



Information Unlimited Magazine

Magazine for the Automation Industry
2012/2013 · Issue No. 23

.....
DO IT YOUR WAY
.....

A SMALL JOURNEY INTO THE
THINKING OF COPA-DATA

.....

DO IT YOUR WAY

.....

A SMALL JOURNEY INTO THE
THINKING OF COPA-DATA

IU – Information Unlimited Magazine.
Magazine for the Automation Industry
No. 23 / November 2012

President and Publisher:

Thomas Punzenberger
Ing. Punzenberger COPA-DATA GmbH
Karolingerstr. 7b, 5020 Salzburg, Austria
Commercial Register Number: FN56922i
T +43 (0)662 43 10 02-0
F +43 (0)662 43 10 02-33
www.copadata.com

Editor-in-Chief: Julia Angerer

Editorial Team: Julia Angerer, Susanne Bernhardt,
Gernot Bugram, Kathleen Kuhn,
Eva-Maria Oberauer-Dum, Steve Poynter,
Thomas Punzenberger, Nicola Richter, Mirjam
Riesemann, Esther Rutter

Art Director: Eva Plainer

Authors of this Edition: Gudrun Angerer,
Raimund Awender, Emilian Axinia,
David Brennan, David Cerdeira, Lisette Fagerstedt,
Susanne Garhammer, David Gassmann,
Elger Gledhill, Robert Harrison, Günther Haslauer,
Thomas Lehrer, Elsa Magalhaes, Reinhard Mayr,
Jakob Miazga, Christoph Musiol, Noémie Odeyer,
Jürgen Resch, Martin Seitlinger, Inge Steger,
Thomas Sturm, Anton Studhalter,
Phillip Werr, Bernd Wimmer

Print Office & Distribution: Offset 5020
Druckerei & Verlag GesmbH, Bayernstr. 27,
5072 Siezenheim, Austria
Print Run: 9,500 copies
Frequency: twice a year

Note: Additional feminine forms have not been
added to gender-specific references in order to
assist readability.

Copyright: Ing. Punzenberger COPA-DATA GmbH.
The magazine and all the articles and images it con-
tains are protected by copyright. Any use or duplica-
tion is not permitted without prior permission from
the editorial team. The technical data contained
herein has been provided solely for informational
purposes and is not legally binding. zenon®, zenon
Analyzer®, zenon Supervisor®, zenon Operator®,
zenon Logic® and straton® are trademarks regis-
tered by Ing. Punzenberger COPA-DATA GmbH. All
other brands or product names are trademarks or
registered trademarks of the respective owner and
have not been specifically earmarked. We thank all
contributors for their friendly support and the pic-
tures they provided. Subject to change – technical,
print or otherwise.

Contact / Free subscription:

IU@copadata.com
www.copadata.com/IU

CONTENTS

| | |
|----|---|
| 6 | do it your way |
| 8 | The Celebration 25 Years of COPA-DATA |
| 12 | Who's Who? |
| 13 | zenon Powered by ... Get to Know our Sales Representatives |
| 18 | Commitment for Energy and Material Efficiency How zenon Supports Food & Beverage Plants With Their ISO 50001 Implementation |
| 20 | Inside Food & Beverage Automation An Interview With Jakob Miazga |
| 25 | A Touch of Future Today zenon 7.10 |
| 26 | COPA-DATA and KUKA Roboter Collaborate Intuitive and Efficient Human-to-Robot Communication |
| 27 | It's Arrived zenon Analyzer 2.0 |
| 28 | FAQs: zenon Analyzer 2.0 |
| 29 | Diverse Training Available for Employees and Customers |
| 30 | The Changing Business Model of the Pharmaceutical Industry |
| 32 | Bausch + Ströbel Uses the HMI/SCADA Solution From COPA-DATA Throughout the Company Consistent and Safe – zenon in the Pharmaceutical Industry |
| 38 | Unseen, Safety-Critical, Life-Saving Infrastructure Matters |
| 42 | Interruption-Free Automotive Production with zenon Display Processes with Ease and Analyze Efficiently |
| 44 | 64-Bit [PART 1] More Memory Capacity for Your Data |
| 46 | zenon From COPA-DATA Meets the Highest Standards in Usability and Functionality |
| 48 | What we Experience |
| 50 | zenon Challenge Innovation and Creation in a Playful Environment |

EDITORIAL

Dear readers,

When I'm seeking inspiration, a quote from the Spanish journalist and scientist Ignacio Ramonet often comes to mind: "There is a need for dreamers who can think and thinkers who can dream. It is high time to establish a new, united economy, based on the underlying principle of sustainable development, putting the person at center stage."^{*}

Putting the person at center stage – this is also one of our principles. It is not about us or our products, but how you, with our support, can carry out your tasks in a more simple and improved way – ideally with more enthusiasm too. Short and sweet, you can call it: *do it your way*. Because whichever goal one may have, there are always different ways of getting there. The freedom to reach a goal in a tailored and, at the same time, familiar way, gives the opportunity to make the best out of one's skills and become completely involved – all the rough edges included.

We are therefore putting a lot of energy and research effort into the topic of "Usability". Next year we will be introducing our newest ideas and developments, with a new version of zenon. Our area of focus: the many additional improvements enabling more ergonomic working.

We wish you a successful year's end, on your very own path to your goals!

Yours,



Thomas Punzenberger, CEO

^{*} Ignacio Ramonet: Guerres du XXI^e siècle. Peurs et menaces nouvelles, 2002.
(Wars of the 21st Century: new threats new fears.)

DO IT YOUR WAY

WHENEVER AND WHEREVER YOU ENCOUNTER COPA-DATA OR A MEMBER OF THE ZENON PRODUCT FAMILY, THERE ARE FOUR INSPIRATIONAL WORDS CLOSE BY: DO IT YOUR WAY! THIS SLOGAN, SUMMARIZES OUR PHILOSOPHY, HAS ACCOMPANIED US FOR SEVERAL YEARS. WHAT DOES “DO IT YOUR WAY” MEAN TO US – AND, MOST OF ALL, FOR YOU? THIS IS A SMALL JOURNEY INTO THE THINKING OF COPA-DATA.

DO IT YOUR WAY: FLEXIBILITY MEETS SECURITY

We have learned, in close cooperation with customers and users, that everyone has their own way of working – their individual priorities and demands. We think that ergonomic software must support this. For zenon, this means that, for example, it has to adapt to you and your requirements and support you at the level at which you work – as somebody configuring a project, as a machine operator, control center employee or maintenance technician. zenon has to adapt to your method of working and give you the freedom to work in the way that you are used to. At the same time, it must ensure that no serious errors occur. It has to be flexible, but safe.

We all work better if we can work in our own way. It allows us to be more creative and more team-oriented, and to work with more commitment, and more successful outcomes. At COPA-DATA, we spend a lot of time looking at how engineers configure projects, how machine operators can work more attentively and how a system has to function in order for it to really support humans. On average, we immediately reinvest one out of every four Euros of our revenue back into research. This way we have the opportunity to learn many things including how machines work, and how we need to design our zenon Product Family so that it helps you to implement your objectives as you want. The result: *do it your way*.

DO IT YOUR WAY: THE WAY YOU WORK COUNTS

An important recognition from many years of experience with HMI/SCADA technology: anyone who wants to design good automation projects shouldn't be slowed down by rigid processes in the software. SCADA software must adapt to the user. It has to be flexible, intuitive and individual.

It doesn't matter if you work in strict adherence to a plan or if you can be inspired by spontaneous ideas – we support the way you work. For this reason, we designed zenon in such a way that you can configure projects in a manner that works throughout projects and modules and is – we think – oriented towards the future.

DO IT YOUR WAY: SCALING AS DESIRED

Plans and requirements change, sometimes very quickly. For this reason, optimum scalability is important to us. Let's start, for example, with a simple HMI application on a machine: you then network it with several machines and items of equipment and then complete your application with a superordinate SCADA application. This guarantees you full flexibility in any project arena. You can supplement your configuration at any time with new modules, connect additional locations, communicate with ERP systems and have zenon grow with your company.

DO IT YOUR WAY: EASY NETWORKING

do it your way also means that our products can be seamlessly integrated into your existing systems. zenon not only uses existing hardware and software, it also connects these various systems. This is because in the system world too, optimum networking and functional communication are the decisive factors for success in any good team. You do not need to change or adapt any hardware to use zenon. You do not need to re-validate any systems to use zenon. You work in the way that is best for you – even networked in a team – and thus more quickly, more effectively and according to your plan.

DO IT YOUR WAY: THE FUTURE IS ERGONOMICS

Ergonomic thinking and project configuration advance your projects decisively. This is because everyone works differently and has different requirements. Many people have to deal with color blindness in a world controlled by traffic light colors. Why shouldn't you – at the press of a button – be able to configure your color scheme so that you can recognize important alarms immediately? Lighting in machine halls can change. Why shouldn't displays adapt to this? Smartphones have made us used to dragging, tapping and scrolling using a Multi-Touch interface. Why shouldn't we also use this for the HMI? Projects are used internationally. Why shouldn't you be able to configure the project in German, operate it in Chinese and administer it in English, simply by switching languages at the click of a mouse? With zenon, you can.



DO IT YOUR WAY: WE ARE THERE FOR YOU

Flexibility and safety are not contradictions. If you *do it your way*, you are always in safe hands. We help you to avoid errors with well-thought-out testing routines. Assistants, wizards, frames and templates provide the framework – at the same time, we clear the way for you to implement your own ideas with well-documented interfaces. You always decide how freely you work – without being afraid of making mistakes. Our consultants are also happy to help you with information, assistance and solutions.

COPA-DATA: DO IT YOUR WAY

It is part of our philosophy to implement such findings quickly and sensibly. Regardless of whether it affects Energy & Infrastructure, Food & Beverage, Pharmaceuticals, Machine Building or Automotive. As varied as

these sectors are, the circumstances and requirements are similar: each requires and specifies standards on which you can rely. Routines that work without problems. Simple processes for complex tasks. But also: being able to do it your own way, to be able to follow new ideas, to experiment or try things out.

Do it your way; work according to your preferences. You know best how you want to implement your projects elegantly and successfully. Our task is to support you in this; to ensure that your path is free of obstacles and that your automation system works reliably with you and adapts to your ideas.

We also look forward to hearing about your ideas and experiences. Contact us at IU@copadata.com.

THE CELEBRATION

25 Years of COPA-DATA



Gabriele Burgstaller, Salzburg State Governor (centre of picture), and Dr. Heinz Schaden, Mayor of the City of Salzburg (right), congratulate Thomas Punzenberger on the celebration of the anniversary.



When approaching the Wolfgangsee one is quickly drawn to the turrets of the Scalaria event resort. Here, directly at the lake shore, a rapidly growing number of people from all over the world began to gather throughout the morning of June 1st. Around 350 guests eventually filled the hallways and function rooms, attended presentations, chatted in stimulating conversation, shared information and finally got together for an amazing evening as COPA-DATA celebrated its 25th birthday.



Many visitors accepted our invitation to the anniversary party in the Scalaria, St. Wolfgang. In the spirit of "The Future is Ergonomics", presentations were given and keen discussions took place, with music and festivities lasting into the small hours.



COPA-DATA anniversary event: This is how we celebrated!

Event video, presentations, information:
www.copadata.com/25-years-impressions

Snapshots in the picture gallery:
www.copadata.com/25years-picture-gallery



In addition to presentations and workshops, the guests expected a picture-postcard landscape, with which they could become better acquainted on a boat trip on the Wolfgangsee.

For COPA-DATA's event team it meant an early start on June 1st. Long before the first guests arrived, the Scalaria was perfectly prepared for an eventful day in its impressive ambience. Many customers, partners and other automation experts had accepted the invitation to celebrate with COPA-DATA.

