



The Wonderful World of Automation

→ **Industry** – Steel, Automotive, Pharma, Production Management Systems

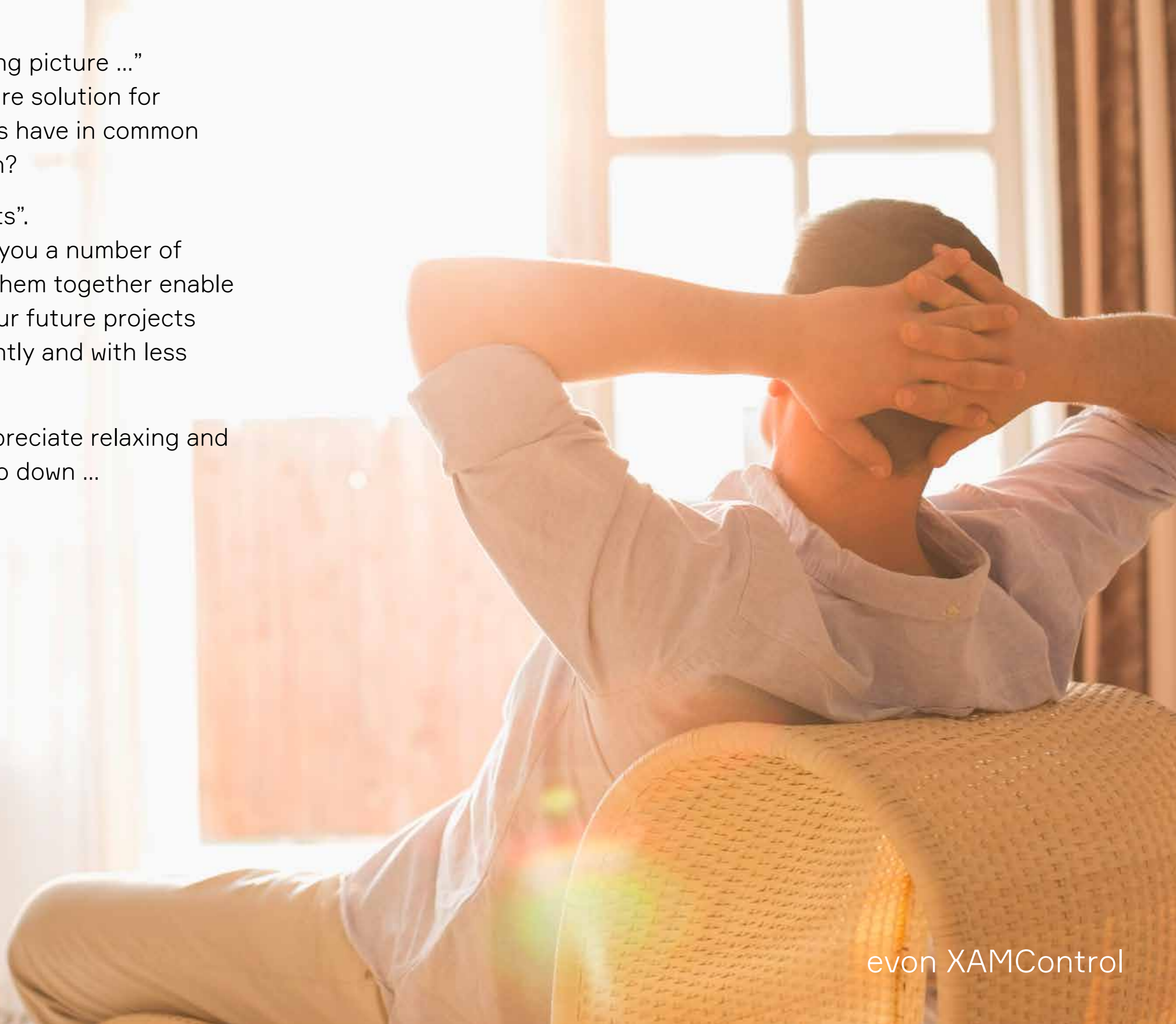
→ **Traffic Control** – Tunnel, Control Centres, Open Roads

→ **Building Management** – Offices, Hotels, Municipalities, Data Centres

You think, “Oh, wrong picture ...”
What does a software solution for
automation projects have in common
with the setting sun?

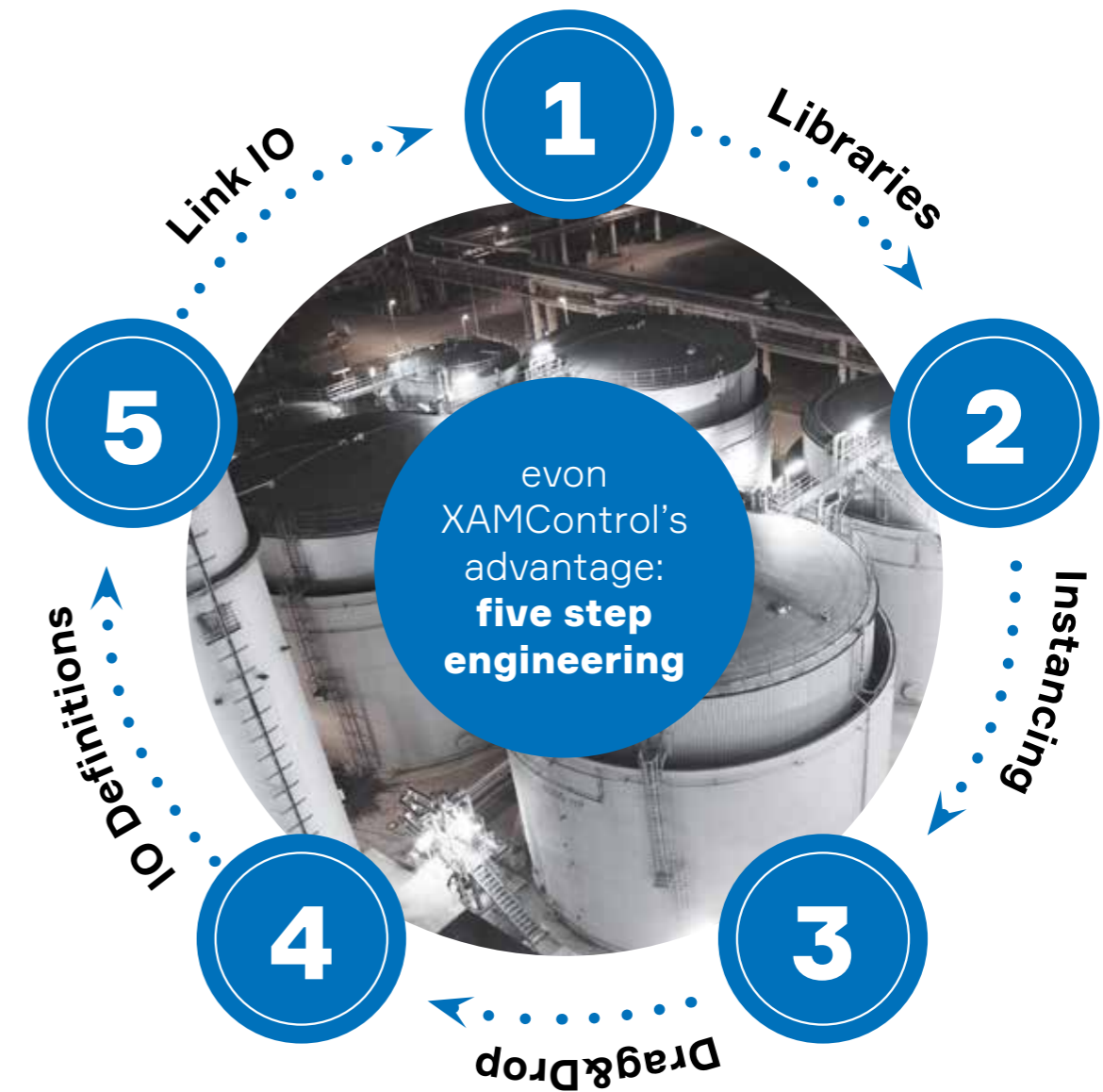
We could reply, “Lots”.
XAMControl offers you a number of
advantages. All of them together enable
you to complete your future projects
faster, more efficiently and with less
stress.

