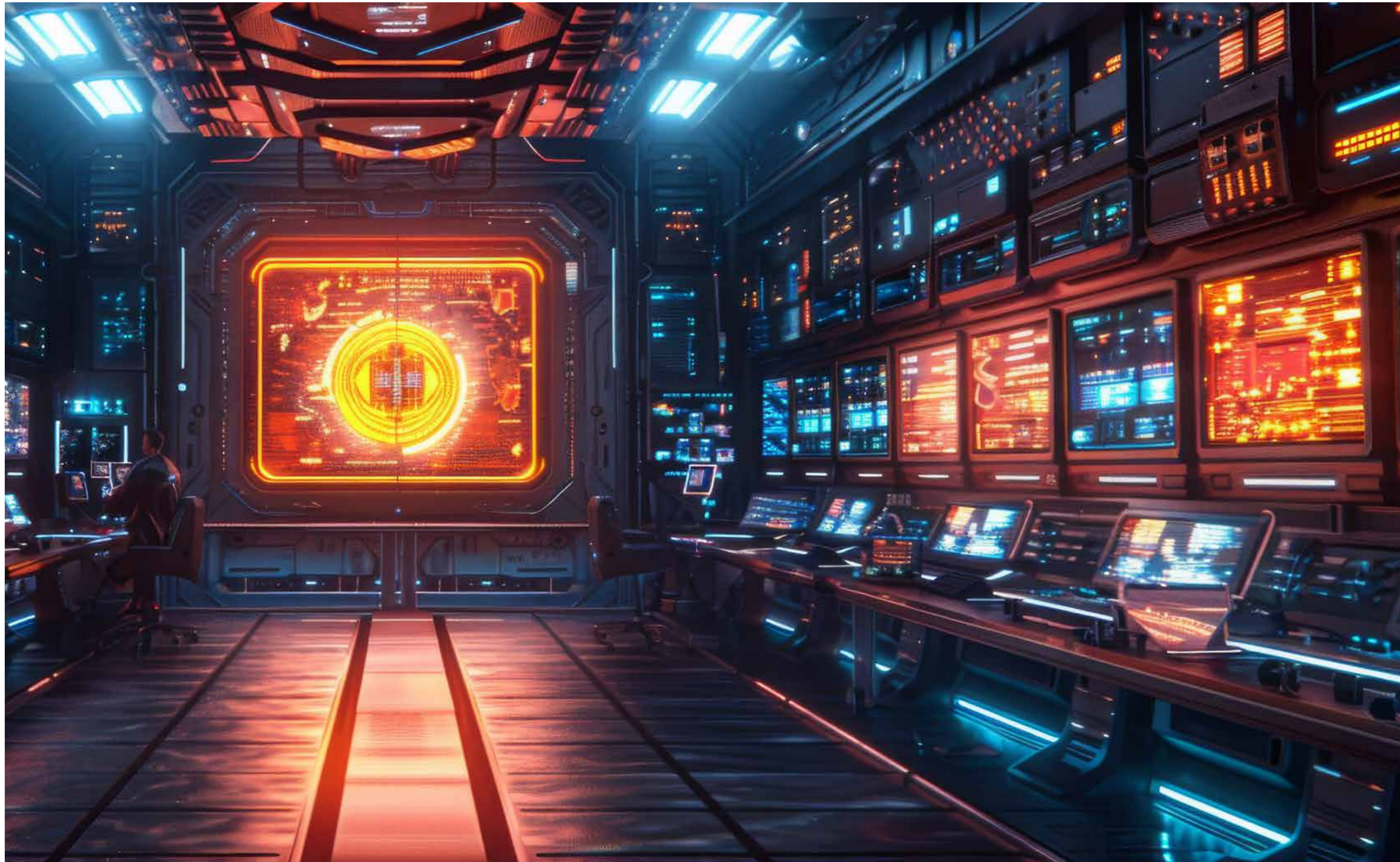




How Green Will Our Future Be?

All about energy efficiency, energy data management, future-fit developments and projects with OEMs, partners, customers, etc.

Scotty, Energise!



Dear readers,



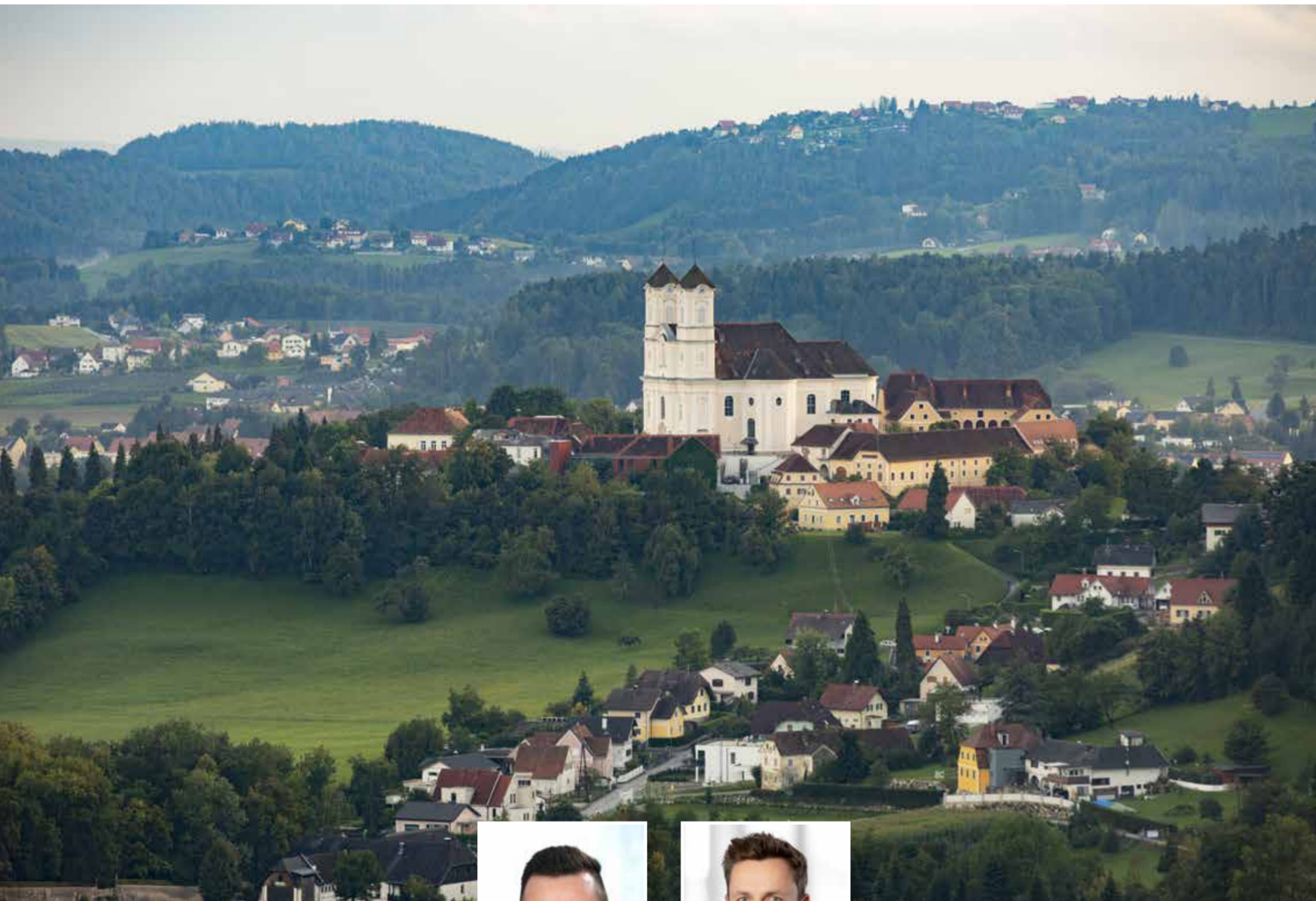
Even though we have not yet discovered the inexhaustible source of energy that powers the Starship Enterprise, we have not stopped searching for it. Until then, we are pleased to be able to work together with you, our customers and partners, on the improvement and optimisation of our energy data management system and in a series of projects, great and small.