Awaiting them were COPA-DATA employees from around 15 countries with a home brewed "zenon XML Export" beer as a welcome gift. Even the veteran zenon 2.2 spruced itself up and demonstrated that it could still cut a "bella figura" in the right surroundings. But the new zenon 7 with Multi-Touch operation, and its more scientific colleague zenon Science Package with the LEGO Mindstorms demo, were clearly a step ahead in functional range, usability and design. The brand new version quickly turned out to be the real darling of the public – after all, it was great fun to control a LEGO Robot with a touchpad!

The promised sunshine unfortunately did not appear, and instead of meeting up in the open air we gathered in the excellently appointed lecture rooms, to learn about the latest news of COPA-DATA and zenon. Prof. Dr. Jan Marco Leimeister of the University of Kassel in Germany kicked off with a view on the future of customer-oriented product development. An idea which COPA-DATA has been pursuing for quite some time under the motto "The Future is Ergonomics". Collective drumming with Boomwhackers in three different rhythms set the pace for the heartbeat of automation: a first rhythmic impulse which could be individually developed during the course of the evening. But to kick-off, some interesting firsthand information was on the program, from CEO Thomas Punzenberger and COPA-DATA CEE Managing Director Alexander Punzenberger, as well as from COPA-DATA project managers and industry experts.

An entertaining boat trip on the Wolfgangsee set the mood for a wonderful evening. The rain made a timely break, the waves remained calm and the lake showed off its romantic streak. The excellent gala dinner was the prelude to an incredible evening. Flames, dry ice and pounding beats from the cover band, Star-mix rocked from the bar and out to the floor of the ballroom. Cool drinks, colorful cocktails and hits from the 1960's to the present day ignited the mood. Yet even the keenest of dancers managed to make their early morning flight from Salzburg. We'll meet again – for our 30th at the latest!

🔗 *Inge Steger,*
Administration & Event Management

Who's who?

CHRISTOPH MUSIOL

Position: Sales Engineer, COPA-DATA Germany. **At COPA-DATA since:** 2012. **Responsibilities:** My role at COPA-DATA is to look after sales in Southwestern Germany. Managing existing business relationships and seeking and gaining new business opportunities and partners are my most important objectives. Establishing the new COPA-DATA office in Ludwigshafen am Rhein will be one of my greatest personal challenges. Achieving this undertaking is another important objective for me. **I get my inspiration from** ... my family and my friends. I get away from hectic day-to-day life with archery and I find time for relaxation and concentration there. **If I could do as I wanted, I would** ... travel through time and space to visit interesting places in the world and to experience events of the past, present, and future. I would be happy to start by travelling around the world though!

You can reach me at:
christoph.musiol@copadata.de
or on my mobile at +49 151 172 261 33



DAVID BRENNAN

Position: Marketing Manager, COPA-DATA USA **At COPA-DATA since:** 2011. **Responsibilities:** As Marketing Manager for COPA-DATA USA, my responsibility is to increase the visibility of COPA-DATA and zenon through a variety of both traditional and online marketing mediums. **I'm inspired by** ... the fast-changing world of digital marketing. I hope to bring these techniques into the world of B2B marketing and create a cohesive marketing program to better inform COPA-DATA's current and future customers. **If I could do as I wanted, I would** ... travel. I enjoy seeing new sights and places, and if given the chance I'd love to travel more.

You can reach me at:
david.brennan@copadata.com
or on my mobile at +1 (609) 385-0846



THOMAS STURM

Position: Technical Writer/Documentation, COPA-DATA Headquarters. **At COPA-DATA since:** 2012. **Responsibilities:** Managing Documentation and Translation. **I get my inspiration from** ... music by Philip Glass, Maynard James Keenan or Sigur Rós, as well as running a bobsled track on a skeleton. **If I could do as I wanted, I would** ... cook for the whole world.

Anyone who has tasted my frothy pepper soup knows what I'm talking about.

You can reach me at:
thomas.sturm@copadata.com



DAVID MIGUEL MENDES CERDEIRA

Position: Technical Consultant, COPA-DATA Iberia. **At COPA-DATA since:** 2012 **Responsibilities:** Since I started working at COPA-DATA just a few months ago, my main goals have been to get into the processes and workflows of the Consulting Team, which I'm a part of. I aim to understand and feel COPA-DATA's corporate values and, most importantly,

to establish a good relationship with my colleagues. For now, my responsibilities range from supporting customers and partners, helping them with particular topics such as application engineering, to discussing the implementation of new functionalities and quality assurance, to testing zenon to achieve a better, more reliable and usable product. **I get my inspiration from** ... my family and friends. Professionally, my golden rule is "always beat expectations". **If I could do as I wanted, I would** ... be in two places at the same time – Salzburg and Lisbon. Since that isn't possible, I wish that, more and more, there will be opportunities to participate in events, like conferences, fairs and training courses where COPA-DATA employees, our partners and customers can meet to exchange knowledge, experiences and strengthen ties.

You can reach me at:
david.cerdeira@copadata.com





ZENON POWERED BY ...

Get to Know Our Sales Representatives

COPA-DATA and zenon worldwide – that also stands for the many active and committed sales partners that present the zenon Product Family in their respective markets, looking after customers and contributing to the continued development of zenon. In the coming issues of the magazine, we will invite our Sales Representatives to the stage – as we believe that the readers of Information Unlimited should also gain an insight into their valuable work. In this edition, JS automation from France and our Swiss sales partner, Satomec AG, introduce themselves. Voilà:

JS AUTOMATION

Your zenon Sales Representative
in France



Successful with zenon in France: The team from JS automation under the management of Michel Julien (centre of picture, last row).

JS automation just celebrated its 15th corporate anniversary. The company was founded in 1997 by Michel Julien, Sales Director, and Hervé Seyfried, Technical Director. Today, our catalogue comprises of four main partners, including COPA-DATA. Our company's architecture is based on the software products zenon and straton, each with a different sales approach:

- ▶ Sale of zenon software licences for machine builders, OEMs, system integrators, etc.
- ▶ Sale of a global product range, including hardware using straton, such as Brodersen's, Remsdaq's RTUs, or Horner APG's PLCs.

Today, JS automation has a headcount of nine employees, including these three new positions. The sales & marketing department consists of five employees, and the technical department is made up of four engineers who are in charge of training courses, technical support and engineering. The composition of the team and its varied competencies, experiences and know-how guarantee customer support at every step of a customer's project (advice, engineering, installation, training, support, etc.). At the beginning of the adventure with COPA-DATA back in 2002, we were looking for a SCADA solution for large systems in order to complete our product range which. Our first clients were ArcelorMittal, Air Liquide and a sugar manufacturer based in France. In the end, we chose to go with zenon because it was and is – simply the best networked SCADA solution on the market.

We focus on the control command sector of the energy business, as well as on the process industries. We cooperate with partners like Eki-um, Cermex, Actemium, Schneider Electric and Siemens in order to offer our end customers the best possible support for project design and implementation. zenon is used by many well-known companies in France, amongst them being: Steriflow, Bonduelle, Veolia, Gdf-Suez, Maïa Eolis, Arkema, Stepan and Goodyear Dunlop.

You can reach us at:

JS AUTOMATION

Parc Work Center, ZAC de Champfeuillet
BP245 – 38507 VOIRON Cedex – France
Tel.: +33 (0)4 76 67 48 48 Fax.: +33 (0)4 76 67 48 49
jsaut@jsautomation.fr www.jsautomation.fr

SATOMECH AG

Your zenon Sales Representative
in Switzerland



The top of Switzerland with COPA-DATA: The zenon team from Satomech AG (from left to right): Elger Gledhill, David Gassmann and Anton Studhalter.

SATOMECH AG was founded in 1976. Our company is headquartered in central Switzerland between Zurich and Lucerne. In 2005, management was bought out and the Studhalter family acquired 100% of the company. With 15 employees, we are a commercial company providing industrial automation systems and have enjoyed great success in Switzerland and Liechtenstein. Four field representatives and four product managers look after the German-speaking, French-speaking, and Italian-speaking parts of Switzerland. Elger Gledhill in Sales and Marketing is in charge of zenon. David Gassmann takes care of product management and support, including training. We focus on the Energy / Infrastructure, Chemistry/Pharmaceutical and Food & Beverage industries. We represent COPA-DATA because we are convinced of the dynamic abilities, power and consistency of the company. We greatly value the cooperation with the highly motivated team in Salzburg. At SATOMECH AG, we decided to sell zenon because we are convinced that it is a comprehensive and modern tool for our customers and integrators. We see the potential for it to achieve a top position in the highly competitive HMI/SCADA market in the future.

Since mid-2010, we have successfully convinced the following independent integrators of the benefits of zenon:

- ▶ Alther+Lamon SA
- ▶ Automation Partner AG
- ▶ AVM Engineering AG
- ▶ Costronic SA
- ▶ Delectro Integration SA
- ▶ Easy Études et Applications Système SA
- ▶ EAGB AG
- ▶ SVA Automation AG
- ▶ Wire Engineering Concept SARL

You can reach us at:

SATOMECH AG

Parc Work Center, ZAC de Champfeuillet
Hinterbergstrasse 11, 6330 Cham, Switzerland
Tel.: +41 (0)41 748 17 77
info@satomech.ch www.satomech.ch

BEIJER ELECTRONICS

Official Sales Representative of zenon
in Norway



Christian Borge, Technical Manager at Beijer Electronics AS



Robert Sarmon, Sales Manager at Beijer Electronics AS

In January 2012 Beijer Electronics AS and COPA-DATA Scandinavia signed an agreement making Beijer Electronics the official distributor of COPA-DATA's complete product range in Norway.

Today, Beijer Electronics is already up and running using ongoing zenon based projects.

Beijer Electronics is one of the leading providers of industrial automation in Norway. After several years of working with FactoryLink it was time to proceed to a modern solution that would cover customer needs: "We had been selling and implementing FactoryLink SCADA applications since the 80's and needed a solid SCADA product that could replace these solutions. COPA-DATA is at the forefront in advanced technology, enabling us to now offer modern solutions to our customers" says Christian Borge of Beijer Electronics.

We are pleased to announce this new agreement with Beijer Electronics in Norway. This means that zenon customers have access to both local sales expertise and local support in their native language.

Beijer Electronics is well known for its outstanding support, local sales and technical expertise with full focus on their customers' needs. We are looking forward to a long and sustainable collaboration.

Look out for zenon in the wonderful country of fjords.

For more information on Beijer Electronics go to www.beijer.no or call your local office in Norway +47 32 24 30 00.

COPA-DATA MIDDLE EAST

How zenon Makes its Mark
in the Near and Middle East



Alexander Punzenberger, Managing Director COPA-DATA CEE / Middle East

COPA-DATA has been active for almost 15 years in the Near and Middle East. In 2009, with the founding of the COPA-DATA Central Eastern Europe / Middle East subsidiary based in Salzburg, a dedicated branch office for this region was created.

Our focus lies in the Middle East, on wide-ranging market cultivation with an emphasis on our core industries: Energy & Infrastructure and Food & Beverage. Geographically, the largest and most important key accounts for COPA-DATA are in Saudi Arabia, including the Energy companies Saudi Aramco and AMPS.