But if you don't appreciate relaxing and
watching the sun go down ...



evon XAMControl – Engineering

5-step engineering, or how you can develop your XAMControl solution in 5 easy steps..



One system for visualisation, one system for programming and another system for configuration – that is the software approach in automation ... from yesterday. evon XAMControl consolidates all that is required in a single tool. Along with lots of useful things and surprises. But first things first: 5-step engineering, or how you can develop your solution in evon XAMControl in 5 easy steps:

Step 1 – Libraries Tested and ready-to-go

evon XAMControl offers you a powerful library containing finished objects. The first step in project implementation is the choice of appropriate AutomationControls (that's what we call them). Of course, you can change individual properties of the objects or simply create them new.

Step 2 – Instancing Bring to life

The AutomationControls are instanced in a second step. This results in an object, perhaps a motor, being created and made available with all properties. The target PLC where it will later run is not yet relevant.

Step 3 – Drag&Drop Make visible

Drag&Drop is also true for evon XAMControl's visualisation. Simply drag the object into the process view and connect it with the corresponding instance. A selection list is available to help – this eliminates time-consuming searches.

Step 4 – Define IO Create connections

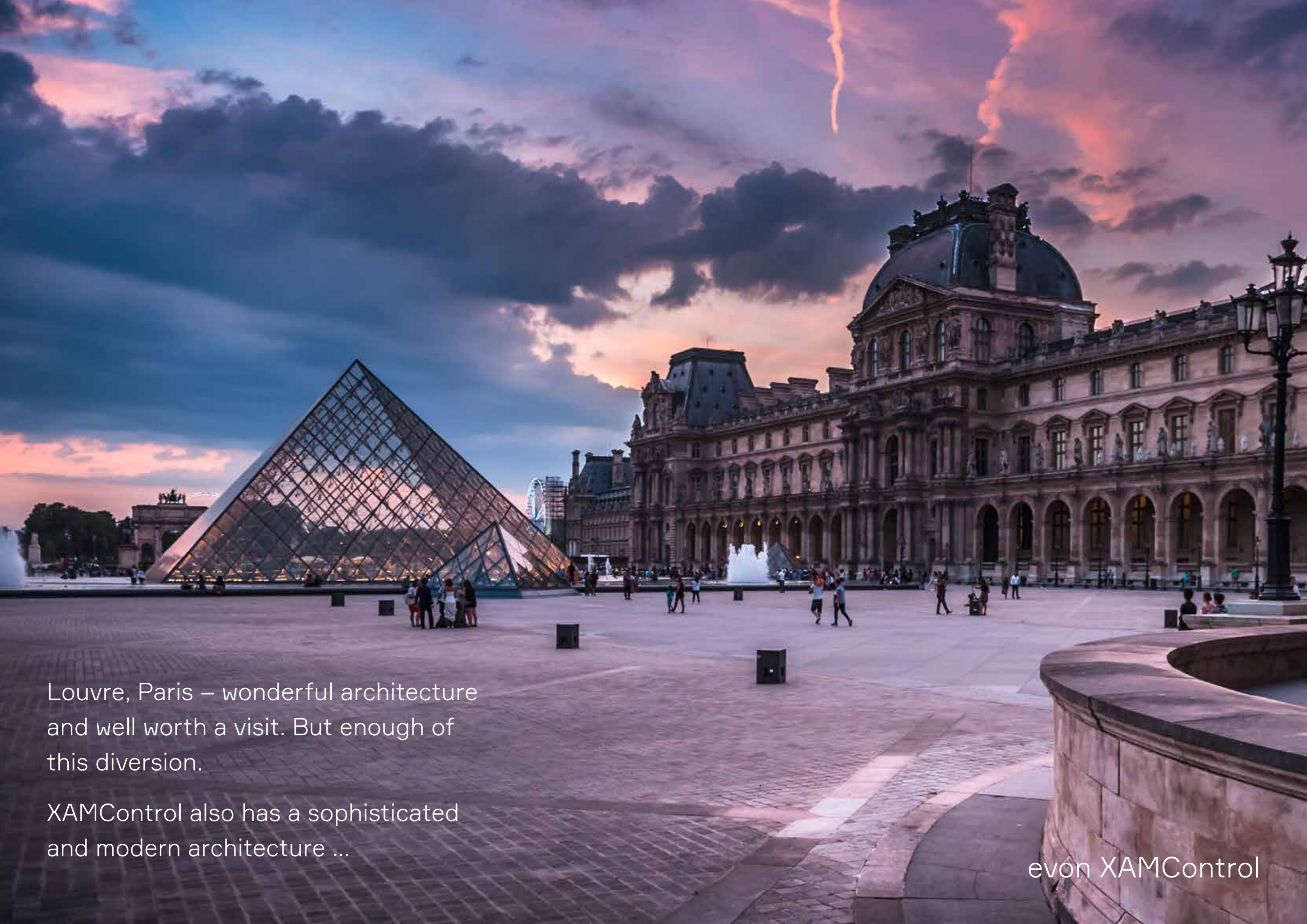
The object is now in the visualisation and ready on the PLC level. This step determines which IO is to be used - all still independent of the target PLC where the object will later run.

