

# INFORMATION UNLIMITED

THE FUTURE IS ERGONOMICS

Energy Data Management with zenon

COPA-DATA Partner Community

Ergonomic Batch Control



# Growing Together

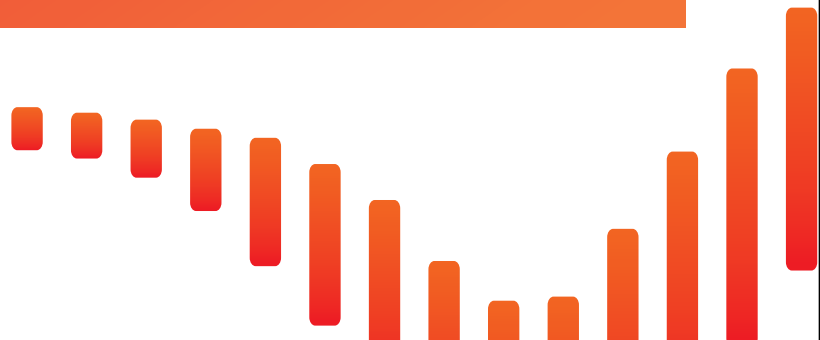
The COPA-DATA Partner Community



## How you can benefit:

- Increase your know-how
- Gain competitive advantage
- Develop your business

[www.copadata.com/partner](http://www.copadata.com/partner)



**FUNCTIONALITY, USABILITY  
AND COST-EFFECTIVENESS ARE  
LINKED TO ONE ANOTHER SO  
CLOSELY THAT WE LOOK AT  
RECIPROCAL EFFECTS VERY  
PRECISELY AND AT HOW THESE  
THREE FACTORS AFFECT THE  
PEOPLE WHO USE THEM.**

ERGONOMICS AT COPA-DATA

**IU****INFORMATION UNLIMITED**

THE COPA-DATA MAGAZINE

ISSUE #24. SEPTEMBER 2013

## 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, Gernot Bugram,  
 Eva-Maria Oberauer-Dum, Steve Poynter, Nicola  
 Richter, Esther Rutter ART DIRECTOR: Eva Plai-  
 ner DESIGN: Jennifer Schorn COPY-EDITING:  
 Jacob Pritchard

AUTHORS OF THIS ISSUE: Emilian Axinia,  
 Dominika Belicova, David Brennan, Urszula Bizon-  
 Zaba, Mark Clemens, Lisette Fagerstedt, Jerome  
 Follut, Susanne Garhammer, Gero Gruber, Günther  
 Haslauer, Robert Harrison, Markus Helbok, Robert  
 Kershaw, Kishor Mandviya, Giuseppe Menin, Rein-  
 hard Mayr, Wolfgang Moser, Johannes Petrowisch,  
 Thomas Punzenberger, Jürgen Resch, Martin Seit-  
 linger, Gianluca Silvestroni, Noemi Torcasio, Phillip  
 Werr, Martyn Williams, Bernd Wimmer

PRINT OFFICE: SAMSON Druck GmbH, 5581 St.  
 Margarethen 171, Austria LETTERSHOP & DIS-  
 TRIBUTION: Mailinghaus GmbH Dialog Marketing  
 Agentur, Neualmerstrasse 37, 5400 Hallein, Austria  
 PRINT RUN: 11,600 copies FREQUENCY: twice  
 a year

COPYRIGHT: Ing. Punzenberger COPA-DATA  
 GmbH. The magazine and all the articles and images  
 it contains are protected by copyright. Any use or  
 duplication 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®, ze-  
 non Logic® and straton® are trademarks registered  
 by Ing. Punzenberger COPA-DATA GmbH. All other  
 brands or product names are trademarks or regis-  
 tered trademarks of the respective owner and have  
 not been specifically earmarked. We thank all con-  
 tributors for their friendly support and the pictures  
 they provided. Subject to change - technical, print  
 or otherwise.



[www.linkedin.com/company/copa-data-headquarters](http://www.linkedin.com/company/copa-data-headquarters)  
[www.facebook.com/COPADATAHeadquarters](http://www.facebook.com/COPADATAHeadquarters)  
[www.xing.com/companies/copa-dataheadquarters](http://www.xing.com/companies/copa-dataheadquarters)  
[www.youtube.com/copadatavideos](http://www.youtube.com/copadatavideos)

**CONTACT US FOR  
 FREE SUBSCRIPTION**

IU@COPADATA.COM  
 WWW.COPADATA.COM/IU

**CONTENT**

- 5 Editorial
- 6 **SPOTLIGHT ERGONOMICS**
- 7 The Future is Ergonomics. zenon is Ergonomics
- 10 Automation Running Well.
- 12 A Sixth Sense for Energy Management.
- 14 How Will We Automate Tomorrow?  
The Fraunhofer IAO Looks at the Future of HMI.
- 16 Martyn Williams' Viewpoint on Ergonomics
- 18 **PRODUCTS & SERVICES**
- 20 Series: Efficient Engineering with zenon (PART 5/1)  
Multi-User Systems and Distributed Engineering in the Editor
- 25 64-Bit (PART 2):  
More Memory Capacity for your Flood of Data
- 27 Secure Software (by Design): Is that Possible?
- 31 Smart Interfaces:  
The Future of Industrial User Interfaces
- 34 The Use of straton as an Open Platform
- 35 COPA-DATA Support & Services Website
- 38 FAQs: Mobile Solutions – The Everywhere App by zenon
- 40 **INDUSTRIES & SOLUTIONS**
- 42 Top Performance in Energy Management with zenon:  
Adelholzener Alpenquellen GmbH Received ISO 50001 Certification
- 46 Combining GIS and SCADA with zenon
- 49 How zenon Supports Smart Grids: Benefits of IEC 61850 Based  
SCADA Platforms with Integrated Automation Functions
- 50 zenon – Compatibility Par Excellence
- 52 The Door to Pharmaceutical Optimization is Open
- 54 Ergonomic Batch Control
- 56 zenon Success Story of Kronos AG
- 60 **AROUND THE WORLD**
- 62 COPA-DATA Partner Community
- 66 Who's Who
- 68 zenon Powered by: Sales Representatives
- 71 Interview: At Home with zenon
- 76 Learning for Life: Intercultural Competence at COPA-DATA
- 78 News From the COPA-DATA Subsidiaries
- 83 Quiz: Test Your zenon Knowledge
- 84 zenon Challenge 2014
- 86 Events 2013 / 2014

---

## EDITORIAL

Dear reader,

*IU* is appearing with a new look this time. You might be asking yourself why we are changing the design and the format. Well, we are happy to keep moving. We also constantly scrutinize our internal processes and media. This is because our philosophy of continuous improvement is important and entrenched not just for zenon, but also in other areas of our company.

Ergonomics, the focus of this edition of *Information Unlimited*, is a central topic – here at the company and for our products, but most of all for the people who work with us and our technology. There is a great deal of energy, commitment and inventive spirit in each new version of zenon, with the objective of providing even more ergonomics automatically. This applies for zenon Operator just as much as it does for zenon Supervisor or zenon Analyzer.

For all of these products, we will again bring new versions of these to market in the next few months, with many exciting ideas and concepts. You'll see: you'll work more quickly and intuitively, use resources better and experience ergonomics at first hand. You can gain a taster of this with this new *IU*.

This being said, I'd like to wish you a pleasant and prosperous autumn.



THOMAS PUNZENBERGER, CEO



**SPOTLIGHT**

# **ERGONOMICS**

THE FUTURE IS ERGONOMICS.  
ZENON IS ERGONOMICS.

*Brand-new technology, diverse functionalities, perfect design. Sales promises for software products are regularly repeated throughout the industry. They are all important factors for the success of a company – perhaps. This is because it all depends on people in the long term. How do they make decisions and act? How much do they enjoy doing their tasks and how well do they do them? Software and machines can provide good service – or become obstacles. A new feature is not just important for its own sake. It only has significance if it makes work clearer, safer or easier for people.*



*Originally the term ergonomics meant designing the working environment in such a way that people are supported as much as possible and that subjective well-being and safety are increased.*

FOR US AT COPA-DATA, it was already self-evident early in the history of the company that long-lasting success and sustainable automation needed comprehensive thinking and a holistic approach. Functionality, usability and cost-effectiveness are linked to one another so closely that we look at their reciprocal effects very precisely, and at how these three factors affect the people who use them. It is precisely when it is a matter of using resources and reducing costs that the design of the workspace and the working environment increases in significance. This is because an ever more important factor is avoidable costs. For example, when operating HMIs with fault management: machine operators who operate their touchscreens as intuitively as their smartphone and can see all information at a glance can react more quickly and precisely and make fewer errors. If errors are displayed comprehensibly and supplemented with supporting information from help features, they are quickly rectified. Usability meets profit. We learned early on that understanding comprehensive ergonomics is one of the main tasks when developing our products.