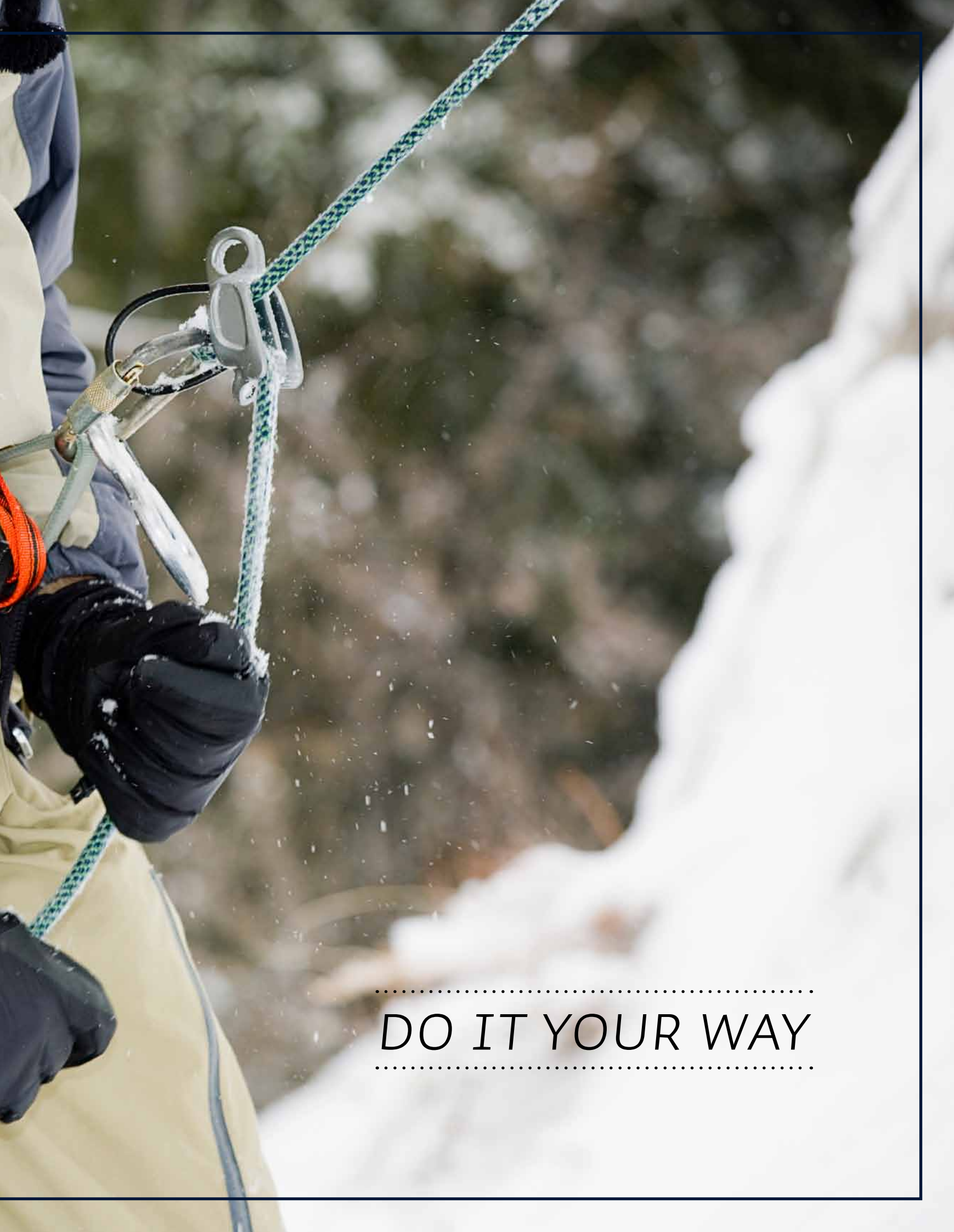
In the last few years, the culture of industrial automation in the Middle East has changed dramatically. For a long time, large providers concentrated on turnkey solutions, with 'ready-to-go' equipment. With this, an enormous dependency on major suppliers developed. This resulted in a large expenditure of effort, high costs and long processing times. This dependency is now increasingly being broken away from. Nowadays, the automation industry in the Middle East is putting greater focus on modular systems such as zenon, which can be seamlessly integrated into existing automation and IT environments. Furthermore, zenon's supplied Wizards and Templates aid in making the engineering, as well as the migration to other systems, simple. The principle of "setting parameters instead of programming" is recognized in the Middle East as being a path to success.

COPA-DATA has a strong partner at its side in the Middle East. For many years, ADM Electric has been successfully marketing zenon in Lebanon and Syria. We are able to leverage the core competence of our long-term and capable partners, particularly in the Food & Beverage industry. With this support and our existing market know-how, we will continue to expand our business activities in the Middle East in the coming years.

How you can reach us:

COPA-DATA GMBH
CENTRAL EASTERN EUROPE / MIDDLE EAST
Karolingerstr. 7b, 5020 Salzburg, Austria
Tel.: +43 (0)662 43 10 02-250
sales.cee@copadata.at www.copadata.at





.....
DO IT YOUR WAY
.....



Commitment for Energy and Material Efficiency

How zenon supports Food & Beverage plants with their ISO 50001 implementation

I find every visit to Food & Beverage manufacturing plants very exciting; having the chance to get to know people's challenges. The real satisfaction I experience year by year is when zenon's strengths are of great help to production teams on their way to even better performance.

Therefore I would like to share with you some of my findings in an area which is currently gaining in importance: the management of energy and resources. There are many factors motivating production teams in their efforts to produce even more, but with less resources:

- ▶ the continually growing costs of energy
- ▶ a business orientation to sustainability principles
- ▶ the simple desire to improve the financial margins of production processes
- ▶ standards and regulations becoming mandatory or being connected with financial assistance supported by government

Whatever the motivating factor, the standard ISO 50001 plays a key role in achieving this goal.

WHAT IS THE STANDARD ISO 50001:2011?

The ISO 50001 standard not only answers the question "What should an energy management system do?", but it also gives support to production teams when implementing one. In fact, the goal is to create the orga-

nizational conditions in order to enable continuous improvement in respect to the efficient consumption of energy and resources (water, fuel, etc.). The idea is not to take decisions such as "cut consumption here or there", which only focus on quantities. Production volume and quality should not be negatively influenced. The complete approach is a qualitative one. The sources of optimization have to be identified, by measuring data, by widely involving people in the plant, by setting targets and by controlling results. How does one succeed in this? The answer is given by the standard itself, which is based on the "Plan-Do-Check-Act" continual improvement framework".

PLAN: Before starting any improvement process, it is essential to know the current situation, to set goals and plans for improvements, based on energy performance indicators (EnPIs).

DO: Just act according to your plans!

CHECK: Measure again, observe and document the results: Is this what you expected? Without negatively affecting other parameters of your production?

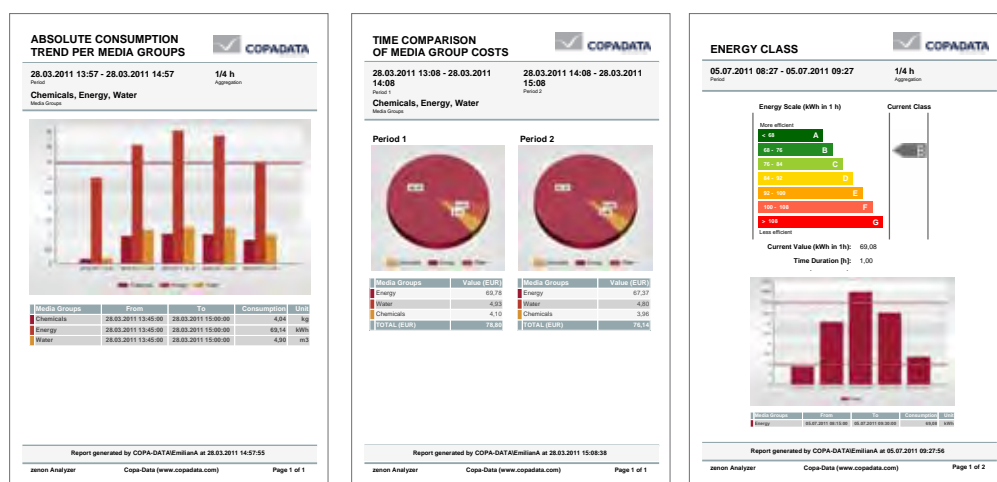


Figure 1: Consumption reports in zenon Analyzer

ACT: Good experiences have to be consolidated, rolled out and built upon further across the complete organizational system and various production teams.

These basic principles of ISO 50001 make obvious how important it is to measure, collect, process and analyze consumption and production data. The central tool for doing all of this is an Energy Data Management System (EDMS), which includes all hardware and software components – from energy counters to software reports.

AN ENERGY DATA MANAGEMENT SYSTEM WITH ZENON

Well, here we arrive at our central point: the zenon Product Family has proven itself in operation as the core of an EDMS. What makes zenon a strong instrument in the hands of end users and system integrators? Here we could say a lot about our product philosophy, but also about recent developments. Let's take just a few examples.

HOW TO COLLECT DATA FROM EVERYWHERE?

Over 300 communication protocols are available for you in zenon. Therefore, it allows you to connect practically all measurement devices, automation components, production equipment or building automation infrastructure. The more data you collect, the more scope for valuable analysis you will have. Most importantly, the data communication is robust and has diagnosis mechanisms: we know that a correct analysis is possible only by using correct data.

HOW TO ARCHIVE AND PROCESS DATA?

Once available in zenon, the collected information can be processed in real-time, then scaled, pre-calculated, filtered etc. zenon offers powerful calculation and processing functions, for instance, by using zenon Logic or the Logic Driver. For data storage, the Historian module enables users to choose from different sources and formats of data, including relational databases (SQL).

HOW TO DISPLAY INFORMATION IN A VALUABLE WAY?

zenon Supervisor and zenon Analyzer are two members of the zenon Product Family which have been specially developed for presenting data in various ways, from key performance indicators, trend curves, alarm lists and events to complex graphical reports. Using pie charts or bar graphs, filters on consumers, time frames or production entities, data can be transformed into relevant information for energy management.

Consumption distribution by single consumers or groups of consumers, the evolution of consumption – absolute or relative to production, comparisons across different time periods, and cost calculation overviews are just a few examples of the analysis tasks which are easy to accomplish using zenon.

HOW TO INVOLVE AS MANY PEOPLE AS POSSIBLE?

A successful implementation of an Energy Management System is closely linked to the involvement of as many members of the production team as possible, across the complete plant hierarchy from plant floor to management. zenon's network technology – networking by mouse click – which supports client-server, redundancy and web server configurations assists here perfectly. No matter if the user is using automation or IT infrastructure, zenon allows easy extensibility and universal access to the appropriate information.

HOW DIFFICULT AND EXPENSIVE IS IT TO UPDATE THE SYSTEM?

Cost-effective flexibility is a general property of zenon based systems, due to our product philosophy. This is essential in the case of an EDMS because it is a part of the continuous improvement process. The zenon development environment is characterized by setting parameters instead of programming, out-of-the-box modules and usability, making all functionality updates to the EDMS efficient. Adding one more measurement counter, one more calculation or one more report user will not impact investment considerably.

What is your experience? In which phase is your ISO 50001 implementation? How have you integrated your Energy Data Management System? I look forward to hearing from you – e-mail me at EmilianA@copadata.com. ☺

Emilian Axinia,
Food & Beverage Industry Manager

INSIDE FOOD & BEVERAGE AUTOMATION

An Interview With Jakob Miazga

Insights, Experiences and Inspiration

Jakob Miazga is an employee in the sales team at COPA-DATA CEE. With over 14 years of experience in automation, he is familiar with many systems and user requirements. In recent years, he has increasingly specialized in the F & B sector and is one of the experts for the Food & Beverage industry at COPA-DATA. We spoke to him about his experiences in the last few months.



Jakob, you have traveled a lot in the last few months. What was the purpose of your travels?

I visited nearly 80 manufacturing companies in five countries, mostly from the Food & Beverage-industry. These were primarily breweries, fruit juice and mineral water producers.

What did you notice in particular?

The production managers in all countries, at all production sites, had very similar challenges and tasks. The greatest is the need for very detailed information about their products and processes, but also the possibility to communicate targeted information to the production team via the system.