We have also invested a lot of energy and enthusiasm in our new edition of evon Insights. The range of topics is as diverse as our projects and customers and represents all market sectors in the world of automation: from buildings via industry and traffic to energy and water.

The following insights present the latest developments in evon XAMControl and energy data management. And last but not least, we are thrilled with second place at the Factory Innovation Awards!

Best regards,
Andreas Leitner

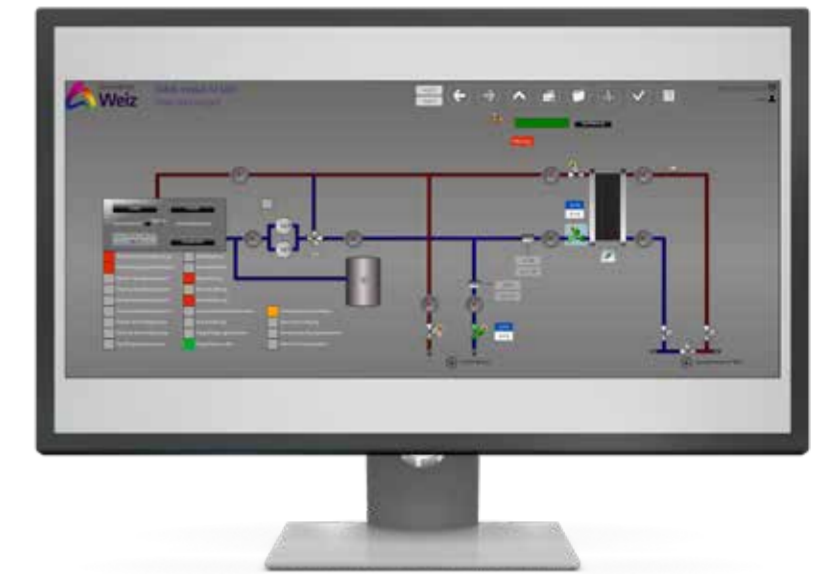
New Control Technology for District Heating in Weiz



Markus Zettel
Software and Application
GRÜBL Automatisierungstechnik GmbH



Sebastian Gradauer
Sales Manager Austria
evon GmbH



The district heating in Weiz is a wonderful example for the successful combination of sustainability, efficiency, and modern technology in the field of energy supply. The new construction of the boiler house has set new standards with its integration of an advanced biomass and bio-oil boiler. The project was executed by GRÜBL Automation Technology and combined existing plant with modern technologies to ensure an efficient and environmentally friendly heat energy supply. GRÜBL has been an evon partner since the beginning. Today, the company and its more than 100 employees implements a wide range of projects as a system integrator in the field of automation and electrical systems.

New Boiler House

Fernwärme Weiz built the new boiler house in 2019. It contains a new 8 MW biomass boiler and a bio-oil boiler that uses cleaned waste cooking oil in a first for Austria. The 10 MW bio-oil boiler covers the peak loads and ensures reliability. The peak consumption is 650 litres per hour and the 42,000-litre oil tank is organised in six separate individual tanks to prevent mixing and to help control extraction and filling.

Complete Integration and New Technology

The existing plant consists of two biomass boilers providing 5 MW and 6 MW. Thanks to the complete integration of the existing plant into the new control system, the seamless merging and hence efficient control of the two plant areas could be achieved with different operating temperatures and pressures. The entire plant is characterised by high efficiency and is supported by a multi-level heat exchanger and a downstream Economizer that delivers an additional 800-900 kW of heat energy.

The newly developed control system is based on XAMControl and enables the entire plant to be visualised and monitored. It controls the internal plant hydraulics and controls the entire heat network. This technology ensures optimal network control and guarantees a stable and efficient heat supply for all consumers.

Structure and Consumers

The district heating network in Weiz supplies 890 consumers including households, apartment blocks, businesses, and public buildings. With its 55 kilometres of network and a sales volume of 55 GWh, the network is able to guarantee an aliquot output of 44 MW with a simultaneity factor of 0.6. The network calculation and simulation are done via differential pressure measurements at the transfer stations.

The district heating network in Weiz contains over 600 physical data points that are managed via a central server and redundant sub-controllers. The hardware components enable manual intervention and 12 pumps with a total power of 480 kW ensure the reliable distribution of the heat energy.