### **ERGONOMICS?**

Originally the term ergonomics meant designing the working environment in such a way that people are supported

as much as possible and that subjective well-being and safety are increased. However, modern working processes are increasingly intellectually demanding. Information must be processed, unimportant things must be separated from what is relevant, and decisions must be made quickly, correctly and safely. Therefore, ergonomics also means comprehensive support for decisionmaking processes and actions. Observe calmly, understand quickly and react correctly. Ergonomics must lead the body and the mind to the best results and keep the load low in the process.

### **ERGONOMICS MEANS WE:**

- are always correctly and punctually informed
- can recognize and select relevant information more quickly
- can call up information where it is needed
- design working processes as simply and efficiently as possible
- can easily avoid errors
- improve the equipment performance continually
- adapt to different requirements without problems

New functionality is, only important if it also has ergonomic effects. For example, the native Windows 8 Multi-Touch

in zenon 7.10. It only requires a small amount of configuration and hardly any maintenance, but gives the HMI user genuine Multi-Touch with gestures they are already familiar with.

### THINK AND ACT IN A NETWORK

A central term in successful ergonomics is networking – networking at all levels. Networking of companies that work together. But also networking within a company from the process level to ERP. Ergonomic action is only achieved if everything involved contributes to it. Any component

to record the stories of people we had spoken to, and share them with visitors to our website. You can find two of them on the following pages. They are genuine stories from real customers, sometimes summarized, and distilled to their essence. They illuminate both problems and solutions.

20,000 fewer lines of code; launch dates moved by two weeks; a color-blind machine operator helped to full performance. There are many examples of how ergonomic thinking improves working conditions and

---

*“Faster, higher, wider” is not the motto for successful automation. It is “sensible, comprehensive, sustainable – ergonomic”.*

**THOMAS PUNZENBERGER, COPA-DATA CEO**

---

that does not provide support places the success of the whole company in question. Perfect ergonomics at equipment level can be impaired by inconvenient reporting or proprietary ERP. Multiple methods of communication is the key factor. The more applications, machines, control units and software components the automation software understands, the safer and easier it can incorporate them into its concept and move towards ergonomic teamwork.

COPA-DATA promotes the implementation of holistic and multi-dimensional ergonomics. In our thoughts and conceptions, the people involved in the automation are the main focus: engineers and operators of the HMI/SCADA projects or the creators and recipients of reports.

Companies are increasingly less inclined to work with “That’s just the way it is” applications and proprietary systems with no alternatives. They expect solutions that enable them to work under optimum conditions to deliver the best results.

### THE BEST STORIES ARE WRITTEN BY LIFE

We are continually hearing the extent to which ergonomic HMI and SCADA is in demand during conversations with customers. From this, we’ve established that the best stories are written by life. We therefore started

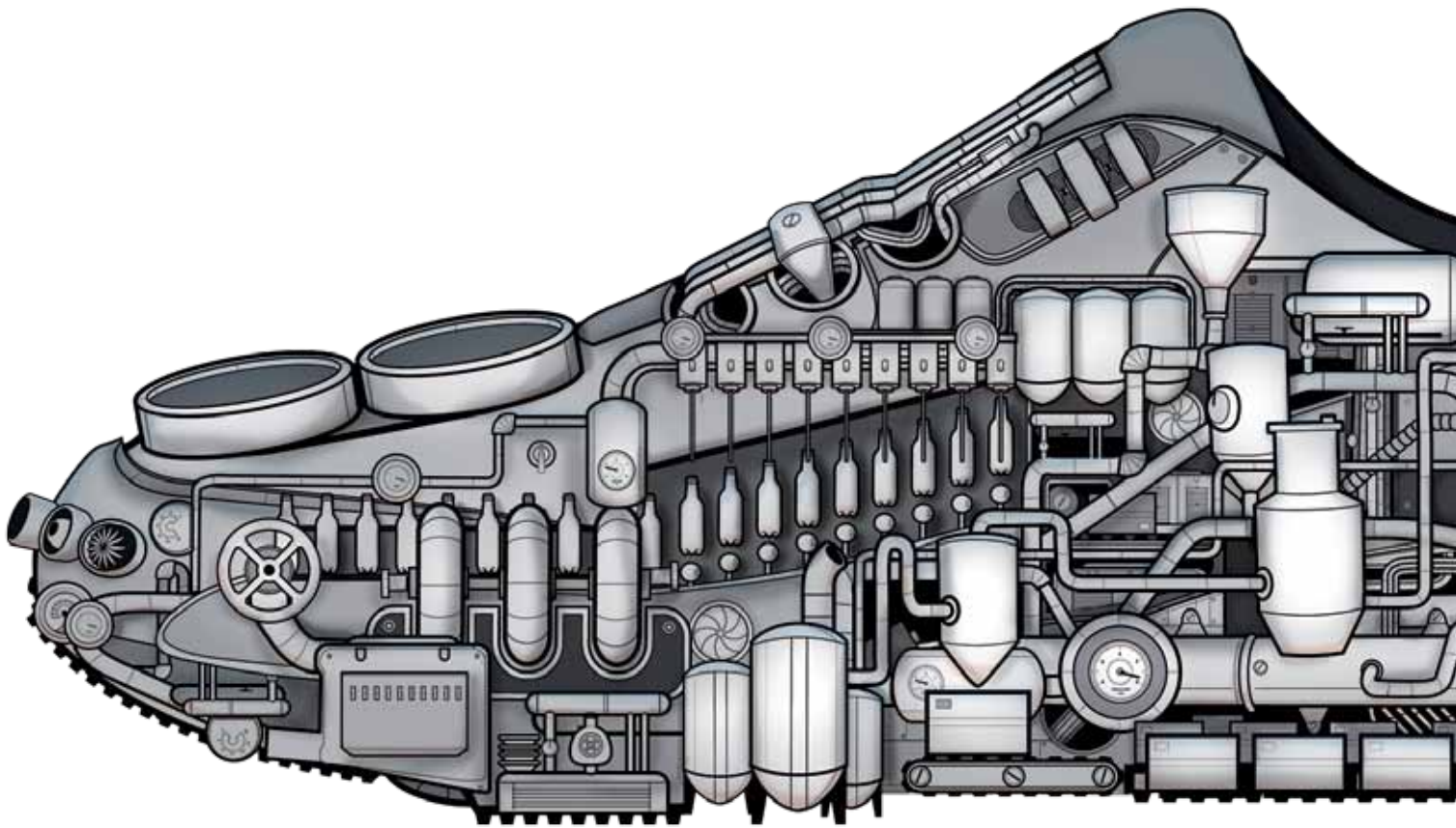
products. “Faster, higher, wider” is not the motto for successful automation. It is “sensible, comprehensive, sustainable – ergonomic”.

### STORIES FROM LIFE WITH ZENON

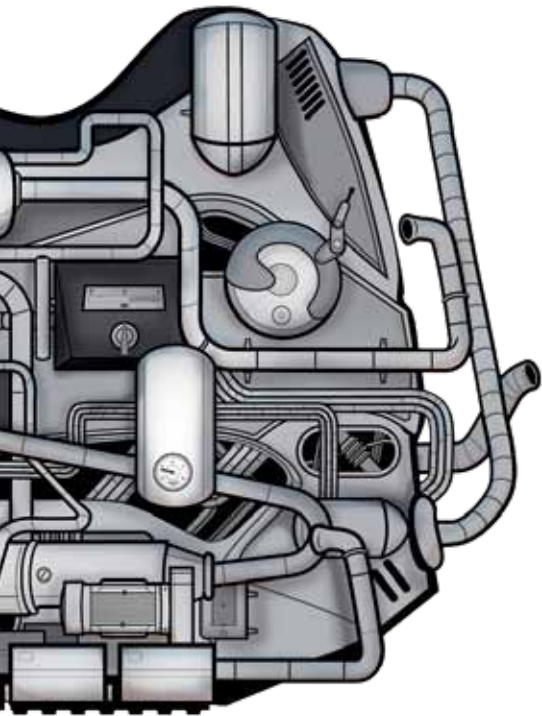
Our customers experience many special moments. Moments that they are also sometimes happy to recount. Most of all when they take the step from a different HMI/SCADA program to zenon or, if they have delved deeper into the zenon concept and discovered the new possibilities that are open to them. Or perhaps they have gained completely new insights and overviews with the zenon Analyzer.

