AVEVA™ InTouch HMI
formerly Wonderware

The world's #1 HMI

AVEVA InTouch HMI is powerful HMI (human-machine interface) software for controlling and monitoring industrial processes. It seamlessly extends the reach of plant data outside the control network to both management and business users through web-based displays, dashboards and reports.

AVEVA InTouch HMI powers more than 100,000 plants and factories around the world, helping them achieve world-class performance, reduce costs and improve product quality. It goes far beyond the ordinary HMI to deliver:

- Legendary ease of use
- Unlimited web and mobile access
- HMI that works everywhere
- A 30-year history of protecting your engineering investment
- Native cloud integration for engineering efficiency and collaboration

AVEVA

Visualize, control and optimize your operations

The more complex your operations become, the more you need a common-sense, real-time view of your business. Innovators around the world standardize and visualize entire enterprises using the power of AVEVA InTouch HMI.

AVEVA InTouch HMI will take you beyond simplistic graphics and create meaningful content that will increase the productivity of your operations and save costs throughout your enterprise.

Operators use AVEVA InTouch HMI to optimize routine human interactions with industrial automation systems. Its unique situational awareness libraries provide operators contextualized information so they can address abnormal situations quickly and accurately–before they impact operations. The result is a quantifiable net increase in operator effectiveness: Operator interpretation time improves by up to 40%.

InTouch HMI web client: Extending HMI visualization with web experience

Personal workspaces

This new capability lets any InTouch HMI user develop ad hoc run-time displays without any engineering development tools or scripting, so they can seamlessly access data at their fingertips. Personal workspaces empower operators in real time with responsive web visualization.

Map app web widget

The new map app web widget incorporates a zoomable map into InTouch HMI applications and displays selected graphics in a geographical context. It supports many popular map providers, including Bing, Google, Baidu, ARCGIS, and more. It's perfect for geographically distributed applications, such as oil and gas and water/wastewater. Both AVEVA InTouch HMI and the InTouch HMI web client support the map app web widget.

Carousel web widget

The carousel widget creates a rotating sequence of graphics within both AVEVA InTouch HMI and the InTouch HMI web client. Think of it as a "slide show" of symbols that automatically rotate at a configurable predefined interval. It's perfect for wall-mounted display monitors that need to rotate between multiple production dashboards with KPIs or operational information on a periodic interval. It has multiple other uses as well, including use with smart TVs with built-in web browsers.

WindowMaker – Modern development environment

WindowMaker has a modern look and feel, with streamlined workflows for increased engineering efficiency. Redesigned icons give users an enhanced experience. Highlights of the new WindowMaker user interface include:

- New backstage, menu items and groups. All the configurations and special operations that need to be accessed frequently are now in the backstage under the File menu. All other InTouch HMI commands have been reorganized in different menu items based on their functionality and ease of accessibility.

- Customizable displays. WindowMaker can switch between light and dark themes so you can customize it for your comfort.

- Improved search functionality. You search for keywords within windows, scripts, tags and symbols simultaneously.

AVEVA InTouch HMI introduces a new application manager that's far more than just a change in look. It improves on existing workflows and adds new ones.
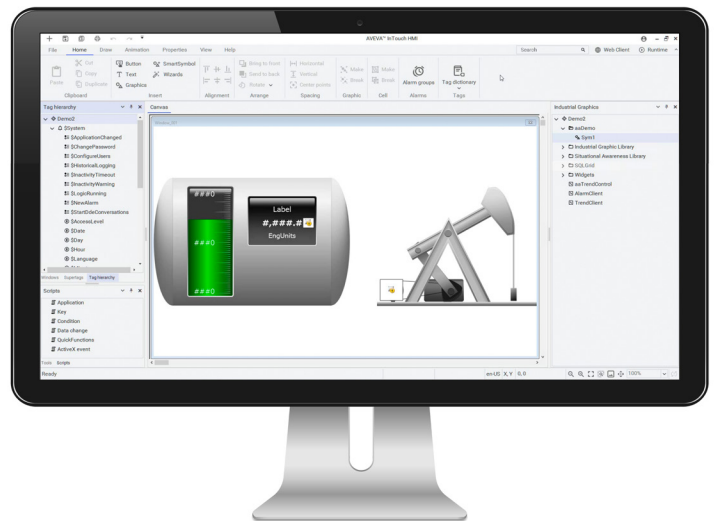
It also includes a list view and a tiled view in addition to the classic detailed view. The new list and tiled views give better visibility to the details of InTouch HMI applications and make several operations available directly from the tiles. With new workflow improvements, creating applications now only takes two steps instead of nine.