Step 5 – Link IO Connect to the real world

This last step connects all IO signals with the PLC object - it is even easier by creating and importing a list in EXCEL with evon XAMControl's office integration.

Or make 1 out of 5: evon XAMControl Solution Importer ... even easier and faster

Since all these five steps viewed on a total project level are actually always the same and since repetitive tasks are boring, we have developed the add-on evon XAMControl Solution Importer that permits the steps 1 to 5 to be concentrated in an EXCEL file and to be imported directly.



Louvre, Paris – wonderful architecture and well worth a visit. But enough of this diversion.

XAMControl also has a sophisticated and modern architecture ...

evon XAMControl

evon XAMControl – the system

The secret of XAMControl’s architecture lies in the combination of modern software technology and the open system design.

evon XAMControl – SCADA level Maintain control

evon XAMControl implements the latest software technology on the visualisation level. This takes user support significantly beyond what is accustomed. Alarms and trends are available in realtime. The vector-based views permit loss-free scaling of all elements. Videos, mails, sms – the complete communication range is directly implemented in the system.

evon XAMControl – Field level Hardware independent diversity

evon XAMControl supports many contemporary controllers, protocols and IO modules. The flexibility and openness of the system guarantees short development times for new hardware components. By way of documenting the quality standards, devices are continuously being tested and certified for use with evon XAMControl.

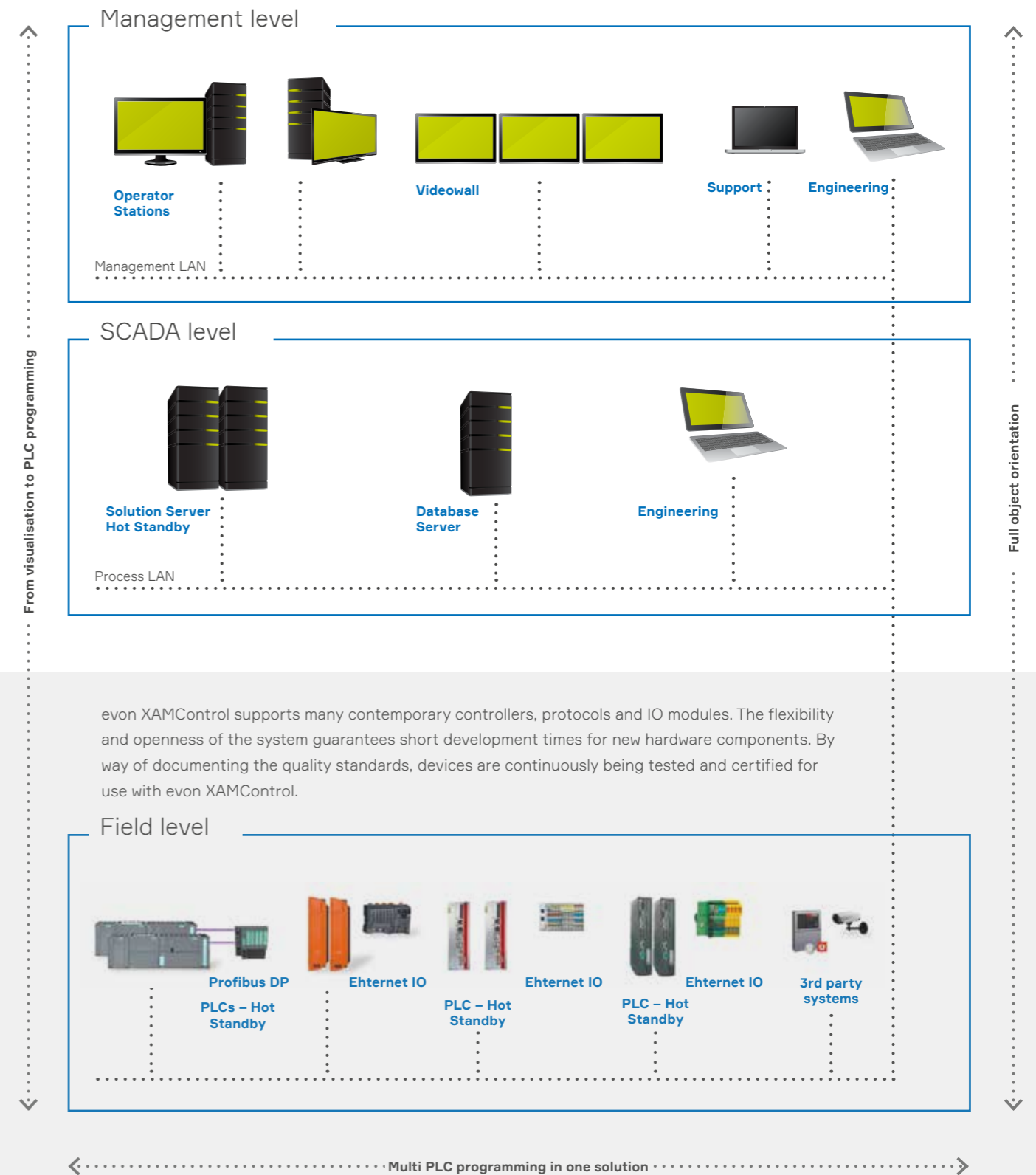
evon XAMControl – Server level The heart of the system

A realtime database, the flexibility of modern server concepts and genuine reliability – these form the basis of what evon XAMControl can offer for your automation project. Tried and tested many times, the system boasts flexibility and stability. Thanks to virtualisation, evon XAMControl is futureproof and hence protects your investment.