We simply don’t want to keep these moments to ourselves. We think that anyone who has something to say should be listened to. This is why we are passing on some stories – even where we have promised to keep brands and names anonymous. Nevertheless, if you want to know more about a story, speak to us. We may also be able to organize a live viewing of the featured solution or a similar one.

We will share two such stories with you in this *Information Unlimited*.



# AUTOMATION RUNNING WELL.



Two minutes to go for the finishing line. His pedometer showed 10,897 meters. Andreas frowned. Again he had covered close to 11 kilometers, only by walking from one machine to the next. Attending to messages, checking on performance indicators, constantly interrupted by alarms that made him sprint to the other end of the facility. Eight hours, eleven kilometers.

He started wondering about a change. Surely there had to be work places which were better organized than this one. But then, things started moving: New monitors were set up, software was installed, and Andreas sent off for training, so he could get to know zenon. Letting his mind work and his body rest.

Once back, Andreas still kept an eye on his pedometer. Would this zenon software really make a difference for him? Fair enough, he now could see all the parameters of all machines from one location, could answer to alarms with a simple click and only had to make a sprint for really important issues. Finally, the moment came when Andreas was attending to an alarm at one machine while another alarm was raised at the other end of the facility. No sprint this time, no panting, only a quick look at the display, using a switch to investigate the alarm, flagging it as 'ok to do later', and continue working on the more pressing issue.

"That's what I'm talking about", he said when checking his pedometer at the end of the shift: 1,803 meters. Again he had saved 9 kilometers today. Again he had been able to keep up his energy levels for high-priority tasks, still feeling fit after his work day. So that's how ergonomics worked. And that's how relieving it felt.

**The Future is Ergonomics.  
Ergonomics is zenon.**



<http://kaywa.me/mVnQ5>

# A SIXTH SENSE FOR ENERGY MANAGEMENT

On the one hand, there were energy costs of nearly 3.5 million. On the other hand, the energy management system that the management wanted. And in-between, there was Brian. But according to his management, this shouldn't be a problem for a guy like him. All the data was somehow in front of him, after all – neatly sitting in Brian's spreadsheet, which by now haunted his nights.

The catch: The score was 8-2 against him when it came to efficiency. It took 80% of his time to gather and collate the data. But Brian could only work with data he could actually see. And so, with every meter, he had less and less time for effective energy management. Brian already could picture himself drowning in a sea of data. Until, during a trade show, he found out about zenon.

A mere week after, Brian was smarter – and faster. The new software automatically collated all the required data from across the whole system. So he could put that monster spreadsheet to rest. All data was available to him all the time. With its Reporting function, zenon even fully took over calculations. All requested information was at hand within few clicks, or even automatically, and also presented in the right format.

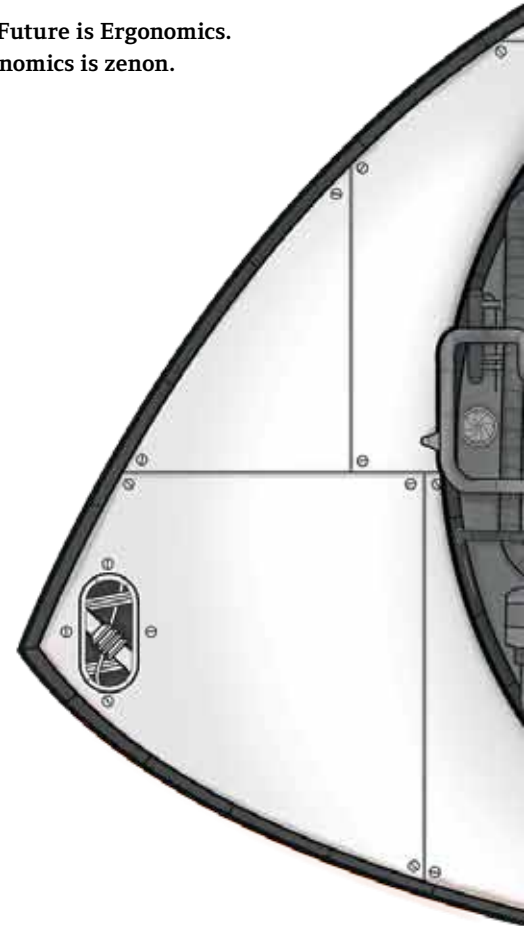
zenon became Brian's sixth sense, anticipating upcoming usage and by

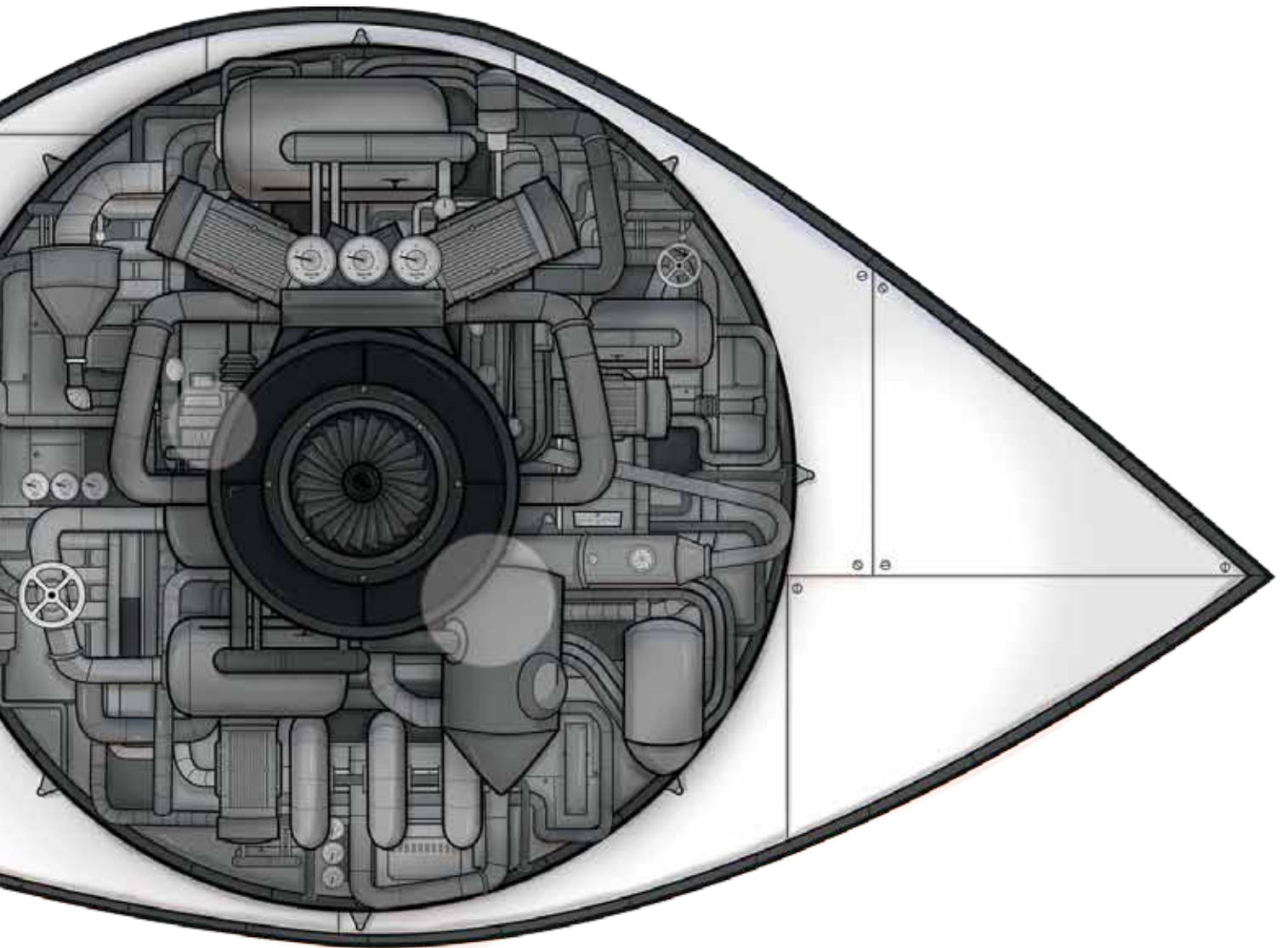
thus enabling him to act ahead of time rather than catching up. Playing with different scenarios, taking unerring decisions, based on facts. When Brian checked the score again, it was 8-2 in favor of his creative energy management. So that's how ergonomics worked. And that's how relieving it felt.

