Plantweb Optics

Plantweb Optics Benefits

- Provides a collaborative environment to improve plant reliability and operational performance.
- Connect experts to their assets with Augmented Reality and mobile solutions.
- Securely integrate with anything, store everything, and scale-out easily with flexible deployment options.
- Built on a modern data repository to store structured and unstructured data types.
- Offers workflow integration to drive proactive operations with CMMS integration.
- Historian functionality enables immediate asset health and parameter history.

Connect, Store, and Contextualize Operational Data

Plantweb Optics provides a modern OT data connectivity, data management, and data repository solution built to accelerate your digital transformation programs. Eliminate OT data silos, collect and contextualize structured and unstructured data, and easily integrate OT data with IT tools and cloud applications to improve production, reliability, safety, and energy usage.

The first step in creating a centralized location for operational data is providing connectivity to industry standard interfaces. Plantweb Optics provides an enterprise-level aggregation solution for all your operational data and supports all major interfaces, including:

- Classic OPC (DA/HDA/A&E)
- OPC UA
- OleDB
- Modbus
- Relational Databases (ODBC)
- XML-DA
- MQTT
- Unstructured data
- Direct PLC connections

Refer to the Plantweb Optics Connectivity flyer and Plantweb Optics System Connectivity List for details on supported data sources.

PLANTWEB optics

EMERSON

Powered by a NoSQL data repository, all types of operational data can be stored, including measurements, states, aggregates, alarms & events and more.

Another critical path to success is being able to securely move your operational data wherever you need. Plantweb Optics supports various methods of egress, including OPC and Web API, so you can send data to applications in the cloud or on-premise.

Manage Your Assets and Enable an Integrated Workflow

Plantweb Optics can combine data from multiple applications into asset-centric information to deliver persona-based alerts and KPIs for improving the reliability of assets throughout the facility. Health scores for assets are calculated automatically to start providing immediate insights to the assets that need attention most.

With enhanced visibility into asset health, experts in the facility are always connected to the assets they care about most. Data is delivered with personalized content and dashboards in a collaborative environment to improve workflows and drive corrective actions.

Plantweb Optics uses native Emerson Connectors to connect and contextualize asset data. This secure connectivity creates more visibility into asset status.

Built on a NoSQL data repository and utilizing thin clients, Plantweb Optics installation and maintenance processes are simple and non-intrusive to allow for flexible installations within complex network architectures.

Emerson Connectors

Functionality is added to Plantweb Optics with native Emerson Connectors to include contextualized data such as asset hierarchy, health, events, parameters, and properties specific to the asset class. Available Emerson Connectors include:

AMS Device Manager Data Collector—Connect existing AMS Device Manager installations to Plantweb Optics and allow users to monitor device health from anywhere.

AMS Machinery Manager Data Collector—Connect existing AMS Machinery Manager installations to Plantweb Optics for discovery, monitoring, and reporting of rotating equipment assets.

AMS Machine Works Data Collector—Gather predictive analytics from AMS Machine Works to provide quick and accurate assessments of machinery health.

Plantweb Insight Data Collector—Gain analytics based on decades of process and industry experience into Plantweb Optics for key assets such as Pumps, Heat Exchangers, Steam Traps, Air-Cooled Heat Exchangers, Pressure Relief Devices, Cooling Towers, Network Management, and Power Modules.

DeltaV Control Loop Data Collector—Understand which loops need maintenance or tuning and have full insight into which processes are currently running in manual mode.

Plantweb Optics Analytics Data Collector—Gain performance, health, and energy insights by running analytics from pre-built asset templates or leverage machine learning capabilities.

Each Emerson Connector has an individual datasheet available with more information.

Plantweb Optics Applications

Plantweb Optics is built using intuitive interfaces and applications to streamline setup and navigation.

The **Plantweb Optics DataStudio** application allows convenient, secure, and rapid access to your data source network. It is a fully integrated, single UI to perform all system engineering tasks, object configuration, mass engineering, data analysis, and coding in one application. Plantweb Optics periodically polls the I/O Model in DataStudio to discover wired, and wireless assets added to or removed from installation and makes the appropriate adjustments. The ISA-95 Equipment Model is used to further contextualize data based on asset classes and hierarchy. Additional capabilities include:

- Creating composite assets from individual primary assets. For example, a pump may consist of vibration, chassis temperature, and acoustic transmitters.
- Defining site turnarounds by allowing users to set specific assets that are scheduled to be fixed as "Out of Service".
- Historizing objects to track health and parameters over time.