Features and functionality of AVEVA InTouch HMI

Secure access anywhere from any device

AVEVA offers the most comprehensive portfolio of secure, web-based visualizations of your real-time automation solutions, including the AVEVA InTouch HMI web client and AVEVA InTouch HMI Access Anywhere. You can now access them on any HTML5-compliant web browser, with zero client installation and zero maintenance. So, everything is at your fingertips–from full high-fidelity, remote real-time control to casual, real-time production monitoring.

Moreover, the world's favorite HMI is also fully mobile and works natively on tablets and smartphones.

In addition, for remote operators, AVEVA InTouch HMI Access Anywhere is an extension that provides industry's most secure access to InTouch HMI applications via any HTML5-compliant web browser. It enables users to securely monitor, control and troubleshoot plant equipment or processes from any location, on any device, at any time.

The AVEVA InTouch HMI web client

- Ideal for mobile operators and business management
- Read-only or read-write
- Works for TVs and wall-mounted monitors around the plant facility
- Good for embedding HMI graphics in business enterprise portals
- Runs on both Microsoft Windows Server or Workstation OS
- Has supports for reverse proxy, enabling secure access outside the control network

AVEVA InTouch HMI Access Anywhere

- Ideal for remote operators, with full process control
- Read-only or read-write
- High fidelity access to the entire AVEVA InTouch HMI application, including scripts/.NET and ActiveX controls
- Ideal for use beyond DMZ using secure gateway
- Runs only on Microsoft Windows Server

Extensibility through open standards, including OPC UA

AVEVA InTouch HMI is an open and extensible HMI with intuitive graphical animation and scripting capabilities that give application designers incredible power and flexibility. It supports .NET scripting, and lets you import custom script DLLs, giving you the freedom of unrestricted application extensibility.

AVEVA InTouch HMI allows you to connect to any device or back-end system by using standard interfaces, such as OPC UA, OPC DA, SQL, SOAP, HTTP/S, and .NET, for external connectivity. Open connectivity allows real-time plant data to become an integral part of business.

AVEVA InTouch HMI also serves as an OPC UA server endpoint. Enterprise and business systems can connect to any real-time tag or alarm data over encrypted communications.

AVEVA InTouch HMI also supports the seamless creation of tags by browsing any OPC UA data sources. Users get an intuitive workflow that lets them drag and drop onto the graphic canvas. The canvas shows associated graphic elements and applicable animations, drastically reducing development time.

Modernization of stand-alone AVEVA InTouch HMI applications

The latest release of AVEVA InTouch HMI gives thousands of new and legacy users the opportunity to benefit from industrial graphics, richer animations, multi-touch, web access and more. Now all AVEVA InTouch HMI legacy users have the power of industrial graphics and frame windows. Those capabilities provide a familiar WindowViewer-like experience across web browsers and give users the foundation to deliver stand-alone AVEVA InTouch HMI applications in a web browser using the AVEVA InTouch HMI web client.

Seamlessly convert existing native InTouch HMI windows to industrial graphics with one click

The latest release no longer requires installation of SQL Server to use industrial graphics in standalone applications. This drastically improves the process of installing the product and creating new applications as well as opening, launching and saving applications. It also lets you distribute AVEVA InTouch HMI applications by simply copying the application folder across machines.

Native integration with AVEVA™ Historian

AVEVA InTouch HMI supports a high-performance native interface to historize InTouch HMI tags, including alarms and events, to AVEVA Historian.

You can choose to archive data either to the traditional local historical log file (*.lgh file), to AVEVA Historian, or to both. This functionality also provides store and forward capability when historizing.

AVEVA Historian automatically calculates historical summary data (average, minimum, maximum, standard deviation, and time duration in a particular state). You can greatly enhance operators' situational awareness by displaying this aggregated information in AVEVA InTouch HMI.

Collaborate enterprise-wide in the cloud

AVEVA InTouch HMI delivers tighter integration with several other AVEVA products through AVEVA™ Connect.

AVEVA™ Insight–self-service dashboards in the cloud

Users can access the AVEVA Insight publisher from both the InTouch HMI application manager and InTouch HMI WindowMaker, so they can easily send data and tag configuration from an InTouch HMI application to AVEVA Insight for operational reporting, charting and dashboarding.

