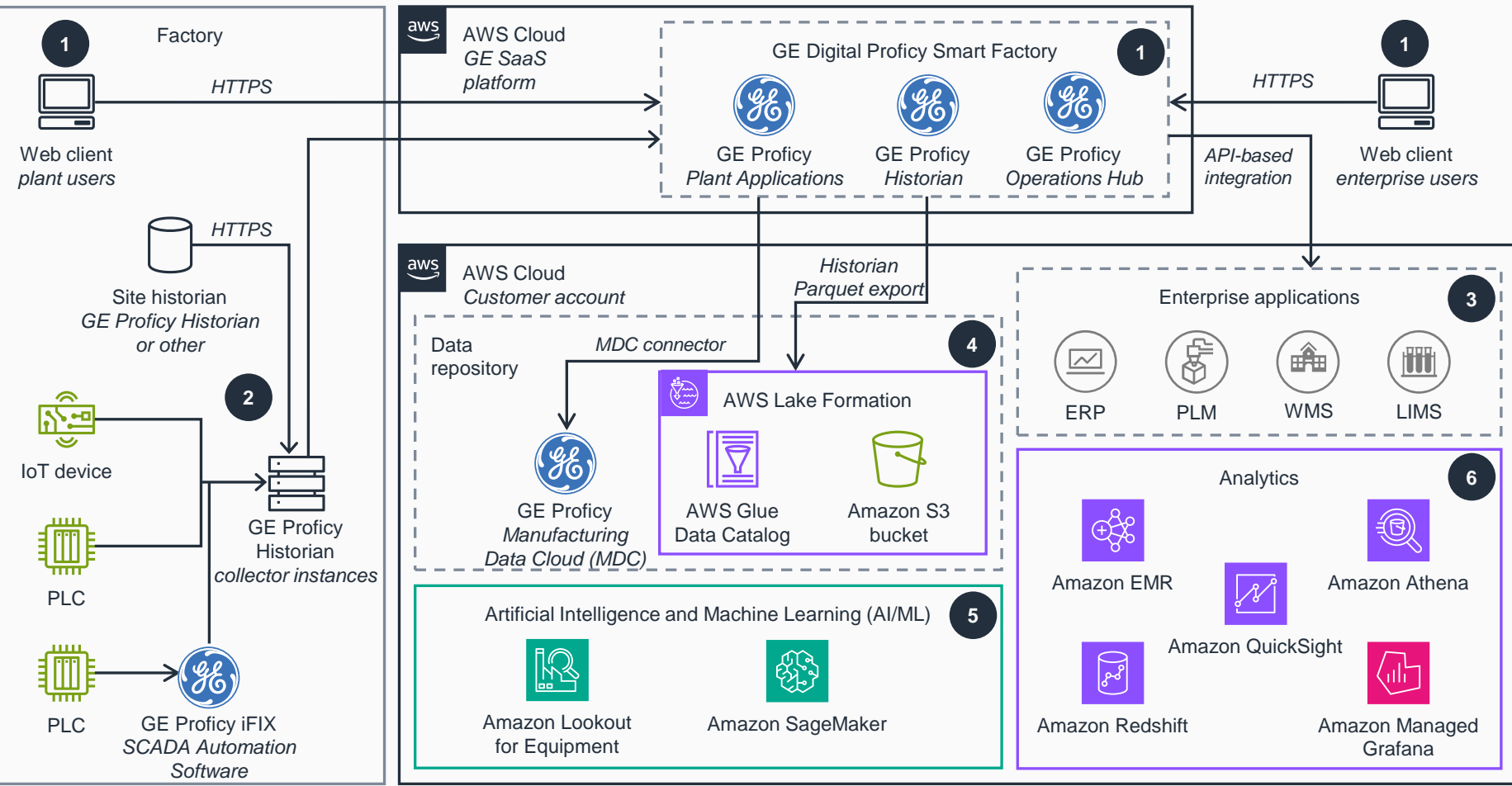


Guidance for GE Digital Proficiency Smart Factory MES on AWS

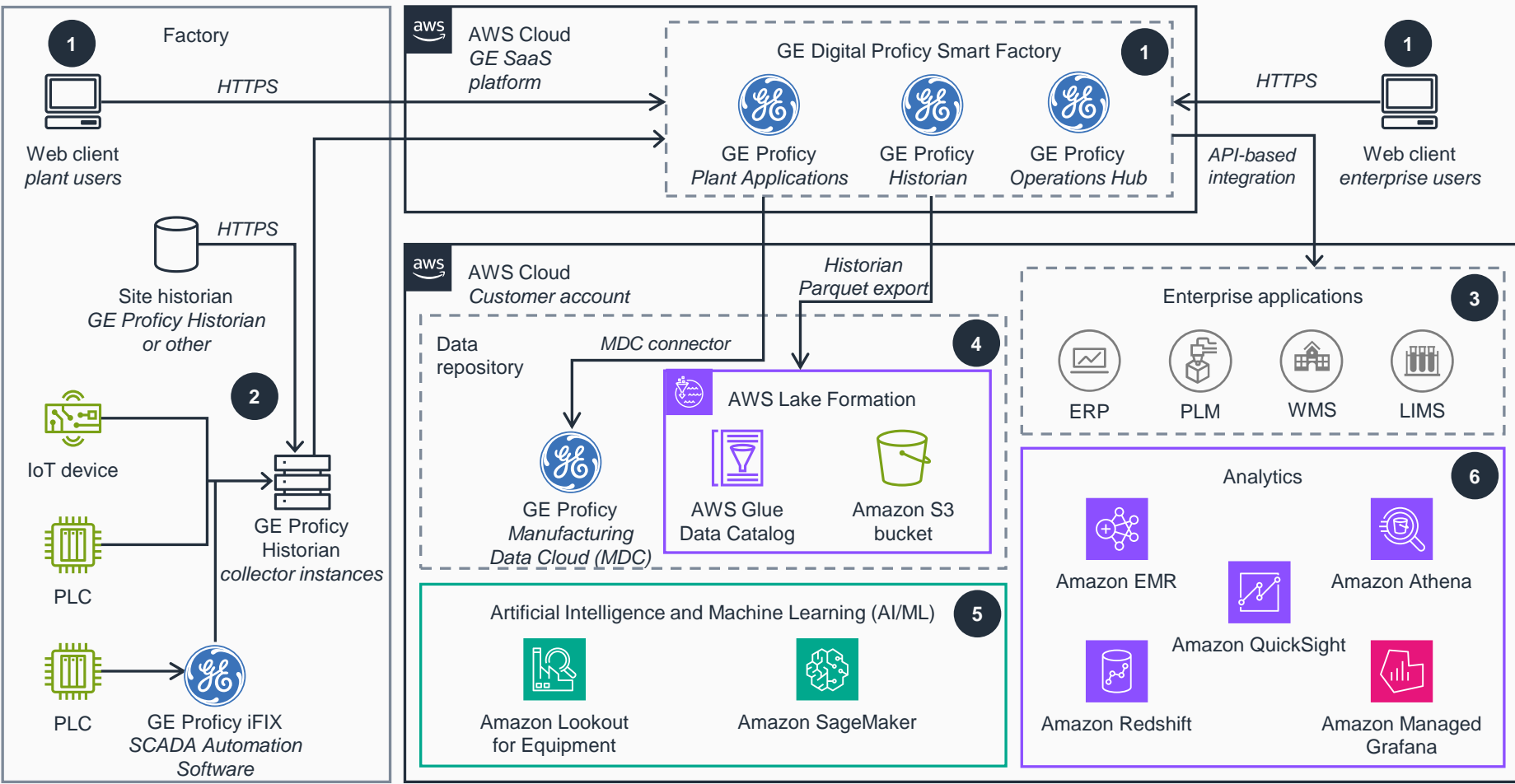
This architecture diagram shows the complete data flow and AWS service integration for GE Digital Proficiency Smart Factory, which seamlessly spans on-premises and cloud-based manufacturing execution system (MES) capabilities.



- 1 GE Digital Proficiency Smart Factory is a Software-as-a-Service (SaaS) offering from General Electric (GE). It is available on the AWS Marketplace. Proficiency Smart Factory is a powerful operation management offering built to handle multiple use cases, such as 1/ Efficiency Management 2/ Quality Management 3/ Production Management 4/ Batch Analysis 5/ Scheduling 6/ Digital Operations and 7/ Industrial Data Management. Plant and enterprise users can access the SaaS software through web based user interface. GE Proficiency Smart Factory offering provides access to Proficity Suite of Software including GE Proficity Plant Applications, GE Proficity Historian and GE Proficity Operations Hub.
- 2 GE Proficity Historian Collectors running on-premises can collect data from a myriad of industrial data sources, such as Programmable Logic Controllers (PLCs), and Internet of Things (IoT) devices. Industrial data sources can include OPC DA/HDA, OPCUA, GE iFIX SCADA software, Proficity Historian, AVEVA PI Historian, MQTT, ODBC, or AWS IoT Core.
- 3 GE Proficity Smart Factory can connect to other enterprise systems such, as Enterprise Resource Planning (ERP), Product Lifecycle Management (PLM), Warehouse Management System (WMS) and a Laboratory Information Management System (LIMS) through the GE Proficity Plant Applications.
- 4 Establish a centralized data repository on AWS to facilitate enterprise-wide analytics. Use Proficity Smart Factory to provide contextualized data to GE Proficity Manufacturing Data Cloud (Proficity MDC). Use Proficity Historian's Parquet export feature to directly ingest data from Proficity Historian into a data lake powered by AWS Lake Formation , AWS Glue Data Catalog and Amazon Simple Storage Service (Amazon S3).

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This architecture diagram shows the complete data flow and AWS service integration for GE Digital Proficiency Smart Factory, which seamlessly spans on-premises and cloud-based manufacturing execution system (MES) capabilities.



- 5 Use AWS artificial intelligence and machine learning (AI/ML) services such as **Amazon Lookout for Equipment**, and **Amazon SageMaker** to build, train, and deploy ML models.
- 6 Use AWS analytics services such as **Amazon EMR**, **Amazon Athena**, and **Amazon Redshift**, along with **Amazon QuickSight** and **Amazon Managed Grafana** for data processing and visualization.