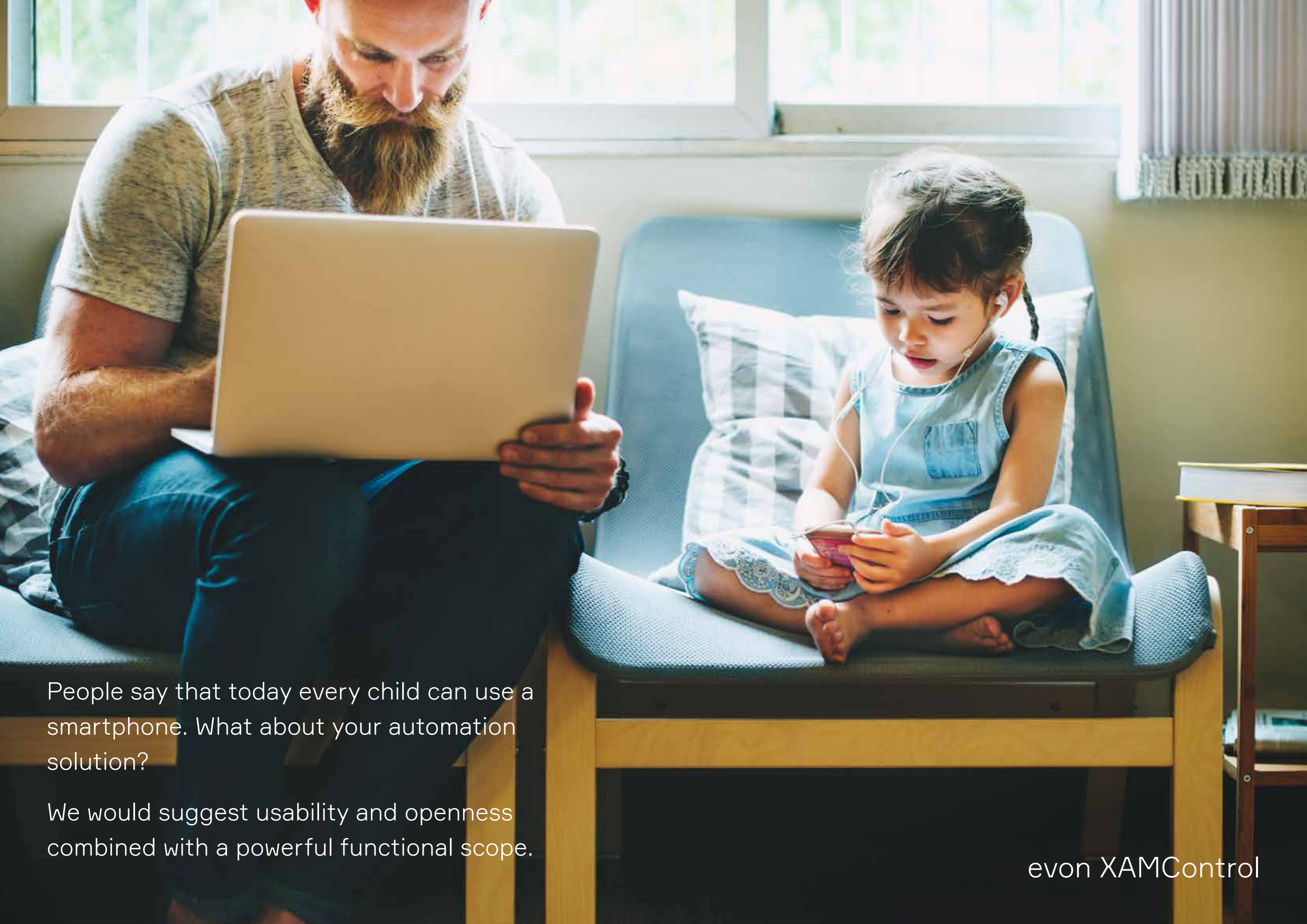
Highlights

- Visualisation (2D, 3D)
- Alarm management
- Trending/historical data
- Reporting
- User management
- Multi-lingual capability
- Online diagnostics
- Online configuration
- Redundancy/Cluster
- Openness of the system

Control system



Automation level (optional)



People say that today every child can use a smartphone. What about your automation solution?

We would suggest usability and openness combined with a powerful functional scope.

evon XAMControl

HMI/Visualisation



- 2D and 3D vector graphics with animation
- Open standards for graphics description (XAML)
- Multitouch
- Extendable via high-level programming language (C#)
- HTML5 visualisation
- Integrate proprietary or third-party libraries
- Free zooming, panning, decluttering and scaling
- Multi-monitor operation
- Multiple selection
- DirectX support
- Monitor resolution independent
- Theme Support
- Support of all popular graphical formats (jpg, png ...)



Multi-Lingualism

- Switchable online
- Multibyte character set (Chinese and Cyrillic characters)
- Automatic translation with "Google Translate"
- Excel import and export



Alarm Management



Drivers and Interfaces

- Over 200 available drivers
- Several different and simultaneous drivers
- Unified configuration and monitoring
- Relocation of drivers to other computers to distribute load
- Drivers are available on all levels (PLC, SCADA)
- OPC 2.0 and UA, SIMATIC S7, Modbus, IEC60870-5-105, BACnet, SNMP, EIB, Mbus, MP-Bus, DMX, DALI, ENOcean ...
- Field level: Pro bus DP, Modbus TCP and RTU, Beckhoff ADS, M-Bus ...
- Open API interface

- Freely definable alarm groups with up to 32,767 different priorities and freely selectable attributes (alarm colours including flashing, method of acknowledgement, icons ...)
- Functions for aggregate alarms of groups, objects and visualisation views
- Alarm screen with freely definable column selection and extended sort and filter options
- Direct guidance via click to process view with the alarmed object
- Comments and alarm notes (also mandatory)
- Configurable online
- Freely configurable alarms via alarm groups with sms and/or email including escalation mechanisms
- Automatic optical highlighting of objects with alarms in the visualisation
- Textual speech output, saving of audio files etc.
- Pareto evaluation of alarm occurrence frequency and alarm duration
- Log for historical evaluation
- Hiding of system components on different operating stations

User Management



- Complete access security with optional integration in Windows Active Directory
- Several access right levels
- Automatic and complete documentation of user interventions
- FDA 21 CFR part 11 conform
- Up to 1024 user groups and unlimited number of users
- Strong password, password expiration, auto-logout, etc.
- User administration applicable to all functionality (alarms, operation, reporting, configuration, etc.)



Help Desk/Maintenance Management

- Maintenance support
- Trouble ticketing
- IBN support
- Allocation of responsibilities (and automatic notification via sms and or email on request)
- Step-by-step user guidance during an event (including checklists, documents ...)
- Direct representation of the object in the visualisation
- Transfer of information at change of shift (notes)
- Up to 2000 freely definable groups (description, icon, notification behaviour, ...)
- New entries can be simply created using drag&drop
- Complete documentation stored in the database
- Pre-populated reports



Trending & Database



Reporting

- Web reports via Microsoft Reporting Services (SSRS)
- Report editor for SSRS (bar charts, tables, pie diagrams, pivot tables ...)
- Excel reports
- Built-in alarm journal, Pareto, user interventions up to reports directly on the object with a range of filter possibilities
- Open database model and pre-populated views and functions
- Automatic report generation and dispatch via email
- FDA 21 CFR part 11 conform
- Excel, CSV, PDF export

- All data are stored in a central database (base data, data model, process data, production data, etc.)
- SQL standard
- Open database model
- FDR 21 CFR part 11 conform
- Threshold value, cyclical, time-synchronous and event-triggered data recording
- Realtime data acquisition in the PLC
- Data recording online configuration (including Excel for mass data)
- Database redundancy up to cluster systems for all data
- Simple quick export to Excel, CSV and PDF
- Representation of current (live trend) and historical data
- Free scaling, time shift of traces, automatic scaling
- Ruler function
- Multiple and common axes
- Inclusion of different object simply by drag&drop in the trend display
- Creation of user-defined trend summaries
- Free zoom
- Representation of alarms in the trend display
- Context-specific trend evaluations directly on the object in the visualisation
- Database is scalable from small applications up to big data applications