AVEVA™ Integration Studio–now offering cloud storage

In addition, InTouch HMI WindowMaker integrates with AVEVA Integration Studio, which allows HMI designers to share industrial graphics across teams and sites. That helps them engineer efficiently and easily roll out graphical standards across an organization.

HMI builders can continue to design industrial symbols locally, then drag and drop symbols to cloud storage, making them instantly available to others–who can go on to use and edit graphics in the cloud. These capabilities give users a powerful way to maintain and share standards across teams and sites.

AVEVA™ Development Studio–with industrial graphics support versioning

Users with an AVEVA™ Flex license can manage and publish multiple versions of graphics to the cloud to further improve collaboration and standardization.

Native mobile app for Android and iOS

Remote and local operators experience the same look and feel on tablets and smart phones, with support for multi-touch centric pan and zoom functionality, including the ability to write back and acknowledge alarms.

Moreover, users can access applications in their preferred language, as the mobile app supports language-switching in runtime.

Writeback and alarm acknowledgement
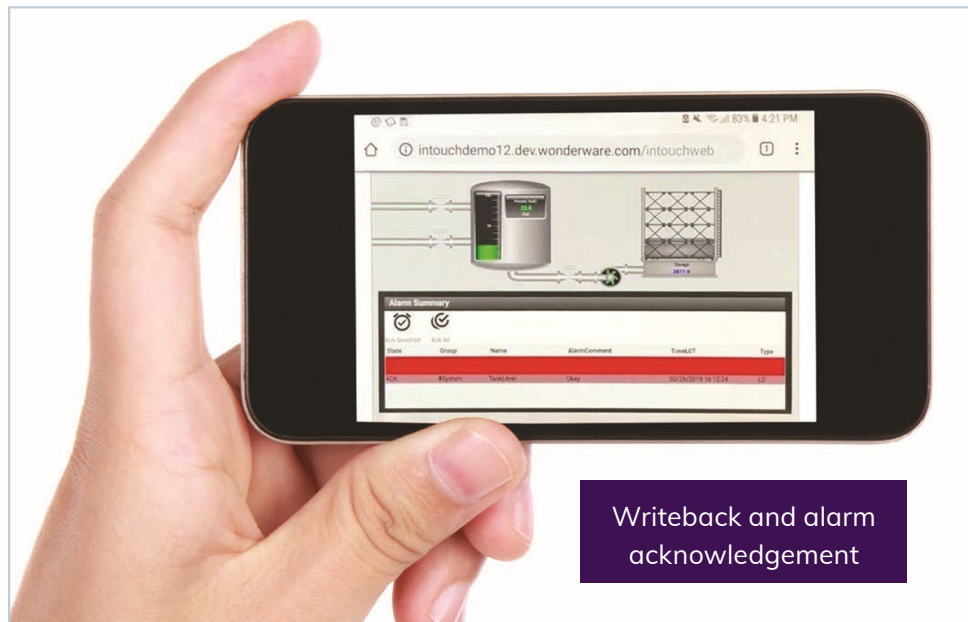
Situational awareness for operator effectiveness

AVEVA InTouch HMI has an extensive library of graphical symbols, wizards, templates and elements that provides rich user experiences and high contextualization. The graphics have built-in quality-processing and diagnostic indication, enabling you to rapidly determine root causes of abnormal situations. Millions of preconfigured and pretested combinations and orientations of symbols make this the largest graphics library in the industry.

The situational awareness library of industrial graphics is AVEVA's unique approach to presenting actionable information in less time to operators. Library symbols may be used out-of-the-box or customized as needed. You may add your own new or modified symbols, or you may create your own special libraries of symbols to suit your engineering and development requirements. The library includes:

- Dashboard symbols
- Alarm symbols
- Trend symbols
- Equipment symbols
- Input symbols
- Instrumentation symbols
- Status symbols
- Advanced symbols – Polar star
- Equipment symbols – Valves, agitator, tank
- Many other Symbols – Level meter, hand switch, output bar, etc.

Polar star

One of the advanced symbols is the polar star, which shows a set of related process values on 'spokes' that form a visual polygon. As values change along the length of the spokes, operators can easily recognize the changing shape of the polar star's polygon and react quickly to abnormal process conditions. Each spoke contains a set of custom properties with which to set value set-points and alarm limits, and coordinate set-point locations for the normalized process value. When a process value changes from its set-point location on a spoke, the animation changes the shape of the polar star polygon.

