

Regionally anchored, globally innovative

All about cooperation and projects with cities, universities, PEMs,
partners, and customers ...

Local cooperation



Dear readers,

In times of the digital nomad, regionality is regaining in value. The focus is increasingly on regional cooperation, specialisation, and regional business development, all of which result in a series of advantages for the region.

[Economic Region Weiz](#)

Our rented office space in the W.E.I.Z innovation centre means that we have been deeply rooted in the region for many years. Personal contact and short distances have always confirmed our choice of location.

[Diverse and exciting projects all over the world](#)

Apart from our regional anchorage, we have more work than ever on international projects. Our journey in this edition takes us to Spain (district heating Palencia), Germany (Rottal Spa in Bad Birnbach, Austria (clean room LOBA Feinchemie – fine chemicals - in Austria), and back to Styria (tunnel control centre for Styria).

Enjoy reading this edition.

Warmest regards,
Your Andreas Leitner

Economic Region Future Region Living Space



The W.E.I.Z Innovation Centre was established in 1997 as an impulse and founder centre for the key topics of “energy”, “innovation”, and “future”. The location in the Franz-Pichler-Straße in Weiz works on a variety of projects dealing with locational, urban, and regional development, and provides solutions for future-oriented and sustainable research and development topics.

With its 6,700 m² of office space, training rooms, and laboratory areas, the W.E.I.Z innovation centre serves research, training, and social facilities, start-ups and young companies, and small companies while providing impulses in the following fields:

- Funding advice for start-ups, entrepreneurs, and young companies
- Business real estate extension, development, and rental
- Management of regional, national, and international grant-funded projects
- Neutral energy services by the Energy Agency W.E.I.Z
- Research and development of energy projects and new applications for wood
- Future-oriented energy infrastructure projects
- Extension of optical fibre infrastructure
- Business settlement and economic promotion
- Location, urban, and regional development

Economic Location and Sustainability

In the spirit of the slogan “Economic Region / Future Region / Living Space”, the joint economic region of Weiz – St. Ruprecht/Raab is continuously being developed into a future region with excellent working and living conditions. In 2023 for example, the St. Ruprecht – Weiz Industriensiedlungs GmbH, a subsidiary of the W.E.I.Z Innovation Centre, took over the OPST (Obst Partner Steiermark) building which is now run as the Wollsdorf Technology Centre. evon is the main tenant in this building. This purchase and further development will secure the location and maintain highly qualified jobs in the Weiz – St. Ruprecht/Raab economic region in the long term.

Environment-friendly Expansion

An extension of the Wollsdorf Technology Centre is planned for innovative companies, particularly in the field of technology, and also for the present main tenant, evon, with its around 80 employees. The excellent economic situation has enabled the company to enjoy constant growth resulting in plans for the creation of further jobs in the near future. The required floor space will be built entirely under ecological aspects by constructing over the already sealed parking lot thus eliminating any impact on the adjacent green spaces. Furthermore, photovoltaic systems will be installed on the roof and e-charging stations provided.

Mutual Cooperation

The focus within the scope of the internationally funded project, CARpenTiER lies on the development of production technologies for wood-based hybrid constructions in the automotive, plant, and machine sectors. The applications consist of hybrid structures made from laminated wood, plywood or strand materials that can be strengthened with natural fibres. The project is aimed at wood-based hybrid structures that optimize the potential of lightweight wood use. To support this, a computer-aided research approach is being established for future suppliers for func-



tion-oriented dynamic process control. As a project partner, evon will provide the entire potential of the evon XAMControl for the development of this function-oriented process control including its many years of experience in the field of the digital networking of machines, plant, sensors, and actuators, up to intelligent control and the evaluation of complex industrial processes.

Data Bundling and Correct Use

Further regional and application-oriented R&D cooperation using the evon XAMControl are focussed on the area of automated irrigation in public areas. In addition, evon is a competent partner for a range of different expert departments in the Weiz local council where evon XAMControl is used for property administration and district heating. The focus lies on the collection of required data and its evaluation.