Why is data and information such an important issue?

Many producers are already working at a very high level of productivity and efficiency. To optimize their equipment and processes even further, they need detailed information – if possible in real-time and when the equipment is running.



How is that being solved at the moment?

Companies that don't use zenon currently invest a lot of time in the logging of data. Much of the data even has to be compiled manually. There are two problems in doing this: firstly, when the evaluation is finally available the events are already in the past. Secondly, so much time is used for the logging of data that there is hardly any left for evaluation and decision making. This time is significant if the potential for optimization is to be identified and the correct measures have to be implemented. My experience is that, in many companies, up to 85 % of the time is used for data logging and only approximately 15 % remains for evaluation and decisions.

How is our solution with zenon proven to be so interesting in many cases?

We have managed to invert the above ratio with zenon. In an environment in which zenon is used for data logging and operation through to data evaluation and reporting, decision makers have up to 85 % of their time available

for creativity, decisions and optimization. They only need to spend 15 % of it with manual data logging. That is a real competitive advantage!

How is it possible to achieve such fundamental improvements with zenon?

The key is the connectivity and consistency of our product family. We can already access hardware from all manufacturers at PLC level and then provide the data gained from logging for subsequent evaluations. It is a crucial advantage if information can be provided at other levels.

What information levels are already found in Food & Beverage production?

The production level starts at the machine operators and continues to the production managers, who already have to make decisions at the superordinate level and need comprehensive information in order to do so. This is also precisely the way in which managers and other involved parties, such as factory supervision, IT or logistics can ben-

efit from relevant reports from production.

How can a manager, for example, benefit from zenon?

At this information level, dynamic reports from the zenon Analyzer on availability, effectiveness and consumption are often used. Managers can recognize weak points and potential at a glance. In addition, an ERP system is in use in the company. The fact that we even have certified interfaces to ERP systems that can be ready for use in a few minutes has often been the cause for considerable interest.

With regards to interest: what were your best experiences during your visits?

The best experiences were at the meetings where I presented zenon for the first time and the reaction was: "We want to work with zenon as quickly as possible – when can we start?" ☺

*The interview was conducted by Phillip Werr,
Product Marketer at COPA-DATA*

.....
DO IT YOUR WAY
.....







Batch Production

Product: Batch ID:

Check pH: Min. Value:

View 1

Master Recipes

- 1. Primary Recipe STCA
- 2. Primary Recipe STCA
- 3. Primary Recipe STCA
- 4. Primary Recipe STCA
- 5. Primary Recipe STCA
- 6. Primary Recipe STCA
- 7. Primary Recipe STCA
- 8. Primary Recipe STCA
- 9. Primary Recipe STCA
- 10. Primary Recipe STCA

Line State

100%

Start

Stop

Pause

Resume

Reset

Emergency Stop

Help

Log out

Settings

100%

Reports

Trend

Performance

Start

Stop

Pause

Resume

Reset

Emergency Stop

Help

Log out

Settings

100%

A TOUCH OF FUTURE TODAY

zenon 7.10

The release of zenon 7 was not that long ago – but we have decided to start working on bringing another version to the market already. There are good reasons for this.

With zenon 7, we brought the first HMI/SCADA product with native support for Multi-Touch and DirectX 11 to the automation market. Both technologies allow zenon users to have completely new methods of operation and unique graphical capabilities. The feedback from the first projects implemented with our customers, and more generally, told us we have really captured your imaginations with this topic.

This, combined with the fact that Microsoft also made two significant technological advances in 2012, moved us to introduce a technology release for our customers. There are two significant primary objectives for zenon 7.10:

- ▶ Incorporating the experiences from the users of zenon 7.
- ▶ Making the latest technology available on the market accessible to our customers and partners.

64-BIT, WINDOWS 8 AND MULTI-TOUCH

From a technological point of view, the main benefits of zenon 7.10 for users will be 64-bit compatibility, complete support for Windows 8 and the consistent expansion of Multi-Touch.

zenon will be available as a generic 64-bit application from version 7.10. You can therefore benefit completely from the performance of modern operating systems and hardware platforms. Naturally, zenon will continue to be available as a 32-bit version. Select the version that is best suited to your platform. You can read about the differences between 64-bit and 32-bit in the first part of our series on 64-bit technology on pages 44/45 of this *Information Unlimited*.

COPA-DATA will also be the first HMI/SCADA provider to fully support Microsoft SQL Server 2012 and Windows 8.

From a product point of view, we decided to continue on our chosen path of intuitive control concepts and optimized user interfaces. This is why we are integrating native Multi-Touch support into version 7.10, on the basis of Windows 8 technology. The creation of Multi-Touch-based user interfaces thus becomes especially simple. To support these concepts as best we can, we will also place a focus on the optimization of the Runtime user interface for touch/Multi-Touch operation. It is not just the pioneers of these Multi-Touch concepts who will

benefit, but also all users of touch applications, from Windows CE to the server platforms.

ZENON 7.10: A PREVIEW

Based on the feedback from zenon 7, we don't want to keep our further plans for zenon 7.10 from you. The following list gives you a little taster of other highlights:

Batch Control: The module available since version 7 is already in the next stage of expansion. The new features include, among other things, touch support when the program is running and completely new integration into the Report Viewer for complete documentation of the batch processes.

Know-how protection in the Editor: It will be possible to block important elements of a zenon project for certain users by means of the user administration. For example, variables can be reliably protected from manipulation, while designing the screens remains possible.

Performance: Improved performance when reading and writing large amounts of data, especially in Extended Trend.

Import: Direct import of variables from the latest SIMATIC STEP 7 version (V11) of the Siemens TIA portal.

Recipes: The Report Viewer will receive full access to the recipe administration in zenon. Complete production reporting of all important data sources such as alarms, audit trail or historical and online data is possible in a single tool.

zenon 7.10 will provide you with future-proof technologies for full performance and individual control concepts. The release is planned for spring 2013. You will be able to read more information in the next issue of *Information Unlimited*. ☞

Reinhard Mayr, Product Manager



COPA-DATA AND KUKA ROBOTER
COLLABORATE

Intuitive and Efficient Human-to-Robot Communication



COPA-DATA and KUKA Roboter are now working together closely. Industrial and manufacturing companies thus get the chance to use zenon as the visualization software for the operation, control and monitoring of industrial robots.

KUKA Roboter decided to offer zenon to both customers and prospective customers as their approved HMI/SCADA system for a variety of reasons. These were primarily the pre-configured functions integrated in zenon, such as alarm message lists, event lists, reports, trend analyses and recipes, as well as templates for operating and display elements. The provider of robotic systems was also impressed by the alarm management and the well-developed diagnosis capabilities.

MAXIMUM OPENNESS AND FLEXIBLE COMMUNICATION

“zenon offers the possibility to create user interfaces very simply and efficiently. The solution is very intuitive and very little training is required,” explains Philipp Kremer, Prod-

uct Manager at KUKA Roboter GmbH. “Furthermore, it was important for us to find an HMI/SCADA solution that could be used comprehensively on different devices and platforms. zenon meets OPC UA and also offers more than 300 communication protocols – thus delivering maximum openness and flexible communication capabilities with varied control and hardware platforms.”

zenon runs on the new, PC-based control platform KR C4. The control system is used to control robots, movement, workflows and processes, as well as providing complete safety control. The user operates the visualization solution with 8.4” touch screens, the KUKA SmartPads. &

Susanne Garhammer, PR Manager /
COPA-DATA Germany

You can find more information at
www.kukarobotics.com

IT'S ARRIVED

zenon Analyzer 2.0

It was only a few months ago that we brought a new concept for Dynamic Production Reporting to the market with the zenon Analyzer – which generates reports based on both the historical data and real-time data from the HMI/SCADA environment. Calculating performance figures and creating reports like this is new and unique and the interest and inquiries exceeded our expectations considerably.

Reporting “out of the box”
with zenon Analyzer 2.0 –
Further information at
www.copadata.com/zenon-Analyzer



4. Link to the data source.
5. Select the graphical form (as a diagram, with or without table, etc.).

Follow these five steps and the new zenon Analyzer report is complete. Dynamic Production Reporting can be this easy!

In addition to the highlight of ZAMS, we undertook many other major and minor improvements that make use even more economic and flexible. For example:

The first applications were implemented in a very short period of time. Our customers took on our suggestions and very quickly went on to develop their own ideas for using it. What followed was a huge pool of ideas for expansions and improvements. The general attitude was: “Can that be done even more easily? Perhaps it could even be as user-friendly as the Editor of zenon Operator or zenon Supervisor? Can a zenon user also create reports completely independently?”

We were happy to accept the suggestions immediately. The result? zenon Analyzer 2.0. When developing zenon Analyzer 2.0, the optimization of the customizable user interface was the main focus. To do this, we created a

completely new tool: the zenon Analyzer Management Studio, ZAMS for short. This acts as a link between the HMI/SCADA world and the reporting.

With the zenon Analyzer Management Studio, you can quickly and accurately create reports on the basis of pre-supplied templates. Regardless of the data source, creation always takes place with the same simple steps:

1. Select the report template (such as a report based on historical data).
2. Select the desired time filter from a list of pre-defined filters.
3. Add any aggregation algorithms, such as average value, if desired.

- ▶ Revision of the filter controls and input elements in the web front-end
- ▶ Central creation and maintenance of subscriptions and time plans via ZAMS
- ▶ Many new report templates for archives, alarms and OEE
- ▶ Performance improvements when reading and deploying data
- ▶ New wizard for the export of data from zenon
- ▶ New SQL connector to integrate external databases
- ▶ Using Microsoft SQL Server 2012 technology (we were one of the first manufacturers worldwide to do this)

Reinhard Mayr, Product Manager

FAQs: zenon Analyzer 2.0

Analyze, process, present: zenon Analyzer, our Dynamic Production Reporting software, helps to identify potential for improvement, minimize downtime and optimize production. It achieves increased equipment efficiency and, in turn a rapid return on investment. We introduced the new version of our reporting software, Version 2.0 to the market at the end of September. Are you already up to speed with zenon Analyzer 2.0? In this Information Unlimited, we give answers to the most frequently asked questions in relation to the software upgrade.

Is it possible to mix graphics and tables in zenon Analyzer reports in order to display data with a clear overview?

This is one of the main tasks of the zenon Analyzer. In addition to the cleanly-formatted tabular display of the desired data, zenon Analyzer also offers the option of graphical display. A wide variety of forms of display are supported. Use the tables and charts in zenon Analyzer in precisely the way that is optimal for you.

What do I need to install on the computer in order to be able to access reports from the zenon Analyzer?

zenon Analyzer clients that are used to display reports are web based. Only a web browser needs to be available in order to display the reports. You do not need to install anything else. It is therefore very simple to access the data you need.

I am familiar with the Report Generator in zenon. It gives me the option to access data from either the ring buffer or an evacuated archive. Access to both is not possible. What is the situation with zenon Analyzer?

zenon Analyzer makes it possible to mix current archives (ring buffer) and evacuated archives. This means you can evaluate the data from the time period that you need, regardless of where the data is saved.

Can the zenon Analyzer be used throughout different projects?

Yes. The projects do not even have to be in a zenon network. You can access data from any desired standalone project at any time. The projects only need to be assigned to the same global project.

I'd like a report to be generated automatically every time a set of data is archived. Can the zenon Analyzer be used to create reports from zenon Runtime automatically?

Yes, this is possible. You can base the automatic generation of reports on any desired zenon event – such as the end of an archive or when a limit value is exceeded. These reports can then be stored in a certain folder or sent as an email.

Do I have access to online values?

Yes, access to current values is possible. Furthermore, you can also access archive values, alarms, events and much more. The zenon Analyzer gives you comprehensive logging of the whole process.

What options are there to edit reports outside of the zenon Analyzer?