Alarm annunciations

Alarm annunciations are triple coded to convey critical information in three ways: color, shape and text. Triple coding ensures unambiguous interpretation of alarms for faster operator reaction time and fewer mistakes. Color-coded alarm border animations around graphics clearly indicate the level of alarm state to help operators quickly identify abnormal situations and take corrective action in the proper order of priority. Alarm border animations can be configured to blink, remain solid, or change based on Un-acked, acked, or return-to-normal situations. Severity levels–indicated by unique shape, color and level number–display directly next to a symbol for quick, clear, concise information contextualization. These animation capabilities come fully configured and fully functional and require no scripting.
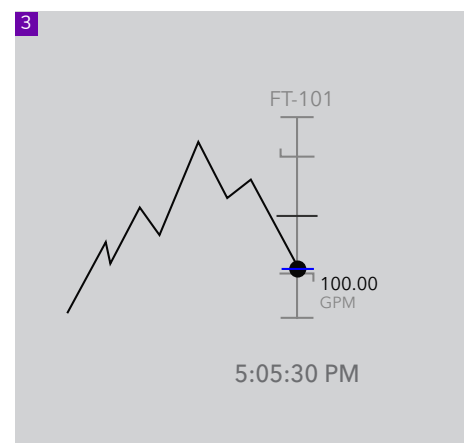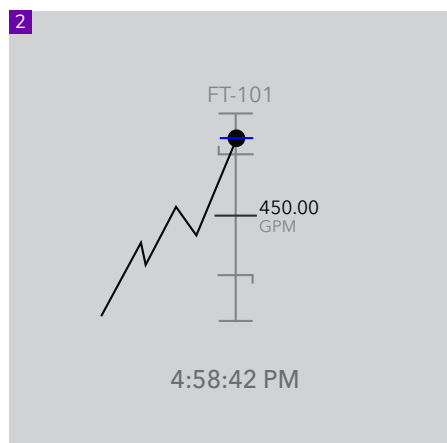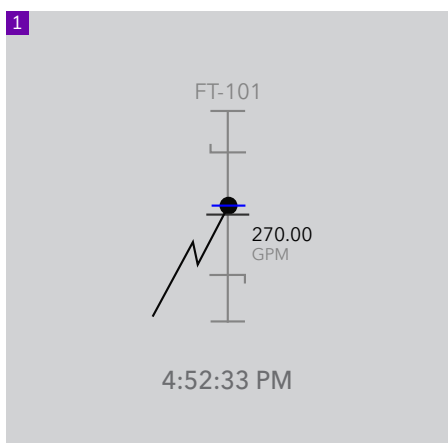
Trend pen

Easy to configure, single-pen and multi-pen trend symbols provide not only the current data value but also the recent historical data trend in a specific absolute fixed time range or in a moving window time range, enabling an operator to instantly distinguish recent activity and dramatically improve predictability of potential future events and handling issues before they become full alarms or events.
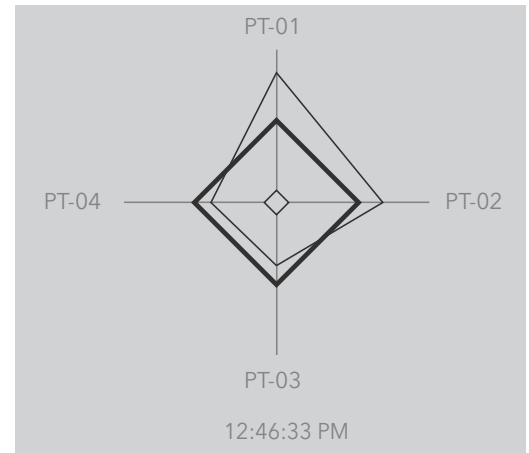
Polar Star - abnormal
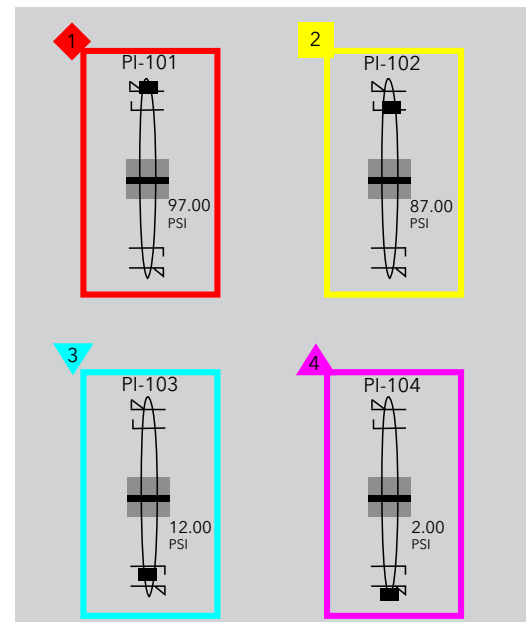
Triple coded for faster operator reaction and prioritization

