APPLICATION SOLUTION

# InTouch HMI

## What Historian adds to InTouch HMI

Add Historian to your InTouch HMI and gain greater insight into your process with rich historical data capture and analysis tools. InTouch HMI plus Historian are the perfect combination, designed to expand your productivity, improve your bottom line and capitalize on your existing software investment.

## BUSINESS VALUE

- Centralized historical process data
- Simple and flexible reporting
- Fast data acquisition — Fast data access
- Root-cause analysis
- Data aggregation with multiple tiers
- Automated archiving
- Superior data compression for speed and efficiency
- High security of data

# The secret to getting even more from your InTouch HMI—Historian

You probably already know that InTouch® HMI is the world's number one human machine interface (HMI) software solution. Used daily in over a third of the world's industrial facilities InTouch HMI delivers legendary ease of use, brilliant graphics and unmatched engineering efficiency. InTouch HMI also helps you to shorten project times, reduce risk and significantly reduce total cost of ownership.

Historian is a high-performance real-time database for industrial companies of all sizes that offers high scalability, up to 2,000,000 tags, with incredible data retrieval throughput.

As powerful as InTouch HMI is on its own, adding a Historian to your software arsenal can further drive collaboration, expand data collection, advance analysis, extend reporting, increase productivity and enhance data security.

A historian is a storage repository for time-based information, a special type of database. However, Historian is much more:

- Stores time-series process data exceptionally well, exceptionally fast, and lots of it to provide a complete data record of operations
- Transforms the time-series process data into actionable information for faster, more accurate decision-making
- Scalable to all industrial manufacturing and infrastructure operations
- Supports business continuity initiatives
- Aids in regulatory compliance requirements
- Unifies information from multiple manufacturing and HMI/SCADA systems, not just InTouch HMI

Historian enables you to store data at the resolution of your process and retrieve data at the resolution of the problem you are trying to solve. Adding Historian to your InTouch HMI solution can expand your productivity and improve your bottom line while continuing to capitalize on your existing software investment.

Turn a sound HMI investment into a superior strategic solution.

# An HMI and way more

## Superior collaboration, better decisions, higher productivity: distributed trending

Historian makes access to consistent historical data from distributed InTouch HMI nodes a breeze. All historical data is readily available to each InTouch HMI node and Historian works with the trend built into InTouch HMI, so it is easy to upgrade your application. For even more demanding needs, such as ad hoc trends, scatter plots, and powerful scripting control, use the trend included with Historian Client.

## Centralize and aggregate your data

Historian enables you to collect and aggregate data from the multiple diverse sources you have in your facility, not just those from AVEVA. Historian delivers a single resource for your system-wide data. Your data can then be summarized using advanced statistical calculations, including the most powerful statistical summaries of discrete and integer signals available in any historian, to give you a deeper understanding of your operation for continuous improvement.

## Simple and flexible reporting: improved options and capabilities

Historian Client provides amazingly simple access to operational data, superior trending tools and multiple reporting tools including Query, Microsoft SQL Reporting Services, Microsoft Excel and Microsoft Word plug-ins. These greatly expand your flexibility to easily create different reports for different needs.

## Don't miss anything: faster data acquisition and access

Conventional relational databases and data acquisition tools may be satisfactory for business data storage but most industrial automation systems require fast, high resolution, reliable and secure data acquisition that relational databases are simply not designed to handle. Missing a key data point during a critical change or in the event of a catastrophic failure can mean the difference between finding the root cause and missing it completely. Historian is a high-performance real-time database for the industrial enterprise that acquires data thousands of times faster than Microsoft SQL Server alone and offers unparalleled scalability, up to 2,000,000 tags in a single historian database.

## Better root-cause analysis: in-depth data analysis

Historian combined with Historian Client provides powerful reporting and analysis features and an Integrated view of process, alarm & production history, trends, overlays, "drill-throughs" and even direct access to source, data at high fidelity and low latency. Those features enable you to easily navigate through data and break down the problem into its components.

## Aggregate data: multi-level historian (tiering)

Historian Servers can be configured in a cascading architecture or "tiering" such that data from many smaller Historians can be aggregated into a top-level 'master' historian. Data from remote locations can easily be aggregated into a central command and reporting center. As each Historian Server can manage as many as 2,000,000 tags there is virtually no limit to the ways you can use it.

# Historian can maximize your HMI investment

## Accommodate business and control: isolate and share

Historian is the perfect solution for you to share detailed operational data with business users without compromising the security or performance of the control network. It is easy to deploy two Wonderware Historian servers, one to service the needs of the control network, which "forwards" its data to a second Historian Server to service the needs of users on the business network.

## Hands-free management: automated archiving

Historian includes an automated archiving and storage feature to make data management easy and hassle free. Wonderware Historian easily and automatically manages "history block storage" by controlling storage sub-directories based on size and age, with options of "rolling off" local storage to Storage Area Network drives as necessary. The facility is provided to access and view this "archived" information, as well as "Golden Batch" type history from a permanent storage area.

## Save money save space: greater data compression for storage

Historian compresses data as much as forty times more than conventional relational database systems to decrease storage requirements and management costs. What's more, smaller data storage requirements translate to faster data retrieval.

## Greater data security in an unsecure world: higher security of data

Historian compresses and encrypts data into history blocks which can be accessed by SQL. The Historian data collection and tiering can be encrypted for highly secure transfer of data over networks.

## Great flexibility: manipulate data when necessary

Historian includes an option to amend or correct data, which is highly beneficial when data feeds and communications are subject to intermittent interruption or data sources themselves experience outages. The original collected data values are always protected to ensure that regulatory requirements can always be met, while fulfilling the need for amended values and internal reporting within the same system; have it both ways.

## Low-cost and highly effective: 'local' historian

Historian offers a new limited data retrieval license to provide you with a very cost effective historian solution for local or remote locations that may experience intermittent connectivity to the main office. Local Historians provide up to 7 days of local data retrieval and reporting. This is ideal for a single node InTouch HMI or for several nodes of AVEVA InTouch HMI whereby data from various local Historians is aggregated to a centralized Tier 2 Historian.

## Connect to anything: connectivity toolkit

You can import data from CSV files, SQL INSERT into History, or use the optional Historian Toolkit to import values from almost any source into the Historian.

## Future-proofing: protect your software investments

Historian is the future of data acquisition and storage, and continues to provide access to leading edge and future technologies such as Microsoft Cloud.

## Let's get technical: strain your brain

Historian enables you to store data at the resolution of your process and retrieve data at the resolution of the problem you are trying to solve. Historian includes options to filter stored data with optional "lossy" storage techniques such as time and value dead-bands, as well as the Swinging Door algorithm, which only stores rate-of-change information.

Some of the greatest assets of Historian are the extensions to Transact-SQL dialect that the Microsoft SQL server uses. These extensions are exposed in the WHERE clause to control how data is retrieved for the History store.

This gives you control over the resolution of the data to be retrieved with retrieval options such as Cyclic, Delta, Full and Best Fit. Additional query options retrieve analog transformations such as Time Weighted Average, Maximum Value and Time, Minimum Value and Time, Standard Deviation, Integral for Flows, and To Discrete which allows an analog value to be treated like a discrete for the Discrete Transformations of Count of State, Total Time in State, Maximum, Minimum, and Round Trip Time in State.

This powerful feature allows you to extract data not just from the Historian, but information that can be used to make better decisions in less time.

**'Must' read**: Take a look at "Myths about Historians" white paper and learn to learn the real facts about historians, relational databases, and the common misunderstandings that pervade the industrial automation world.

AVEVA