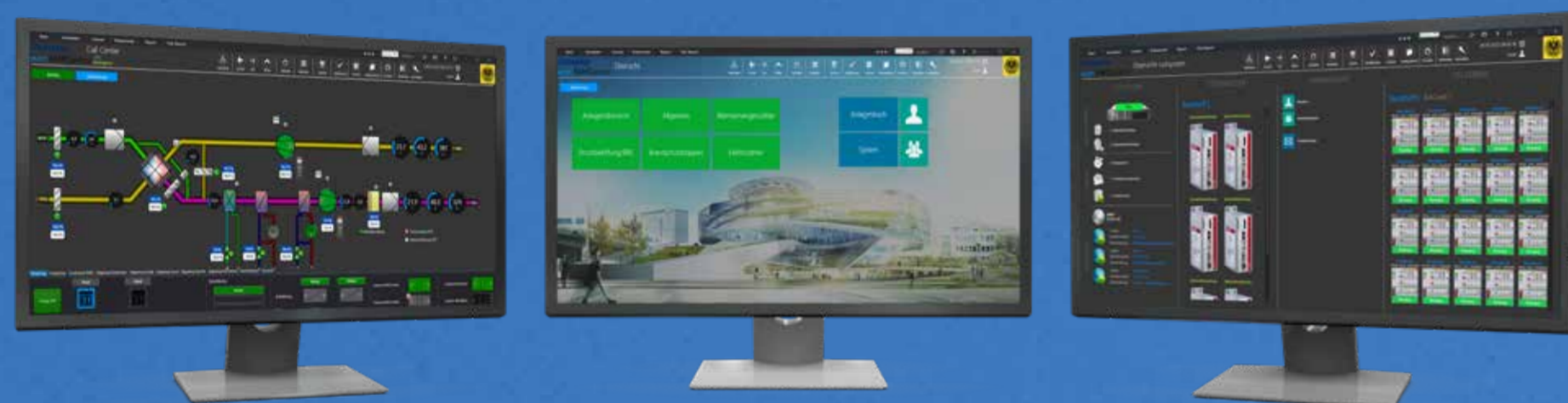


Roman Neubauer
Management, real estate and business location
Innovationszentrum W.E.I.Z.

Bernadette Karner
Management, regional & international innovation projects
Innovationszentrum W.E.I.Z.

Andreas Leitner
Managing Director
evon GmbH

Centralised Building Automation for all ÖAMTC Sites



Gerald Hirschmann
Authorised signatory, sales manager
evon GmbH

Ever since Caverion constructed the building for the ÖAMTC's Viennese headquarters, they have been reliable partners for ÖAMTC and use evon XAMControl for centralised building automation for all locations in Austria.



The Austrian automotive, motorcycle, and touring club (ÖAMTC) is the largest mobility club in the country and offers its members a range of services centred around mobility. When constructing their new headquarter building (opening in 2017), the ÖAMTC decided upon centralised building automation to ensure everything could be controlled centrally.

Caverion Österreich GmbH, an experienced system integrator, was awarded the contract. The company has been a partner for the ÖAMTC for many years. After equipping the headquarters with evon XAMControl, other locations were connected in 2021 in Vienna, Lower Austria, and Burgenland and they are constantly being extended.

The supervisory building management system enables the efficient monitoring and control of the technical plant and systems in the buildings. The connection of a total of 16,000 physical data points with Beckhoff I/O and IPCs, as well as 3,000 communicative Bacnet and MBI interfaces permits the detailed monitoring and control of the plants.

The following systems and plant are connected to the centralised host system:

Monitoring of heating and cooling in the offices, workshops, and training rooms, district heating transfer station, heating system, hot water system, heat pump, gas furnace, chillers, ventilation systems, supply/exhaust fan, fan coils, air heater, fire protection damper, fan gate air curtain, radiators, floor heating, concrete core activation, electrical notifications (e-distribution, emergency lighting, UPS, surge arrestor, etc.), exhaust extractors for car inspection stations, as well as consumption data acquisition and reporting for energy meters, heat amount meters, chiller meters, and water meters.

Thanks to the centralised building automation, the ÖAMTC is always up to date and has an overview of the operating costs and energy efficiency of the correspondingly equipped buildings.



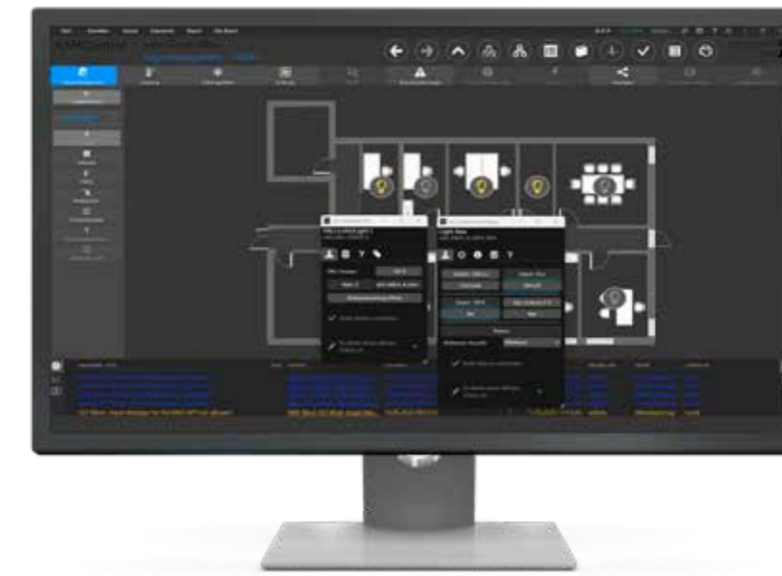
Room Automation with evon Smart Office



Christian Leitner
Building Management
Managing Director
evon GmbH

evon Smart Office is a comprehensive library for evon XAMControl (ACC package). The library fulfils all requirements regarding lighting, heating, ventilation, and climate control in modern office buildings, whether they be new buildings or refurbishments. evon Smart Office also supports shared desk and open space concepts as well as the tracking of room occupation and cleaning.