Three snapshots over time of a trend pen

Connection points and connectors

Every HMI design includes graphic elements and connectors between elements, such as a pipe, wire or line. Much of the design time goes into connecting graphic elements to one another. For most HMIs, this connecting can be a tedious effort and can prove especially frustrating when graphics are repositioned in the design phase or if the graphic is required to move at runtime because of animation.

AVEVA InTouch HMI relieves this frustration with connection points and connectors that provide resilient connections between graphics with simple point, click, drag and drop operations. With these new features, whenever graphics are repositioned, either in design or run-time, the connectors adjust and move with the graphics to maintain the connections.

Breakthrough advanced engineering tools

Design, distribute and enforce graphical component standards for greater application consistency and optimized application design and maintenance using element styles, numeric formatting and graphic protection. Shorten initial and maintenance design phases using graphic template change propagation, which lets engineers make a change once and propagate it throughout the entire application.

User-defined types (UDT) structures

Use UDTs to create your own structures to match field equipment or existing structures in your PLCs. You can create and reuse custom data types or structures, akin to object-oriented HMI design, while nesting up to six levels.

UDT instance members behave like any tag and support industrial graphics symbols, animations, scripts, historian and alarms. UDT instances immediately reflect changes in data-type definitions.

### Scalable vector graphic (SVG) support

With support for SVG, AVEVA InTouch HMI drastically reduces the effort needed for HMI development. You can import externally created SVG graphics, whether they're saved as image files or converted to AVEVA Industrial Graphics format. Rich animations and pixelation-free SVG graphics that are truly crisp regardless of image size improve the experience of end-users.

Resolution independence

In a world in which ever more devices with diverse form-factors abound, users often need to design applications of uncommon sizes or simply to design an application for displays the designer has no access to.

AVEVA InTouch HMI now allows users to design applications in a target resolution different from the development machine.

Resolution-independent graphics can be resized or stretched without losing original visual quality, which improves window display performance and lets you reuse graphics designed in one resolution in a different resolution without distortion.

Element styles

Element styles let users define a consistent look and feel for their HMI across the enterprise–regardless of who designed it or when. Typically, HMI applications get developed over time by many engineers, which can lead to inconsistency in both standards and the use of colors, text, and alarm or event indicators.

Element styles lets you combat such inconsistency by ensuring that every screen across your enterprise can have the same methodology for presenting information in context. It lets you engineer, manage and standardize colors, indicators, and text formats–all in a single, user-friendly element styles editor tool. You can update your applications globally with just one click using the centralized management and deployment capability.

Such standardization improves operator training, reduces operator confusion, and enables operators to orient to the critical information more quickly–without the need for interpretation. Moreover, any operator in any plant will understand information in the same consistent manner.