**The Future is Ergonomics.  
Ergonomics is zenon.**



<http://kaywa.me/BdJ1n>





# How Will We Automate Tomorrow?

## The Fraunhofer IAO Looks at the Future of HMI.

Technology has added many facets to human communication in recent years, created new possibilities and simplified many things. What effects does this actually have on automated, industrial production and the distribution of goods? If machine operators are accustomed to the intuitive operation of their smartphones from their private lives, how do they then experience the user interfaces of HMI and what must developers of these user interfaces think about?

MATTHIAS PEISSNER and Cornelia Hipp have examined the requirements for successful interaction between humans and machines in a current trend study<sup>(1)</sup> from the Fraunhofer Institut für Arbeitswirtschaft und Organisation [Fraunhofer Institute for Industrial Engineering and Organization, IAO]. Entitled “The Potential of Human-Machine Interaction for the Efficient, Networked Production of Tomorrow”, it looks at, ergonomic HMI design, integration of new technologies such as interactions or recognition technology and social media. What is particularly interesting for COPA-DATA are the study findings in relation to the functionalities and possibilities that software programs should provide for the design of user interfaces and the resultant recommendations for action and guidelines.

We looked forward to the study eagerly. First, Marketing Manager Phillip Werr was one of the people interviewed by the team of authors. It is great that our work in relation to HMI usability is so highly valued. Secondly, we expected new insights into how others involved in automation perceive the future of HMI. “The latest technology” and “usability” have been core aspects of the COPA-DATA ergonomics concept with zenon, for over 20 years.

### FROM RESEARCH TO PRACTICE

Workshops and interviews with professionals from production, IT and science as well as the authors’ own research provided the data for the study. The task was to find out how automated production has changed and what this

means for the interface between human and technology.

The authors make it clear from the start that increased networking and system intelligence can increase flexibility in processes, but also increases complexity. The statement “it becomes all the more important to include future users in HMI development from the start” is one that we like to take as a confirmation of our philosophy; to develop with practical use and oriented to the user. Here, as in many other aspects, the study reinforces our own conclusions from many usability tests.

The study makes it clear that classical SCADA functionalities do indeed make work easier, but sometimes also limit the design possibilities of HMI. Effective innovations also depend on the appropriate design and the connectivity of HMI.

The Fraunhofer IAO outlines multifaceted scenarios and postulates corresponding requirements for developers, designers and – most of all – usability experts. Offline interfaces and compatibility with other IT systems and standards are just as much in focus as web 2.0 technologies or iterative and user-centred design processes (see also, in relation to this, the article “Smart Interfaces: The Future of Industrial User Interfaces” in this edition of *IU*, p. 31).

The Fraunhofer IAO vehemently advocates forward thinking project engineering, which uses all available modern means in order to operate facilities at the state of the art for as long as possible: “In an HMI project, many decisions are made that have an effect and remain in place for several

<sup>(1)</sup> Matthias Peissner, Cornelia Hipp: *The Potential of Human-Machine Interaction for the Efficient, Networked Production of Tomorrow*. Ed. Dieter Spath, Anette Weisbecker. Fraunhofer IAO, 2013

years. Therefore, both in the selection of a suitable HMI engineering environment and for basic HMI design decisions, it is not just the current requirements that need to be taken into account." It is a clear argument for tools that integrate seamlessly into what is already there, which can be supplemented and expanded with modules at any time, and which adapt to the growth of the facility, the development of technology and the requirements of the user. The kind of tool that zenon has already proven to be in many projects.

### **WELL NETWORKED = EXTENSIVE DATA**

The study also finds that networking is one of the most important topics and will continue to remain so. The authors identify five areas:

- Networked sites in globalized production.
- Machines that inform you of their status and can be monitored and also controlled ("The Internet of Things").
- Superordinate production systems are networked with partial components, from different manufacturers.
- Employees are equipped with mobile and networked devices.
- Interfaces to external software for production and business processes offer the possibility of two-way communication with important data resources.

This increasing networking also means that the data available grows rapidly. The difficult task will be extracting the relevant data from the flood of data and presenting it in such a way that it can be used optimally. To optimize production processes, or even complete supply chains, for example.

For HMI design, this also means that a high degree of importance is placed on usability. Employees must be in a position to act quickly and purposefully. In doing so, it is important that different people with different requirements can operate the user interfaces easily and intuitively. However, standardized processes and the traceability of the production processes must not be overlooked. In some industries, production data must be available and tamper-proof and archived for ten years or more.

### **SUGGESTIONS FOR FUTURE-PROOF AUTOMATION**

The study, with its 79 concisely-worded pages, makes it easy for readers to recognize developments and to apply these to their own industry and their own tasks. Many practical scenarios make the content clear and ensure that these theories can be realistically implemented. In our view,

"The Potential of Human-Machine Interaction for the Efficient, Networked Production of Tomorrow" is definitely recommended reading. There is a good chance that you will find some interesting suggestions.

---

### **READ MORE**

A PDF copy of the study is available for download free of charge at <http://www.iao.fraunhofer.de/iuk-en/1054.html>.



EXECUTIVE VIEWPOINT  
MARTYN WILLIAMS, MANAGING DIRECTOR OF COPA-DATA UK

## Ergonomic Design Will Help Address Skills Shortage

---

There are skills shortages throughout many branches of engineering. For companies using advanced automation equipment this is leading to serious problems. The number of young people entering control engineering is now alarmingly low.

ACCORDING TO RECENT information, over 50 % of engineering student entering some of the UK's leading universities are from overseas. This may be good for the universities, but not for UK manufacturing.

Clearly getting youngsters to study mathematics and science in school, then take engineering qualifications and specialize in control is a long-term undertaking. So are there things we can do to improve the efficiency and effectiveness of the manpower we have?

I would argue that ergonomics can play a role in this. Ergonomics has been a recognized and respected science for 50 years or more. Ergonomics is derived from the ancient Greek `ergon` for work and `nomos` for law - and explores the rules of working behavior and conditions. It is no surprise that the German Institute for Standardization (DIN) already has a standards committee working on ergonomics ([www.naerg.din.de](http://www.naerg.din.de) is in German and English).

Thinking, acting and designing ergonomically enables existing structures to become more dynamic and optimally synchronized. Ergonomics simplifies complexity, creates an overview and clearly indicates improvement opportunities. Those who have to work and produce on a continuous optimum level, even in difficult times, can not only give themselves more breathing space, they can also lay the fundamentals for a successful future with ergonomically thought-out steps.

In SCADA, HMIs and control engineering generally, ergonomics means optimally adapting machinery and working processes to people, including the operator, the project engineer and the employer. Here, it is not about the office chairs, but about the user interface; the working steps; the touch gestures, and the optimal networking of all automation levels and components. So, in control, ergonomic is easy, reliable, productive, user-friendly, intuitive, integrated and much more.

Ergonomic thinking and software design greatly increases the chances of designing a business future successfully: improved products with higher acceptance – both on the market and by the users. Users are more motivated and productive in their work. Projects are more rapidly and accurately ready for use.

In automation, ergonomics has to be geared to several aspects, including networking, individualization and simplicity. By making the control system technologies simpler they can be designed, installed and maintained by multidisciplinary engineers. Anyone who considers only isolated parts of a system can't see the whole. Networking enables an overview and offers a continuous, process and data flow

without barriers. For example, well networked equipment requires only one control room in order to visualize and control divided plants. Operators should always be able to see the status of all machinery and processes at a glance, be able to react immediately to alarms and thereby always keep an eye on the entire system.

'Ergonomically networked' also means looking beyond stand-alone processes, communicating with other areas, integrating and, ideally, coordinating them. In automation this can mean, for example, the active data exchange between the process level and Enterprise Resource Planning (ERP).

Ergonomics also shapes the practices of the users. Tablet PCs and Smartphones have created efficient new operating habits: Multi-Touch gestures to zoom graphics and scroll screens have become commonplace for many people. For us, ergonomics also means bringing these practices to the work place. If users are accustomed to Multi-Touch gestures then it makes sense to implement Multi-Touch in the HMI as well.