As an open system (BACnet, KNX, Dali ...), evon Smart Office controls everything automatically such as reducing energy consumption if rooms are not in use, or increasing the comfort and productivity of employees when they are present.



Light Control with evon Smart Office

Light is a significant factor regarding productivity and well-being in an office and can be automatically controlled with evon Smart Office via proximity and movement sensors, via daylight sensors, or via a smartphone or web, entirely individually according to individual preferences. Furthermore, central functions and time-controlled sequences help save energy.



Climate with evon Smart Office

Fan coils, thermostats, radiators, underfloor convectors, valves for heated and cooled ceilings ... all components can be quickly and easily integrated into evon Smart Office and ensure an ideal room climate with minimum energy consumption. Weather forecasts are used beside the control of lighting and shading to control the smart office predictively and ensure optimum energy use. Of course, individual users can intervene manually via the room operating panel or smartphone. In this case, central locking functions prevent the heating from being set to full when the windows are open, for example.



Shading with evon Smart Office

Shading in evon Smart Office includes the control of blinds, shutters, and other shading systems. The aim of the control is to reduce the energy requirements for heating, cooling, and lighting by controlling the incidence of sunlight and hence heating and glare in the rooms.

The use of a range of sensors (light level, temperature, wind, precipitation) means the position and angle of blinds can be positioned such that energy consumption is minimised and comfort is maximised.

evon Smart Office also offers protection functions (frost protection, wind, hail), locking functions (cleaning, maintenance), and avoidance of incorrect operation (lockout of functions when the window is open).



Open Space in Modern Offices

Open space concepts are the answer to flexible room occupation requirements in modern buildings. One of the greatest challenges is changing the allocation of rooms and areas due to changing or (still) unknown renters.

evon Smart Office simplifies the modification of each room use directly in the visualisation. Rooms and rented objects can be redefined completely without programming knowledge.

Changes can be made directly by the user. This means that the visualisation of the use/rent of the object is always up to date.



Shared Desk, Room Occupation and Cleaning

The era of remote working (home office) has also changed the way office space is used. This is where the Shared Desk concept in evon Smart Office comes in: Employees can pre-book workplaces (via smartphone or QR code) and upon entering receive automatic access to all relevant control elements for their workplace (light, shading, climate) and can directly transfer their favourite settings from the past.

A dashboard offers an overview of the current allocation in the office and permits searching for a person. In order to ensure that shared desks and other workplaces remain clean and hygienic, cleaning plans and protocols are implemented in evon Smart Office.

Simple Programming and Configuration

evon Smart Office minimises the time required for programming and engineering. Thanks to the highest degree of flexibility, the integrator and operator have a free choice of components.

The evon Smart Office Library (ACC Package) contains:

- ACCs for lighting, shading, and climate control for visualisation and operation
- ACCs for shared desk, cleaning functions, and dashboards
- Templates for navigation and trade selection
- Predefined control functions
- Import function for rooms, areas, actuators, and sensors
- Simple parameter setting and configuration of device allocation
- Standardised interfaces for the simple extension of actuators and sensors from different suppliers

Interfaces and Supported Hardware

Standard communication protocols:

- BACnet IP
- Modbus TCP
- Modbus RTU
- KNX/EIB
- BACnet MS/TP
- OPC UA

Standard I/O (Digital and Analog)

- Beckhoff KL Serie
- Beckhoff EL Serie
- WAGO W750 Serie
- Siemens ET200sp Serie
- Phoenix Contact Inline Serie
- EAP 2020 Module

Specific Interfaces and Protocols:

SMI

- Connection via Beckhoff KL6841
- Connection via MOXA Gateway and VAREMA W ...
- Supported devices
- Standard SMI drives

DALI

- Connection via Beckhoff KL6821 V2
- Supported devices
- All lights (function switch/dim)
- Multi-sensor (Loytech MS02 DALI Type 2)
- Further hardware on request

enOcean

- Connection via IT Gateway Thermokon STC-IoT
- Currently implemented hardware
- SR07P
- PTM210
- SR_MDS
- SR06
- SRG02
- Further hardware on request

MP-Bus

- Connection via Beckhoff KL6771
- Currently only actuators



R&D: RENVELOPE



RENVELOPE is currently researching into revolutionary elements for the building shell of existing objects. The aim is to move energy generation and supply into the outside shell of a building in order to increase energy efficiency and connect the buildings into a superordinate energy management system.