Reports from the zenon Analyzer can be exported in numerous formats, including Microsoft Excel, Microsoft Word, PDF, etc. This enables you to very easily incorporate reports into documents or edit them further externally. ↻

Thomas Lehrer, Technical Consultant

Raimund Awender, Training & Education

Do you have further questions or are you searching for a solution to a specific problem? Visit our Support & Services page at www.copadata.com/support to find out more.

DEVELOPMENT OF COMPETENCE

Diverse Training Available for Employees and Customers

Well-trained staff is an important part of the basis for expert customer care and satisfied business partners. For this reason, we are training new employees in the consulting department of COPA-DATA in a comprehensive consulting trainee program.

There is much involved in the program that will help a future consultant with their everyday work: starting with passing on product knowledge of special training for networks, archives and zenon Logic and the perfect use of in-house tools, to practice-oriented project work. Communication, team work, and the transfer of knowledge via departments and sites are also promoted as part of the "DoC". New consultants, regardless of where they are employed, spend several weeks in a training period at the headquarters in Austria in order to get to know their colleagues, internal processes, the COPA-DATA culture and our corporate values better.

A comprehensive training program is not just available to employees, however. Customers and partners can also gain expertise through zenon training courses, which optimally prepares them to implement their projects.

THE COPA-DATA TRAINING OFFERED IS DIVIDED INTO THREE CATEGORIES

1. ZENON PRODUCT TRAINING

These training sessions cover all four software products from the zenon Product Family:

- ▶ zenon Analyzer Training
- ▶ zenon Supervisor Training
- ▶ zenon Operator Training
- ▶ zenon Logic Training: Standard and Advanced

2. ZENON EDITION TRAINING

Based on zenon Operator or zenon Supervisor, further training for our industry-specific solutions:

- ▶ zenon Energy Edition Training
- ▶ zenon Pharma Edition Training

This is supplemented by our various

3. SPECIALIZED TRAINING AND MODULE TRAINING

- ▶ zenon VBA Training
- ▶ zenon VSTA Training
- ▶ zenon Design & Usability Training
- ▶ zenon Historian Training
- ▶ zenon Netzwerk & Security Training

You can find details on the content, learning objectives, and costs of COPA-DATA training in the current training price list at any time from your zenon sales partner. You can see when and where the next training session will take place at www.copadata.com/training or ask your COPA-DATA sales contact. ☺

Martin Seitlinger,
Development of Competence



FROM OPPORTUNITIES TO FULFILLMENT

The Changing Business Model of the Pharmaceutical Industry

The pharmaceutical industry sector is interesting to observe, not only because the industry reaps impressive profits, but because the mainstream pharmaceutical business model is quietly undergoing a makeover. Life Science companies are learning how to use their knowledge in a market which is being reshaped by the economic downturn, patent expiration, health-care reform and new sources of competition.

With this new and challenging landscape, there is a distinct focus today on running efficient enterprises, and those demonstrating the courage to make tough decisions are shaping market development, rather than having the cumbersome reality of following as others lead.

Pharmaceutical companies historically have been built on the philosophy of discovering new blockbuster drugs, with patent protection ensuring sole revenue rights, powering their growth and multi-billion dollar profits. In the past, pharmaceutical manufacturers were able to target the 'low-hanging fruit' of

developing drugs for health problems that had never before been addressed. Take, for example, anti-cholesterol treatments – which spawned an entirely new multi-billion dollar market. Lipitor, the world's best selling drug, generated \$13 billion annually at its peak. The health problem landscape is now more populated as there are few remaining unaddressed categories, and increased global competition means that most newly developed drugs are competing with existing ones.

Patented drugs carry a far higher price than generic variants. Because of this patent protection has shaped the business model of pharmaceutical manufacturing, as it has been effective in promoting the success and continued growth in this sector.

This traditional business model, together with its patent protection is expiring; the blockbuster era is nearing its end, and pharmaceutical companies will be unable to pursue the same ideals of developing new drugs



with exclusive rights. The pressure of expiring patents, global healthcare reforms, and a continued downward pressure on prices collectively fan the flames of change – requiring pharmaceutical players to build leaner companies.

Such a global movement has created an opportunity for the industry to reappraise its manufacturing value chain in order to optimize operations. It is this supply chain which is being driven through efficiency optimization and is now the focus of profit and growth. Leading companies are establishing metrics that account for cost-reduction and efficiency in production, taking radical steps to lower the working capital, and seeking out the best practices of other industries.

This is where we can bring the advantages of innovation and technology; injected into the manufacturing chain they can immediately reduce operational costs through improved efficiency, increased quality and better use of resources. In the wider scope, effective control

and automation solutions also enable pharmaceutical manufacturers to be highly reactive to customer and market demands. The desire to reduce costs and improve manufacturing efficiencies has led pharmaceutical companies to turn to contract manufacturing organizations (CMO's), who typically have high levels of innovation with state-of-the-art process and production technology. CMO's get products to market faster, at lower costs, and provide core competencies in specialized processes and equipment. Pharmaceutical manufacturing currently accounts for 10 % to 25 % of CMO revenue in Europe, but Frost&Sullivan thinks that will grow to 40 % by next year and 50 % by 2018.*

The CMO's business model is centered only on manufacturing operations; a typical CMO is flexible to produce many different drugs for many end users. Their revenue comes entirely from production, where cutting edge technology and efficiency go hand-in-hand and are paramount to its success. High levels of

technology and constant innovation ensure competitive edge and greater profit margins.

The outlook for pharmaceutical production is bright: increasing number of customers from developing nations and an aging population bring huge opportunities to exploit. However, the previously stable conditions and business models which shaped the sector are now in a state of flux. As the commercial environment in which they are operating becomes harder to predict, the opportunity is presented to align our vision of automation to the growing needs of technology and innovation, so the desired levels of profit and growth can be generated from efficient manufacturing operations. &

Robert Harrison,
Industry Manager Pharmaceutical

* Source: <http://www.centerwatch.com/news-online/article/3399/cmo-revenue-could-double-in-europe-says-frost-sullivan>

“Those demonstrating the courage to make tough decisions are shaping market development, rather than having the cumbersome reality of following as others lead.”

Robert Harrison, Industry Manager Pharmaceutical





BAUSCH + STRÖBEL USES THE HMI/SCADA SOLUTION FROM
COPA-DATA THROUGHOUT THE COMPANY

Consistent and Safe – zenon in the Pharmaceutical Industry

The HMI/SCADA software zenon is an integrated and safe platform for consistent process and information management. The established special machine builder Bausch + Ströbel is now using the solution from COPA-DATA throughout the company for machine operation, logging of operational data and control and monitoring of entire production facilities in the pharmaceutical industry.



zenon makes it possible to create Audit Trails, which are required in the pharmaceutical industry.



Employees can track the production data over a defined period of time in the trend display.

The company Bausch+Ströbel from Ilshofen, Germany manufactures around 300 machines per year – 95 percent of which are for the pharmaceutical industry. Founded in 1967, with four employees, the special machine builder now generates annual revenues of 120 million Euros and has around 1,000 employees. More than 90% of the company's goods are exported. There are customers on every continent and the company also has sites and representative offices on every continent.

THE CHALLENGE OF VARIOUS MACHINERY

Bausch+Ströbel offers both customer-specific individual machines as well as multifunctional production lines for industrial processing. The range of machines is oriented towards manufacturers of pharmaceutical products in the primary packaging and secondary packaging fields. This includes products such as ampoules, disposable syringes, carpules and vials. Bausch+Ströbel has produced a total of more than 10,000 individual machines for use worldwide. This includes over 130 ampule lines, over 340 vial or bottle lines, over 100 injection lines (mold cavity), over 50 injection lines (bulk) and over 40 carpule lines. Its main working procedures are cleaning, dosing and filling fluid and powdered products, sealing, labeling, checking and transporting and storing the above-mentioned containers. The production facilities of Bausch+Ströbel play a key role in the processing of high-quality, sterile pharmaceutical products. Furthermore, the company offers labeling machines. The special machine builder also provides services such as qualification and validation, customer training and service and support for all machines.

COMPLEX MACHINES, COMPLEX REQUIREMENTS

Up to now, Bausch+Ströbel used two different software systems for the control process and for the management level, which controlled the machines and used process data from the machines and equipment. The

company also developed its own functions and add-ons for the SCADA system. "Two separate systems and additional in-house developments require a large amount of work to ensure the implementation and validation of software – as well as for the maintenance and upkeep of the machines and equipment. Our objective was to stop developing and configure projects instead," explains Michael Pratz, who is in charge of automation, equipment qualification and documentation and the technical IT at Bausch+Ströbel. Bausch+Ströbel was looking for a system which could consistently operate from machine level through to management level (SCADA) and which also offered good performance for the price. "The decision criteria for an HMI/SCADA solution included comprehensive user administration and the ability to use Microsoft Windows as an operating system platform to allow integration into Active Directory. Furthermore, it was important to us to be able to work with existing tools and modern, intuitive user interfaces," said Michael Pratz. Another requirement was creating a solution for the end user that can visualize the entire working process. In the process, the work can be designed more efficiently and the likelihood of making errors is reduced. "Our new solution should make it possible to guide the machine operator intuitively and enable them to work on different machines without a long time to learn the process. This is a necessity nowadays. At the same time, we wanted to increase process safety," said the Bausch+Ströbel Manager.

ZENON – RECORD, VISUALIZE AND LOG

The special machine builder Bausch+Ströbel now offers its customers all the important functions for packaging and production processes in the pharmaceutical industry on the basis of zenon. The new HMI/SCADA application based on zenon aids lot-based recording, visualization and logging of all data that is generated during production and processing. Users receive information on the current machine performance, counter statuses and weight values as a bar chart or in table form with net and

“Our new zenon based application is a complete paradigm shift. The solution works consistently in a process-oriented and task-oriented manner and is extremely user friendly.”

Michael Pratz, Head of Department DOT/EL2 at Bausch + Ströbel

tare weight values including the date and time of weighing etc. In the trend display, employees can follow the development of production data over a longer period of time, recognize possible problems in the production process at an early stage and instigate measures to counter them. Object-related production data such as weight values are recorded with high performance during each machine cycle.

CREATE A CONSISTENT BASIS FOR DATA

An important point for Bausch + Ströbel – and a significant requirement in the pharmaceutical industry – is the integrity of data, which also decisively influences the product quality. With zenon, Bausch + Ströbel can consistently write all data from processes such as temperatures, presses and weight values to a database, read them again, and evaluate or analyze them, as well as being able to archive them. The use of an SQL database and the OPC UA connection also makes it possible to forward the production results to superordinate systems such as MES solutions.

AUDIT TRAILS IN ZENON – SAFE FROM MANIPULATION, RELIABLE, COMPLETE

zenon supports machine builders and production companies in meeting the requirements of the pharmaceutical industry and complying with legally-binding international regulations such as FDA 21 CFR PART 11 or GMP and – in

conjunction with the integrated user administration – creating the Audit Trails required in the pharmaceutical industry. In doing so, zenon checks which users are carrying out which actions and documents this. It is therefore possible to trace all user interventions and relevant results, such as any process events, value changes or limit values being exceeded, at all times.

A CONSISTENT FLOW OF INFORMATION IN THE PROCESS OF A BATCH THROUGHFLOW

With the start of a new lot and the lot number being assigned, the start information and production data such as weight values or messages are stored in an SQL database. The application records all of the data generated in this production and packaging process in an Audit Trail. This ensures compliance with FDA 21 CFR Part 11. The employees in charge can view the Audit Trails of the current lot. After a lot has been completed, the lot protocols or trend evaluations are ready to be analyzed, documented or archived.

