Movicon.ba©
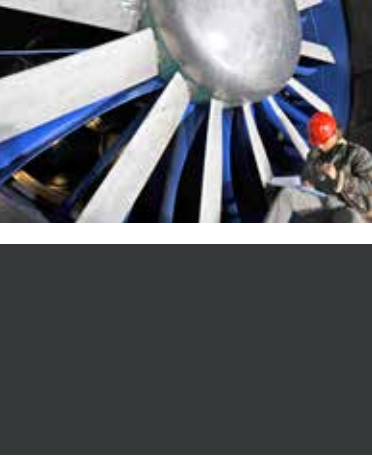# Building Automation.next

Integrated Supervision for Smart Buidings

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Building Automation.next

SCADA/HMI Software technology for Building Automation

Integrated building management necessitates a control system through which the user can manage all the different systems used throughout the building. These include those for illumination, air conditioning, security, power grids, access control, maintenance and any other building auxiliary service. Movicon.ba™ has been designed to make this happen by allowing the user to manage all these various systems throughout the entire building. This is done by seamlessly integrating them into one unique supervision and control centre for major interaction and control.   The great advantage of being able to integrate all building systems and the simplicity-of-use offered by Movicon.ba™ makes buildings much more efficient to manage.
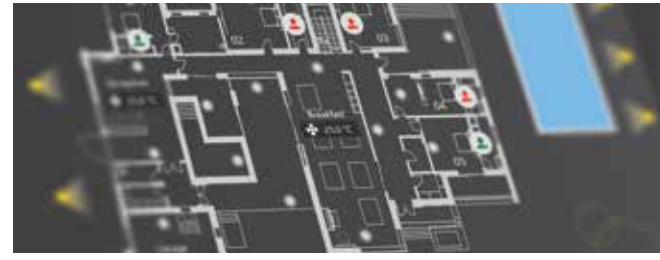
Movicon.ba is the supervision solution designed for Building Management Systems (BMS) and Building Automation. It is very simple to use and comes with detailed documentation and a support website. The website has been designed to provide the developer community a rich source of useful information and examples to make learning easier and to reduce project development times.

Progea's commitment to produce powerful and innovative automation software products has flourished over the last 25 years. The experience and knowledged gained and combined with most innovative technology have made Progea experts in supervision and control solutions for the civil and industrial automation sectors with over 120,000 licenses installed worldwide. The Progea Services (Training, Assistence and Consultancy) are the true product's added value. Users are not only guaranteed support for any application need but also get to benefit from reduced implemention costs contributed by these services as a consequence.

Integrated management for every type of building

Movicon.ba™ is the most powerful building automation software offering the best in supervision, openness and scalability to any other software

Building Management System

Movicon.ba™ is Progea's supervision solution for smart buildings as experts in supervision and control software (SCADA/HMI). Movicon.ba offers the advantages of an open software for integration and visualization of modern building automation systems, whether it be residential, industrial, public services or large communities. Movicon.ba™ is based on Progea's modern Automation Platform.NExT platform an innovative software solution which integrates technology such as .NET, OPC UA, WPF and HTML5. The great experience gained throughout years of success have allowed Progea to satisfy all the needs of those who wish to develop projects with integrated systems using an all-inclusive, powerful, flexible and open visualization and control software.

An open solution

Movicon.ba™ ensures the openness needed to integrate all building management systems and devices into just the one supervision project. The possibility to do this is beneficial in many ways in terms of saving time, resources and enhancing supervision and control potentiality of your building. The Movicon.ba platform technology is completely based on the framework.NET of Automation Platform.NExT and uses the most modern applied automation software technology.
With just the one visualization software you will finally get the chance to connect the control bus, lights, HVAC heating and air conditioning system, security and access control system, CCTV, power grid systems and any other device used within the building management context.

Deployment flexibility

Due to the flexibility of Movicon.ba, you will be able to integrate y0ur building management systems in any type of architecture, such as PC Server or Desktop, Media Center, Touch Panel (Windows Embedded. You will also be able to access your system over the Web using any browser with the HTML5 technology or using APPs for Smartphones or Tablets, from wherever and whenever. There are no limits to the number of visualization solutions you can use to get everything under total control.