Environmental Benefit and CO2 Savings

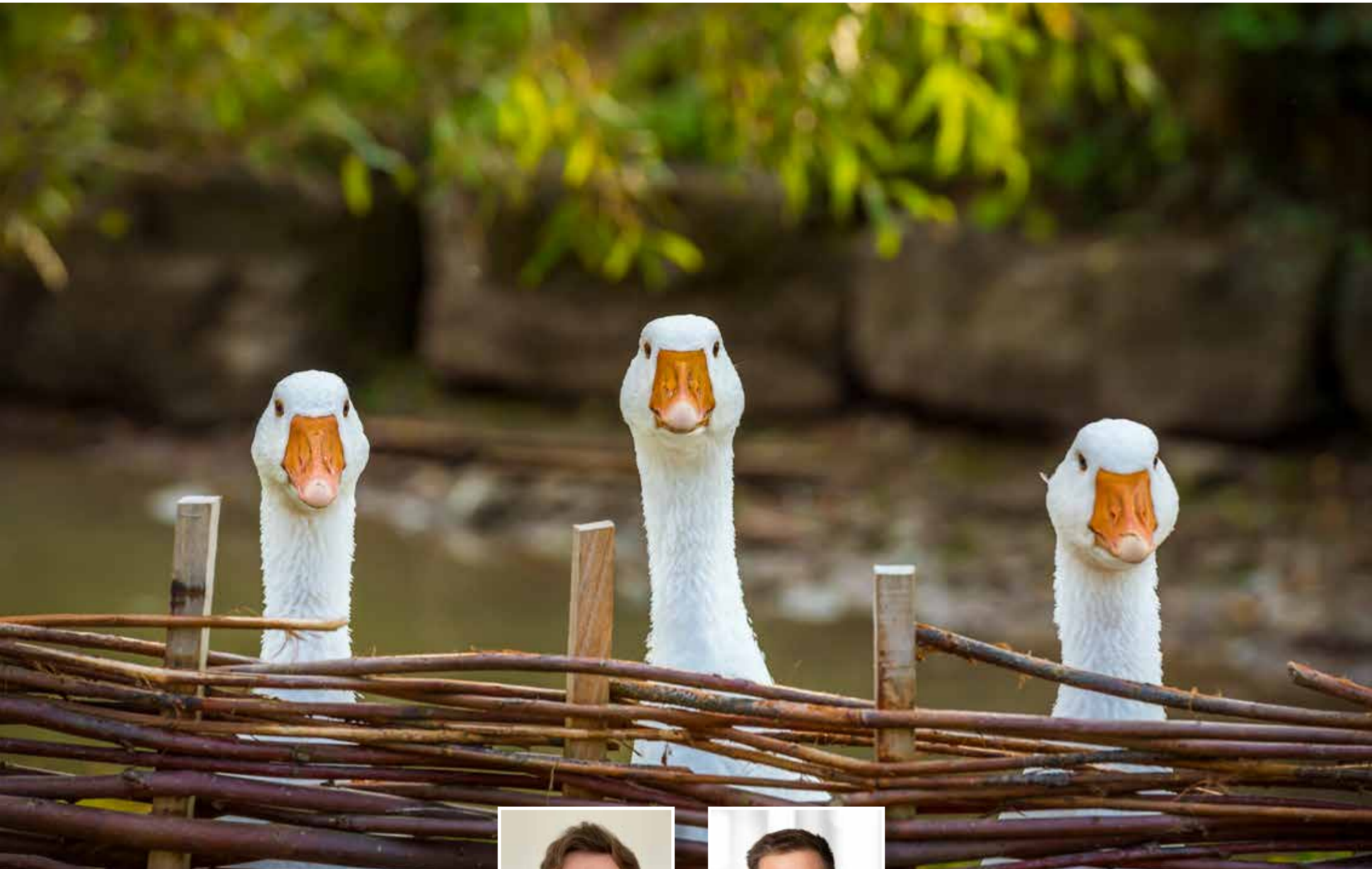
One outstanding feature of the district heating in Weiz is the significant reduction in CO2 emissions. Compared to individual heating systems, this district heating system produces considerably lower emissions. The annual saving is an impressive 10 million kilograms CO2. In addition, the Energy Holding can deliver up to 11 MW of extra energy on request, which further increases the flexibility and security of supply.

Summary

The district heating company Fernwärme Weiz has shown how the combination of innovative technologies and sustainable energy concepts can be used to implement an efficient and environmentally friendly heat energy supply. The newly built boiler house and the integration of modern boiler technology has allowed Weiz to set new standards in regional energy supply and to make a major contribution to the reduction of CO2 emissions. Austria's first bio-oil boiler that operates using cleaned waste cooking oil increases the reliability of the district heating in Weiz and builds up reserves to cover peak loads.

The district heating system in Weiz has increased its resilience against failure and built up reserves to cover peak loads by operating Austria's first bio-oil boiler that uses cleaned waste cooking oil.

Betten Reiter Protects Geese and the Climate in the Future

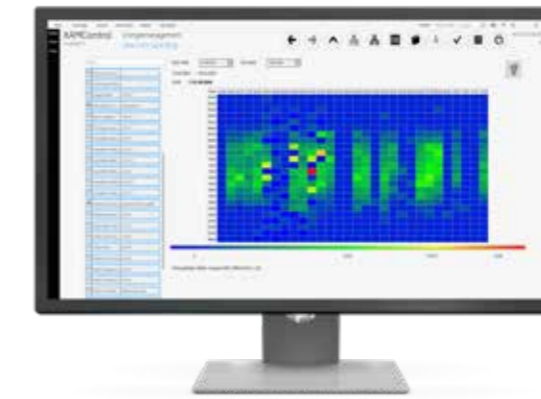


Manuel Gringer
Automation Engineer
ELIN Linz Industry



Gerald Hirschmann
Procurist/Head of Sales
evon GmbH

How ELIN Linz is increasing energy efficiency at Betten Reiter by modernising the heating, air conditioning, and ventilation system.



EDMS - Heatmap



Dashboard - Leonding



Overview - Heating distribution

Betten Reiter has begun the comprehensive modernisation of its heating, ventilation and air conditioning (HVAC) systems at its headquarters in Leonding and other locations to increase transparency, identify the potential for optimisation, and to improve its climate balance. The project is being carried out by Elin in Linz and the goal is to enable the uniform control of all shops and warehouses in a central host system. Planning was started in the year 202 and implementation began in February 2023.

Start at the Headquarters

The modernisation consists of an update of the control system, the distributors, the Honeywell controllers on EAP, and the implementation of a new energy management system. The entire control logic is completely programmed in XAMControl. Over 30 hardware components from WAGO and Siemens are used to measure energy and a range of other media. Despite initial delivery issues, the project could be efficiently and rapidly implemented thanks to the openness of evon XAMControl. evon XAMControl supports numerous suppliers and thus enables the rapid exchange of individual components since there are many complete classes in the ACCStore for many products. The new evon EDMS (Energy Data Management System) enables comprehensive transparency of costs, energy distribution, and potential for optimisation via its use of heat maps and numerous new SQL reports. The entire system intelligence is centralised in evon XAMControl, which also monitors the complete network. A central, virtualised server coordinates the system while sub-controllers at the individual locations (RDS for visualisation) ensure local control. This guarantees the efficient and versatile management of all HVAC components.

Technical Features

- 5 couplers/PMC distributor
- 7 couplers/energy measurement
- 36 energy meters (7 thermal, 29 electric)
- 1136 IO data points

Particular Advantages of evon XAMControl in Projects

- **C# programming:** The possibility to program directly in a higher-level language allows rapid and efficient planning and implementation of a range of APIs.
- **Comprehensive support from evon:** The direct and competent support from evon makes implementation and maintenance easier.
- **Finished components in the ACCStore:** These enable the rapid and simple integration of new components, which reduces the engineering effort. Every project that is implemented using XAMControl means that this advantage continues to grow

Next Steps

The next step after the successful modernisation of the headquarters in Leonding is the implementation of the system in Wiener Neustadt. Betten Reiter operates 18 subsidiaries in Austria that will all eventually be integrated into the host control system. This modernisation improves energy efficiency and helps lower operating costs while increasing the comfort and reliability of the building infrastructure.