Symbol wizards

Symbol wizards let engineers automatically assemble a single composite symbol out of custom configuration options, such as graphical elements, scripts and custom properties. These composite symbols with multiple configurations reduce the number of symbols engineers need to create for an application
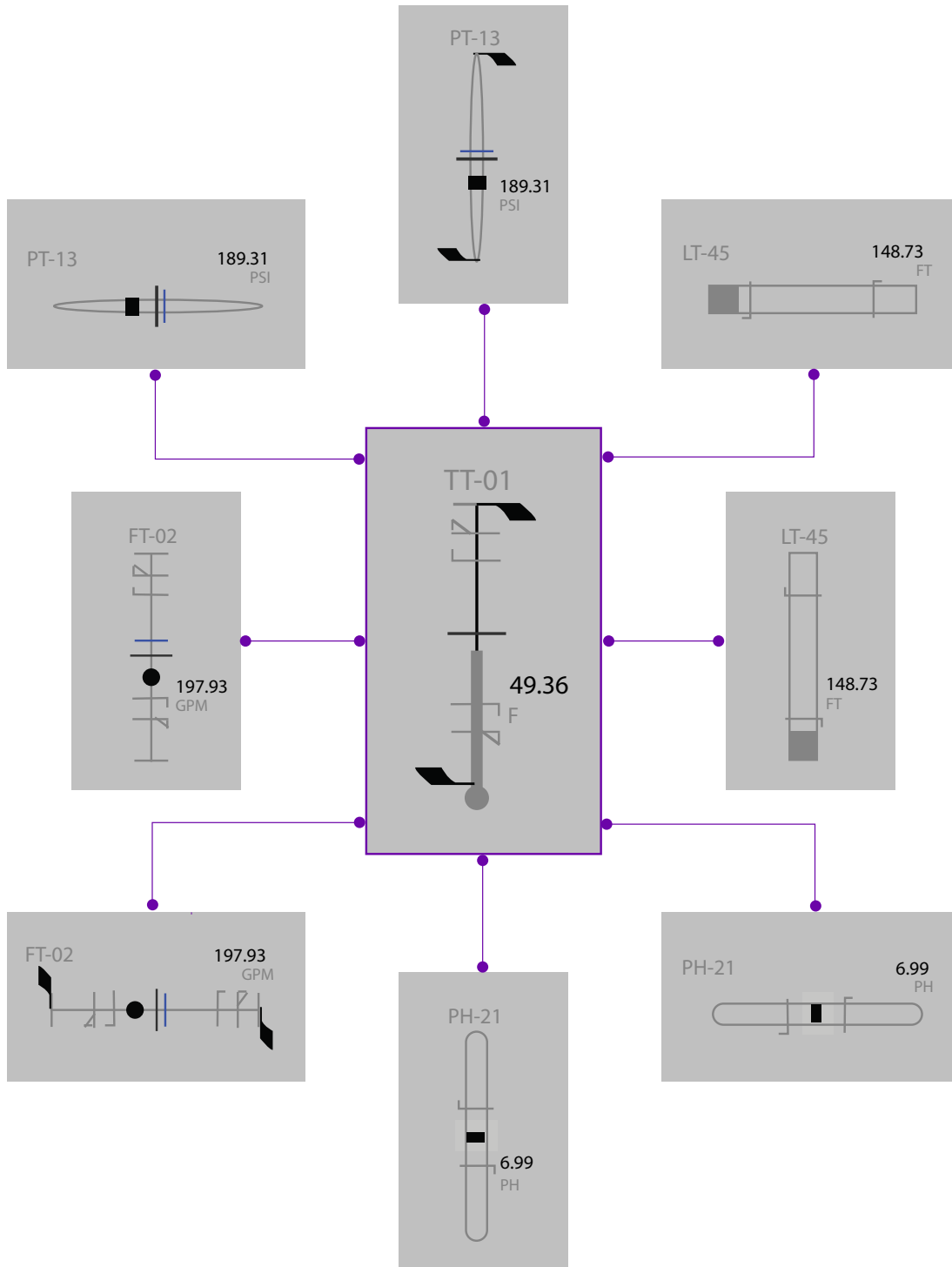
Each symbol Wizard can be easily configured into many different visual and functional symbols

XML import or export

Consistent with AVEVA's open format philosophy, AVEVA InTouch HMI lets you publish graphic elements in an open format schema to support the programmatic import and export of graphic elements and most animations with advanced editors. Pull third-party graphics such as CAD drawings directly into your HMI to save time and completely maintain the integrity of the original graphic.

Application templates

Another great productivity tool, application templates allow users to start the design of a new HMI application from a base template instead of starting from scratch, saving hours and hours of engineering. Application templates can be as simple as a navigation framework or as rich as the user desires.

System integrators can reuse their engineering in multiple projects, OEMs can deliver base applications to their end users, and new users can get started in a shorter time.

Users select application templates via a template browser, which provides a thumbnail preview of the templates. They can organize application templates in a folder structure of their choice—by resolution, industry, customer, engineering team, etc. A number of application templates are available out-of-the-box, but users can also create their own.

Window templates

You can now define AVEVA InTouch HMI windows as templates, so you can create new windows from them and inherit window properties, content and scripts—another productivity feature that helps save engineering time.

Scripting

The software supports both simple and advanced scripting and offers hundreds of in-built script functions. Recent enhancements include auto-complete in script editors and graphic editor expressions, line numbering, multi-level undo-redo, automatic syntax checking, consistent color coding in line highlighting, and syntax error indication.

