# Profile™

ENTERPRISE-LEVEL
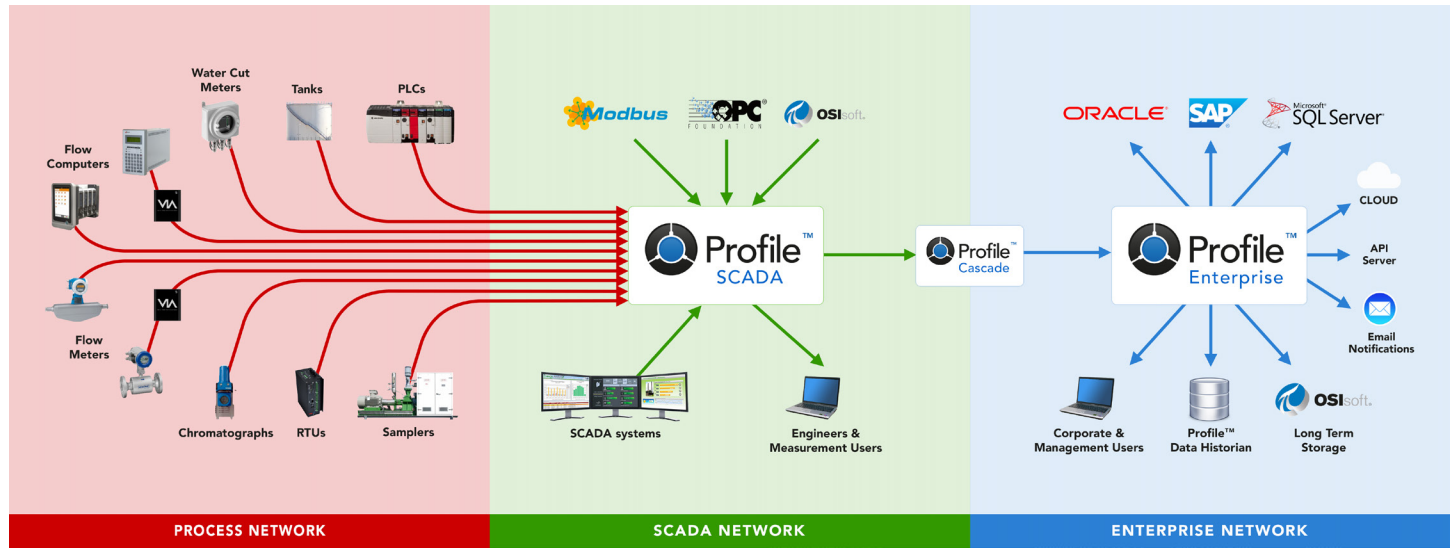MEASUREMENT SCADA

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# Profile™

Profile™ is an enterprise-level Measurement SCADA system that automatically collects and manages all the data generated by flow computers and RTUs, storing it centrally so that it can be shared securely with technicians, engineers, managers and customers, or pushed to accounting and other systems for further analysis.

## Measurement SCADA

Profile automatically connects to every RTU on the network, gathering their historical data, alarms, audit events, batches, proves and other reports at regular intervals.

Profile has native support for a wide range of RTUs and flow computers and can communicate using a number of different protocols, including Modbus, OPC and Ethernet IP.

Profile can also gather data from various network topologies, including Ethernet, canopy radio, GPRS, 3G, 4G, LTE, satellite or directly from a VIA™ data gateway. This approach allows Profile™ to collect data from an array of distributed RTUs, providing a comprehensive overview of the entire measurement system.



## Secure access to measurement data

Security is paramount for all industrial systems. Best practice dictates that a network should be divided into separate zones with heavily regulated firewalls controlling the traffic between them to prevent hackers or viruses from accessing mission-critical control systems. But these security measures often restrict access to important measurement data too.

Profile solves this challenge by providing three levels of servers that have different capabilities based on the network zone in which they are installed and can transfer data in one direction from one server to the next:

**Profile™ SCADA** is installed on the SCADA network. Profile collects data directly from RTUs on the process network or from VIA gateways, with centrally managed access to those devices.

**Profile™ Cascade** provides the link between different network segments. It allows traffic to pass from the SCADA network, up through one or more DMZs, to the enterprise or even to the cloud.

**Profile™ Enterprise** can be installed on the enterprise network or in the cloud and receives a regular stream of data from lower network levels. Users have read-only access to all the measurement data but with no physical access to the RTUs.

## Profile and VIA - the gateway to Big Data

VIA™ is a compact, DIN rail-mounted IIoT data gateway designed to capture real-time data from any flow computer or RTU. Because VIA is situated next to the RTU, it can poll at high speed without bandwidth restrictions or other network limitations. VIA transmits all of its data over an authenticated encrypted link in a compressed format. This is ideal for those unreliable, low bandwidth, high latency backhaul connections found at remote sites.

The tight integration between VIA and Profile allows data in the field to be securely captured and made available in the enterprise without requiring complex engineering. All collected data is timestamped and stored securely within VIA so every value can be traced back to its original source.

VIA automatically transforms the capabilities of legacy RTUs and flow computers, endowing them with the latest communications technology, extending their local data storage and hardening them with the latest security and encryption techniques. VIA allows existing infrastructure to be upgraded to the latest technology cost-effectively, with minimum engineering and without disrupting complex and critical control systems.
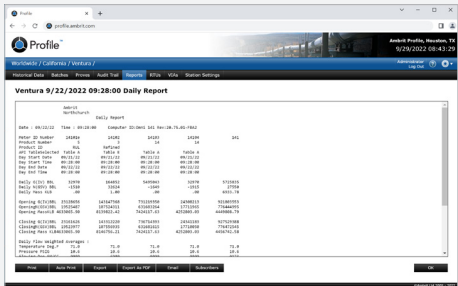
## Measurement Portal

Profile's secure web-based measurement portal provides a unique global view that consolidates all measurement data across the system in a standardized format. Users can quickly view data from any RTU – including batches, proves, alarms audit events and reports – alongside graphical real-time charts to present a complete picture of the performance of the process.