Enhanced facilitated userness

Creating supervision projects with Movicon.ba™ is smooth and easy. A powerful object-oriented editor allows you to create graphical interfaces with animated and interactive screen pages using the new rendering WPF/XAML vector graphics technology or by applying your own BMP, GIF, PNG and JPG drawings. All the tools you will ever need have been integrated and ready for use. Preconfigured graphical object libraries, communication drivers, alarm management, event scheduler, trends and charts are all at a hand's reach within a tap or click in a simple and intuitive software environment.

SCADA technology for Building Automation

With just one solution Movicon.ba™ allows you to integrate all the different system architectures in one unique supervision center

Enhanced features
Overcome the limited use of conventional supervisory software. Movicon.ba™ offers all the powerful features of modern SCADA/HMI systems to visualize data. You will be given the chance to work with a powerful graphical object-oriented enviroment that includes a very effective Alarm management, database with historical logs (e.g. SQL Server, Oracle, MySQL), trends, scenarios, schedulers and control logic. These features are all ready to use in one simple but powerful programming environment.

Cost reductions
Movicon.ba™ permits the use of just the one all-inclusive developer environment for all your supervision and control systems. This will allow you to save on learning, training personnel and maintenance. The Movicon™ BA licenses are scalable and flexible and can be upgraded to Movicon™ to contribute even further to reducing overall development and maintenance costs.
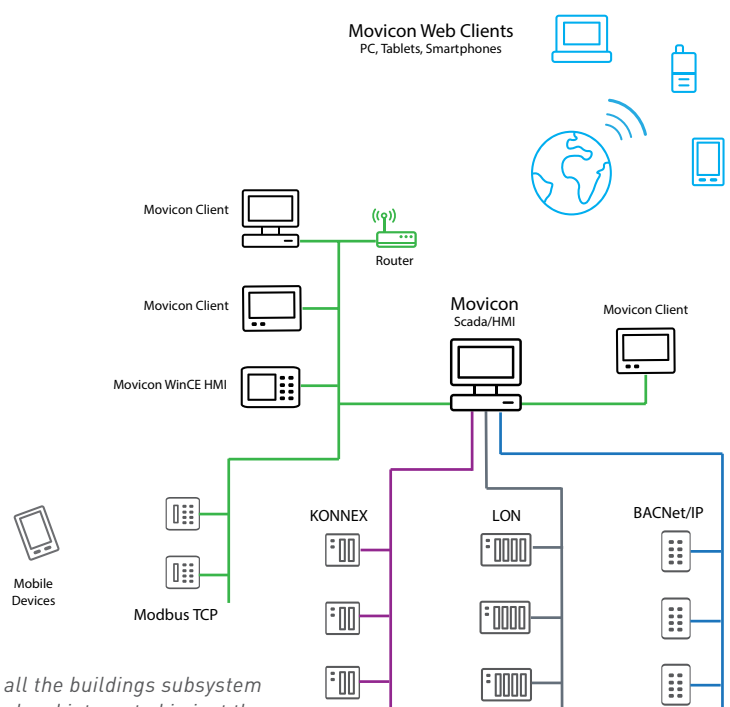
Integration is the key word
Movicon.ba™ offers the advantage of a software that is independent from the hardware being used. This will allow you to use the same software in any PC and Touch Screen connected to your building's control systems, by means of buses such as Konnex/EIB, LON, BACNet, Modbus and DALI, for access control, burglar and fire alarm systems (e.g. Notifier and others), power systems with Modbus interfaces and many others. In addition, you will be able to integrate CCTV and IP Cameras and feel free to choose your architecture the way you want it by using the same software. This is your best guarantee for maximum flexibility of deployment and investment sustainability.

Information sharing network
Movicon.ba™ offers the advantage to freely circulate information by using the Networking functions with Ethernet and OPC UA technology and thus integrate your supervision system with managerial systems.

Integrated I/O Drivers and OPC UA
Movicon.ba™ includes a large number of integrated and ready-to-use communication drivers to connect to the main systems and devices used in building automation. These include networks, buses, instrumentation, specific controllers and devices. The main drivers include importers to avoid errors and to spend less time configuring. In addition, the platform offers full support to the OPC UA technology (IEC 62541 standard), both as Client and as Server.