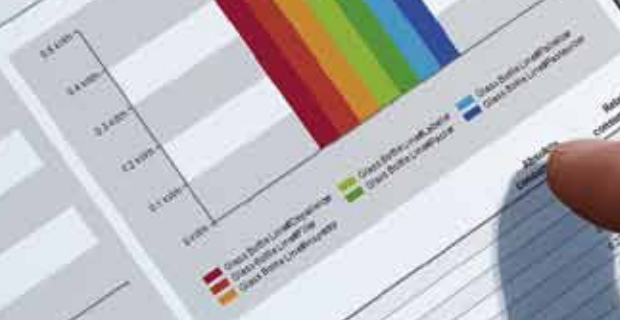
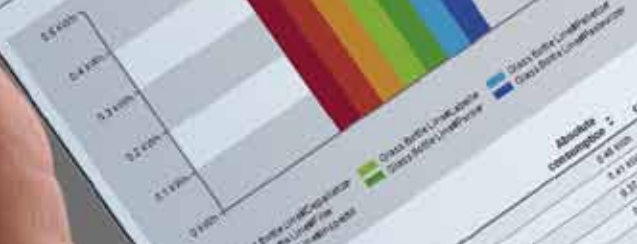
## **THE FUTURE IS ERGONOMICS**

Ergonomics doesn't just increase productivity. It simplifies work, reduces stress, and enables rapid and improved decision making. It also promotes healthier and more committed employees. Ergonomics isn't an end in itself, but a perspective from which all those involved can profit.

consumption distribution comparison per machine  
 2013/10/27:15 AM - 7/15/2013 10:32:21 AM  
 20130715\_102721

Energy

Equipment name  
 Glass Bottle Line#Depalletizer, Glass Bottle Line#Filler, Glass Bottle Line#Inspector, Glass Botte Line#Labeler, Glass Botte Line#Packer, Glass Botte Line#Palletizer, Glass Botte Line#Pasteurizer



Variable name

Glass Botte Line#Inspector
Glass Botte Line#Palletizer
Glass Botte Line#Packer
Glass Botte Line#Labeler
Glass Botte Line#Filler
Glass Botte Line#Pasteurizer
Glass Botte Line#Depalletizer

Absolute consumption

0.46 kWh
0.41 kWh
0.37 kWh
0.31 kWh
0.27 kWh
0.43 kWh

Relative consumption

17.96%
16.81%
15.66%
14.51%
13.36%
12.21%
11.06%

Variable name

Glass Botte Line#Inspector
Glass Botte Line#Palletizer
Glass Botte Line#Packer
Glass Botte Line#Labeler
Glass Botte Line#Filler
Glass Botte Line#Pasteurizer
Glass Botte Line#Depalletizer

Relative consumption

17.96%
16.81%
15.66%
14.51%
13.36%
12.21%
11.06%



# **PRODUCTS**

## **&**

# **SERVICES**

Series: Efficient Engineering With zenon  
(part 5/1):

Multi-user systems

64-Bit (part 2):

More Memory Capacity for Your Flood of Data

Secure Software (by Design):

Is that Possible?

Smart Interfaces

The Future of Industrial User Interfaces

The Use of straton as an Open Platform

COPA-DATA Support & Services Website

FAQs: Mobile Solutions –  
the Everywhere App by zenon

SERIES: EFFICIENT ENGINEERING WITH ZENON  
PART 5/1



## Multi-user Systems and Distributed Engineering in the Editor

The fifth part of this IU Efficient Engineering series focuses on the important topic of multi-user systems. We will dedicate this issue to the question of distributed engineering in the Editor: how can several people collaborating on a project work on it at the same time?

TEXT MARKUS HELBOK  
HEAD OF TECHNOLOGY SERVICES

## DISTRIBUTED ENGINEERING – MULTI-USER EDITOR

The zenon Editor has been multi-user compatible since zenon version 6.20 (2005). This means that several people can edit the same project. This is advantageous with large projects in particular, because sequential project creation can be shifted to a much more efficient parallel process. Several people can work on the project at the same time. It can be completed more quickly and the time spent on project configuration can be reduced considerably.

We have implemented an integrated administration mechanism in zenon, so that the people working on the project do not hinder each other when carrying out their daily work. This ensures that an object or module can only be edited by one individual at any time.

### MULTI-USER PROJECTS IN DETAIL

A project must first be converted into a multi-user project, which is easily done at the click of a mouse. However, some things must be kept in mind: because several people work on the same project at the same time, it is necessary to set up a central project point or a central project server, through which all threads run. Any computer in the network can take on this role, provided zenon is installed on it and the database service *zendbsrv.exe* has been started. In the normal working environment the central project server can, for example, be a project employee's PC. However, the computer must be available at all times in case somebody wants to work on the project.

*zendbsrv* usually runs in a user context: i.e. the process starts when the user logs in and ends when they log out. However, this way of working is not optimal on the central server, because a user must always be logged in for multi-user capability to be enabled. Therefore *zendbsrv* can also be registered as a service. A service starts at the same time the operating system starts and is not dependent on the user who is logged in. In order for *zendbsrv* to run as a service, you must first register it as a service. To do this, open the command line *cmd.exe* with administrator rights. First you must deregister the process: *zendbsrv –unregsrv*. After this, it is registered as a service: *zendbsrv –service*. Lastly the service must be started once again: *net start zendbsrv*. Now you can close the command line. You should be aware that the startup tool can now no longer be used for registration, because it would then deregister the service again. *zendbsrv* must, of course, also be accessible from all stations in the network. The Windows firewall is automatically configured accordingly by the setup. With other firewalls, the TCP port 1103 must be authorized. Network (file) authorizations are not necessary.



Figure 1: Creating a new project as a multi-user project.

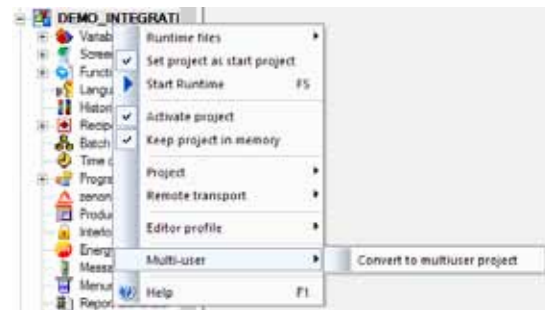


Figure 2: Converting an existing project to a multi-user project.



Figure 3: Display of the server project, the local project copies and the linked users, which can also be removed using this dialog.



Figure 4: Display of the multi-user projects on a remote PC.

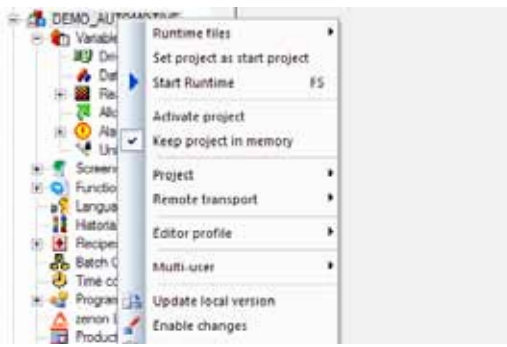


Figure 5: Multi-user editing for all modules.

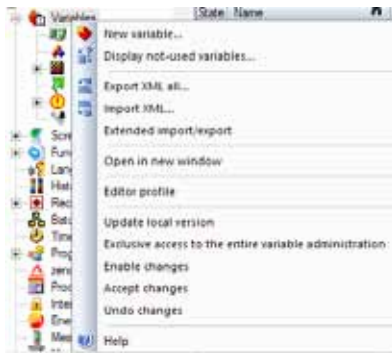


Figure 6: Simply allow, discard or accept changes from the server at the press of a button.



Figure 7: Synchronizing the project or activating offline mode.



Figure 8: In this example, the variables are edited locally once and on an external computer once. Other information can be found in the extra columns that have been added.

## CREATING A MULTI-USER PROJECT

There are two ways to do this:

1. By configuring the “New project” dialog box this dialog box also gives you the option of assigning a computer as the central project server. (see Figure 1). This is most useful if the central project server is not to be your own computer.
2. By converting an existing project to a multi-user project – using the context menu of the project (see Figure 2). With this method, the local computer on which the work is being carried out is automatically defined as the central project server.

Once one of these two variants has been carried out, the project undergoes a one-off process to be converted into a multi-user project. It is, however, possible to convert it back by creating a project backup and restoring the project as a new single-user project. If you do this, you must ensure that the new project is created with an internal project ID. If the project is referenced by other projects as part of the Runtime Multiple-Project Administration, the project references must be amended accordingly. To do this, use the “replace project references” function. This can be found by right clicking on the project node in the “Project” context menu.

