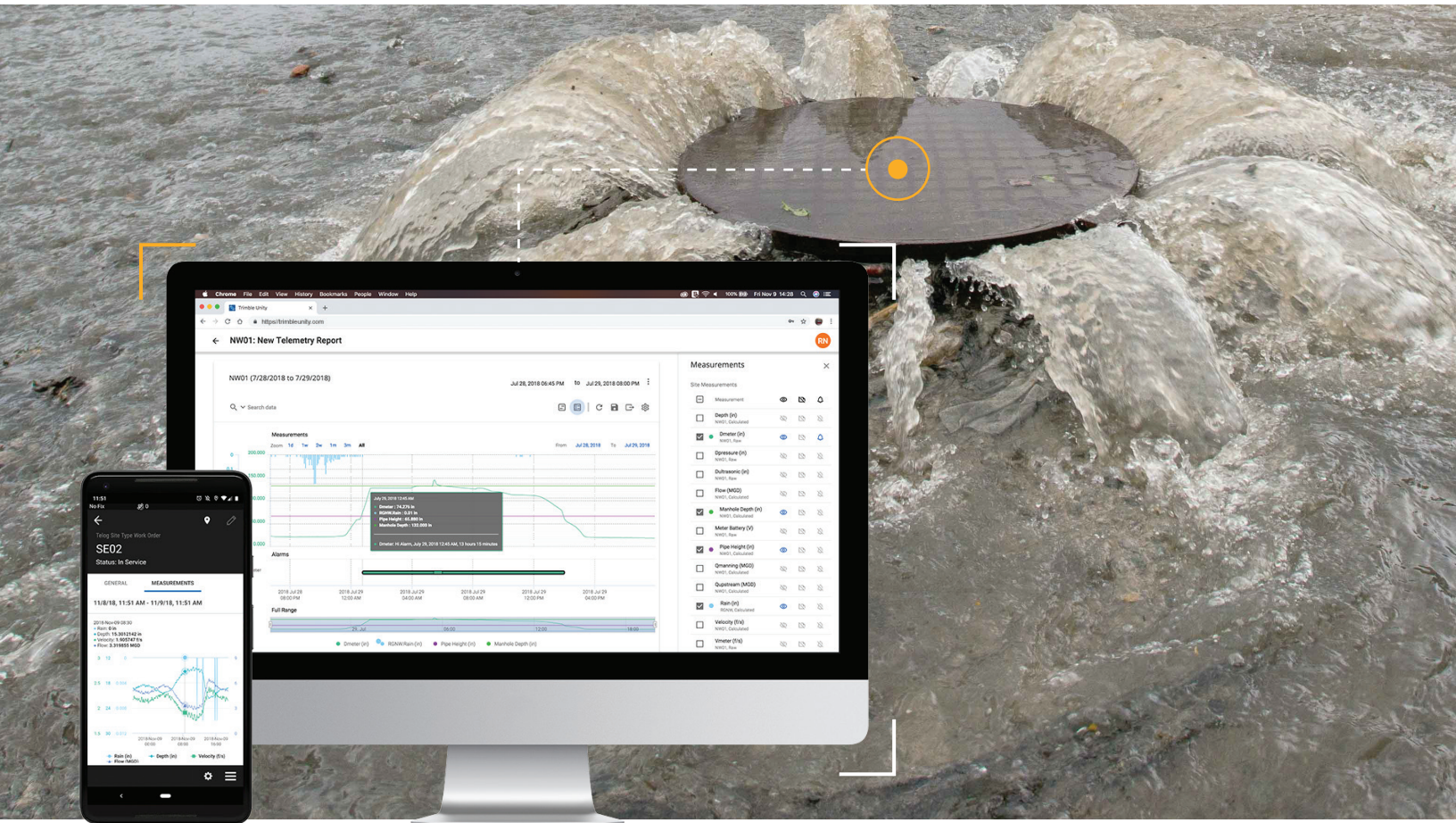




Trimble Unity

Remote Monitoring



Transform How Data Drives Your Business

Gather reliable remote monitoring data for informed decision making on capital improvements and capacity planning, operations and maintenance.

HIGHLIGHTS

- Proactively monitor asset performance
- Optimize water and wastewater operations
- Reduce asset failure and repair costs
- Gather reliable remote monitoring data for reporting, regulatory compliance and capital planning
- Improve customer service and response

Everything You Need In One Solution.

GIS and Web-based Remote Monitoring

Providing GIS-centric and web-based visualizations, reporting, and analysis for managing remote monitoring sites, viewing telemetry reports, and analyzing data collected with Trimble Telog RTUs and other imported 3rd-party sources. Powered by Esri® ArcGIS® with seamless support for ArcGIS Identity, Web Maps, and Dashboards.

Proactive Monitoring and Alarming

Receive automated alarm notifications, enabling rapid response to operational anomalies and abnormal conditions that could result in infrastructure failure, environmental damage, and regulatory penalties.

Supports Wide Range of Wireless Recorders and Sensors

Supporting the Trimble Telog® family of rugged, battery-powered Recording Telemetry Units (RTUs), sensors and data, for situational awareness of water and wastewater operations and asset performance.