RENVELOPE is a research project that focusses on the development and implementation of efficient, comprehensive, and versatile pre-manufacturing concepts and cooperation platforms for the production of modular, energy-active shell elements. The focus lies on the integration of highly efficient technologies for the generation, distribution, and storage of renewable energy. One of the central challenges is ensuring the seamless integration of these technologies in the RENVELOPE Module. Innovative solutions need to be developed to maximise the efficiency of energy generation and simultaneously the optimisation of energy distribution and storage. This is the only way a sustainable and energy-efficient building concept can be created. A further important aspect is the installation on-site. This needs to be versatile and efficient and be based on modern connection technology. This will make it possible to implement different architectonic purposes and densities. The RENVELOPE module will be designed in such a way that it can be easily adapted to different spatial requirements and simultaneously ensure high energy efficiency.

evon, Your Partner for Digitalisation

Digitalisation plays a decisive role in the implementation of the RENVELOPE concept. The use of digital technologies enables transparent, user-centric, intelligent, and automated processes over the entire lifecycle. This includes both the planning and production of the modules as well as their operation and maintenance. The use of data and analyses helps optimise energy efficiency further and to reduce the consumption of resources. In order to drive the market launch and widespread application of RENVELOPE, it is crucial that suitable models for financing and business are developed. Investors and potential users need to be convinced of the concept's advantages and the trust in the performance and sustainability of RENVELOPE modules must be strengthened. A close cooperation between companies, governments, and other relevant stakeholders is necessary to ensure successful implementation. Overall, RENVELOPE is a trend-setting project that focusses on the development of a



Andreas Leitner
Managing Director
evon GmbH

DI Christoph Rohringer
Head of the Research Group
renewable energies, AEE intec

sustainable and energy-efficient manner of construction. The combination of pre-manufactured designs, renewable energy integration, versatile installation, digital process optimisation, and suitable financing and business models will help RENVELOPE contribute towards mastering the challenges of climate change and shaping a more sustainable future.

Diverse Project Partner

The research project (grant scheme "Showcase Region Energy – Green Energy Lab", or "Vorzeigeregion Energie – Green Energy Lab" in German) is led by AEE - Institute for Sustainable Technologies (ACR member) within the scope of the FFG program for industrial research and experimental development. The project is supported by a series of partners from research and development (FH JOANNEUM, Forschung Burgenland, TU Wien - Energy Economics Group, Rhomberg Bau, WoodRocks Bau, Sozialbau AG, Wien Energie, evon, Geberit Huter, Town3000 project&media agency, REENAG Holding, Institut f. Immobilien, Bauen & Wohnen, Landesimmobilien-Gesellschaft, KIOTO Photovoltaics, Nussmüller Architekten ZT, NEOOM Gruppe, TBH Ingenieur, Third party Green Energy Lab).

Proof of concept

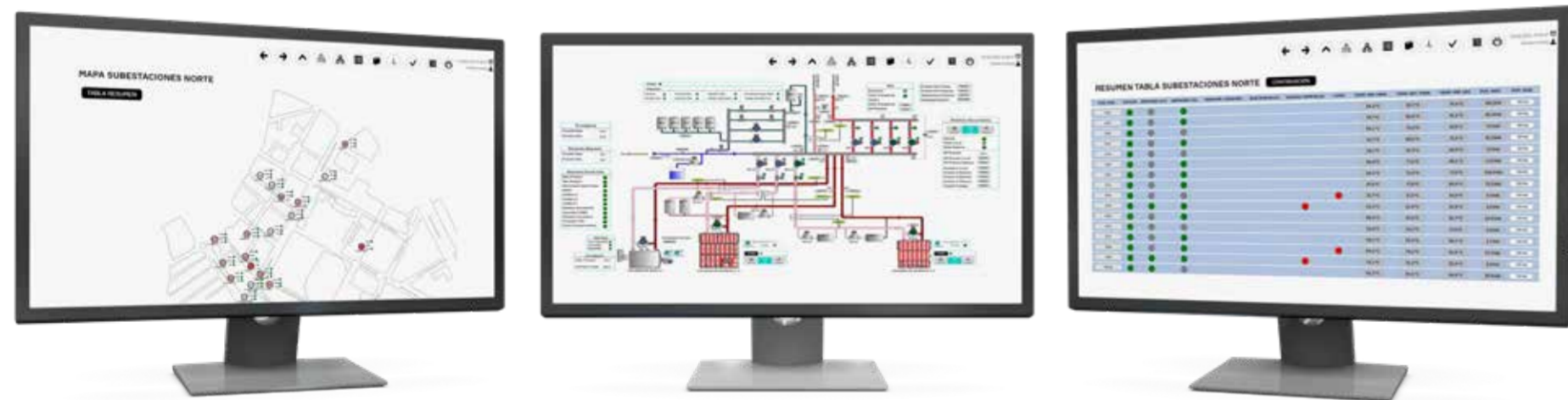
In order to prove the concept, three buildings will be equipped with the new technology and completely refurbished by the middle of 2025 (an apartment block in Vienna, an office/university building in Kapfenberg, and a Federal Trade School in Knittelfeld).