A multi-user project is easily recognized by means of a project icon with an “M”. However, there is another fundamental change that occurs as part of the project conversion: the project now exists twice in the background. Once as a central project copy, into which all changes are incorporated, and once as a local-client project. The client instance is a working copy in which changes should first be made locally. This procedure has a decisive advantage: all changes can first be tested locally and only transferred to the central server project once you are satisfied with the result. It is also possible to make this local project copy and the server project visible in zenon. Open the “Add existing project” project selection dialog to do this. It is now possible to see the central server project in the dialog (again identified with an “M”) and all linked project copies below this in a node. If necessary, these connections can also be disconnected in this dialog. There is a separate control field for the project copy: “Local project copies”. If this field is activated, the local work instance is also visible in addition to the server project and this can also be deleted if required (see Figure 3).

Another little tip in relation to this: anyone who wants to know, while working on a client computer, which computer is the server for the project, can find this information in the project properties. The “Database server” property

can be found in the “General” category, where the name of the computer acting as central project server is displayed.

But how is a second computer connected to this project? This is simply done via “Add existing project”. This dialog window offers, the possibility to select a different computer in the network at the top. When connecting to an external computer, all multi-user projects are available. The local project instance is automatically created by clicking on “OK”.

### WORKING WITH A MULTI-USER PROJECT

Working with a multi-user project is just as ergonomic as creating it. A variable or a screen can, as is familiar from single-user projects, be easily edited. The difference to the single-user project is immediately obvious. However: to change a property, you must first check the “Allow changes” checkbox. The Editor asks if you really want to make the change. The “Allow changes” function can only be executed if no other person in the project team is editing the selected object at the same time. This mechanism makes it possible to temporarily edit and block selected objects for all other employees.

If changes are to be made, these can be tested at any time. Because you work with a complete local copy of the project, you can start Runtime immediately at any time and comprehensively check the changes you have made. Once you are satisfied with the changes, these must be accepted. Use the “Accept change” context menu for this. By doing this, the changes to the central project copy are transferred to the server and are available to all others. Tip: In the context menu of the project node, there is the possibility to accept the changes for all modules once or to discard them. This saves much effort and time! (see Figure 5)

But how do the other project engineers get to their changes on their own local copy? There are two ways: module/object synchronization or complete synchronization. To update individual modules or objects from the server, simply click on “Update local version” (see Figure 6). The changes are then transferred to the project server. However, because this is only an incremental synchronization, entails certain risks. If, for example, somebody has created a new context menu and used this in a screen that you now update, you won’t see the context menu: it is therefore better to start a complete project synchronization. This is achieved using the “Synchronize” command in the context menu of the project in the multi-user area (see Figure 7). This is used to update local computers with all changes that have been made centrally. Keep in mind that the project is automatically synchronized when the Editor is restarted. This prevents concurrent work with different project statuses.

Some particular things should be mentioned at this stage. First changes can be made via the context menu without the question “Do you want to allow changes?”. There are two different ways to do this:

1. Changes to individual objects. This allows individual screens or individual variables, for example, to be edited.
2. A module-wide editing mode. Here, the whole module is blocked for the exclusive use of one user (see Figure 6). For some very central changes, such as changes to data types, the whole module must always be checked out. However, this also means that no element of the module can be used at the time of editing.

It is also possible to easily find out which element is currently being used. First, you could use the “Status” column in the list views, which shows you at a glance if the element is available, if it is currently being edited or if it is blocked by somebody else. There can also be additional information available here if the corresponding columns are added to the standard view. To do this, right click on the respective list header and select the “Field selection” command in the context menu. In the field selection dialog, the columns “Name”, “User”, “Change allowed” and “Last change accepted” should be selected. With these four columns, you have a good overview of all changes in the project (see Figure 8).

For a quick overview to see if something is currently being edited, a look at the project tree is sufficient. The current status can easily be seen using icons that are stored via the normal node icons. When the Editor is closed, there is a notice stating that the elements are being processed. The changes can then be accepted or discarded (see Figure 9). This ensures that a user does not leave behind elements that are blocked for others when going away for a long period of time. There is also an emergency solution if this should happen: the connected users can be displayed via the project selection dialog. Simply select the respective user and separate the connection. However, this should be done with caution: all changes that this user has made locally are lost as a result.

### PUTTING INTO OPERATION — OFFLINE MODE

The offline mode is useful for putting things into operation and for work such as working off site. No direct connection to the project server is necessary for this and the project can nevertheless be changed. As soon as the employee is present again, the local project status is automatically synchronized with the server status. The offline modes can be activated and deactivated again quickly using the context menu of the project (see Figure 7). If the central project server cannot be accessed when loading the project into



64-BIT (PART 2):

# More Memory Capacity for Your Flood of Data

In part 1 of this 64-bit series, in the last IU issue (No. 23), we looked at the benefits of a switch to 64-bit systems. But what does 64-bit porting actually mean in relation to zenon? In the second of this series of articles, I will describe what the 64-bit porting means for us and what advantages there are to using the 64-bit version of zenon.

TEXT GÜNTHER HASLAUER  
DEVELOPMENT MANAGER

THE C++ COMPILER automatically creates all pointer types with 8 bytes instead of 4 bytes when switching the platform architecture to 64-bit. It is important that this is not explicitly converted to 4-byte long data types anywhere. In order to ensure that the source code is free of incompatible code, it would normally be necessary to laboriously go through many millions of lines of source code. Without this, problematic pieces of code would only be detected if more than 4 GB of memory is used by the application. For these reasons, we have left this work to a tool for statistical code analysis, which specializes in porting from 32-bit to 64-bit. It is thus ensured that each program module, including rarely used functions, only contain 64-bit-compatible code.

## LISTS, ARRAYS, MAPS AND MORE

Because there are more than 4 GB of memory available in 64-bit applications, they could also theoretically have more than 4 billion objects (such as archive values) in a container. Even though it entailed considerably more work for us, in order to prepare zenon for the future, we decided to switch all counter and index variables to a length of 8 bytes. This was a major challenge, because data compatibility and on-line compatibility between 32-bit and 64-bit versions of Editor and Runtime must be maintained. Only in this way can different versions of zenon be mixed in a network and on both PC and CE target platforms. This means that serialized containers must be treated specially. If they contain

fewer than 4 billion objects, the now 8-byte-long counter variables are saved with only 4 bytes in the file/stream. This means that a 32-bit application can also deserialize the counter variables. If, in the process of porting, 32-bit/64-bit interoperability in network operation or remanent data is necessary, the devil is often in the detail.

Other zenon tools such as the "zenon Startup" have, of course, also been adapted to the new structures. On each 64-bit operating system, we install both the 64-bit version and a 32-bit version of zenon. You therefore have the choice between two versions. If you use VB6 ActiveX controls or other in-process 32-bit third-party components, the use of 32-bit is still necessary. This is because a 64-bit application can only use 64-bit components. Notwithstanding this, the 32-bit version and 64-bit version of zenon can be mixed as desired. Examples of this are:

- Transfer of project configuration data from the Editor to Runtime
- Exchange of Runtime data between several Runtimes on different computers in the network
- Alternating start-up of 32-bit and 64-bit Editors
- Runtimes on the same computer in chronological sequence

Do you use external applications that access the zenon API and want to switch to 64-bit zenon? No problem, because the zenon API remains unchanged, and due to the 32-bit/64-bit

interoperability via out-of-process COM, a 32-bit application can also access the zenon API of a 64-bit Runtime.

As a result of the switch to VBA 7.1, even your existing VBA code will run under 64-bit with virtually no adaptations. Only if you wish to access Windows API functions directly, does the different size of the transfer parameters in the API prototypes need to be taken into account. There are, however, very simple instructions on how to do this.

With zenon 64-bit, you are equipped for the future and ready for even larger projects with even more functions, without losing the advantages of online compatibility, backward compatibility of the Editor or platform interoperability in any way. You can therefore easily switch to a modern and powerful computer platform incrementally to leverage its benefits.

---

## **64-BIT AT A GLANCE:**

Summary of the most important aspects from

64-bit part 1

(IU No. 23, November 2012):

- 64-bit addresses can have a value up to  $2^{64}-1$ . This means virtually unlimited free addresses and an end to address fragmentation.
- A basic pre-requisite for the use of 64-bit applications is the use of a 64-bit operating system.
- 64-bit operating systems also provide massive benefits for usable memory for 32-bit applications.
- The performance of 64-bit application is barely different from 32-bit applications. The only exception is very computationally-intensive numerical algorithms that need modern processor features (SSE, increased register, 64-bit ALU).