They contain information on the operating status of the machines, any system access by employees, changes to parameters, operational messages, and trends such as temperature, statistics, counter logs etc. Bausch + Ströbel also makes it possible to log production and downtime during a lot, to display the key figures graphically and – as an option at the end of a lot – to print them out.

INCREASED EFFICIENCY THANKS TO RECIPE MANAGEMENT

With the zenon Recipe Group Manager, it is possible to keep individual packaging and manufacturing parameters, target values and commands in a list, which are executed in Runtime with a single function call. Bausch + Ströbel uses this central recipe or format management to edit format parameters for the individual machines or the whole line; to delete, approve, save and administer. In addition, the customers of Bausch + Ströbel can integrate CIP/SIP format management. Because recipes allow considerable changes to the equipment, zenon protects this with well-developed safety mechanisms and access rights. All changes can also be logged.

ADDITIONAL MODULES FOR TAILOR-MADE SOLUTIONS

Bausch + Ströbel now offers a variety of modules and functional components so that customers can tailor their own solution which fully meets their requirements for the filling and packaging of pharmaceutical products. These include, for example, a module for object logging and for the saving and requesting of time-driven process data. With the module for time control, users can connect a machine or piece of equipment to an NTP time server and synchronize times. The backup module ensures that data is secure and can be recovered.

ACTING INTERNATIONALLY

Due to the global nature of the pharmaceutical industry and because exports make up more than 90% of its sales, a truly internationally software solution is a fundamental requirement for Bausch + Ströbel. With the language switching in zenon, users can switch language or alphabets as desired while the program is running and convert units of measurement without laborious adaptation being necessary. At the same time, it is ensured that the selected language is used consistently throughout. The Audit Trail is thus also stored in the desired language.

FLEXIBILITY AND PROFESSIONALISM IN COOPERATION

The customer-oriented product development, the clear and well-thought-out release policy and the open communication in terms of the planned development stages for future software versions is valued highly by the automation specialists at Bausch + Ströbel. In addition to the technical solution, Michael Pratz from Bausch + Ströbel stresses the professional cooperation with COPA-DATA in particular: "COPA-DATA has shown great commitment and shown that the company can quickly implement our requirements and needs, react immediately to queries and support us competently on site – and wishes to go forward together with us." Bausch + Ströbel has currently supplied five machines to customers with the new zenon based application. Sandoz is one of the first users.

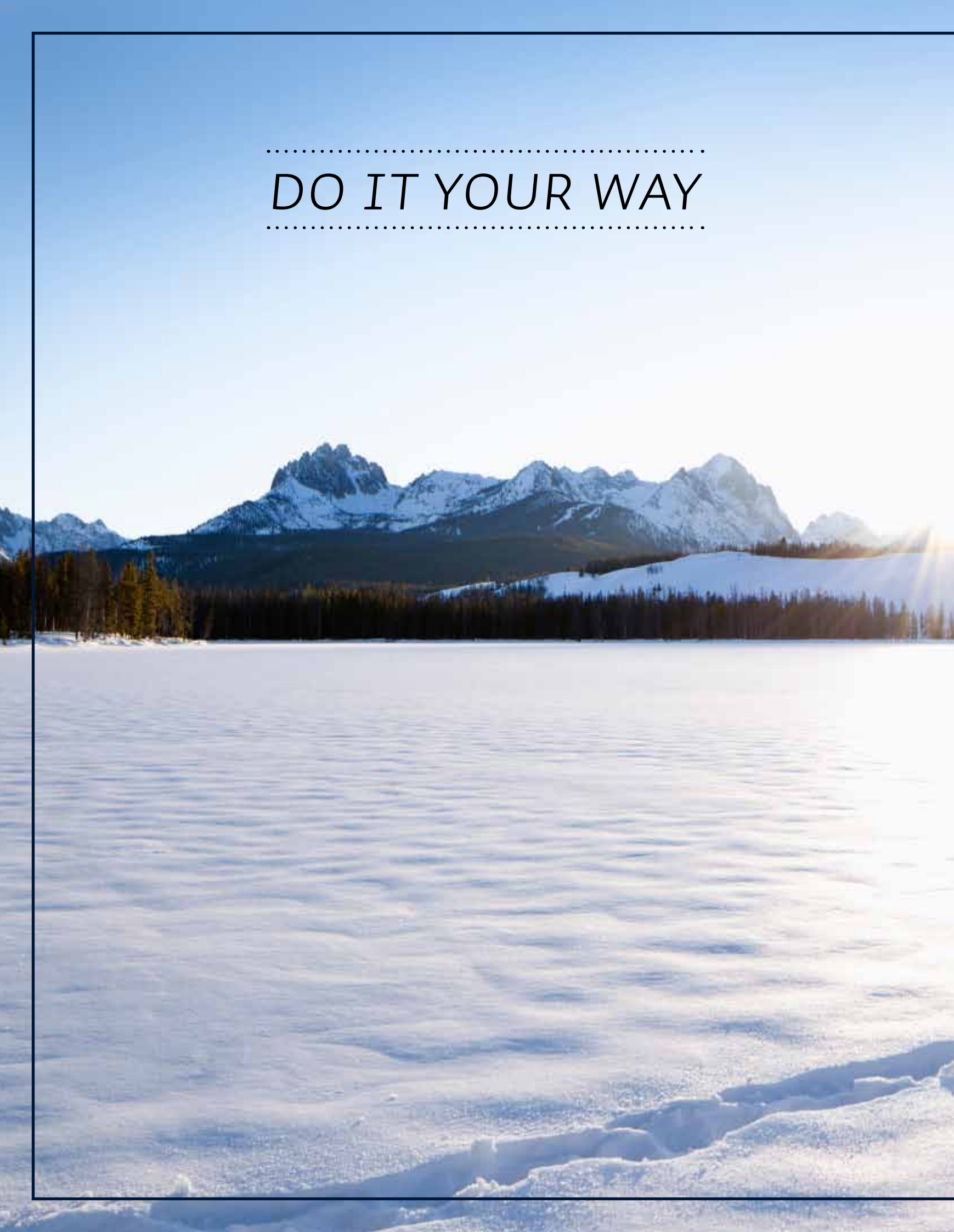


In addition to the scalability and consistency, data integrity is a significant factor when deciding to use zenon.

ZENON – THE ADVANTAGES FOR THE PHARMACEUTICAL INDUSTRY

- ▶ Consistent basis of data and complete documentation of all processes
- ▶ Traceability thanks to the Audit Trail
- ▶ Compliance with legal requirements such as FDA and GMP guidelines
- ▶ Security thanks to integrated user administration
- ▶ Connection to Active Directory
- ▶ A basis for comprehensive quality management
- ▶ Direct driver for a total of more than 300 controllers, including those from Siemens, Allan-Bradley and Jetter

.....
DO IT YOUR WAY
.....







UNSEEN, SAFETY-CRITICAL, LIFE-SAVING

Infrastructure Matters

Energy and infrastructure are two sectors with similar requirements and technologies that overlap each other. In this article, we will look at applications that we assign to the field of infrastructure.

Examples of where we do this are: Road tunnels, railroad tunnels, train pre-heating systems, catenary wire systems, vehicle tracking systems.

ENSURING EVERYTHING IS OK IN AN EMERGENCY

Items of infrastructure equipment are sensitive, safety-critical networks that are used daily by hundreds or even thousands of people directly or indirectly. This is a major task in terms of safety, because everything has to work perfectly in the event of an accident.

Think, for example, of emergency equipment on road and railroad tunnels. Escape routes are inevitably limited in a tunnel. The emergency exit signs must therefore work correctly under all circumstances.

However, it is not just the emergency exit signage; the emergency calling equipment to quickly make contact with the tunnel control crew must be intact and functional at all times. This is why it is monitored and maintained at all times. To do this, it is necessary to have a system that clearly and unambiguously communicates alarms and irregularities, as well as information on pending maintenance work, to the supervision staff. The infrastructure of the infrastructure, the control “backbone”, also needs constant monitoring to see that it is functional. This is usually achieved directly via SNMP information or via an in-house network management system.

A BREATH OF FRESH AIR

Ventilation from large fans is necessary for optimum air quality in a tunnel. The large motors of the fans are accordingly very powerful. As a result, there are power peaks when air quality warnings occur and the fans are then started up. Connected loads, such as those used in tunnels, also constitute a major cost factor. Therefore every effort is made to ensure that the fans are started up in stages or at times when experience has shown that there are high volumes of traffic, as a preventative measure. As a result, the peak quarter-hour value is reduced and, thus, the operational cost of tunnel management.

To manage this, the IEC 61131-3-based control system zenon Logic or the zenon Energy Management System (EMS) module can be used. The EMS is a load optimization system that has been developed to manage heavy-consuming devices. It helps to keep the cost-intensive average power output low.

THE BEST VIEW

The most noticeable equipment for a driver in a road tunnel is the lighting. It is controlled automatically or manually depending on conditions. The following are relevant for this:

- ▶ The outside environment, such as day, night, twilight, weather etc.
- ▶ Events such as emergencies, and
- ▶ Maintenance work

As discussed with ventilation, it is also a good idea with the lighting to aim to reduce peak times for switching on equipment. Here, an economically-prudent sequence of switching devices on and off can be developed, either for the lighting alone or in combination with the ventilation. Here too, zenon EMS and zenon Logic are often used, supplemented with recipes and self-developed algorithms that use the zenon process connection for sensors and actuators.

APPROPRIATE SUPPLY

As already mentioned, there are many components that are operated electrically. Tunnels are also not immune to power failures from the energy supplier. Nevertheless, the relevant emergency equipment must work in such extreme situations. For this reason, uninterruptible power supplies (UPS) and emergency diesel generators are installed. Their functionality must be tested on a regular basis and the operator must be alerted in the event of problems or faults.



For these components and many other items of equipment such as sensors, detectors, variable message signs, pumps etc. a reliable control system which is sufficient for the needs and requirements of the operators is necessary. It is precisely in situations where safety is the highest priority that the user must understand the system clearly and be able to use it with ease. They must be able to clearly recognise which information is displayed and how they – especially in the event of an emergency – need to react. An important requirement for this is a system that offers modern graphical functions that can be configured easily, so it is possible to create an attractive and intuitive user interface that ensures absolute clarity and efficient operation.

In the railway sector, in addition to tunnels, train pre-heating systems, points heating systems and catenary wire systems are also visualized and operated with zenon or its derivatives (versions that operate as their own brands). SICAM 230 (formerly known as SAT 230) is well

established in this sector. Many items of equipment that use this have been implemented by Deutsche Bahn (DB/German Railroads) and Österreichische Bundesbahnen (ÖBB/Austrian Federal Railroads).

MAINTAIN AN OVERVIEW

A somewhat more recent type of application is vehicle tracking for infrastructure equipment, such as refuse disposal fleets operated by municipal works or vehicle monitoring at airports. In these cases it is important that vehicles are used optimally and that the maintenance of the vehicles is coordinated optimally. Similar to the telemetry in Formula 1, relevant data such as position, engine speed, oil pressure and level, fuel supply, operating hours etc. is logged and used to schedule the next maintenance tasks. To help with this, the live display of the vehicle position as a separate layer over an online mapping service such as OpenStreetMap, Bing Maps or Google Maps is particularly useful. This is not preconfigured in zenon but can, in line



with our motto of *do it your way*, be easily integrated into the system via the .NET container.