Integrated Development Environment



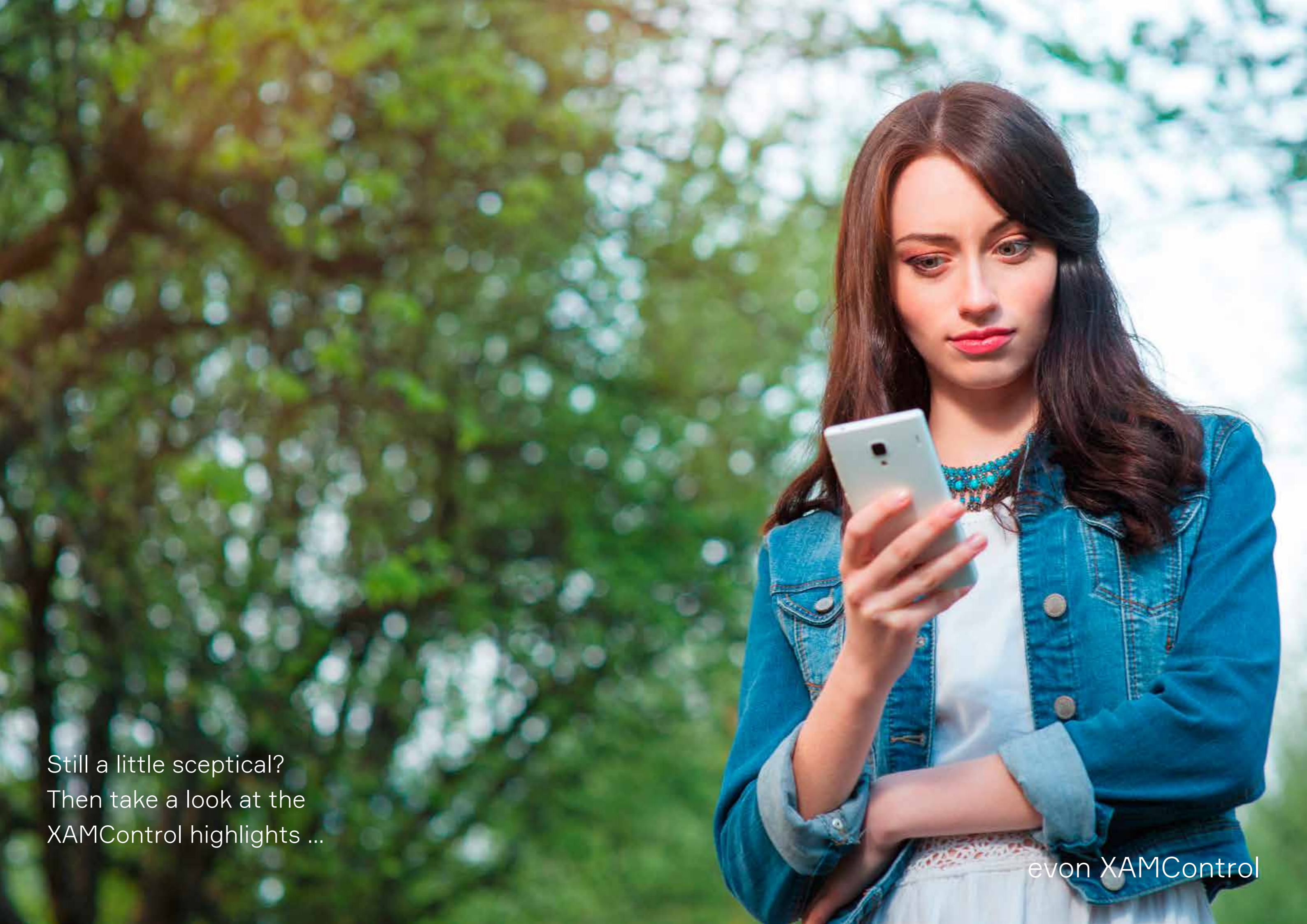
- Central programming and configuration of the complete automation landscape
- Transfer of programmes to controllers via drag&drop
- Object-oriented programming in the automation landscape (visualisation and control)
- PLC programming in IEC 61131-3 and/or high level language C#
- Programming of the visualisation via graphical editor and extension in high level C#
- Simple backup/restore of the complete solution
- Generation of programmes, visualisation, IO and driver configuration via Solution Generator (Excel import)
- Excel integration for simpler processing of mass data
- Offline simulation capability
- Offline data monitoring
- Multi-lingual translation (Excel, Google Translate ...)
- Seamless integration of the ACC store (Upload, download and versioning of libraries)



Established Field Devices

Recommended components:

- B&R X20-Serie
- Beckhoff K-Bus
- Siemens ET200s, ET200m
- Phoenix Contact IO
- Wago IO System 750



Still a little sceptical?
Then take a look at the
XAMControl highlights ...