Historical data



Reports



Batches

### Easy Setup

A complete system can be put together in minutes with no software skills required. Profile has built-in support for a wide variety of RTUs and starts collecting data as soon as the RTU's communication details have been entered.

### Measurement Data Lake

Vast amounts of primary measurement data can be stored in a dedicated measurement data lake managed by Profile on the corporate enterprise network or the cloud.

### Information Transparency

All measurement data can be definitively traced back to the source RTU without it being influenced or tampered with at any stage.

### Enterprise Access

Users on the enterprise network can easily access measurement data without requiring access to the lower-level SCADA systems. All data can be shared with other systems on the corporate network.

### Issue Detection & Notifications

Profile monitors incoming data for anomalies. Issues can be sent immediately by email or SMS, flagged in a daily summary email, and are archived for auditing purposes.

### API Server

Historical data, batches, proves and reports can be made available through a secure Profile API call to easily transfer data from Profile into other systems.
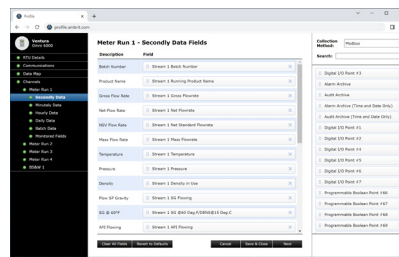
# Profile™

Surprisingly little of the valuable flow measurement data collected from RTUs and flow computers is actually made available to those who need to use it, especially when the RTUs are situated in remote and hostile locations. Even systems that are controlled by sophisticated SCADA applications tend only to focus on the control aspects and neglect the critical measurement and business data that RTUs are installed to collect.

Profile™, one of the elements in Ambrit's Metrology™ suite, is a web-based data acquisition and reporting system designed to gather measurement data from a wide range of RTUs over diverse network topologies and make it easy for all interested parties - operators, technicians, auditors, corporate personnel and even clients - to access the data securely through their web browser.
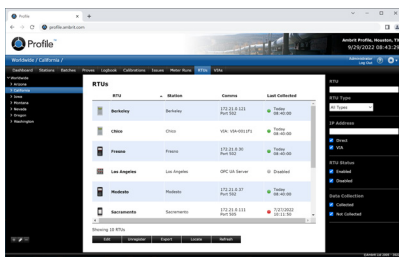


**RTUs**



**RTU Setup**

Profile is the central hub for all metering data. It collects historical data, batch data, prove results, audit trail and reports directly from RTUs or VIA gateways and brings it all back to a measurement data historian for long term storage.

Data collected by Profile on the SCADA network can be passed up to the enterprise network seamlessly and securely through a series of intermediate DMZ networks. Once on the enterprise network, measurement engineers, technicians, accounts and management can access secure, real-time measurement data from remote systems directly from their desk. This data can also be shared with other systems such as production and accounting.

It is not just about process data. Metrology™ includes a set of additional modules that extend Profile's capabilities to provide asset management, KPIs, logbook events, proves, calibration history, uncertainty, mass balance and validation. Overlaying real-time events with detailed record keeping provides an auditable view of how well the overall system is maintained and operating, helping to demonstrate that best practice is being followed at all times.

## Profile™ and VIA™ - the gateway to Big Data

VIA is a purpose-designed data gateway for measurement data. Unrestricted by bandwidth or other network limitations, VIA can collect real-time data from legacy hardware and upload it securely to Profile for reporting and analysis.



**Ambrit Inc**
700 Milam Street, Suite 1300,
Houston, TX 77002, USA

Tel     +1 713 489 1570
E-mail   sales@ambrit.com
Web     www.ambrit.com

**Ambrit Ltd**
Castle House, 102 High Street,
Northchurch, Herts, HP4 3QN, UK

Tel     +44 (0) 1442 866294
E-mail   sales@ambrit.com
Web     www.ambrit.com

## Features
- Multiple stations
- Real-time data
- Historical data
- Long term trending
- Issue detection and notifications
- Alarm management
- Audit trail
- Monitored fields
- Global overview
- RTU management

## RTUs
- Omni 3000 / 6000
- Omni 4000 / 7000
- ABB Flow-X Series
- Emerson FloBoss 103 / 107
- Emerson ROC 809 / 809L
- Cameron NuFlo Scanner Series
- Dynamic Flowcomputers E-Chart / SFC / MVL / MP3
- Modbus / Ethernet IP / OPC UA / OPC DA

## Networking
- Ethernet / GPRS / 3G / 4G / LTE / Radio / Satellite
- Low bandwidth communication

## Reports
- RTU reports
- PDF reports
- Historical batches with batch report
- Historical proves with prove report
- Email reports
- RTU and meter status emails

## Web Interface
- State of the art web-based HMI
- Intuitive navigation
- Multi-user access
- Multi-language support

## Secure
- Integrated 256 bit SSL encryption
- Individual user access privileges
- Session-based authentication
- Active Directory
- Single Sign-On

## Integration
- Metrology™
- Interface with other external systems
- API Server

## Metrology

Metrology™ provides a common access point and navigation interface so that system data can be shared seamlessly between Profile™ and the other Metrology products:

**Inventory™**
Equipment and location database

**Approve™**
Meter performance management

**Calibrate™**
Calibration management

**Record™**
Inventory and event logbook

**Validate™**
Meter data validation



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