## Secure Software (by Design): Is that possible?

The issues of software security and vulnerabilities in software have long been seen across international media headlines. In the summer of 2010, the malware program “Stuxnet”, which was specially developed to attack industrial facilities, received attention and increased the call for heightened security precautions.

TEXT REINHARD MAYR  
ZENON PRODUCT MANAGER  
PHOTOGRAPHY LUIGI CAPUTO

EVEN THOUGH THE DISCUSSION is rightly increasingly focused on security-related “systems” – a combination of several components such as hardware, machines, humans and of course the software too – it is only when these elements are adapted to one another in an overall concept that a secure application of modern IT and product technologies is possible. We, as a manufacturer of professional software, consider it to be one of our core tasks to contribute to the creation and further development of modern security concepts. Some new standards are also covering the issue of security and are making the “Security System”, which also includes modern software components, a part of the requirements set out in standards. These in turn have a significant influence on the development and quality assurance processes employed by manufacturers. Examples of these regulated requirements can be found in the following standards, amongst others, whereby they are mostly still draft standards in the development stage:

- IEC 62443
- ISO 27019
- IEC 62351
- and many more

As with all these regulated requirements, the question nevertheless remains:

### HOW CAN ZENON CONTRIBUTE TO A SECURE IT / PRODUCTION SYSTEM?

It is a fact that as a result of the increased networking of sites and the networking of production via the internet and the resultant increased risk for applications, the developers of modern software have for some time been forced to increase the consideration of security aspects in the software development process.

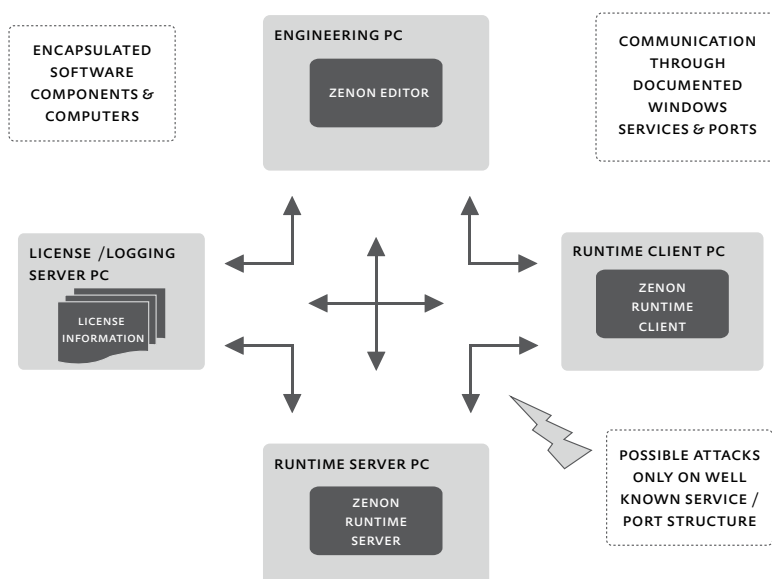
It is software that is widespread (off-the-shelf software) where weak points can sometimes have disastrous effects. One single security loophole can often allow several thousand installations to be targeted. With programs that are used for the control or monitoring of automation processes – such as zenon – we talk of attack scenarios that make it possible to manipulate complete production processes. For malicious employees or external attackers (for example in cases of industrial espionage or organized crime), the industrial manufacturing environment is a welcome opportunity for attacks.

For COPA-DATA and the zenon Product Family, this has meant that the issue of “security in the design and creation of software” has already been a point of intensive consideration for many years. In our research and development we are often supported by external research institutions, universities and universities of applied sciences.

One of the basic findings from our many years of experience and numerous joint projects is the fact that it is better to integrate security and quality from the start, rather than subsequently “adding it on”. Quality assurance procedures such as reviews, having another person check somebody’s work etc. should be a binding part of any production process.

### “SECURITY BY DESIGN”

This issue has been promoted outside the automation industry in recent years by Microsoft, especially with the development of the Security Development Lifecycle (SDL) and has been accepted in adapted form by numerous other software manufacturers, including COPA-DATA. This



standard defines, in addition to secure software structures, amongst other things, tools and measures such as training for developers and people in charge of QA, and the need for requirement management and the working processes behind this.

However it is not just the process of creating the software, it is also the fundamental software architecture concept and naturally the technology that is used in the product that decisively influence the security potential of a product such as zenon.

In doing so, COPA-DATA consistently uses the latest technology on the market and offers this to its users to its full extent. Thus zenon was one of the first products on the market that is compatible with Windows 7 and Windows 8. For maximum component security, only the latest technologies are applied in the product, such as Microsoft SQL Server 2012 or native support for the most recent 64-bit platforms. A positive side effect of this is that as a result of these technologies, our customers also benefit from the latest Microsoft patch management.

The COPA-DATA developers have pursued a consistent path of modularization in the product for 25 years. Depending on the application concept, the user decides which software module and functions they wish to allow in their environment. If an automation project should not make contact with the outside world (for example by sending emails), they can physically deactivate this module completely. However if a module is applied, all parameters can be set in zenon by the customer at any time. Regardless of whether this is the domain user or the communication port, zenon can always adapt to the local security environment.

The basic architecture of the software already supports the implementation of modern security concepts.

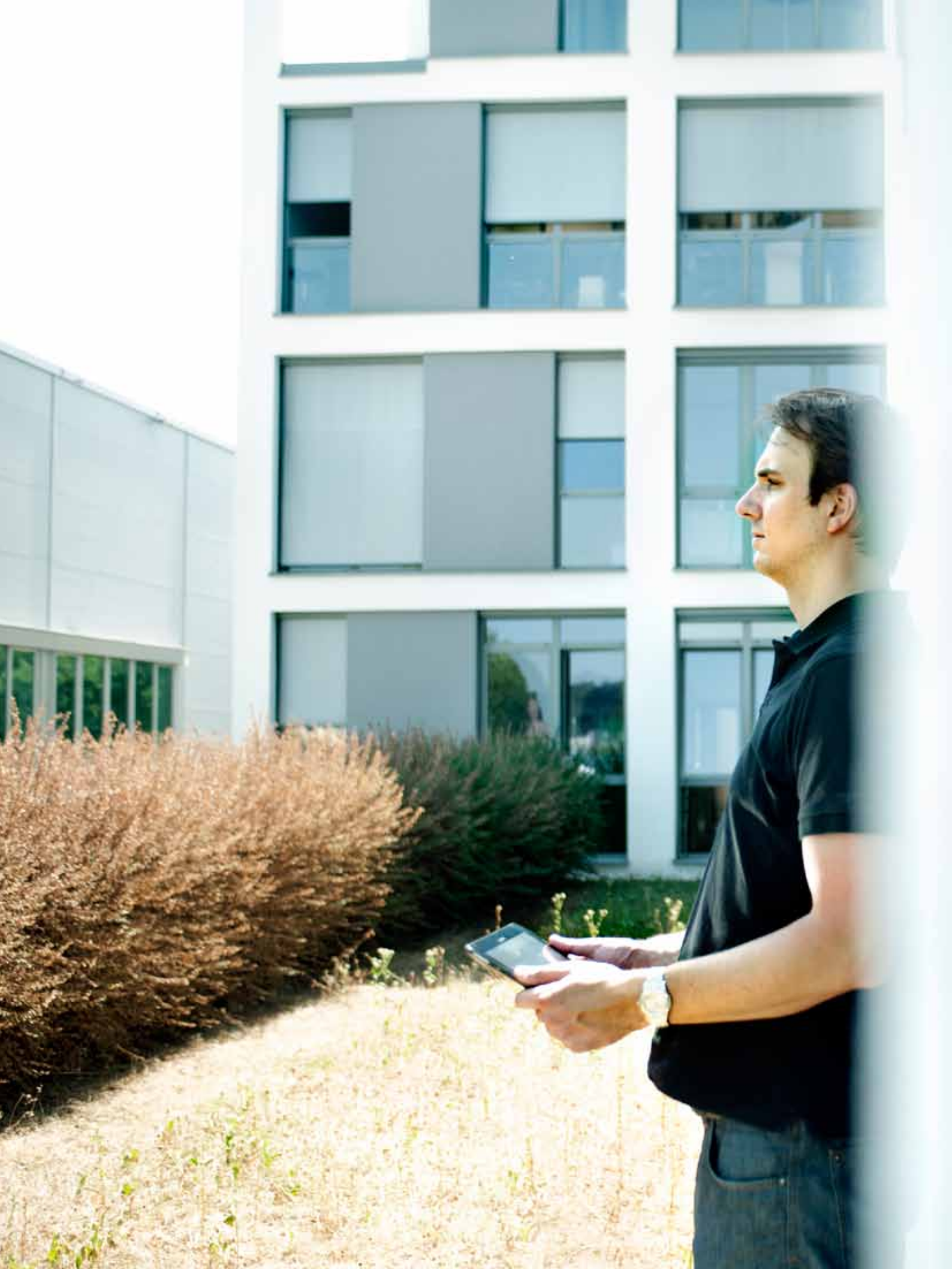
The zenon Product Family has consistently used a service-orientated architecture. These Windows services take on the communication between the individual applications or application layers as defined and documented interfaces. The person in charge of IT or security therefore always has a defined interface landscape through which zenon automation systems can be addressed from outside. Unwanted surprises are avoided. If it is a critical system, the communication ports can be deactivated, or protected by using firewalls for example.