evon XAMControl



Consequent and consistent Object Orientation



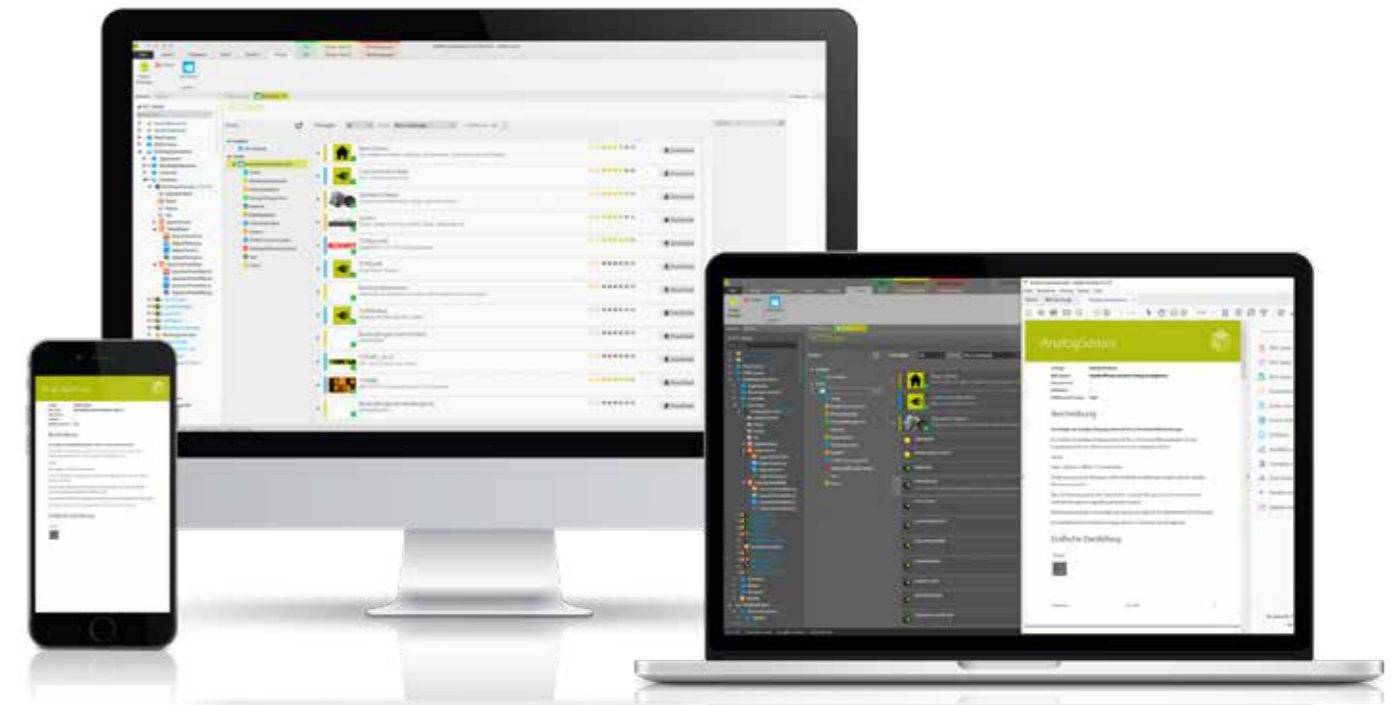
Redundancy and High Availability

- Hot standby as integrate system function
- Disaster recovery system (22x redundancy). This system extends the basic redundancy with a second redundant system that can be switched to in the event of a disturbance (e.e.g fire or explosion in the building of the primary system). This additional redundancy provides the maximum degree of fail-safety.
- Automatic client switching
- Automatic recovery
- Automatic process state and history alignment
- Automatic synchronisation of project files
- Redundant networks (LAN)
- Available on PLC and SCADA levels

- AutomationControlContainer (ACC) unifies programmes, graphics, operation views, documentation, alarm and trend configuration, multi-lingual translations, etc.
- Inheritance of data, methods and graphics
- Data encapsulation
- Defined interfaces for object linking
- Nesting of objects
- Locking - protection of intellectual property



Libraries/ACC Store



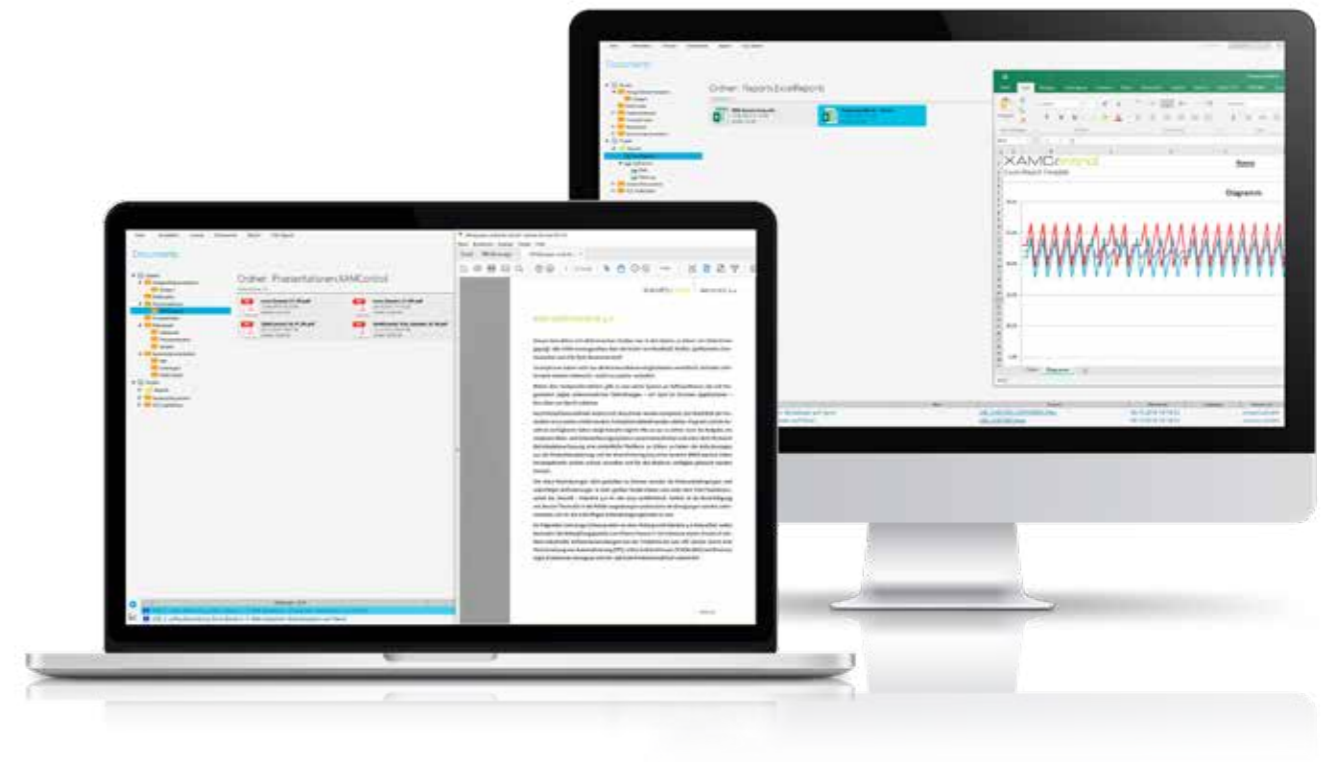
Completely Based on a Database

- Microsoft SQL server
- High availability via mirroring up to SQL cluster systems
- Simple applications up to big data applications
- Configuration data (data models, views, programmes, etc.)
- Runtime data (trends, alarm journals, etc.)
- Operating data, production data

- Online store with ready-to-use libraries for buildings, industry and traffic
- Over 1700 automation objects
- Tested, documented and ready-to-use
- Version control (source management)
- Compatibility
- Rapid, better and efficient engineering
- Private/protected store for customers