ELIN: Pioneer in Electrical Technology and Automation

ELIN is a renowned Austrian company that has specialised in electrical technology and automation. ELIN has a long history and the corresponding experience in this field and offers comprehensive solutions for energy supply, industrial automation, and building management systems. The company boasts innovative technologies and tailored services that are customised according to the customer's requirements.

Betten Reiter: Quality Beds and Domestic Textiles from Austria

Betten Reiter is a leading Austrian company that has specialised in the sales of high-quality beds and domestic textiles. Since it was first established, the company has offered a wide range of products, including mattresses, bed linen, blankets and pillows that guarantee the highest comfort and best quality. Betten Reiter attaches immense importance to sustainability and on regional products, which is mirrored in the choice of materials and in manufacturing.

Roadmap for the future of XAMControl

How your feedback will become an update even faster and where our journey over the next few months will take us.



Jennifer Reitbauer
Head of Product Development
evon GmbH



Alexander Hehenberger
Product Manager
evon GmbH



Strategic Development Initiative

The roadmap for XAMControl provides an overview of the future steps in product development. Our plan is for an 18-month cycle. The most important topics are:

XAMControl Core

The refactoring of the core system will be continued. The main focus is on the refactoring of all interfaces and the associated introduction of a new driver framework and the transition to pub-sub.

XAMControl Driver

Introduction of a new driver framework and transition to pub-sub.

XAMControl Web

Completion of a concept for new web engineering that simplifies the creation of web images and enables linking of variables via drag-and-drop. Implementation of this new development requires a certain level of progress of XAMControl core refactoring.

XAMControl as a pure SCADA system

Based upon feedback received, work has begun on the design phase. In parallel, implementation has already begun including the new driver framework, the separation of services, and small improvements to the editor.

We look forward to receiving all feedback and will feed it into the planning process.

New Product Management Process for evon XAMControl

The new product management process at evon is designed to integrate ideas and feedback into the development of XAMControl efficiently. The main steps of this process are shown in the diagram below. After the detailed planning work, the concepts

MES (Manufacturing Execution System)

We are currently working a completely updated version of the MES Server that expands the fields of application for evon MES and provides a significant increase in performance. The user interface is also receiving a facelift regarding UI/UX that will simplify operation and modelling.

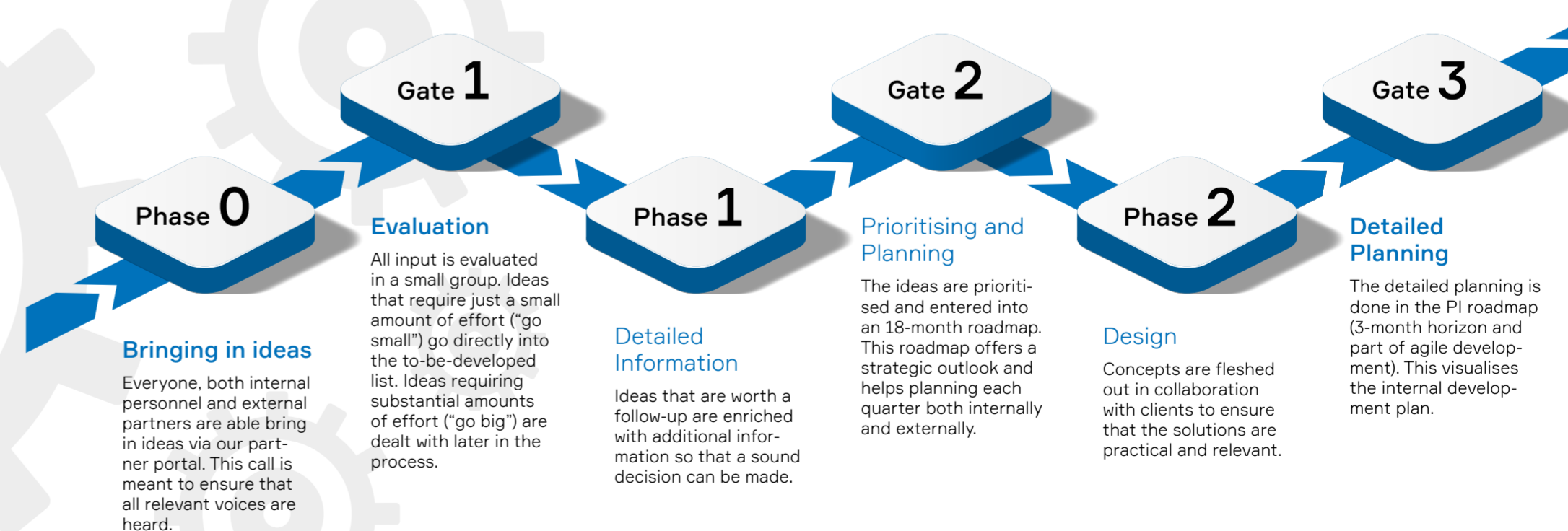
EDMS (Energy Data Management System)

The successful launch of evon EDMS (refer to page 18 of this document) will be followed by further developments according to feedback received from our clients and partners.

In Summary

The ongoing development of XAMControl is based on a structured and transparent product management process that ensures that ideas and feedback flow into the development process. The roadmap shows the strategic alignment and the detailed planning that is necessary to adapt XAMControl to evolving requirements of automation. Including customers in our clear planning process ensures that evon and its XAMControl software platform remain an innovative and future-proof partner.

enter the development process and go through comprehensive test phases all the way to the final release. This process ensures planning security and helps us as we strive for the best possible quality and future-proofing.



Spot on evon MES

evon MES is considered as one of the best Smart Factory solutions and right from go achieved the finals and hence 2nd place of 2024 Factory Innovation Awards.

The "Factory Innovation Award" competition is one of the most important Smart Factory Awards in Europe. An independent jury consisting of highly qualified experts from the digital and industrial sectors in the form of journalists, consultants, users, and researchers nominate an overall winner per category. This year, evon MES reached the final in the category MES/MOM and achieved 2nd place right from the word go.

What is evon MES?

evon MES is a Manufacturing Execution System from evon. If your processes are suffering from a lack of efficiency and digital gaps, then evon MES is the right solution for you.

evon MES is an open and hardware-independent system. As an integral part of evon's automation platform, XAMControl, it drives and monitors production. To do so, it uses the same platform of process data, energy data, and production data, and as

such becomes a digital twin of the manufactured goods. Evon MES is suitable for use with all types of process (continuous – discrete – batch) and ensures 100% traceability: and the whole thing in real-time.