The flexible architecture of Movicon ™ BA allows all the buildings subsystem including networks and various devices to be concentrated and integrated in just the one all-inclusive supervisor. Information can be distributed to other client stations such as PC, touch screen panels, mobile devices as well as over the web.
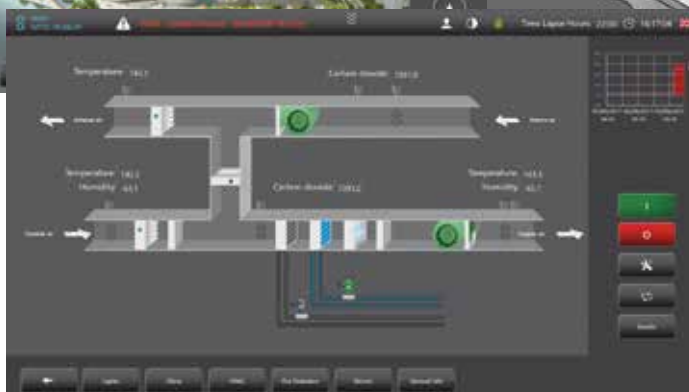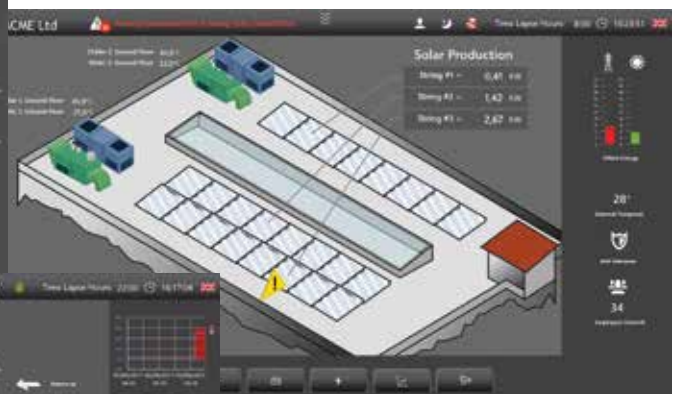
New Generation 2D and 3D vector graphics in XAML

Movicon.ba™ offers the most advanced graphics functions within a modern environment based on innovative technology

Superior 2D and 3D graphics features

The main aim of any supervision system is to visualize processes. The clearer and more transparent the process is visualized the better and more efficient the building systems can be run. Unlike ten years ago, today's operators are now demanding more lifelike graphical representations of systems and processes. Graphics are a crucial element to developing projects but unfortunately they take up a major part of development time. However Movicon™ BA certaintly demonstrates its superiority in this field in terms of powerful graphics. It offers design engineers the use of a vector graphics editor based on the new WPF/XAML rendering technology with 2D and 3D graphics support. It also offers libraries rich in purpose-built and configurable objects and symbols that come with at least 16 animation properties and powerful control functions. Design engineers are completely free to custommize them as required as well as use the supported BMP, GIF, PNG and JPG multimedia formats and the Power Templates technology in doing so. The screen graphics are independent from the device and screen resolutions used. They also support touch and multitouch functions and can be used in multimonitor setups.

New generation Graphics Libraries

Progea has invested a great amount of its resources in graphics and designer tools in order to completely revamp the project's symbol libraries and toolbox objects. All graphics are now XAML-based. Modern solutions have been used to expand on their different styles and storyboard use. As a result, the platform now comes complete with a graphics library rich in objects and symbols of unprecedented quality. A library full of both static and dynamic symbols and a toolbox full of pre-conifgured graphical objects united with a powerful inbuilt WPF vector graphics editor are your key to successful screen displays. There is no limit to what design engineers can do with the various techniques in terms of transparency, fading, shading and much more. No other software gives design engineers so much freedom to express their creativity. In additon to the Movicon.ba™ Graphics Editor and ready-to-use objects in the Movicon.ba™ libraries, the platform offers the design engineer greater freedom of expression with XAML. They can create new symbols and objects with external graphics tools such as Expression Blend or Adobe Illustrator and be more dynamic with storyboards using the supported User Controls that are also customizable with Visual Studio.

Powerful Alarm Management

All systems connected to the building are kept under constant control with Alarms, Messagges, Notifications, Event Historical and Statistics.