Document Management



The Virtual PLC

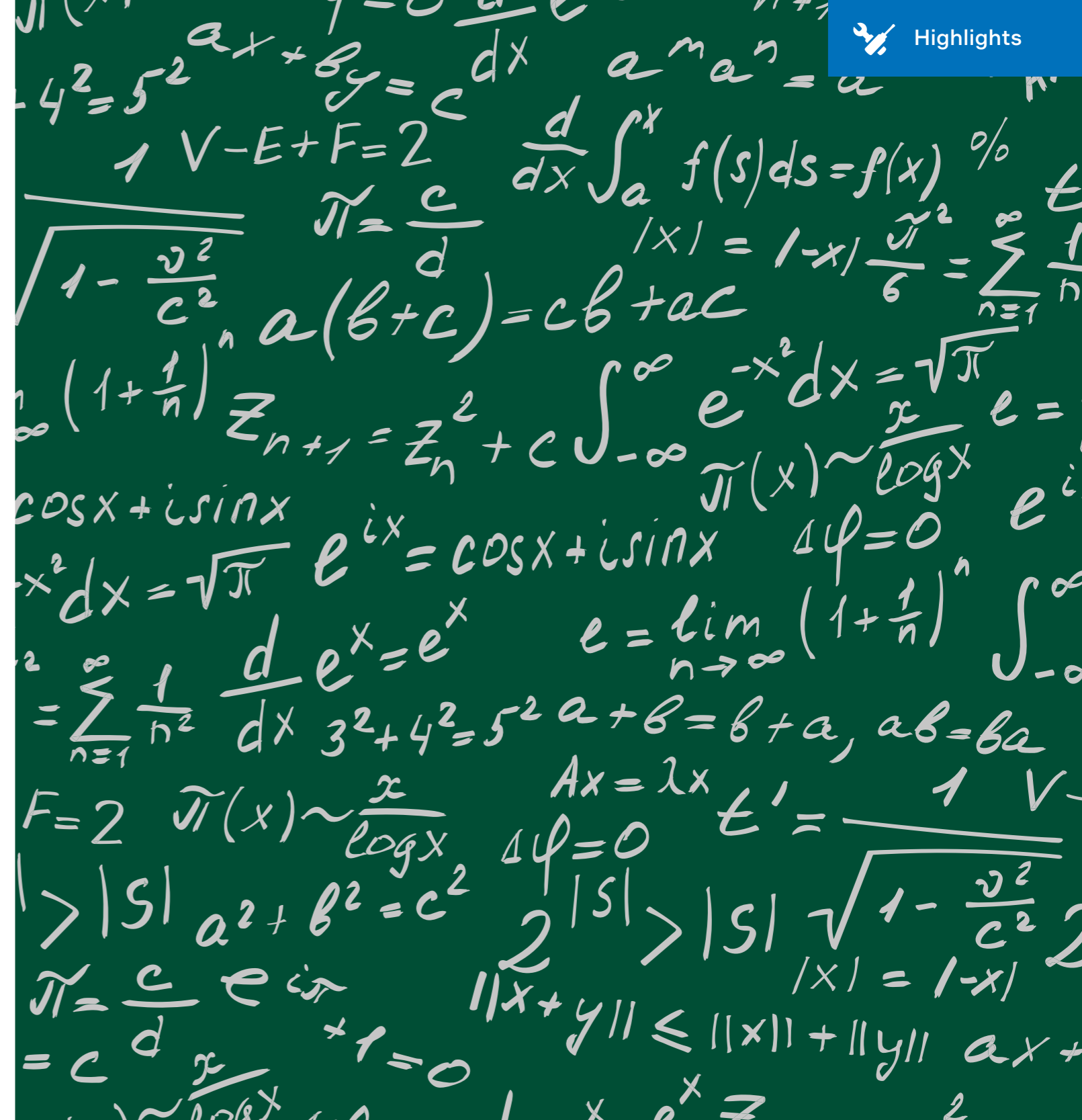
By virtualising the PLC, i.e. its automation functionality, a previously unattained abstraction level can be achieved for automation hardware. This enables the complete project on a laptop or PC to be developed, tested and simulated completely decoupled from the field hardware. Only then is the virtualised PLC distributed to the actual runtime environment, i.e. hardware. The system ensures the necessary data routing between the distributed units. This allows the application developer to concentrate completely on the problem statement, process control and monitoring.

- Integrated system function
- E-plans, system documentation, schematics, data point lists, data sheets, reports, etc.
- Integrated in the user rights management system
- Directly editable documents (Word, Excel, etc.)
- Creation of write-protected PDF documents for other users
- In a central database

Microsoft Office Integration



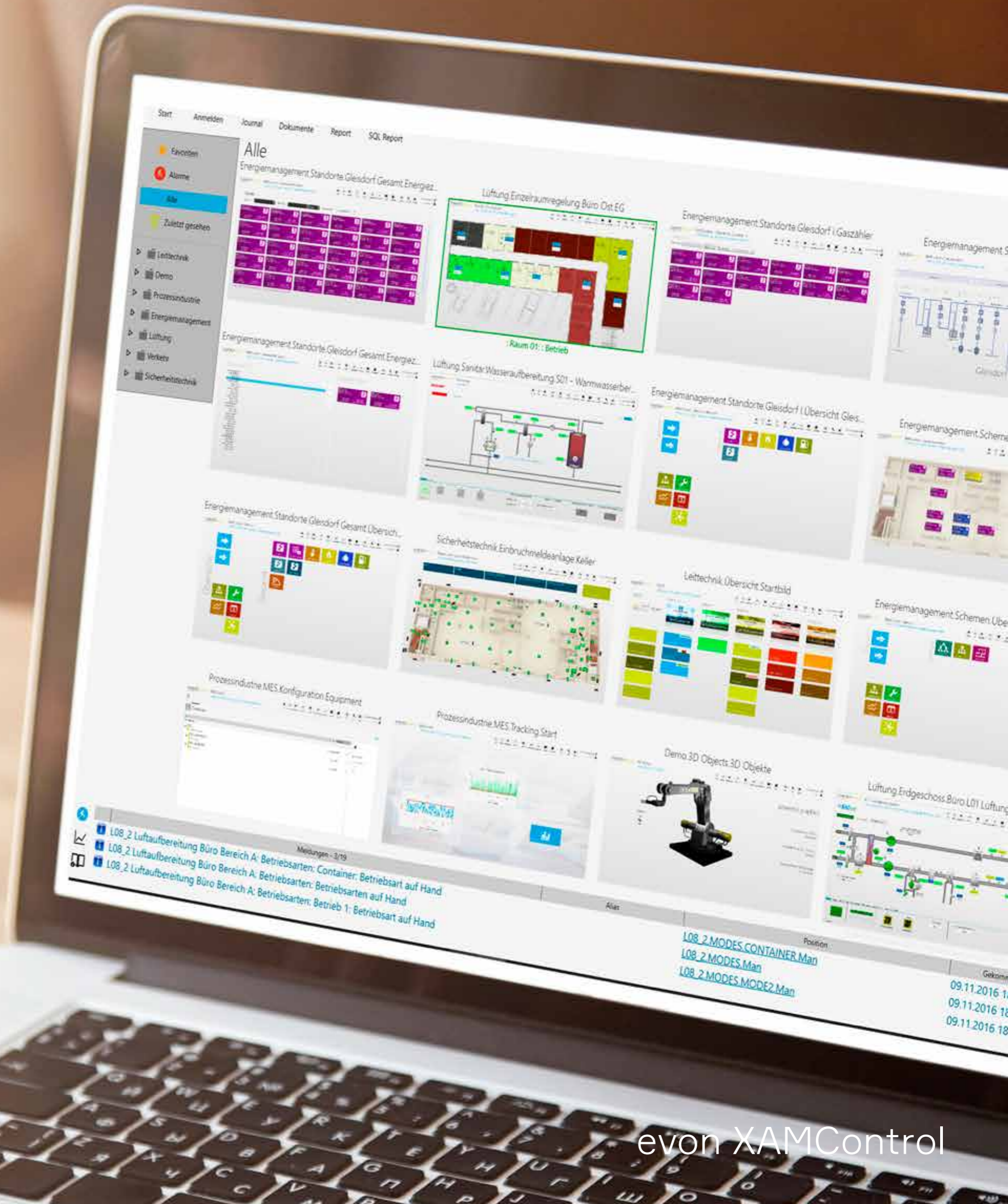
- Simple evaluation of operating data on the basis of automatically created Excel templates
- Online mass data processing and system configuration
- Simple documentation possibilities
- From data point configuration to importing a complete project (Solution Generator)
- Automatic document generator