Presentation of the Factory Innovation Award

The Factory Innovation Award was presented as part of a celebratory event on the 25th of April 2024 at the Hannover Trade Fair, which is one of the largest and most important industrial trade fairs in Germany.



Rene Hirschmugl
Procurement / Head of
Customer Solutions



evon XAMControl is NIS-conform



Refurbishment of the Tunnel Control Systems in Austria. A Comprehensive Modernisation Process.



Daniel Seewald
Head of Tunnel &
Traffic Infrastructure
evon GmbH

The tunnel control systems at ASFINAG have been undergoing a refurbishment programme since 2020, which includes a comprehensive update and a renewal of the control and management systems. This project concerns all 170 tunnels in Austria of which 46 tunnel systems and 2 monitoring centres are controlled and monitored by evon XAMControl software. The installed software needs to be updated, and their controllers exchanged in order to comply with the strict requirements of the NIS guidelines for critical infrastructure. The scale of the work covers 707 local control units, 60 tunnel heads, 60 database servers, 53 operations workstations, and 41 cluster systems all of which need to be exchanged, installed, and made future-proof.

Overnight Updates

The initial refurbishment of a system poses a particular challenge since it must be carried out during a few closures at night so as to disrupt regular operation as little as possible. During the refurbishment, the old system has to be available as a backup level so that if any problems occur, a rollback can be carried out. This ensures continuous operability and the minimisation of downtime.

Once the refurbishment is complete, a so-called Lifecycle Process begins where components in each system have to receive software patches at least twice a year. Ensuring these regular updates are installed efficiently and without downtime requires a long-term support release for XAMControl. This often makes it possible to implement the patches during the day making tunnel closure unnecessary.

Long-Term Support

Software patches must be available for every component including XAMControl after the refurbishment for at least five years and for a maximum of ten years. Hardware maintenance of the components is also carried out once per year to ensure correct functioning and to extend the life of the systems.

NIS Test Centre

In order to be able to comply with the strict requirements of the NIS guidelines, ASFINAG established its own test centre. Any release patches undergo strict testing in this test centre before they are used in the live system. The test centre is well equipped and includes 10 tunnel heads, 20 database servers, and 6 local control units to guarantee a close-to-reality test environment.

This comprehensive set of measures not only guarantees compliance with legal requirements but also ensures Austria's tunnel systems are sustainable and future-proof.



Gourmet Food with New Fine Control Technology



Raphael Dobie
Automation Technology, Project Management
ELIN GmbH



Sebastian Gradauer
Sales Manager Austria
evon GmbH

ELIN Vienna is replacing the partially 40-year-old technology during live operation, without interrupting production, by using evon XAMControl.



Evaluation of electrical distribution



Overview of the chilling plant



Monitoring of the network

Wojnar's Feinkost

Wojnar's is an Austrian company specialising in the production and sales of gourmet food. Founded in 1932, the family business is based in Vienna and is well known for its delicious salads, pâtés, and fish products. Wojnar's place great emphasis on quality and mainly use regional ingredients. The company is part of the Vivatis Group. ELIN's subsidiary in Vienna converted the control technology in this project to evon XAMControl and in doing so made the first step towards a 360-degree management platform governing the areas of buildings, energy, and production.

ELIN: Pioneer in Electrical Technology and Automation

ELIN is the market leader in Austria for building automation and electrical plant. As a leading Austrian company with 130 years of history, ELIN has a mature and comprehensive set of expertise, many years of experience, and renowned competence in specialised areas. ELIN designs, builds, maintains, and services buildings and industrial and infrastructural facilities in its electrical technology portfolio.

evon XAMControl and Vivatis

evon is already well-known within the Vivatis Group. The project at Wojnar's means that another company with the group will be modernised with the help of evon XAMControl, which underlines the trust being placed in the system and the outstanding partnership. The new management technology assumes the measurement and control activities for heating, ventilation, climate control, and chilling rooms in the production plant. The roadmap for the modernisation is ambitious: the decision to start fell at the end of 2023 with the goal of finalising the first phase of the project by September 2024.

Technical Features

The modernisation consists of around 4000 data points managed by a virtual server and two redundant controllers. Twenty new switching cabinets were required to house 18 Beckhoff bus couplers with the associated IO boards, a redundant network system, two 22" HMIs, and 14 power meters. This infrastructure ensures high uptime and flexibility of operation.

Refurbishment without interrupting production

One of the greatest challenges was to carry out the rebuild during live operation without violating the strict temperature set points, particularly in the chilled warehouses where the temperature needed to be kept constant, in some cases down to -18 degrees Celsius (+/- 2 degrees). The integration of the new software with the 40-year-old periphery including valves, motors, and sensors, required a new flexible style.

Goal: 360-degree management technology for the entire site

The overarching goal of the modernisation is to provide Wojnar's with a complete 360-degree digitalisation solution of the building management system, over all energy consumers, down to production. Over the course of the project, 4 different existing management technologies for different trades were to be integrated. The new energy measurements were not just intended for monitoring but also to be used as a tool to help the operation of individual aggregates.

This comprehensive modernisation ensures that Wojnar's can shape its production processes to be efficient and sustainable in the long term. The implementation of modern management technology and energy management systems makes a significant contribution to Wojnar's competitiveness and sustainability.

Energy Data Management and Production Combined in in evon XAMControl



Herbert Weiss
CEO Hiquel



Philip Scheucher
Team Leader Batch
evon GmbH

Outstanding quality, careful with resources, and thanks to photovoltaic extremely environmentally friendly: the mixed feed production plant Gsellmann is taking steps to become a prime example for digitalised production (MES) and energy data management (EDMS).

Mischfutterwerk Gsellmann

Gsellmann Mischfuttererzeugung GmbH is a renowned producer of high-value feedstock. The site in Kohlberg has been continuously expanded and optimised over the past few years in order to maximise product quality and energy efficiency. This is being done together with their partner of many years, evon, and the specialist for complex automation systems, Hiquel.

Digital Transformation with evon XAMControl

Looking back over time, the individual sub-projects from 2015 to today show the transformation into a modern, completely digitalised, and soon energy-independent production facility. The central energy data management and data exchange with the energy provision companies demonstrate the advantages of the digital transformation.

2015: Update of the existing mixing plant with XAMControl as process management system including MES.

2018: Construction of a raw material warehouse with up-to-date conveying technology and advanced warehouse management.

2021: New construction of the bio-mixing plant with process control equipment and MES as well as integrated energy data and load management.

2023: New construction of the photovoltaic installation with 3,112 kWp power and 7,590 modules, 442,000-kilogram CO2 savings annually. Installation of evon EDMS for energy management.

2024: New construction of bio-soya preparation (already in work, extension of bio-mixing plant 2).