BEST FOR YOUR REQUIREMENTS

Using zenon, all the areas we've discussed here can be monitored excellently. The engineering of the system is simple and intuitive and offers all functions needed to implement an effective application quickly. The data is received via the native communication drivers. zenon uses a pool of 300 implemented communication protocols. However, most applications will find Modbus or IEC 60870 sufficient. This ensures that the data is present in a suitable form as variables. The variables are assigned the role of information and reaction container in zenon. The action to be taken when information relating to the variable value and status changes is defined using value adjustments, limit values, and hysteresis etc. Because the graphical objects always occur more than once in a typical infrastructure project – in the energy sector –

for example, variable message signs, electrical switches etc. – the system used needs to master not just copy&paste, but also provide its own symbol handling with inheritance. Due to our years of experience, we have developed ergonomic and very economical concepts for this, which allow the people configuring the project to get results quickly – for symbol handling of graphical objects as well as for data types, reaction matrices or central alarm actions.

zenon's redundancy ensures the best availability of applications possible, which is of course essential in this sector. This can be configured so quickly and safely that it always gets looks of disbelief when it is demonstrated. This is because all that is needed to configure interruption-free hot-standby redundancy is the clicking of a checkbox and the entry of the name of the server and standby server. This is what we understand by quick, effective and economic project configuration. ☺

Jürgen Resch, Industry Manager
Energy & Infrastructure

*zenon – ergonomic SCADA for
your infrastructure projects.
Interested? Write to us at
energy@copadata.com.*



INTERRUPTION-FREE AUTOMOTIVE PRODUCTION WITH ZENON

Display Processes with Ease and Analyze Efficiently

Automobile producers that display sequences from the S7 PLC and want to find faults quickly in the event of an error are supported perfectly by the zenon PLC Diagnosis module – in any desired language. The snapshot function ensures additional ease of use: it provides saved sequences of steps for subsequent comprehensive analysis.

The S7 Graph programming in the S7 PLC is optimally suited to production processes that can be processed sequentially. Classic processes that can be illustrated very well with this programming language could look as follows: “Take component – fix it for processing – apply adhesive – fasten other component to it – transport the whole entity to the next production stage.”

A DISPLAY WITH A CLEAR OVERVIEW

With the PLC Diagnosis module, zenon offers the possibility to display these sequences with a clear overview: users can get a good overview of the whole sequence and create the active steps. A detailed view of the individual stages shows the status of the individual elements as LAD (Ladder Logic) or FBD (Function Block Diagram).

INTEGRATED LANGUAGE SWITCHING

In the current version of zenon 7, the texts in the sequence are fully integrated into the zenon language switching. Switching into any desired language is possible online – without having to shut down and restart the system. The system is therefore available at any time and you have your production in view throughout, with no interruptions.

EFFICIENT TROUBLESHOOTING

The sequence view also displays sequences where there is a problem. However, zenon offers even more ease of use when troubleshooting: with zenon’s “Evaluate S7 Graph heuristics” function, you can also have

the possible cause of the problem displayed in plain text. Equipment operators can thus rectify faults that occur quickly – without laborious analysis of the program code.

The heuristics function analyses the logic gates of the faulty sequence and determines possible causes of the program stopping. The result of the examination is then entered into a string variable. In doing so, the “symbolic identifiers” of the S7 Graph codes are used, so that you can interpret the cause more easily. If there are several reasons for the program stopping, the results string can be updated in order to rectify the cause step by step.

EASY ANALYSIS

It is vital to keep interruptions to production as short as possible. There is generally not time for deep analysis of the code. When there are re-occurring stops, the cause needs to be found quickly and rectified on a long-term basis. In order to ease the time pressure, zenon supports you with its snapshot function. This function transfers the current status of the sequence to an internal memory. Production can continue whilst the saved sequence is available for a detailed analysis. This saved image makes it possible to display the states of sequences in the zenon screen at any desired time which can be used to carry out further analyses. ☞

Bernd Wimmer,
Industry Manager Automotive



64-Bit [PART 1]

More Memory Capacity for Your Data

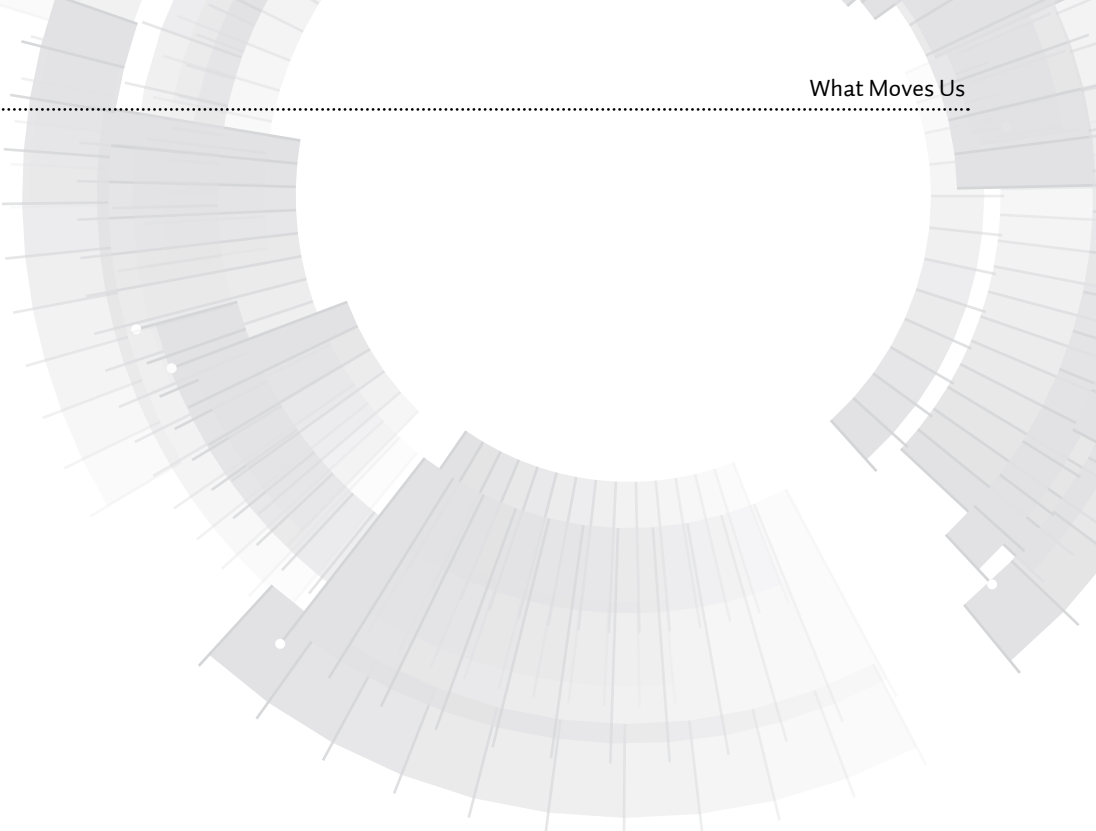
In the first part of this series of articles, I'd like to shed some light on the topic of 64-bit architecture and 64-bit applications. Because all modern PC platforms are now equipped with 64-bit hardware, users face the dilemma of whether to use a 32-bit or 64-bit operating system and 32-bit or 64-bit applications. Although this decision can have significant consequences in some circumstances, it is rare that it receives the necessary attention.

Because Windows 7 has now established the use of 64-bit operating systems, I am of the opinion that now is the right time to look at this topic in detail. In order to keep the potential for confusion to a minimum, I will neither refer to graphics cards and mass storage, nor to physical data bus widths and address bus widths. In this article, I will limit myself to the difference between 32-bit and 64-bit operating systems and concentrate solely on memory addressability.

FOUR BILLION ADDRESSES ARE NOT ENOUGH?

Each application works with some data that is stored in the working memory. Each byte in the working memory has a unique address, with which it can be referenced by program code. These addresses are contiguous numbers starting at 0 – this is the linear virtual address space. For 32-bit applications, this address is a number with a length of 32 bits (4 bytes) and can therefore be a value between 0 and $2^{32}-1$. This means that this application can reference a maximum of four billion memory addresses. This sounds like a lot at first, but in practice this can still sometimes be too little. There could be several reasons for this:

- ▶ The application manages a massive amount of data and thus simply needs more memory space. This is, of course, the most obvious reason, but only occurs if there are massive amounts of data, such as historical archive data covering many years.
- ▶ Not all four billion addresses can be used by the application for its own data. Depending on the operating system used, a large part will also be reserved for the operating system or for “memory-mapped hardware” (e.g. graphics cards). If you are running a 32-bit application, the use of a 64-bit operating system leaves more address space available for the application because the operating system can utilize memory areas outside the 32-bit address space. Whereas the usable amount of memory for an application under Windows XP 32-bit could sometimes be as little as 1.8 GB, the same application could use 3 GB with Windows 7 64-bit.
- ▶ As a result of address fragmentation, the address area looks like a piece of Swiss cheese after a little while. There are many holes (e.g. free bytes), but these are usually small and not located together. If the application were to need continuous free memory space for certain operations, it can no longer find this because



bytes are always occupied in certain areas of the memory. In my opinion, this is really the most important reason of all and the one that is given the least attention, the consequences of which can hardly be estimated.

THE BENEFITS OF 64-BIT

With 64-bit applications, the addresses are 64 bits (8 bytes) long and can thus be a value up to $2^{64}-1$. For the foreseeable future, this massive number will be a few factors higher than the amount of physical memory that is technically available. Issues such as too few free addresses for applications or address fragmentation no longer play a role. The real, usable amount of memory is the same as the physically-installed amount of working memory.

A basic requirement for the use of 64-bit applications is of course a 64-bit operating system. Ultimately the operating system has to be able to place the addresses it uses internally in the whole 64-bit address range and correctly assign virtual to physical memory in the area above the 4 GB limit.

Unless there is certain software in use that operates at a low hardware level or old device drivers are used, the current state of

technology means that there is no longer any reason to use a 32-bit operating system. Even if you expect to use only 32-bit applications, I recommend using only 64-bit operating systems on new computers. This is because there are massive advantages in terms of usable memory, for 32-bit applications in particular.

Of course, modern hardware platforms only provide their full performance with the combined use of a 64-bit operating system and 64-bit applications. However, don't expect 64-bit applications to run considerably faster than their 32-bit counterparts. Applications that actually exhibit massive performance benefits as a result of the 64-bit architecture are usually very processor-intensive algorithms that benefit not from the size of the addressable memory, but from the additional features present in modern processors (SSE, more registers, 64-bit ALU).

In the second part of this series, I will discuss how these issues affect zenon directly and demonstrate to you what the 64-bit porting means for us and what benefits you can gain from using the 64-bit version of zenon. ☞

Günther Haslauer, Development Manager

THE FRAUNHOFER INSTITUTE OF LABOR ECONOMICS AND
ORGANIZATION EXAMINES HMI DEVELOPMENT TOOLS
TO ASSESS QUALITY AND FEATURES

zenon from COPA-DATA Meets the Highest Standards in Usability and Functionality

The Fraunhofer Institute of Labor Economics and Organization (Fraunhofer IAO) examined the quality and features of HMI development tools in its study “Usability and Human Machine Interfaces in Production”. Nine HMI/SCADA solutions were assessed using the same framework and zenon from COPA-DATA achieved top marks.

Ergonomic design and intuitive user interface handling do not only support users in learning and system operation. They are valuable assets: offering more efficiency and productivity to industrial and manufacturing companies. Today, more than ever, intuitive Human Machine Interfaces (HMI) offer a unique selling proposition in comparison to competitors.

“Human Machine Interfaces for the control and monitoring of machinery and systems are of strategic importance in the industrial environment today,” explains Matthias Peissner, Director of the Human to Computer Interaction Competence Center at Fraunhofer IAO: “If a system is extremely user friendly, it lowers the number of operating errors and minimizes training requirements. Therefore, usability has a direct influence on the productivity of a company. A high-quality HMI also reinforces the innovation power and the quality standards of a company.”

OVERVIEW OF HMI DEVELOPMENT TOOLS

System assessment in the “Usability and Human Machine Interfaces in Production” study framework was based on numerous aspects. Experts from the renowned Fraunhofer IAO ascertained the most important criteria for high-quality HMIs and the requirements users have of development tools. Criteria consid-

“This result demonstrates that zenon offers everything required to create an intuitive, easy-to-learn user interface. Our solution enables companies to give their employees positive user experiences and continually increase the efficiency of their company.”

