 1 to 3 involve using an edge gateway on-premises that supports connectivity with sensors using the IO-Link field protocol. To connect sensors that don't support IO-Link natively, adapters can be used for protocol conversion at the IO-Link gateway.

- 1 IO-Link sensor → IO-Link gateway → IO-Link Translator on edge gateway → **AWS IoT Greengrass Lambda** function → **AWS IoT Greengrass** message queuing telemetry transport (MQTT) broker → **AWS IoT Core**. This option is recommended when local processing of sensor data, or bidirectional communication with the AWS Cloud, are needed.
- 2 IO-Link sensor → IO-Link gateway → IO-Link Translator on edge gateway → **AWS IoT Core**. This option is recommended when local processing of sensor data, or bidirectional communication with the AWS Cloud, are *not* needed.
- 3 IO-Link sensor → IO-Link gateway → IO-Link Translator on edge gateway → **AWS IoT SiteWise BatchPut API** → **AWS IoT SiteWise**. This option is recommended when local processing of Open Platform Communications Unified Architecture (OPC UA) tag data is not needed.