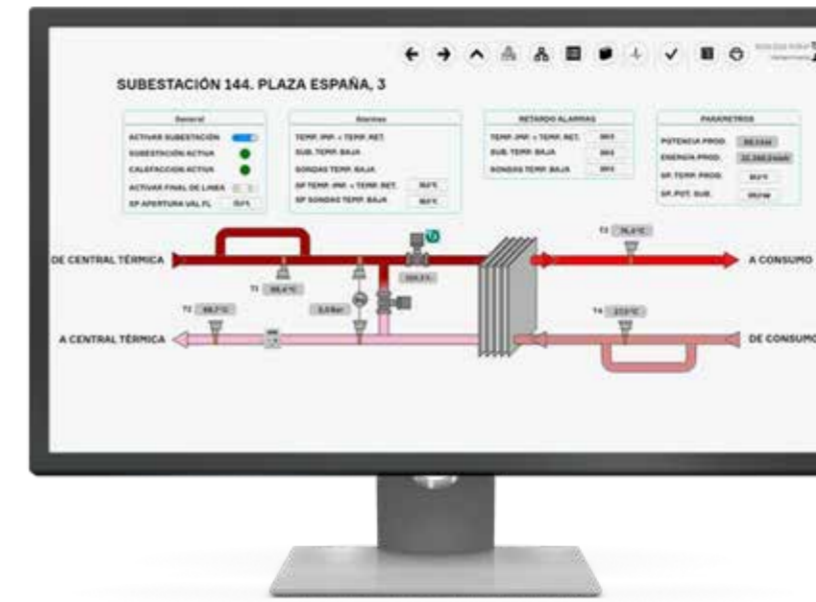


District Heating Palencia

Sustainable district heating for the Catalonian city of Palencia



Dominik Riegelnegg
Technical sales
evon GmbH



DH Ecoenergía is a Spanish engineering office who specialise in the planning and operation of district heating networks. The company has developed several of the most important district networks in Spain (e.g., UCM, Expo Zaragoza, Mostoles and more than 50 projects or studies in Spain). DH Ecoenergía leads the European R&D&I project "Smart and local renewable energy District Heating and Cooling solutions for sustainable living" (WEDISTRICT), where different renewable energies are to be integrated and improved in the heating and cooling network.

Palencia District heating

The project goal is the implementation of a district heating network in the city of Palencia to supply different apartments and public buildings with hot water produced using renewable energy (biomass).

The implementation of this project will result in the following advantages:

- Reduction of carbon dioxide emission by 20,000 tons
- More than 30 new permanent jobs will be created
- Approximately €25,500 worth of fuel and maintenance costs will be saved per building per year

Currently 35 are in operation and up to 300 further buildings will be connected by the end of the project.

evon Partner REGIN

REGIN has been evon's partner since 2020 and has already successfully implemented numerous projects using XAMControl.

REGIN's Task in Detail

SCADA: Implementation of evon XAMControl as SCADA in the central plant for monitoring, operation, and data recording of the entire network.

Communication: One of the challenges in this project is the communication between the different and distributed substations. To solve this, a network was installed using 4G routers.

ERP integration: A report of all reporting functions is created daily to transfer the thermal energy consumption data from evon XAMControl to DH Ecoenergía ERP (Zoho). Once the data has been prepared using VBA macros in MS Excel, the report is transmitted via an interface to Zoho (CRM).

Integration monitoring: Since the central site is not manned round the clock, evon XAMControl was implemented as a monitoring system. In the event of a critical alarm, the standby personnel is automatically notified.