Security and reliability

Microsoft Windows Authentication grants permissions to AVEVA InTouch HMI users who are authenticated on a domain controller or local computer, based on user identity and group affiliations.

In addition, AVEVA InTouch HMI supports identity management through AVEVA Connect for authentication and includes encrypted web communications support for SSL and HTTPS.

When AVEVA InTouch HMI is part of a subscription to AVEVA™ Operations Control (Edge edition), an AVEVA unified identity enables secure access to all entitled products on a given node with AVEVA Connect cloud capabilities. Each user gets a single, unique user ID that works on all products, configured and managed within AVEVA Connect. It supports common user authentication, authorization and access entitlements across AVEVA Operations Control products. It includes:

- User authorization via roles, groups and permission access rules.
- Single sign-on (SSO): After you sign on to a supported product, subsequent sign-ons to that product or other supported products on the node are automatic.

For FDA traceability and electronic signature security, AVEVA InTouch HMI supports secured and verified writes in conformance with 21CFR11, establishing different users to secure and verify an action. In addition, users can enter a comment when performing the secured and verified write.

AVEVA InTouch HMI can also run as a Windows service (Faceless), which users typically use in tag server architecture.

Localization and language switching

AVEVA InTouch HMI is fully supported in English, German, French, Japanese and Simplified Chinese. It offers a localized development environment that lets non-English speaking engineers design and develop HMI applications in their native languages.

InTouch HMI language-switching capabilities let users design applications that can change the displayed language at run-time, addressing the needs of international users. AVEVA InTouch HMI also includes the language assistant, an Excel add-in that's great for OEMs, SIs, and global users. It improves the management and accuracy of off-line HMI language translation and accelerates the execution and delivery of projects using the run-time language switching capabilities in AVEVA InTouch HMI. Its benefits include more efficient translation projects that result in improved translation accuracy and consistency, reduced costs, and faster project deliverables.

Enhanced user experience

Rich animations

AVEVA InTouch HMI gives users the ability to animate many of the graphics and element styles. Graphic animations directly link to real-time data values to dynamically reshape the multi-point graphic elements as data changes.

This animation capability automates high-level geometric mathematical formulas so engineers can create animated pie charts, polar stars, polylines, curves, polygons, and closed curves that visually reshape in real time. Graphics can visually represent direct, indirect and associated relationships of multiple data points so operators can clearly understand when a process is within acceptable boundaries, or which part of the process is out of alignment or possibly moving out of alignment.

Pan and zoom

Pan and zoom provides a simple, intuitive way to interact with your visualization applications in a modern multi-touch hardware environment. Pan and zoom can also be enjoyed using a keyboard and mouse in addition to a multi-touch interface. Moreover, you can access zoom level programmatically, enabling powerful tasks such as application clutter/de-clutter and more.

AVEVA InTouch HMI–Simply the best HMI investment

With an over thirty-year history of never leaving any customer behind, AVEVA InTouch HMI consistently provides a seamless upgrade path year after year, which protects customers' investments in InTouch HMI applications.

An InTouch HMI application implemented decades ago can still run–unchanged, without reengineering the application–in a modern user experience. It's simply the best HMI investment you can make.

Value-added cloud capability also lets you develop applications, analyze production data and improve operations without incurring on-premises IT costs. Whether you are ready to migrate to a cloud environment today, or you simply want the flexibility to do so in the future, an AVEVA Flex subscription provides the underlying infrastructure to make that transition when you are ready.

Commercial flexibility

Unlimited tag count

AVEVA InTouch HMI 2023 supports an unlimited tag count. This means that the run-time database (InTouch HMI tag name dictionary) can store unlimited tags, including local tags and tags that reference a remote tag source.

The unlimited tag license will be sold through the AVEVA Flex program and unlocks InTouch HMI application scalability.

In addition, AVEVA InTouch HMI will be sold in the following tag counts:

- 1,000
- 2,500
- 10,000
- 100,000
- Unlimited

Web client licenses

In an effort to offer more licensing flexibility, InTouch HMI web server is now offered in 5-, 10-, and 25-client packs in perpetual licenses. This offer expands on the InTouch HMI web server with the unlimited user client license offering currently available through the AVEVA Flex commercial model.

For more information on AVEVA InTouch HMI please visit:
aveva.com/en/products/intouch-hmi

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aveva.com