Core of the new bio-mixing plant

The entire production process for the bio-mixing plant today is controlled and optimised by evon XAMControl. It starts with the delivery of the raw materials including sample extraction and documentation, continues via filtering (extraction of impurities), and storage in silo cells, all the way to automated dosing (auto-

ated transfer of recipes from the Adifo Bestmix) via multiple weigh stations and loading of the finished product.

360° Integration

All steps in the bio-mixing plant are monitored live and in real-time. The entire plant including third party systems is represented in the system:

- Production
- Recipe management with special mixes for individual client requirements (Adifo Bestmix)
- Manual inputs such as veterinary prescribed medication; everything is completely traceable
- Energy data management incl. load management
- Low voltage distribution
- Building automation: MC, lighting, fire alarm system
- Camera systems for goods in and goods out
- Help-desk tickets for maintenance and maintenance documentation
- Documentation of statutory raw material tank cleansing and derived from this, the digital authority certificate
- Photovoltaic

Thanks to our focus on the networking of IT and OT, our clients can live the digital factory. Third party systems can be integrated and hence a 360° plan can be realised. Our system acquires all data from production, the building, and the energy consumed.

Highest level of competitiveness

The company Gsellmann was able to set new standards for quality, versatility, and transparency thanks to the flood of innovation in the implemented projects. This not only led to an increase in customer satisfaction but also guaranteed the company's competitiveness regarding future challenges.



Flexible Production - Batch size 1

Every production process and every product recipe is freely configurable in XAMControl. Processes can be adapted, recipes can be tailored, and ingredients manually added: all with a mouse click. All changes are documented and available at any time in the central database.



Reporting and Quality Assurance

The quality of all raw materials is checked for the appropriate level of quality before release for production and the results are stored in the central database. The continuous acquisition and documentation of all process data ensures comprehensive reporting and automatically generated and transmitted legal documentation.



Energy Data Management – Load Management

XAMControl EDMS enables the uncomplicated monitoring of all relevant energy consumers. The integrated load management shuts down or restarts defined aggregates according to priority and other boundary conditions, all in real-time. This helps avoid expensive supplementary payment demands for load peaks from the electricity provider.

evon EDMS



Energy data management is playing an ever greater and crucial role in modern companies, particularly in front of a background of increasing energy costs and a growing sense of environmental awareness. EDMS by evon offers one effective possibility to monitor, analyse, and optimise energy consumption.

The innovative solution helps you to acquire, control, and manage energy flows. Especially today, cost reduction is no longer the only priority but also being compliant with environmental regulations and increasing energy efficiency.

The foundation for any form of optimisation is data. Evon EDMS is a distributed energy data management system and offers database-supported recording and evaluation of all data. This makes it an energy management tool that is certified according to ISO50001 and BAFA listed. This ensures sustainable energy data management and an elevated level of investment protection.

Functional Scope of evon EDMS

Consumption analysis: a range of analysis tools are employed to produce insightful evaluations of the acquired energy and amount data. These analyses enable you to compare energy consumption and energy power KPIs for different time periods. This helps you to identify weak areas and long-term optimisation opportunities to promote more efficient energetic practices.

Load management: evon EDMS optimises the control and distribution of all electrical loads. In doing so, it provides valuable support for energy efficiency and grid stability. This results in higher energy efficiency, more flexibility, reliability, and safety. In addition, it enables the improved integration of renewable energy sources by adapting the energy distribution in accordance with the intermittency of renewable energy production.

Data: evon EDMS offers standard reports on consumption and power for each meter point and the reports can also be individually adapted. In order to avoid the huge effort of creating reports, charts are a versatile summary of meters and provide direct export of the data to MS Excel. Meter summaries can be stored as "meter profiles" and loaded in all charts to obtain an overview of consumption and to be able to export it.

Alarms & Monitoring: evon EDMS takes monitoring much further than simple limit checks. It can be configured individually for certain time periods and limits, whereby alarms can be adjusted specifically for a user. evon EDMS thus ensures not only exact monitoring but also a highly customised alarm system.

Expertise: evon EDMS helps avoid load peaks, uncovers optimisation opportunities, and improves the understanding of energy flows in the systems.

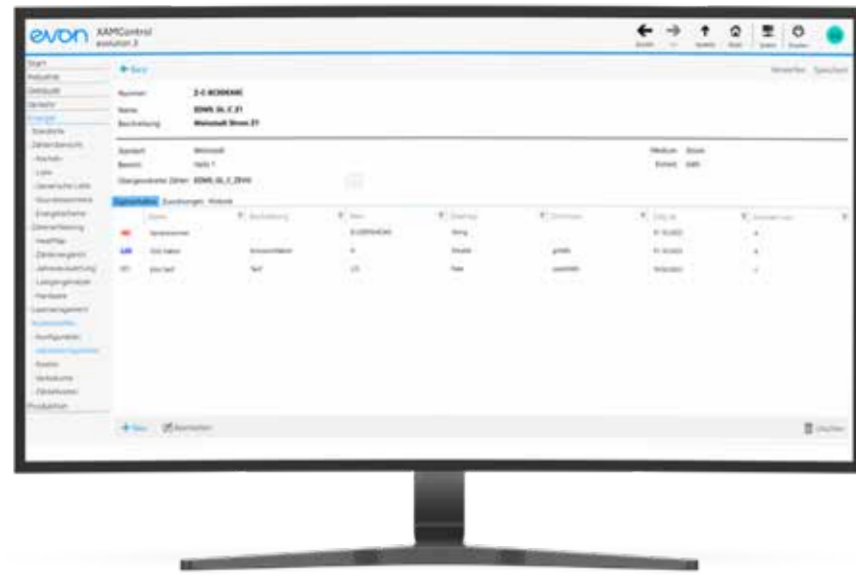
Fast acquisition thanks to QR-codes: Just as for maintenance, QR-codes are also used in evon XAMControl for monitoring. Simply create a QR-code and affix it to the selected part. Whenever the code is scanned, you receive a report about the device's status including an energy data management report.



Revolutionary, BAFA-listed & ISO50001 certified.
In short: State-of-the-Art energy data management
by evon.



Industrial Solution for Climate Protection Makes Considerable CO2 Savings



Meter Point Management: The meter point management can be extended with a module that manages the meter hierarchy. This is where end-user attributes can be freely defined for each meter (e.g. tariff, emission factor, serial number, etc.). Meter point management can even manage cost centres. This allows a percentage of the meter point's consumption to be allocated to individual cost centres (e.g. floor, rented area, etc.). This results in evaluations of consumption and costs per cost centre. This data can be exported for further analysis, for example to MS Excel.