Powerful Alarm Management and Event Historial

The powerful Movicon.ba™ Alarm management ensures maximum precision when it comes to handling events. Operators are kept constantly updated on the building's ongoing situation with detailed information. By using this information, operators can repond immediately when needed to prevent system failure and thus improve efficiency. The Event Historical managment (Historial Log) automatically records all events (Alarms, Driver Events or System Events) in the appropriate filing system based on relational database. Statistical Analysis functions are also provided for anomaly detection troubleshooting.
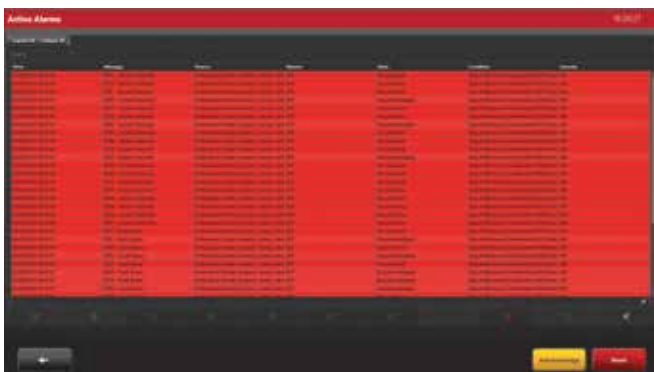
Notification by SMS/Email/Speech Synthesis

Movicon.ba™ offers a powerful integrated solution for notifying events and alarms. Movicon.ba™ will directly inform call duty staff upon verification of severe error occurrences (alarms or other configurable events). Staff can be sent nofications by SMS, Email or vocal calls with the Speech Synthesis manager (Text-To-Speech) using a VOIP provider. In addition, user groups can be set up to manage alerts and acknowledge alarms over the phone. You can rest assured that your system will keep you updated with information on what's happening in your building no matter when and where you are. You will be able keep everything under control at all times and decide when to intervene and take appropriate action by remote control. This will also enable you to optimize on the running costs of your building as a consequence.

Alarm Analysis

Movicon.ba™ provides system maintenance managers with just the tool they need to statiscally analyse any error occurrences during significant time periods.   The alarm analysis allows managers to quickly identify the buildings critical spots. Once they have this information they can decide which is the most propriate plan of action and implement it remove any inefficiencies and make improvements. Such decision making to obtain maximum building management efficiency would not be impossible without such vital information.
The Movicon.ba™ Alarm Analysis is extremely simple to use and offers a powerful tool to analyse all alarm events. The results of this analysis can be displayed in reports to either report total or partial system or device failures and at what frequency they occur. This information can be shown on tables, piecharts and histograms identifying the lists of alarm occurrences by 'Duration' (Total time of occurrences of the same type), or 'Frequency' (overall number of occurrences of the same type) for the period of time specified.   The reports can be displayed and printed on command or on event and exported in various formats (Excel, PDF, HTML) to provide fully detailed information on each individual alarm event analysed. The Alarm Analysis model can also be accessed over the Web.

Data Recording, Historian, Analysis, Trends and reporting

All the building's management and control data are recorded on Database or in the Cloud for accurate analysis using Trends and Reports.

Historians and Data Loggers

Every modern building needs a system that ensures correct and efficient data recording in order to facilitate reliant analysis to obtain vital information to improve building management efficiency. The Movicon.ba™ Data Recording Server uses historical data recording innovation technology. Building information is recorded by data loggers and archived on DB, physical disk or Cloud to ensure performance and security independently from the volume of data involved. The Server offers two data recording models: the Historian and the Data Logger. Design engineers can therefore configure projects based on the type of analysis they need to perform. Due to Progea's Virtual File System (VFA) technology, the integrated Movicon.ba™ persisting data model consents to project independency from the server and data archiving format and where data is to be filed.   This means that data can be filed locally or on a relational DB. Microsoft SQL Server is used for default but MySQL, Oracle and others can be used as well as Cloud by using the Microsoft Azure cloud computing technology.

Trends, Data Analysis and Reports

All the data recorded in the archives can be accessed from the system using viewer and analysis objects designed for this purpose. These objects include Trends, Tables, Charts and Reports. Users get to use the most modern functions available to view analysed building data such as temperatures, power consumptions and any other variable managed by the system. The integrated Report Designer is used to create detailed reports which can also be accessed over the web and exported in the most commonly used formats. The data provided by this analysis will enable you to control and manage your building better.