Metal Recycling Plant Zöchling



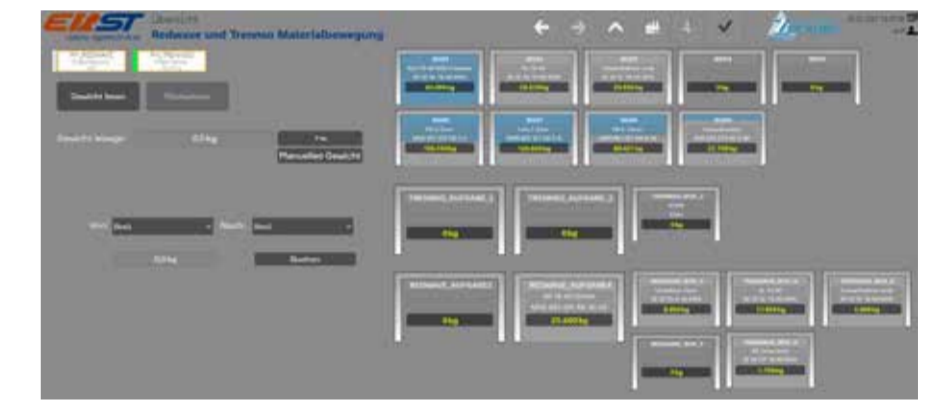
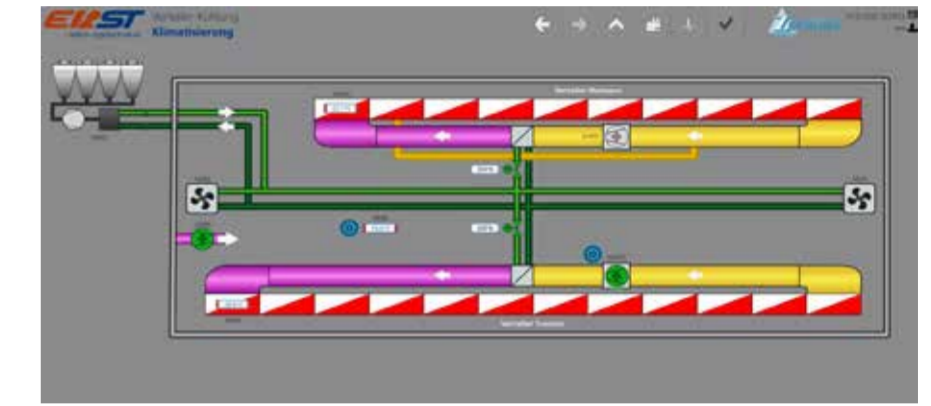
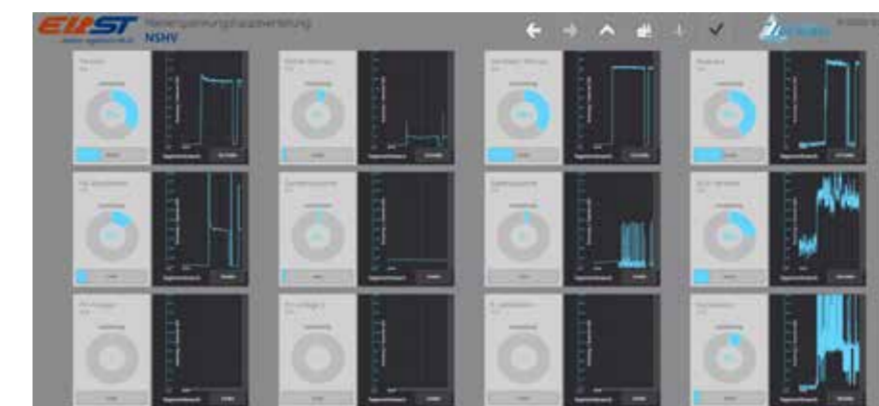
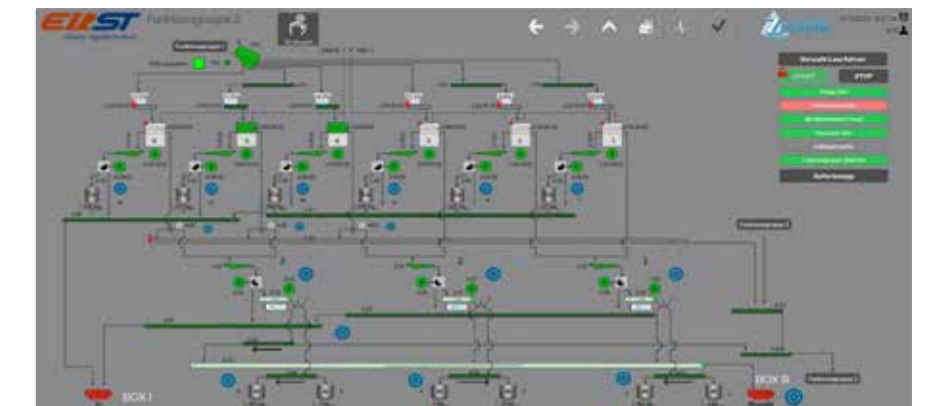
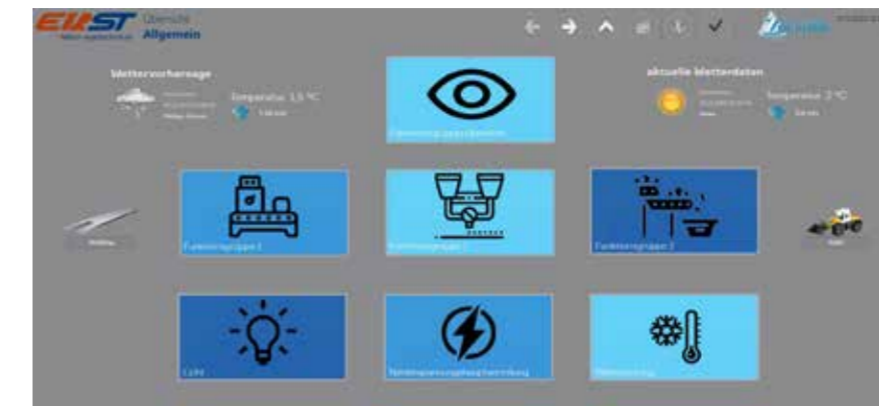
Zöchling's modern sorting plant for non-ferrous metals in Bernau is a significant contribution for our environment.



