

# Movicon WebHMI

Movicon WebHMI is the solution for running Movicon.NExT™ projects with Web technology, offering hardware-independent I/O server and Web server for scalable and powerful IIoT dashboards and HMI visualization.

- Provides a 100% web-based solution to create HMI and cross-platform applications to improve reliability and operational performance.
- Operates entirely independently of operating system and hardware.
- Provides flexibility to meet visualization needs at entry level and scale to more powerful SCADA architectures.

## Open and Scalable

Movicon WebHMI is a comprehensive solution for delivering visualization and data collection that also maintains a seamless, intuitive experience. Whether users are accessing critical data directly in the plant, collecting information via a workstation in a control room, or checking system performance via mobile device from outside the facility, powerful visualization tools ensure a consistent display for fast delivery and interpretation of critical data.

The Movicon.NExT platform is an essential tool for engineers working from small HMI web visualizations to complex automation SCADA projects. Thanks to the same editor for both WebHMI and Movicon runtimes, engineers can design once and deploy and scale applications everywhere. Movicon WebHMI connects to a vast array of PLCs and field systems using OPC UA client and server technology and a wide variety of native communication protocols.



It displays the same user interfaces across HMI panels, PC workstations, standard Internet browsers, and mobile devices via HTML5, and offers advanced features for scheduling, recipe management, augmented reality, Geo SCADA and more.

Movicon WebHMI is suitable for:

- Projects distributed across small data collection and IIoT applications.
- Small, web-based HMI systems.
- Large and sophisticated HMI systems.
- SCADA applications.
- Factory supervision systems.
- Production analysis and management.

By using .NET Core technology, Movicon WebHMI can be deployed to both Linux and Windows, and can run on small embedded devices (such as a Raspberry PI) reaching unprecedented levels of scalability. By incorporating built-in industrial networks and protocols as well as standards like OPC UA and MQTT, Movicon WebHMI enables users to connect any kind of automation device. The system is hardware and operating system independent, helping companies meet all of their data collection and visualization needs, scaling from small embedded projects to powerful SCADA architectures.

## Pure Web Technology

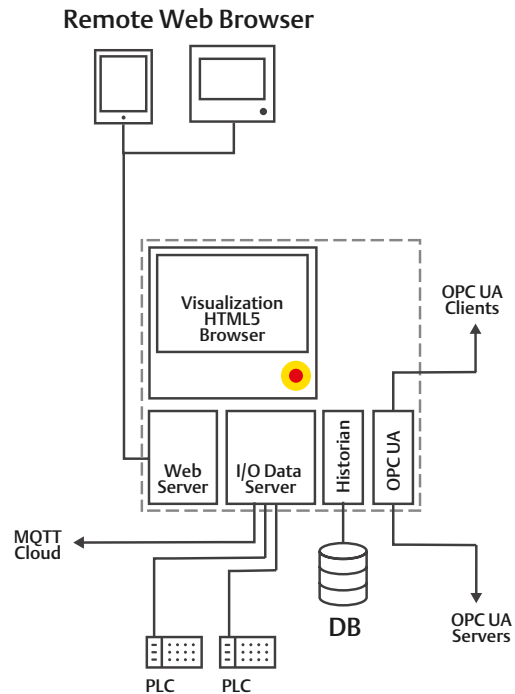
Automation design engineers need flexible solutions to satisfy the ever-changing demands of the world of modern Industry 4.0 automation. Movicon WebHMI creates highly scalable, hardware-independent HMI visualization using entirely web-based technology for unprecedented flexibility and scalability. Movicon WebHMI projects created using the Movicon.NExT platform can take advantage of numerous advanced features for visualization and server side logic development. A deployment server transforms the project for the target device and allows it to be managed across the network. As the application grows, it can easily be converted to a full Movicon.NExT project, supporting it to the full SCADA architecture for large supervisory applications.

Movicon WebHMI projects run on both Windows and Linux operating systems thanks to the .NET Core architecture and use pure Web technologies including HTML5 with SVG graphics for visualization. When upgraded to Movicon.NExT, screens can use a powerful .NET WPF/XAML framework, making it possible to include advanced business logic in the client. Movicon embraces a design and build once, deploy everywhere and on any pane of glass approach.