Bring Your Own Data

Extend the value of your existing IoT and SCADA data. Bring your telemetry data into Trimble Unity RM, offering a single pane of glass view for improved insights, reporting and analytics. Provide controlled access to staff and outside users.

Mobile Application for Empowering Field Crews

Extend real-time monitoring data to field crews using the Trimble Unity GIS based mobile software supported on iPhones, iPads and Android devices, providing mobile workers and field technicians with the tools and data they need to quickly and efficiently analyze and respond to network events.

RTU Configuration and Management

Use the Trimble Unity Remote Monitoring mobile app and workflow to manage the installation of RTUs on new sites, and relocation of RTUs from one site to another. Configure RTUs to automatically get data as often as you want and when you want with configurable data transfer intervals, and in response to configured alarms.

Insights to Asset Condition

Identify assets that are in poor condition, or ones that are likely to fail, through correlating telemetry data over a period of time with historic events and alarms, asset age and operational records. Then incorporate this information into network inspection and rehabilitation plans.

Asset performance insights with Esri® ArcGIS®

Supplement your GIS with asset performance data using the Trimble Unity Remote Monitoring ArcGIS Connector. Giving you the ability to activate pre-canned KPIs on monitoring sites, and configure how these KPIs update your GIS. You can use the KPI data, along with monitoring sites, alarms and pressure impulse events in ArcGIS Web Maps and ArcGIS Dashboards to create location-aware data visualizations and analytics across the organization, offering real-time situational awareness.

System Health Dashboard

A remote monitoring system health dashboard and analytics to provide management and operations staff with real-time insight into the availability and performance of the remote monitoring network and assets.



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Cloud and mobile
GIS powered by





The Trimble Unity Remote Monitoring (RM) - Historian API is a secured, RESTful web service providing read-write access to your remote monitoring telemetry data, stored either on-premise in the Telog Enterprise historian database or the cloud in the Trimble Unity RM historian. The Historian API is used to facilitate and streamline the integration of remote monitoring data with other 3rd party systems.

Your software subscription includes access to the Trimble Unity RM - Historian API.

What is Rest or RESTful API?

REST or representational state transfer is a modern architectural style for creating web services, with the goal of fast performance, reliability and ability to scale.

RESTful web services allow a requesting software or system to access textual representations of web resources by using a predefined set of stateless operations. Results are returned in lightweight JSON or XML format.

What data do I have access to via the Historian API?

The Historian API provides the following access.:

- Read/Write Remote Monitoring Sites
- Read/Write Site Measurements
- Read/Write Measurement Telemetry Data
- Read Remote Monitoring Site Groups
- Read High-Resolution Pressure Impulse Data (if applicable)

Is the API Secure?

When using the Historian API within the Trimble Unity RM software on the cloud, data transfers are TLS encrypted with AWS-managed A-rated certificates. These certificates rotate automatically, and the platform is configured to use only the safe encryption ciphers recommended by AWS according to best practices. When using the Historian API on-premise with Telog Enterprise Server, the customer's IT team must ensure that the web server environment is secure with an appropriate SSL certificate to facilitate data encryption. Due to the security requirements of modern web browsers, HTTPS is required to ensure secure communications when used with Trimble Unity RM software.

How Do I Use The API?

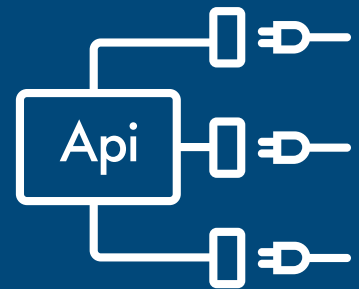
An API is an interface, and as such, something must connect to it for it to be used. An API on its own is not able to connect to another API. The general term for software which connects system APIs is middleware or a connector.

Integration will require software development experience, ideally including integration with REST interfaces.

The Trimble Unity RM - Historian API is well documented, with descriptions of the various endpoints and parameters available in the API.

To view the available API calls, go to the following URL <https://api.telogdhs.net/>, then click on the Help menu option at the top of the screen. The help documentation provides details on how to call the various end points contained in the API. We recommend that you use Postman to directly interact with API and become familiar with how to structure API calls.

Additional help with Postman can be found [here](#).



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Trimble Unity Remote Monitoring ArcGIS Connector

EXTEND THE VALUE OF TRIMBLE UNITY REMOTE MONITORING WITH ESRI® ARCGIS®



SENSOR DATA CAN PROVIDE CRITICAL INSIGHTS INTO THE PERFORMANCE OF YOUR ORGANIZATION'S ASSETS. BUT DATA SILOS CAN STILL LEAD TO BLIND SPOTS AND OPERATIONAL INEFFICIENCIES.

The Trimble Unity™ Remote Monitoring (RM) ArcGIS Connector allows water and wastewater utilities and service providers to combine GIS data shared across the organization with remote monitoring performance data collected by Trimble Telog IoT recorders and sensors.