Mathematics & Optimisation

evon XAMControl offers a complete working environment for the implementation of model-based control concepts and system optimisation. This begins with the tools for uncomplicated creation of models on the basis of historical data, the inclusion of thermodynamic, chemical or physical models, or a combination of all of these models. It reaches from comprehensive mathematical functions up to complete libraries and modules for a range of optimisation scenarios.

System Requirements, Certification and Extensions



System Requirements, Certification

Server

Minimum requirements

- Windows Server 2008 R2 64bit (.Net FW 4.5.2)
- 4GB RAM
- Dual Core CPU 2x1,5GHz
- 60GB free disk storage

Recommendation

- Windows Server 2016 64bit (.Net FW 4.7)
- 16GB RAM
- CPU 8x2GHz
- 120GB free disk storage

Workstation

Minimum requirements

- Windows 7 64bit (.Net FW 4.5.2)
- 4GB RAM
- Quad Core CPU 4x2GHz
- 4GB free disk storage

Recommendation

- Windows 10 64bit (.Net FW 4.7)
- 16GB RAM
- Intel i-Generation CPU 8x2GHz
- 20GB free disk storage
- nVidia GForce graphics chip with 4GB graphics memory

SPS

Minimum requirements

- Windows embedded Std. 7 64bit (.Net FW 4.5.2)
- 4GB RAM
- Dual Core CPU 2x1,5GHz
- 4GB free disk storage

Recommendation

- Windows 10 IoT Enterprise 64bit (.Net FW 4.7)
- 8GB RAM
- Core CPU 8x2 GHz
- 20GB free disk storage

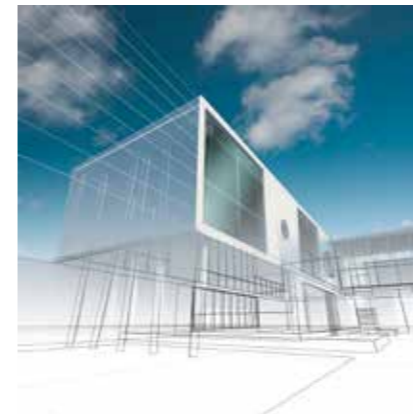
Virtualisation

- VMware ESXi 6

Certification

- 21 CFR Part 11
- BACnet B-OVS und BACnet B-BC
- ISO 50.001

XAMControl offers powerful extensions for your business.



Smart Building Automation



Energy Management System according to ISO 50.001



Intelligent Traffic Control System

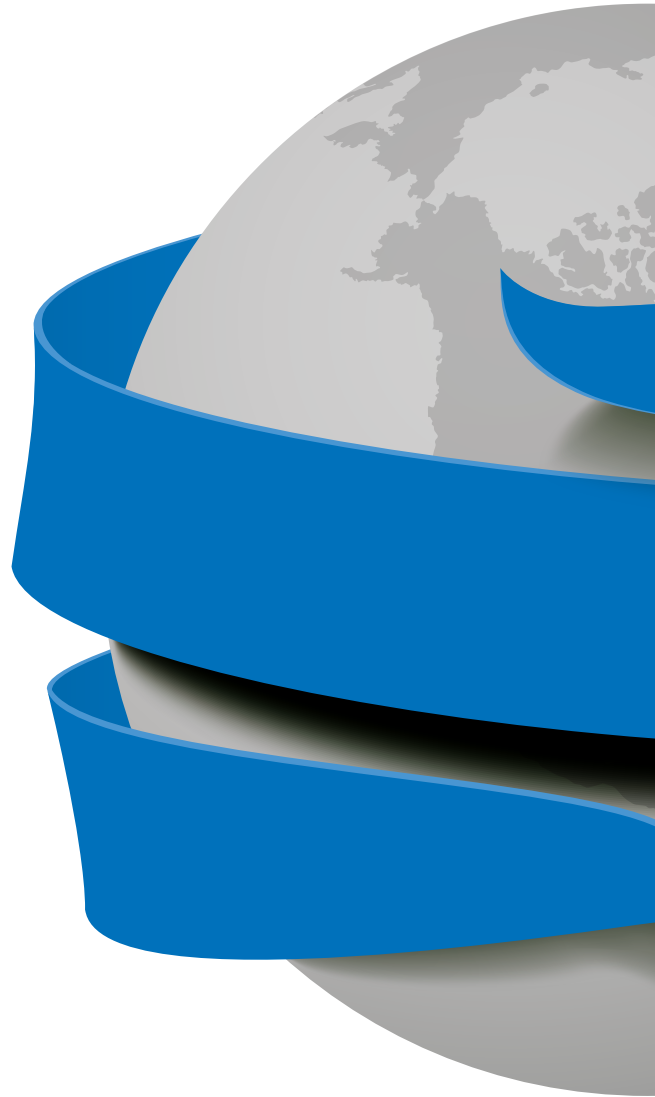


Smart Production Management System (Industrie 4.0)



Advanced Process Control

The stated minimum requirements relate to system with up to 500 data points. The recommended requirements assume 5000 data points. Details can be found in the documentation.



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