Sebastian Gradauer
Sales Industry Austria
evon GmbH



Daniel Mayer
Project leadership
ERST Elektro-Regeltechnik Steiner



The mechanical build of the plant was carried out by the company Trenso. The automation and the required services such as engineering, switching cabinet build, cabling, commissioning, and introduction to evon XAMControl instrumentation and control including visualisation, reporting, and documentation was handled by ERST Elektrotechnik.

separators used in several process levels result in different non-ferrous metal waste is recovered. Thanks to the open system design and the wide range of already implemented interfaces in evon XAMControl, third party systems such as ventilation and lighting can be easily integrated and controlled via the central supervisory system.

ERST Elektro-Regeltechnik Steiner GmbH has been evon's partner for many years and supports their customers in the fields of process automation, control systems, medium voltage technology, and electrical installation in a variety of sectors since 2010. Thanks to their pragmatic planning and innovative solutions, the company is always able to generate the greatest possible benefit for their customers.

Basis for Timely Management of Data and Material
The completely integrated MES processes all invoice-relevant data in evon XAMControl and allocated to the corresponding customer. The delivered quantity is acquired by the system via weighbridge and a bucket scale on the wheel-loader via TCP-IP or serial interface. A tablet in the loader shows which box to fetch the material from and where to transport it to. The energy monitoring enables each job to be calculated precisely according to the actual energy required, the transfer time and the ultimately gained raw material. The data history provides seamless traceability.

Recovery of High-Quality, Directly reusable Metal Grades
After delivery of the material via truck and wheel-loaders, the material is cleaned, and dust is removed. Sieves and a range of

Modern GLT for Clean Rooms



LOBA Feinchemie GmbH is a pharm company located in Fischamend and manufactures fine chemicals, APIs (pharmaceutical active ingredients, reagents, and diagnostic products according to the guidelines for good manufacturing practice (GMP).

Long-term Partnership with BMSTECH

The evon-Partner BMSTECH relies on evon XAMControl to 100%. The project comprises the entire measurement, control (IC), and building management technology (BMS) for different aspects of technical building equipment. These include ventilation, steam, heating, cooling, compressed air, wastewater, and the conditioning of the clean rooms. The building management solution based on evon XAMControl covers the production building, the QC laboratory, electrical supply, and auxiliary buildings. A total of 6,000 data points are acquired in order to guarantee the comprehensive monitoring and control of the technical plant. 20 control and switching cabinets are used to provide the required control functions.

Redundant on all Levels

In order to guarantee reliable operational continuity, redundancies are implemented on both the controller and on the network levels. This means that in the event of a power failure or out-

age, a back-up system can take over to guarantee uninterrupted operation. The I&C and BMS systems from BMSTECH are completely integrated into the customer's IT infrastructure. This includes aspects such as active directory, virtualisation, core-network, and terminal server. This integration enables seamless communication and cooperation between the systems.

The entire site is bundled in a central building management system. This means that all technical plant and processes can be efficiently monitored and controlled.

Furthermore, package units are connected to the system via OPC-UA and Modbus-TCP. This enables external devices and systems to be integrated in the monitoring and control system. Particular emphasis has been placed on the room pressure control in the clean rooms. A level of precision is attained that allows the room pressures to be controlled to within +/-3 Pascal in order to ensure an optimum clean room environment.



Daniel Kroboth
Managing Director/CEO
BMS-TECH GmbH



Gerald Hirschmann
Authorised signatory, sales manager
evon GmbH



Uninterrupted Operation During Refurbishment – Rottal Terme[©]



DI (FH) Alois Achleitner
Head of MSR/Building Automation
Elektro Kreuzpointner GmbH



Christian Hofer
Senior Sales Manager D-A-CH
Building Management Systems
evon GmbH

The evon Partner Kreuzpointner was able to refurbish and modernise the Rottal Terme[©] in Bad Birnbach without interrupting bathing and sauna operation.



The Kreuzpointner group of companies is one of the largest mid-size expert companies in Germany for electrical technology, switchgear engineering, engineering, IT, and solar technology. The company has been run as a family business since its inception in 1923.

The group consists of seven companies. There are almost 1,300 employees active in the Kreuzpointner group in Germany, Austria, and Rumania. The group works primarily with companies in the chemical, manufacturing, IT, mechanical engineering, medical, and pharmaceutical sectors, as well as public companies with a turnover in 2022 of around 113 million Euros.

Rottal Terme[©]

The Rottal Terme[©] in Bad Birnbach boasts more than 2,400 m² of therapeutic bathing area in over 30 hot spa baths and 13 different saunas and steam baths. The project consisted of the complete refurbishment of the HVAC systems together with the bathing and filter systems. The greatest challenge was to modernise all 19 automation cores (around 80 switching cabinets) during operation and without detrimental effect on the bathing and sauna business. Each automation core was analysed and modernised separately.