Frank Hägele, Sales Manager / COPA-DATA Germany

ered in the study included the project experience of Fraunhofer IAO, current guidelines and standards – such as the standard series ISO 9241, and talks with the manufacturers regarding functionality and potential. Subsequently, based on a realistic HMI concept, the Institute tested nine of the 50+ available HMI/SCADA solutions on the market. The results of this study serve to aid decision-makers and HMI developers in choosing a suitable tool.

ZENON SETS STANDARDS

Experts from Fraunhofer IAO examined, among other things, the display options and available HMI elements, critical aspects of user administration and access rights, recipe or parameter management, as well as capabilities for international use.

In order to display alarm and event messages in the HMI so that efficient processing is guaranteed, Fraunhofer IAO also added a description of the quality characteristics for alarm and event management. Furthermore, the Institute took the usability and development support of each tool into consideration as a criterion. In the evaluation of the results, based on ten criteria, the HMI/SCADA software zenon received the grade “very good” seven times and “good” three times.

“We are really pleased to have achieved such excellent results in the Fraunhofer IAO study – with an outcome that can hardly be topped,” explains Frank Hägele, Sales Manager at COPA-DATA GmbH. “This result demonstrates that zenon offers everything required to create an intuitive, easy-to-learn user interface. Our

solution enables companies to give their employees positive user experiences and continually increase the efficiency of their company.”

ZENON – AN OVERVIEW OF THE FINDINGS OF THE STUDY

The specialists from Fraunhofer IAO particularly emphasized the following capabilities and functions of the zenon software in their evaluation of the HMI/SCADA solution.

Usability of the development environment: Well-thought-out arrangement of screens, helpful search and filter options, logging and procedure steps.

Flexibility of the development environment: More than 300 drivers for PLC and bus systems, OPC connection, link to other systems (VSTA, VBA, VB-Script, .NET, ActiveX, C, C++, DCOM, DLL, Java), storage and retrieval of various project states.

Graphical elements: All fundamental functions for editing graphics and text, as well as additional functions (color gradients, shadows, transparency etc), creation of grouping complex objects, simple creation and use of color palettes.

Control elements: Simple and intuitive creation of control elements, optimization for

touch screens, creation of individual control elements via combined elements or ActiveX programming, definition and allocation of individual context menus.

Animation: Dynamization of all screen elements (blinking, color, rotation, position, visibility).

Integration of files and media: Support of all common pixel and vector graphic formats (BMP, GIF, TIF, JPG, PNG, WMF, DXF, PLT), integration of browsers and audio and video files (MP3, WAV, AVI, MPEG).

Visual mask design: Default setting of the appearance of a new user interface (background graphics, colors, side panels, menu fields), screen types with specific elements (e.g. historical alarm list), multiple use of screen templates (frame, colors and fonts, user, language tables and additional files).

User administration: Freely parameterizable user administration, extension via the Windows user administration, logging of the user administration.

Internationalization: Online language switching, including switching between language dependent files (graphics, fonts, help files, audio and video files, HTML pages), process image of Asian and Arabic languages thanks to Unicode.

Further information

regarding the Fraunhofer Institute of Labor Economics and Organization can be found on

www.iao.fraunhofer.de/lang-en

You can request an executive summary of the study and an overview of the findings at sales@copadata.com.

Logging and Alarm Message List: Display and configuration of alarms, messages and events in the Chronological Event List, categorizing in alarm groups and alarm classes, assignment of help files, very extensive archiving system, evaluation and analysis of process data with the Report Generator, implementation of recipes with the Recipegroup Manager. &

Susanne Garhammer, PR Manager
COPA-DATA Germany



zenon Experience Tour 2012 – The Future is Ergonomics

ZENON EXPERIENCE TOUR



2012 was an exciting year for COPA-DATA. With the release of the new zenon Version 7, we once again revolutionized the automation market. For COPA-DATA GmbH Central Eastern Europe / Middle East, this meant that it was time to pack the suitcases and travel through Austria and Slovenia, since ultimately we wanted our customers and potential customers to get to know the new features of zenon 7 first hand.

With the slogan “The Future is Ergonomics”, the new zenon Experience Tour started in spring 2012 in Vorarlberg, Vienna and Upper Austria. In autumn, the roadshow continued into Styria, Carinthia and Laško in Slovenia. Numerous visitors were impressed by the live, close-up demonstrations of our software products.

As part of the roadshow, our experts presented the new version 7 of zenon in detail. The visitors were impressed by the multi-faceted zenon Product Family, which is prepared for all HMI/SCADA requirements, from integrated PLC systems, through visualization and control, to reporting. A particular highlight of the zenon Experience Tour 2012 was the presentation of Multi-Touch operation. zenon is the first system in the world to allow Multi-Touch operation, familiar from smartphones and tablet PCs, to be used on HMI touch panels and SCADA applications.

The COPA-DATA Industry Managers gave visitors to the zenon Experience Tour insight into the new features in the areas of Energy & Infrastructure, Food & Beverage and Pharmaceutical. It was rounded off by guest presentations from our customers and a presentation about the new COPA-DATA Partner Community.

We would like to thank all visitors for their interest and look forward to seeing you again at the zenon Experience Tour 2014!

Advanced Manufacturing in the UK – Industrial Globalization



Earlier this year, COPA-DATA was interviewed for the TV documentary series ‘Advanced Manufacturing’ about our views on the UK manufacturing sector and how advanced manufacturing positively influences this market. This was a great opportunity for us to articulate our company vision to a wider public.

As companies globalize their operations through fragmented manufacturing and ‘off-shoring’ production, new strategies are being defined for greater financial efficiency. Advanced manufacturing is focused on increasing levels of technology and innovation with a skilled workforce; it concentrates automation and process knowledge into success, giving a competitive edge in a global market place.

At COPA-DATA we see that automation lowers the cost of production through increased efficiency and higher quality; bringing systems together provides increased reliability and resource usage with improved employee satisfaction and performance. Advanced manufacturing is conceived and optimized on real-time communication and intelligent automated production environments.

Global companies tend to have a greater degree of innovation and technology; globalization often means to be at the forefront of latest developments through greater exposure to new customers, ideas and techniques. We aim to inspire with leading-edge solutions, giving the opportunity and intelligence to innovate, and be the heartbeat of the automation industry.

Watch the related video about Robert Harrison’s view of Advanced Manufacturing in the UK at www.copadata.com/am-uk.

Elmo Motion Control Standardizes on straton From COPALP

Motion Control Technology expert Elmo has chosen to integrate COPALP's IEC 61131-3-based control system, straton, in its Gold Maestro product range. For 25 years, Elmo has designed digital servo drives, analog servo amplifiers, and network motion controllers that are one-stop solutions in motion control technology. Its solutions have been integrated by world-leading machine manufacturers in a wide variety of sectors, from industrial to military.

Elmo's Gold Maestro Network Controller and the Gold Line servo drives support both EtherCAT – the industry's emerging networking standard which provides applications with fast, real-time, multi-axis control, and CANopen – the long-serving, popular and proven communication protocol.

"After evaluating product offerings from other established suppliers, we chose COPALP's IEC 61131 solution because of its modern Editor, because it can seamlessly integrate with our existing products, because its IEC 61131-3 Runtime fits our hardware platform with no impact on our actual firmware and because COPALP provides local, professional pre-sales and support, including on-site software training," explains Benjamin Spitzer, Software Team Leader at Elmo.

straton provides a flexible solution for IEC 61131-3 languages and PLCopen Motion Control Function Blocks that have been integrated in the existing Elmo Application Studio (EAS). As a result, the Gold Maestro products are enhanced with new features for programming and debugging based on straton functionality:

- ▶ PLCopen Motion Control Function Blocks
- ▶ Full support of all five languages of the IEC 61131-3 standard
- ▶ Sequential Function Chart (SFC)
- ▶ Function Block Diagram (FBD)
- ▶ Continuous Function Chart (CFC)
- ▶ Ladder Diagram (LD)
- ▶ Structured Text (ST)
- ▶ Instruction List (IL)
- ▶ Graphics Monitoring
- ▶ Step-by-step debugging
- ▶ Online diagnostics

"The integration of straton into the ELMO product range has been done in a very efficient way and in a short timeframe. We provide a set of tools that allows for such fast integration but we also found in ELMO a very professional and experienced team. We are looking forward to future collaboration and exciting business opportunities, enthuses."

Jerome Follut, Managing Director of COPALP

Find out more at
www.copalp.com and
www.elmomc.com

zenon Challenge



Take a look at all our participants' videos and find out who the winner was at www.copadata.com/zenonChallenge2012.



ZENON CHALLENGE

Innovation and Creation in a Playful Environment

In July 2012 we launched the zenon Challenge – a challenge primarily for System Integrators active within the automation industry – a challenge where creativity and innovation were the focus. With several participants from different countries, we enjoyed many creative innovations that combine zenon with the playfulness of LEGO.

The focus on innovation has always been very strong within COPA-DATA – leading us to be the innovation leaders for industrial automation software. In 2011 we created a firmware especially for LEGO Mindstorms NXT 2.0. With this, we opened up the possibility of using zenon to both program the LEGO Mindstorms NXT creation to do what you want, as well as visualize and analyze what it has been doing.

The goal for the participants undertaking the zenon Challenge was to design an innovative LEGO Mindstorms NXT 2.0 model, program it with zenon Logic and visualize with zenon Supervisor. Using their creativity in this environment opened up the development process for new solutions that might not fit real projects. Each entry was made in the form of a short video, showing the LEGO model and the zenon visualization, as well as project documentation. These videos were then published for online voting by the public. Online voting was only one criterion for the evaluation of the models. A jury consisting of both technical and marketing people from COPA-DATA Headquarters in Salzburg reviewed all contributions by



ZENON SCIENCE PACKAGE

The zenon Science Package for LEGO Mindstorms NXT 2.0 is a complete and integrated automation environment for both studies and fun.

- ▶ Complete programming and HMI/SCADA Package
- ▶ Supports all five IEC 61131-3 programming languages
- ▶ Full HMI/SCADA functionality
- ▶ Online forum for discussions and support
- ▶ straton Firmware for the LEGO Mindstorms NXT 2.0 Controller



looking at project difficulty, project usability and overall creativity.

"This was really a challenge – not only for the participants, but also for us in the jury. Every entrant had their different ways of interpreting the challenge. We looked at all aspects and had to struggle to divide our points between the many good submissions. Together with the external votes, we ended up with the final results. The winner of the zenon Challenge truly had the best solution, and we loved all aspects of it," says Markus Wintersteller, Senior Consultant at COPA-DATA.

With the zenon Challenge we opened up the possibilities for anybody active within the automation industry to use their innovation and creation skills in a playful environment with chances to win nice prizes. ☺

Lisette Fagerstedt,
Partner Manager

"The possibilities with zenon and LEGO Mindstorms NXT 2.0 are pretty much endless. The main limitation for the zenon Challenge was the time aspect. Once you start creating, there is always more you want to do."

Werner Kropf, CEO Prozesstechnik Kropf GmbH, Germany

DO IT YOUR WAY

INFORMATION UNLIMITED – WHAT’S NEXT

IU 24

In the next issue, you can find out more about ...

- **The 64-bit version of zenon:** All you need to know about it
- **Support & Services at COPA-DATA:** Four stages to solving a problem
- **Efficient project configuration with zenon [PART 5]:** Efficient, team-oriented work with the zenon Editor
- **A study from the Fraunhofer Institute** of Labor Economics and Organization IAO: “The potential of human-machine interaction for tomorrow’s efficient and networked production”