## Design Once, Deploy Everywhere

Movicon WebHMI takes advantage of the full Movicon.NExT editor to help engineers design the best displays to fit the limitations of their target devices while preserving the ability to scale a project up or integrate it into the platform's ecosystem. The all-inclusive, open, scalable, and hardware-independent platform is both robust and easy to use, making it easy to design powerful, yet simple-to-use visualizations. The Movicon.NExT editor also enables a wide variety of remote operations for easier engineering and maintenance of HMI displays:

- Easily deploy projects on remote network-connected devices
- Remotely manage all necessary operations on a device
- Automatically manage updates of runtime system components
- Launch projects in runtime and stop them remotely for faster, easier debugging
- Manage licenses remotely



## Open Connectivity

The Movicon WebHMI connects to IT and OT systems using the I/O data server. The data server offers a native, integrated OPC UA client and server technology as well as MQTT and other communication protocols for importing variables from PLCs and other devices across a wide variety of manufacturers. Clients connected to the web server display the same SVG graphics and visualizations across every device, ensuring users only need to learn one interface to efficiently and effectively manage the facility.

## Secure Gateway to Cloud

The I/O data server can operate as a secure communication gateway bringing data from anywhere in the plant directly. The I/O data server also acts as a data gateway connecting the same individual tag to different protocols and devices as a way to share or forward data to a diverse set of on-premise equipment, facilitating the coordination of production processes.

### Smart Visualization

Movicon WebHMI takes advantage of all the symbol and object graphics available in the Movicon.NExT libraries to dramatically expand the potential for quickly creating rich, intuitive interfaces. Choose from thousands of graphic symbols and powerful graphic animations and commands to create modern, high-performance screens to support better decision making.

All WPF and XAML objects in the Movicon.NExT toolbox are automatically converted to SVG for easy display in HTML5 browsers. Users can access HMIs using any HTML5 web browser—-independent of operating system—including those on local machine displays, PC workstations, or mobile devices.

### Visualize Data From Everywhere

Users have the ability to access Movicon WebHMI screens on-premise in the facility or remotely while on the go. This supports the new generation of workers who expect access to their plant data at any time no matter where they are. Streamlined Web connectivity enables many simultaneous connections to the HMI at once, allowing the system to scale as the number of users grows. Everyone connected is able to see the same information in the same view and in real time.

### Movicon WebHMI Features

Movicon WebHMI provides a full suite of features essential to visualization, supervisory control, and analysis to make it the most complete solution for generating insights from inside or outside the facility.

**Smart Visualization** – Take advantage of the Movicon.NExT editor to build powerful graphic screens. Movicon WebHMI provides scalable vector graphics, objects and symbols, powerful dynamic animation, and can be displayed in any HTML5 browser or on a mobile device using the available iOS or Android app.



**Alarm Manager** – Movicon WebHMI alarm manager integrates alarm and event management for messages and alarm activation according to the ON, OFF, ACK, and RESET events. Intuitive alarms are clearly presented on machine displays, workstations, and mobile devices, and users can comment, add descriptions, and filter by area to improve collaboration and speed of response. Events are also recorded in the event log to maintain comprehensive historical archives.

**Data Recording and Analysis** – The Movicon WebHMI server can record project data variables, and tag data to your choice of database including SQLite or SLQ Server or MariaDB. This historical data can be easily displayed onto screens viewed by the operator or used for analysis purposes like trends, charts, tables, grids or reports.

**Recipes** – Movicon WebHMI integrates recipes management and allows users to manage the dataset of any production data. The recipes server accesses the proper recipe dataset through visualizations objects making it simple for operators to manage the data. The ability to import and export recipes makes it possible to integrate with external recipe data sources.

**Reports** – Any data stored onto the server DB can be analyzed through a powerful built-in report engine. Reports can be designed through the report designer and visualized locally or remotely on any HTML5 web-capable device.