The **Plantweb Optics Portal** application provides a dashboard view and valuable KPIs of monitored assets and alerts on developing issues on any asset defined in the ISA-95 Equipment Model. The interface is similar across desktop/tablet/smart phone views for ease of use, while the Plantweb Optics Mobile App provides a multi-site view for easy review of alerts across the enterprise. Optics Portal allows users to drill down on individual alerts for more details, trend historized parameters, and launch diagnostic applications for further troubleshooting. In addition, the asset hierarchy provides a top-down view with rolled-up health scores to easily identify which areas

need attention. The persona-based viewing makes sure users can quickly focus on the asset they care about most, and notifications can be setup for critical assets for immediate alert of degrading health around assets needed for production.

Plantweb Optics Historian

To improve process reliability, you need to be able to see the status of your critical assets and know how they've performed over time. Being able to trend historical values can provide insights that will help you troubleshoot and identify the root cause faster.

Historian capabilities are embedded into Plantweb Optics to enable trending in DataStudio and Optics Portal for the most complete view of historical health and performance. Users can plot parameters from multiple assets on a single chart to allow for easy comparison, and data can be easily exported for further analysis. With minimal configuration and the ability to store all parameter information associated with an asset, Plantweb Optics provides the insights needed to fully monitor assets and make informed decisions.

Plantweb Optics CMMS Interface

The Plantweb Optics CMMS interface integrates directly to SAP or IBM Maximo. This significantly reduces the time spent generating work requests, so experts can spend their valuable time focused on the most productive activities.

The Plantweb Optics CMMS interface maps assets from Plantweb Optics to your CMMS, so work requests are created proactively before process upsets occur in the facility. This allows you to integrate your workflow and drive corrective actions.

Plantweb Optics also allows for creation of CMMS work requests directly from analytics or monitoring alerts. With a mobile solution, CMMS work requests can be created from anywhere, and the status of existing requests can be viewed from anywhere. The ability to see open and completed requests reduces the chance of a duplicate entry and can help identify any bad actors in the facility.

Plantweb Optics Augmented Reality

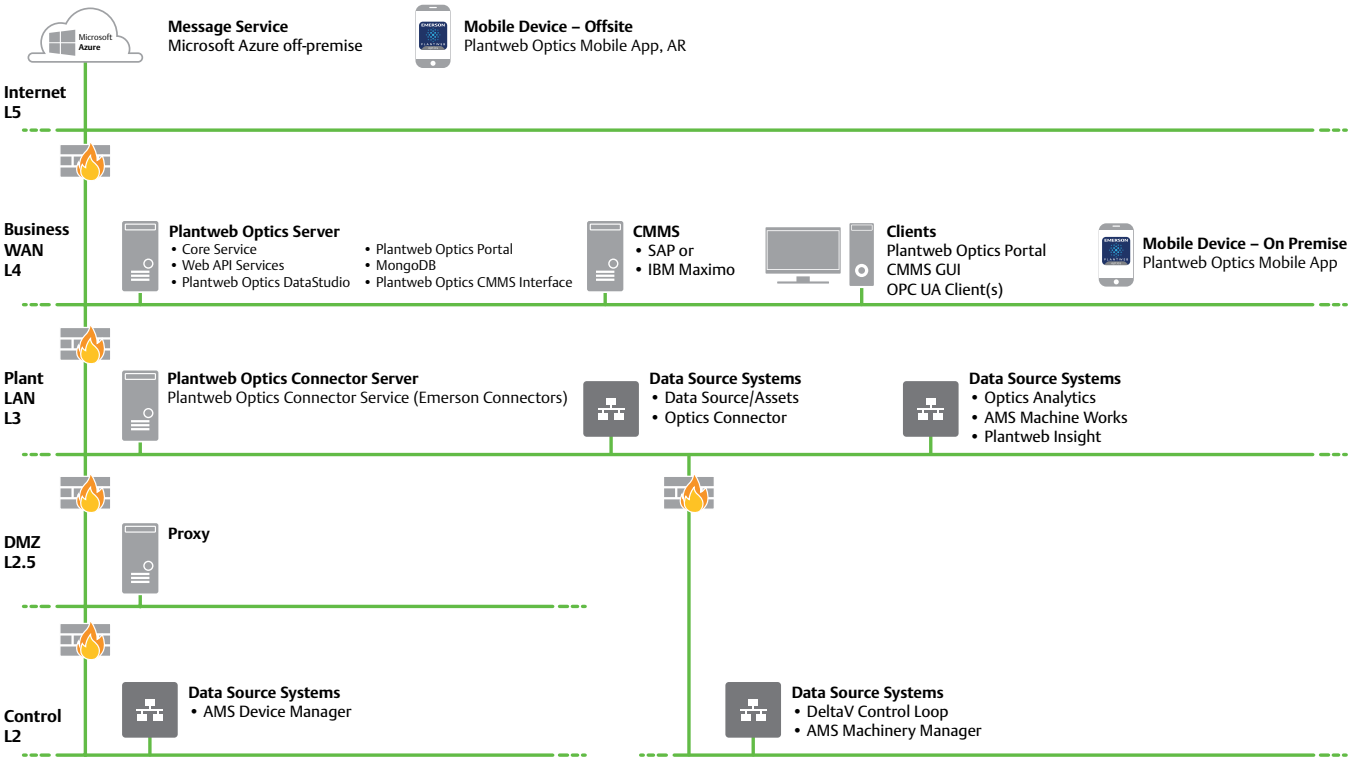
Plantweb Optics Augmented Reality (AR) helps field workers improve productivity in the field, make better decisions for maintenance operations, and enables collaboration in real-time with subject matter experts. AR helps you:

- Increase productivity of field workers by providing relevant asset and process data and locating assets quickly using AR visualization.
- Reduce cost, safety risks, and repair times with Remote Assistance via live video, audio calling and messaging.
- Improve training and knowledge transfer with AR-supported documentation such as annotated videos and digital step-by-step procedures.

Once work is scheduled, Plantweb Optics Augmented Reality provides the tools your maintenance team needs to complete work efficiently and safely.

Plantweb Optics Augmented Reality shows asset data out in the field.

Plantweb Optics Architecture



Refer to the Plantweb Optics Connectivity flyer and Plantweb Optics System Connectivity List for details on supported data sources.

**Plantweb Optics Mobile and AR utilize Microsoft Azure Message Service for site access and are not available for use in all countries. Please contact your local sales office to confirm availability.*

Plantweb Optics runs in a secure network environment to deliver the information you need from your plant assets.

Plantweb Optics Deployment Services

To take advantage of Plantweb Optics as quickly as possible, Emerson offers install services performed by certified Plantweb Optics experts. Customized to your installation, these services include:

- Pre-install readiness plan and onsite kick-off meeting
- Network setups
- Installation and database import for software applications and connectors
- Configuration and setup for Plantweb Optics and the mobile app
- Basic training for your team
- Documentation band backup of configurations

Emerson-certified experts in Plantweb Optics installation will customize a plan for your site or enterprise.

Plantweb Optics Basic Specifications

For more details, refer to ***Plantweb Optics System Requirements***.

Plantweb Optics Server Requirements	
Operating System	Windows Server 2019 Datacenter Windows Server 2019 Standard Windows Server 2016 Datacenter Windows Server 2016 Standard
CPU Architecture	64-bit
Internet Information Services (IIS)	v8.5, v10 (supplied with OS)
Data Repository	MongoDB v4.0 and above
Browsers	Google Chrome (latest version) Microsoft Edge
Processor	3.2 GHz, 8-core processor, Intel Xeon-scalable or faster (recommended) 2.4 GHz, 4-core processor, Intel Xe-on-scalable or faster (minimum)
RAM	32 GB (recommended) 16 GB (minimum)
Hard Drive	SSD hard drive (recommended) SAS hard drive (10K RPM) (minimum)
Available Disk Space	100 GB (minimum)
Screen Resolution	Full HD (1920 x 1080 pixels) (maximum) SXGA (1280 x 1024 pixels) (minimum)
Network	2 x 1 GB NIC (use 2 NICs to isolate Tier 3 traffic from Tier 2 traffic) (recommended) 1 x 1 GBNIC (supported)

Additional Specifications	
Ethernet	One or more Ethernet ports
Internet Connectivity	An Internet connection is required to download installations and patches, register software, and receive alerts and messages on the mobile application.
Supported Virtualization	VMware v6.0 up to v7.0 HyperV 2012, 2016, 2019, 2022
Antivirus Software	Symantec Endpoint Protection McAfee Endpoint Norton Security with Backup

Refer to individual spec sheets for software applications, Emerson Connectors and Services for additional specifications.

Contact Us
www.Emerson.com/ContactUs

PLANTWEB optics

EMERSON