Complete Scope Provided by Kreuzpointner:

- Survey during live operation
- Overall concept for I&C, filter and bathing systems, and energy management
- Hardware engineering for around 80 new switching cabinets including field devices
- Software engineering, I&C, filter and bathing systems, and energy management in evon XAMControl
- Trouble-free refurbishment during live operation (temporary systems, disassembly, cabling, commissioning)
- Test operation with complex evaluations from the evon XAMControl database (SQL) to prove performance.

evon XAMControl, the Holistic Automation Platform

It was important for the implementation that the I&C, filter and bathing technology, and the energy management were all implemented in one platform. This drastically reduced the training costs and simplified the effort required of the maintenance personnel.



The New Monitoring Centre for Styria



How the newly refurbished tunnel control centre in Graz became the central monitoring centre for Styria.



The New Tunnel Control Centre Styria

The Tunnel Control Centre Styria monitors a comprehensive area that covers almost 85,000 data points, 18 tunnel systems, around 270 process screens, and the monitoring of the cluster infrastructure. The merger of the tunnel control centres Graz Süd and Nord means that the tunnel systems are now monitored by just two operators in 24/7 shifts.

PV Systems and E-Charging Points

Two further tunnel systems will be integrated into the Tunnel Control Centre Styria in 2023 bringing the total to 20 tunnel systems that are monitored.

The planned next step is to monitor the newly installed PV systems (photovoltaic systems) and e-charging points in the road maintenance departments. Energy evaluations for PV-excess, consumption, etc. can be generated from the data from the integrated systems.

The tunnel control centre Graz Süd in Hausmannstätten was first commissioned in 2012 and refurbished in 2022. A modern cluster system was installed to connect the tunnel systems and a software upgrade was carried out for the tunnel control centre to comply with the technical standards. The update to evon XAMControl formed the basis for the tunnel control centre in Styria. The next step was to integrate two further tunnel systems (Tunnel Weiz and the underground section in the Gradnerstraße) and the connection of the existing nine tunnel systems from the tunnel control centre in Liezen. This resulted in the tunnel control centre Graz Süd becoming the control centre for Styria's regional and urban tunnel systems.



Christian Schantl
 Amt der Steiermärkischen
 Landesregierung
 A16 | Fachabteilung
 Straßenerhaltungsdienst
 Head of Tunnel and E-Technology



Daniel Seewald
 Traffic Management
 evon GmbH

Refactoring to evolution4



Bernhard Dienst
Head of Product Development
evon GmbH

Refactoring – just a new buzzword in software development, or a high level of future benefit for evon XAMControl evolution4?

Effective refactoring and high flexibility are decisive factors in software development for the trouble-free updating of software. Regular refactoring in evon XAMControl system purges and optimises the code. The minimisation of dependencies makes functions clearly demarcated and isolated, which makes it easier to identify bugs and carry out targeted updates and improvements. This way ensures that you, the user, always benefit from the latest software version.

Better Performance

A further advantage of refactoring is that modern frameworks are used. The use of current frameworks means that evon XAMControl can benefit from the latest developments and technologies. Amongst other advantages, this also results in optimised performance. Thanks to the openness of evon XAMControl, numerous functions and integrations can automatically be used.

Updateability

A modular design and the modular installation of software are also important aspects that flow into the decision for refactoring. The updateability of older versions of evon XAMControl is always ensured and forms the basis for every decision to improve. A flexible and modular architecture enables evon XAMControl to be divided up into independent components such as client, server, and interface driver. These can then be developed and updated independently of each other. This improves maintainability and it is possible to install and update only the required modules on the system. This not only shortens installation time but also optimises resource utilisation. The implementation of new features is accelerated by refactoring, the flexibility, and the well-structured software architecture. The purged and optimised code makes the development process more agile and evon XAMControl is better prepared for future requirements.

Invisible Benefits

Although the external changes to evon XAMControl are not always immediately recognisable, a second glance makes them clearly visible. Notable improvements could be made on individual productive systems through the update of communication components. The change from polling (cyclic poll of values) to publish/subscribe (values are only transmitted upon change)

reduces system load significantly, particularly in the network, resulting in a reduction in traffic of up to 80 %.

More to come

We have a lot more improvements to make using refactoring in the next stage of development. We are convinced that a flexible, open, and modular architecture makes us ready for future requirements.

Refactoring (or restructuring) in software development describes the manual or automated structural improvement of source texts while keeping the observed program behaviour. The goal is to improve readability, understandability, maintainability, and extensibility while significantly reducing the effort for fault analysis and functional extension.

Refactoring is a core component of agile software development. It is sometimes referred to as “continuous” refactoring or “no compromise” refactoring. Refactoring in an agile software development process is an integral component akin to coding or module testing and is not limited to certain times or stages.

Source: wikipedia.org



A real artificial
intelligence would be
intelligent enough not
to reveal that it was
genuinely intelligent.

George Dyson