### More Than a Web HMI Visualization

Movicon WebHMI is more than just a simple web viewer. Its suite of advanced features make it a powerful tool for advanced management, basic supervisory control, localization, and augmented reality.

**Schedulers** – Manage command scheduling based on settable times and calendars. Commands or events can be activated within projects wherever needed, and the system also allows runtime changes by operators.

**Security** – Manage user and password security to access any command or operation through a safe user’s access with a centralized database.

**Logics** – Integrate sequential logic engines based on function block diagram (FBD) programming. Logic integration enables management of programmable functions and sequences.

Java scripting is available to expand logic functions with additional business logic so users can create their own advanced functions.

Note: VB.NET is not available with Linux

**Geographical Map Support** – Create Geo SCADA systems based on interactive geographical maps with remote control via Movicon WebHMI’s support for graphical map visualization and dynamic object geo-localization.

**Cognitive Augmented Reality Support** – Make the most of machine learning and artificial intelligence technology. Movicon WebHMI uses mobile device video cameras and machine learning to recognize industrial devices. Users can activate popup windows or overlay KPIs on the video to see real-time data and operating commands.



### Centralized Project Management

As multiple projects are deployed in a facility, it becomes progressively more challenging to manage the collection of projects. Movicon provides a deployment tool to allow you to remotely manage all the necessary operations on the target device where projects are deployed. The capability is fully integrated with the Movicon editor. You can deploy, start, stop, debug, and update the runtime system components across the plant from a single centralized location.

### License Management

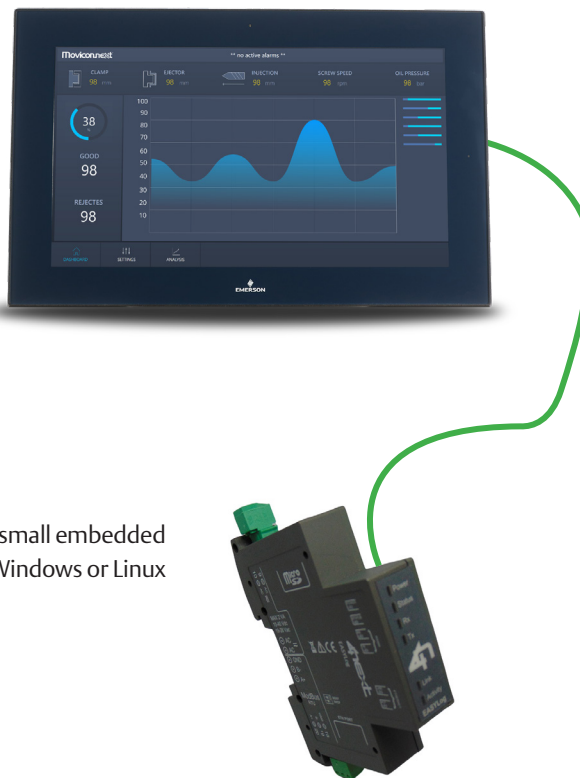
Movicon facilitates the operations for installing and managing license from a central location.

The license policies are flexible and OEM-friendly, providing solutions fitting most customers’ unique environments.

## Requirements

Movicon WebHMI Server Requirements	
Supported Operating Systems	Microsoft Windows Server 2016, 2019, Microsoft Windows 10, Microsoft Windows 10 IoT Enterprise, Linux* (Tested with Debian 11, Raspbian and Ubuntu 18, 20) * Works with any popular distribution supporting .NET CORE
CPU Architecture	32/64bit Intel x86-based, AMD64, ARM (Cortex)
RAM	Minimum 2GB
Processor	Scalable from an ARM Cortex-A72 up to Intel iCore, Ryzen or Xeon 8-core
Hard Disk	SD or SSD with at least 1GB of free space recommended
Supported Database	Microsoft SQL Server, MySQL, MariaDB, SQLite

Movicon WebHMI Client Requirements	
Supported Browser	Any web browser that supports HTML5 Tested with: Google Chrome (v.87 or more) Microsoft Edge (based on Chromium, v96 or higher)



Movicon WebHMI can be installed on small embedded devices or on HMI panels with Windows or Linux

# Movicon WebHMI

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