Simple Import of Consumption Data via Excel: The Excel import feature in evon EDMS allows consumption data from third party systems to be imported. This allows energy consumption data to be manually imported and used in the meter point. This function also enables the import of consumption data from meter points that do not have an interface and therefore have

to be manually read. In combination with the Excel export, previously acquired measured data can be easily corrected at a later time and still documented.

Web Access – Anytime and Anywhere: The web access in evon EDMS provides you with unlimited access to your data – anytime and anywhere. This enables you to create individual views and keep an overview of relevant information. This flexibility revolutionises energy data management since you can use your data efficiently and create your own personalised dashboards. A single click gives you control over your energy consumption and enables you to optimise costs and contribute to sustainable environmental protection.



Christian Falk
Team Leader Metal –
Product Owner EDMS



Riempp Group has made substantial progress in the further development of their energy management system



Dennis Ganaus
Head of Business Unit Energy Efficient
Systems Technology
R.I.E.MPP

The system enlynx-EPC supplied by electrical technology specialist Riempp in Oberboihingen saves between seven and eleven percent energy and a similar amount of CO2 per year without any loss of comfort. This saving breaks down into between four and five percent in lower electricity costs and between five and six percent saving in electrical energy thanks to active energy management. The software-based solution containing 15 years of development combines energy-efficiency systems technology with energy and load management. The system acts as a digital node and communicates with more than 250 interfaces each of which represents an arbitrary piece of installed equipment at the customer's site that requires or supplies energy.

Competitive Advantage

Friedrich Riempp, the man behind the solution says that "we have developed the product enlynx-EPC because, alongside saving electrical energy costs, it also communicates with the customer's technical equipment via the active energy management emsyst 4.0". The solution was developed by Riempp from both threads of energy management in buildings and plant together with machine maintenance and service areas. It stands apart

from the competition thanks to its technical USPs. As well as saving electrical energy costs, the smart control technology is able to adjust the voltage during live operation and smooth out grid-based voltage fluctuations. "The use of the EPC system means that electrical consumers are protected which extends their working life," Riempp added a further benefit. The holistic approach to the solutions can be seen in the intelligent Smart Grid that measures consumption and demand via sensors and passes the information on to supervisory levels. In parallel, the system can cap load peaks, prioritise regenerative power sources, or shift consumption to periods with lower electricity prices. The intellectual father of the invention summed it up, "the growing share of regenerative energies available in the total mix means that demand for our solution is increasing because we can be both flexible and constant with the electrical consumers"

Additional components such as battery storage and further air compressors can be added to as many points as possible to act as buffers that simultaneously allow the overall system to breathe. Their programming renders all processes to be controllable and alignable while also being coordinated and governed by external boundary conditions such as weather situation or energy demand.

DIN 50 001

enlynx-EPC also contains load management capability that enables entirely or short-term irrelevant consumers to be disconnected from the grid; stored energy to feed in during peak load; the base load to be reduced, and shifts non-scheduled produc-

tion and storage processes to times when electricity is either particularly cheap or otherwise in excess so that energy sources using sun or wind do not have to be shut down. For example, systems can be controlled via cell phones either with the calendar or timers, e.g. the drinks refrigerator in the canteen during company holidays, or the demand-oriented heating and cooling of meeting rooms, or the general quiet mode over the weekend. Riempp said "the program can even consider the quiet mode for business trips, personal holidays, or variable bank holidays." The Riempp solution complies with the requirements for DIN 50 001; measured values are acquired, catalogued, and evaluated.

Existing buildings can be upgraded by connecting them via wireless sensors allowing the digital climate protector to be universally used in offices, industrial halls, schools, swimming facilities, clinics, computing centres, and shopping centres. Sensors and meters can read independently of the supplier and the measured values processed. There is more: enlynx-EPC can be combined with third party systems and the unified operating interface makes it easier for the operator and building technician to use in a nod to the Apple principle.