Scenarios and Recipes

Movicon.ba™ has a module that has been designed to edit and run Scenerios (Recipe Manager and Set Points). Based on advance technology, the archive management can be configured to run in asynchronous mode in respect to the Address Space. Recipe objects can also be configured with data layouts and user interfaces as desired.   Due to the specific functions predisposed in the Data Server's I/O drivers, they can also be configured with independent connectivity to building devices and with specific recipe data transfer functions (download/upload) atomically.

Advanced Funtionality

All the most advanced features are provided to create any type of building management project

Video Camera Management

Movicon.ba™ integrates native solutions to manage images deriving from IP Cameras. A purpose-designed viewer object is used to view the images on local PC terminals and in embedded systems (WinCE, PocketPC) as well as over the Web without needing to spend extra on add-ons. In addition, Movicon™ BA allows the integration of external components, such as ActiveX and third party libraries (DLL) to support the most sophisticated WebCam and digital video surveillance systmes.

Voice Recognition

Movicon.ba™ has a voice recognition function that allows your control system to recognize vocal commands. This will allow you to interact with the control system in the most natural way possible by voice to evoke orders and commands. Once recognizing the vocal command, the system will request confirmation and the desired value (such as a temperature setting). Vocal commands can be used as an alternative to touch screens or keyboards to set commands.

Scheduler Management

Movicon.ba™ has scheduler objects with programmable calendars that are simple and intuitive to use. The calendars can be configured graphically or in table mode. They also include weekly planning and public holiday management.

Function Block Diagram

Movicon.ba™ has a logic editor to create sequential logic using function block graphics editor. Logic can be created in the supervisor system without needing programming language know-how. The library of function blocks includes all the most common ones as well as PID controller blocks. It can also be expanded to include others as well as those customized. With the forthcoming runtime for Windows 10 IoT, small microcontroller function blocks will be able to connect to the main supervisory system to create a Movicon.NExT ecosystem within an Industrial Internet of Things (IIoT) architecture.

Integrated VB.NET Language

Movicon.ba™ integrates a powerful VB.NET engine that executes code that is compatible with the Visual Basic for .NET™ (VB.NET) standard. A powerful vast selection of APIs are also included. Properties, events and methods can be used not only to customize functions but also to access your system's world of .NET . Script can be executed as normal routines or encapsulated in objects, such as graphical objects, alarm objects, templates, data loggers and others, in response to events. Logic with VB.NET language can be executed on the Server and Client and with multithreading whereby different script can be executed simultaneously to offer unmatched solutions with standard language use. The powerful debugger offers different execution modes such as step-by-step, break-point and others.

Safe simple access to your building using the internet

The ability to access your automation system from wherever and whenever is the true concept of modern automation. Operators, maintenance workers, production staff and managers need to be able to access the system over the web and in complete safety in order to visualize the production process. It is the role of the Web Server to enable this which it does excellently by using the most modern and innovative HTML5 web technology. The Movicon.ba™ configurator is used to create the graphical interface that is subsequently visualized over the web independently from the fact that it can also be visualized by HMI clients. Communication can take place locally by means of the I/O Data Server, or directly with OPC UA. The Web Server handles the local instances and publishes the data over the Web. Protected access to commands on Server from Web Client terminals apply the same adopted security measures. All accesses and commmands are traceable and recorded on the Server Log. In addition, authentication with Log On to a Web Client terminal is totally independent from the other terminals. Users, Multi-users and groups can be assigned different privileges to gain access. Tools such as Dashboards, Grids, Data Analysis and Reports have been provided to allow direct access to the projects historical logs over the Web to perform analysis including those customized as needed.

- HTML5 technology to access and visualize your project over the web using whatever browser with whatever operating system.
- Creating Web pages on Server is automatic with one click or tap.
- Server project dynamic screen visualization using browers with user authentication, access control and any applicable Web user restrictions and censorships.
- No additional installations or configurations needed on both Client and Server.
- Enhanced performances, transparent support to project functions and commands using a normal browser.
- Data management security.
- Enhanced performances and notifications on event only.
- Web tools for local historical data analysis on server.
- Optimized Web Socket-based communication.
- Application centralized on server therefore no need to install or distribute software or license.