Trimble Unity RM, combined with Trimble Telog® family of IoT wireless data recorders, offers water and wastewater utilities and service providers the tools to proactively monitor

asset performance and alarm when abnormal conditions are detected. By leveraging the full capabilities of the ArcGIS platform, this solution allows organizations to create and share location-aware data visualizations and analytics across the organization, provide real-time operational insights, drive operational efficiencies and inform decision making.

Benefits

- ▶ Leverage real-time situational awareness for asset performance within the ArcGIS platform for informed decision making.
- ▶ Quickly create maps and dashboards that combine GIS asset information, with Key Performance Indicator (KPIs), and other location aware data, then share these maps and dashboards across the organization to drive operational efficiencies.
- ▶ Provide native ArcGIS integrations without any development efforts.

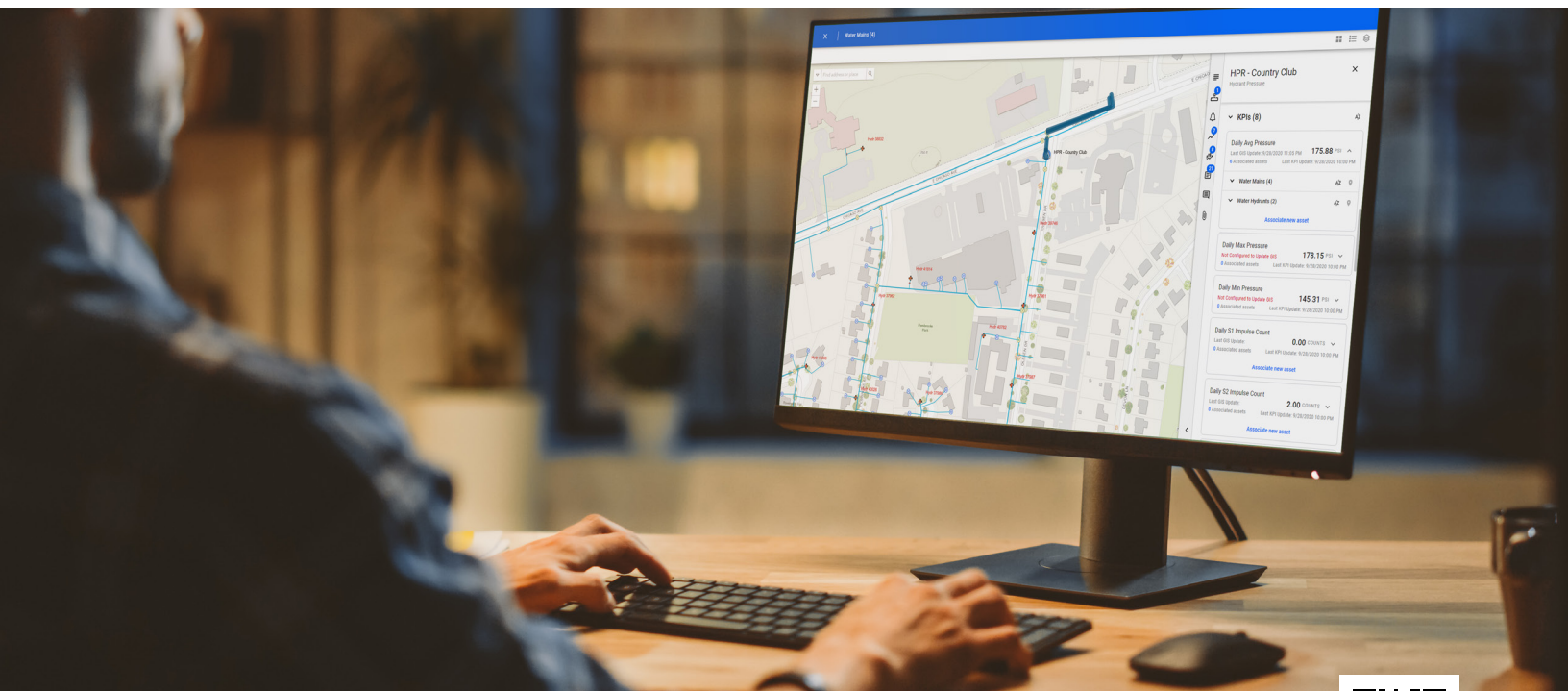
Prerequisites

- ▶ Trimble Unity Remote Monitoring Software
- ▶ Esri ArcGIS Online or ArcGIS Enterprise with Portal for ArcGIS

Features

The API provides read-only access to:

- ▶ Create ArcGIS Web maps and Dashboards that consume Trimble Unity Remote Monitoring Sites, Alarms, and Pressure Impulse data.
- ▶ Update the GIS data with pre-canned asset performance KPIs calculated in Trimble Unity RM, including KPIs such as: Daily Avg, Min and Max pressure, level, flow and rain data, Daily Total Pressure Impulses categorized by severity, Daily Peak 1 Hour Flow, Capacity, Level and more.
- ▶ Manage how KPIs update GIS data, and what features or related tables will be updated with the KPI values.



To learn more, visit: <https://www.trimblewater.com/trimble-unity-rm>



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