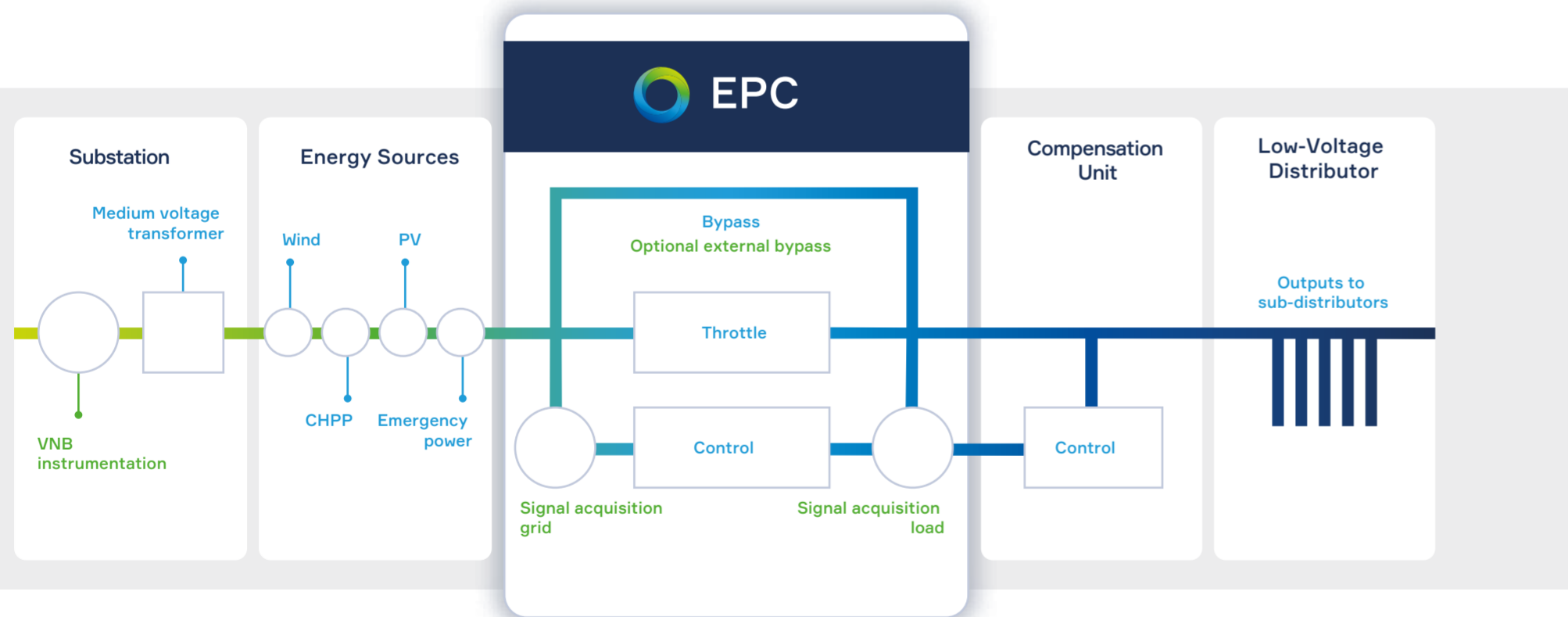
Historical Data & AI

The database acts as a source for recording and evaluation that enables proactive action based on seasonal values from earlier years by making use of experiential knowledge that borders on artificial intelligence. A uniform visualisation of building technology, e.g. HVAC, EMA, BMA, or video including trends curves and linked to the electrical schematics provided timely information about maintenance or investment needs. enlynx-EPC is available in three power classes: 150 to 300 KVA, 300 to 800 KVA and 800 to 2500 KVA, where EPC stands for electrical power compensation. The amortisation of the investment depends on the initial situation and complexity but lies between two and five years. This also depends on grants and the development of energy prices and CO2 tax. Our experience shows that users in the (foodstuff) industry have so far been able to reduce their CO2 emissions and consumption by between six and 10 percent. Higher Climate Goal for Germany by 2030 Riempp sees a favourable market for his innovation considering the EU directive whereby member states must be greenhouse gas neutral by 2045, and Germany has the goal of reducing its emissions compared to 1990 by 65 percent, which is equivalent to 438 million tons of CO2.

The company based in Württemberg performed a quantum leap in 2023 in the field of power electronics with their three locations in the region of Stuttgart where they took over the electrical building equipment and machine maintenance and



programming for almost 800 companies: A cooperation with technical universities led them to owner-led partners who provided an important part of the hardware in a single component for which Riempp had previously required 20 sub-suppliers. The first system goes online this July at the packing company Fuji Seal located in Aichtal. The company was established in 1897 in Japan and considers it a duty to support environment protection and aligns its business activities with it (www.fujiseal.eu). Further notable systems at meat processors follow. Riempp said "the different local specifics mean that we are learning with every customer and can adapt our system to each customer individually for their different demands. Thanks to the energy management system emsyst 4.0, the solution is subsidised by the BAFA by between 25 and 45 percent, depending on the company's size. www.enlynx.de



EPC can be very easily integrated into your existing infrastructure

EPC supplements your existing infrastructure in your switching cabinet or comes as a practical outdoor all-in-one solution in a container. It is installed between the substation and the measurement point of the energy provider in the company's low voltage grid (230/400V). All power sources are connected in front of the e-HCP and all power consumers after it.

What defines kVA

The main difference between the units kW and kVA is the power factor. A kilowatt, kW, is the unit for the actual watt power (effective power, e.g. a light bulb), whereas kVA (kilo Volt Ampere) is the unit of apparent power (actual watt power + power factor).

R.I.E.MPP & evon

Emsyst 4.0 is an OEM product based on evonXAMControl with customer specific branding.

evon in the EPLAN Partner Network



EPLAN and evon focus on the digital value chain of building automation



Sebastian Seitz (right) and Andreas Leitner agreed a technological partnership at the SPS in Nuremberg.

Focus on the digital value chain of building automation

EPLAN and evon are striving for the same goal: more efficiency in the entire value chain of building automation from planning to operation. EPLAN supply the appropriate platform for the planning of buildings and automation in switching cabinet build while evon uses XAMControl to ensure hassle-free operation. The integration of both systems is now being driven forwards from within the EPLAN Partner Network. The corresponding technological partnership was officially agreed at the SPS in Nuremberg.

The challenges faced in the field of building automation and the pressure on building planners and operators is continuously increasing. On the one hand, there is the planning of measurement and control aspects of building automation, and on the other frictionless operation. The prerequisite is the close integration of the systems. It is exactly this aspect that was the subject of the agreement within the auspices of the EPLAN network. Sebastian Seitz, CEO of EPLAN and Andreas Leitner, CEO of evon GmbH, agreed upon this technological partnership at the SPS in Nuremberg. The technological foundation is an interface between the EPLAN software and the XAMControl process control system from evon. All building automation functions (control, data acquisition, and evaluation) will be considered in this seamless process.

Higher Customer Benefit

Rolf Schulte, Vertical Market Manager Building Automation, explained that: "the interface between the two software systems

EPLAN and XAMControl makes it easier for users of both to program the building automation. The result is a considerably shorter planning phase resulting in falling costs and rising quality."

Integrated from Planning to Operation

What will the future bring for this process? EPLAN Preplanning is used to create measurement and control schematics for a unit such as an air conditioning unit with all its different sensors and actuators. Information such as heat transfer (from a boiler in the heating system) is also considered in the ICT schematics. Unambiguous data points are then transferred from EPLAN to the controller and subsequently to XAMControl. All information is visualised in the supervisory system. The switching cabinet including PLC controller for the system is also planned using the EPLAN software. This is where the 3D software EPLAN Pro Panel is used that in turn transfers data from switching cabinet engineering to manufacturing via a link to Rittal's RiPanel Processing Center.

Access via Per Viewer for Operation and Maintenance

Complete continuity is obtained in that all information gathered throughout the value chain from operation, maintenance and repair is provided digitally. The project is stored in the EPLAN Cloud and provided to the process participant via access authorisation. Any necessary changes to the documentation for maintenance reasons can be viewed using red and green lining via EPLAN eView and naturally also saved in the project.

Fast and High-Value Product Release Thanks to Test Automation

Our goal is to deliver customers with three to four new versions of evon XAMControl per year between numerous small hot fixes. The entire development process is agile which enables rapid adaptations and feedback on new features. A lot of time is spent on repetitive release tests that need to be carried out before delivery. These tests also need to be carried out for every software version in the same way to ensure identical quality levels – this is an ideal situation to save time with an automated solution.

Tried and tested

For this reason, we evaluated a range of different test automation tools. A tool suited to evon XAMControl was selected. This tool allows test steps that were previously carried out manually to be replicated - from logging in to opening different elements in the HMI with many different settings. This then enables processes to be deliberately and automatically run. It must be noted here that the initial replication itself is very time consuming, but once all the previously mentioned steps have been replicated, then every subsequent run saves an enormous amount of time.

Focus on Quality

These user-interface tests (testing the graphical user interface) ensure that each software release is tested using identical steps, and that the product will also behave the same way. These tests are automatically run through when a new product version is created. Once completed, the testers receive a report showing the results of the individual test cases and they can then derive

further measures from those results. This time-saving advantage helps support the continuous improvement of product quality, and the saved time can be used for further automation of the release process. This whole procedure is an ongoing project where tests are continuously improved and extended.

Advantages of Test Automation

- Time and cost savings thanks to automated testing
- Stable software, improved quality
- Reduction in the number of previously undetected errors
- Increased test capacity



Jennifer Reitbauer
Head of Product Development
evon GmbH

Every new release of evon XAMControl is associated with more time-consuming testing. Can we automate this process? Spoiler ... Yes, we can!

Code is like humor.
When you have to
explain it, it's bad.

Cory House