The advantage of using open architecture

Movicon.ba™ is based on standard and open .NET futureproof architecture to ensure investment sustainability

Open to new and third party module integration

The Platform.NExT™ technology, on which Movicon.ba™ is based, has been specifically designed to be modular and scalable. In addition to the suite of function modules offered by Progea, users are free to develop and add new modules to the platform. This will allow users to create vertical and integrated solutions with the advantage of using the platform's features to optimize their work and increase functionality while reducing development time and management costs. Progea offers wizard models for Ms Visual Studio so that users can obtain all they need to quickly build their own function modules usng the .NET and C# technology. Furthermore Progea provides documentation, SDK and training if needed to create vertical solutions to integrate with the Platform.NExT™ technology.

Cloud and IoT architecture:
All the information of your interconnected systems to collect and analyze in the Cloud

Due to the Progea Cloud platform, all your systems can be interconnected in realtime with the Internet of Things (IoT) protocols. Information can be collected to the Cloud platform to allow managers to analyse the different buidling systems, maintenance and consumption variables using freely configurable web dashboards. By making your building smart and efficient, you will get to benefit from great returns in terms of performance and functionality.

HMI and Augmented Reality:
Integration with the most modern wearable AR devices such as SmartGlass and HoloLens

Movicon.ba™ has been designed to allow users to create futureproof projects. Users can integrate their applications with wearable Augmented Reality devices by using the purpose-designed APPs. These APPs have been developed to integrate the most modern wearable devices with the Server system of your applications. The future of building management is already at hand today.

360° solutions for scalable and flexible software

Countless Solutions:

Thanks to Movicon.ba™ all applied building systems, whether industrial or residential, can easily be integrated and managed. You will be able to manage a variety of systems and devices from your supervisory PC, Touch Screen mobile system or browser such as:

- Illumination Control and Management
- Comfort and Climate Control and Management (heating, air conditioning and HVAC)
- Technological System Control and Management (engines, valves, services)
- Hydraulic System Control and Management (pumps, irrigation, etc.)
- Comfort management to create and save favourite scenerios and ambient configurations
- Data and Alarm Management of Burglar Alarms and Access Control Systems
- Data Collection and Management of Fire Alarm systems
- Energy consumption monitoring with energy supply cut-off and load release management.
- Weather information collection and shutter, window, shed and skylight control plus others.
- Energy Consumption Control and Management (water, lights, cooling and heating)
- Statistical Process and Event Data Analysis
- Video Camera Data Collection and Management of CCTV and IP Cameras
- Web-based IP Camera management
- Emergency Light Control and Management
- Alternative energy management for systems such as photovoltaic and cogeneration.

Key Features

Movicon.ba™ is a holistic software platform offering an all-inclusively integrated control system for the entire building with project editing functions and runtime.

- All-inclusive development environment with scalable and modular projects
- Real-time data collection from all the popular Building Automation Systems, Meters, Controllers and PLCs.
- Powerful and unparalled graphics visualization with WPF/XAML vector graphics editor, 2D and 3D graphics, in-inclusive toolbox and libraries packed with a wide spectrum of customizable graphics supporting the most popular multimedia formats
- Alarm and Event Management and Logging of all integrated systems with Voice/SMS/Email notification
- Protected Access with User and Password management and biometric recognition
- Redundancy Managment (Hot backup)
- Integrated Client/Server Networking architecture
- Visualization and control over the Internet using HTML5 in any Browser, or with APPs for Tablets or SmartPhones (iOS, Android, Windows APP)
- Scenario Management with objects and wizards
- Data Logger with Historicals on Relazional Database suing SQL Server or Oracle as well as the Cloud
- Powerful and Dynamic Historical Trends, 2D and 3D Graphics
- Integrate VB.Net language
- Function Block Diagrams (FBD) for Sequential Logic
- Event Objects
- Dynamic Scheduler Objects with public holiday management
- OPC UA Client and Server
- HTML5 Web Client technology and APP
- Local and remote Debugger
- Support to IP Camera (native) and CCTV
- Vocal Commands
- Touch and Multitouch management
- Augmented Reality

progea
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