As a result of the modular construction, the user is also free to decide which components they wish to operate in a protected environment and which they would like to operate in an open environment. For example, it is possible to open the logging server to other selected systems for analy-

sis while the actual productive system remains protected behind a firewall. Only the logging service exchanges data between the two systems. This way, it is possible to create "isolated sections" in the infrastructure that can be used to influence which suitable security mechanisms remain "hidden". Direct access to the core system is made considerably more difficult.

However, if a protected product system is attacked despite all the precautions, only the known services and ports are available to the hacker at first. Should these ports be closed down or made to crash, the actual productive system, for example the automation server, is not affected by this. Production can continue without restrictions and more importantly without data loss.

As a result of the targeted use of new technologies, a security concept that is integrated directly into the development processes with an intelligent and flexible software architecture, IT experts are enabled to be in a position to design and implement secure systems.



SMART INTERFACES

# THE FUTURE OF INDUSTRIAL USER INTERFACES

---

As a result of the emergence of new technical (mobile) devices for both visualization and control usage, new operating concepts and thus also visualizations have become necessary. In their private lives, users experience completely new interaction concepts thanks to tablets and smartphones and increasingly expect these in the professional field.

TEXT GERO GRUBER  
SCREEN & INTERACTION DESIGN  
PHOTOGRAPHY LUIGI CAPUTO

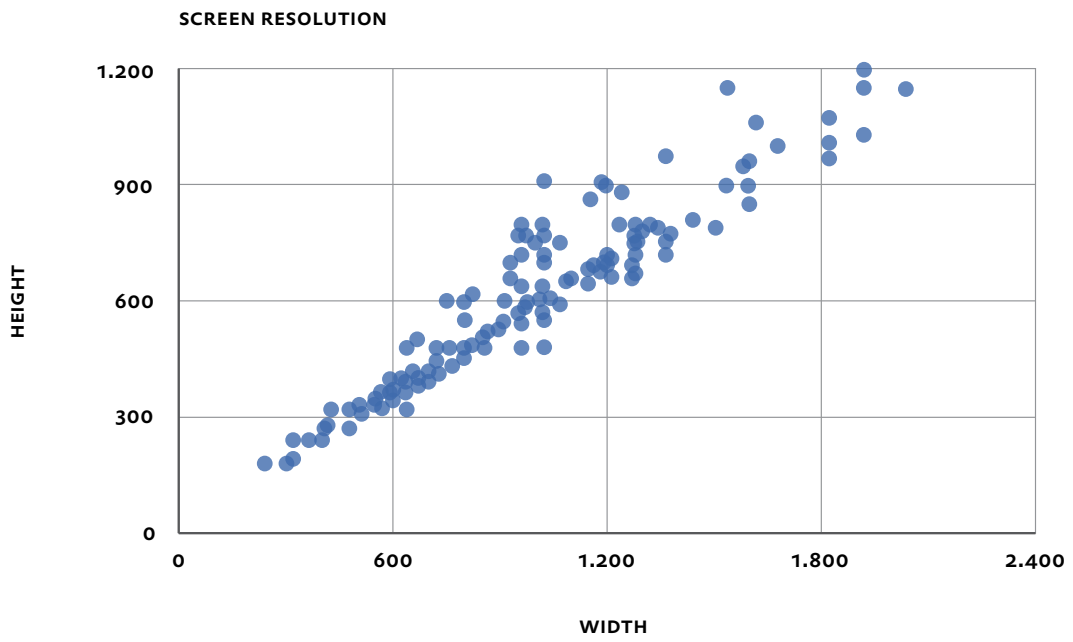


Figure 1: Overview of the screen resolutions of Android devices currently available on the market.  
Source: <http://opensignal.com/reports/fragmentation.php>

IT IS NECESSARY to distribute the same information, regardless of device type, on the basis of a uniform central project. In order to achieve this, the trend is moving towards “responsive design”: Design that reacts to the device and the user and adapts optimally to the situation.

However, not just the aspects of the device should be taken into consideration here. A project that needs to be specially adapted to each possible device in the production environment can no longer be realized from the implementation aspect and maintenance work. An example is the fragmentation of screen resolutions on Android devices (from a resolution of 240x180 to a resolution of 2040x1152 - Figure 1). Also current “special solutions”, such as WPF controls, can only be used on Microsoft systems and cannot be adapted for different devices in any way.

Integration relates to more than automatic adaptation, such as for the screen resolution of the device. The goal is a seamless design – the integration and automatic adaptation to different hardware and software platforms, users and tasks.

It is not just the visual part of the human-machine interface that plays a specific role, but also the behavior of an application in the background. Examples are context-sensitive navigation, automatic support tools to implement the current task at hand, or the provision of information related to a current piece of data.

SAUNa<sup>1</sup> is what sometimes gets us into a sweat when faced with this problem. With this, it’s not about the sometimes heated discussions during the planning and optimization of a new version of zenon, but the four types of technologies that constitute a challenge for the future of human-machine interfaces:

## **SOCIAL**

Social in the sense of HMI and SCADA applications does not refer to the automatic posting of the last alarm message on Facebook. The standard example of a user who uses only one single machine to carry out a task is often a thing of the past. More and more often it is about several users, working together and switching between different stations and machines in order to achieve a common objective. In terms of design, this is a difficult task for the integrator.

## **AGENTIVE**

Agentive algorithms, or machine-like artificial intelligence, that recognizes not just our identity, but also our intents and possibly even our current emotional state and can react to this accordingly.

## **UBIQUITOUS**

Information on the status of a machine, a production line or an entire factory is all part of our daily business, regardless of whether it’s directly on the machine, in the control room on the desktop or on the cell phone in the hand of the service technician: Nowadays users constantly change between these technological points of contact. Our objective must be to make this as seamless as possible for the user.

## **NATURAL USER INTERACTIONS**

NUIs describe a selection of technologies that take more from our body and its abilities than the classic WIMP interface (windows, icons, menus and pointer). Examples of this are haptic user interfaces, gesture-based user interfaces and language-based user interfaces. Each of these technological aspects is already a powerful tool when used on its own. However the real added value is created when these are combined in a strong, comprehensive platform such as zenon.

Another challenge is working with several users simultaneously, such as for a joint alarm cause analysis on a Microsoft PixelSense Multi-Touch system (e.g. Samsung SUR40). It is not just the case of a sole operator in front of a monitor, but a smooth cooperation with all those involved, such as the automation technician, the production planner, the controller and the process technician. These systems offer, in addition to the possibility of several users working simultaneously on the same application – something that conventional Windows applications do not currently support – the possibility of pattern recognition. This allows the use of any desired object, for example as a physical rotary knob, and thus a new type of two-hand operation may be used. Here the physical object must be consciously placed on the interface first, before any action is executed. At the same time no dedicated login is needed, because an action is only possible with the personal token of the user.

We at COPA-DATA are already facing the future challenges of stationary and mobile HMI and SCADA applications and are continually working to equip zenon as both an engineering tool as well as a mobile device application for the future.

<sup>(1)</sup> Source: <http://www.cooper.com/journal/2013/05/summoning-the-next-interface-agentive-tools-sauna-technology.html>

## THE USE OF STRATON AS AN OPEN PLATFORM

For 25 years COPA-DATA has been developing HMI/SCADA solutions with the same goal: to provide software that is independent from hardware and provides all the functionality required as built-in features. The straton software is an important piece in this strategy and extends the functionality of the HMI/SCADA solution to many other integrated features for industrial control.

### THE INTEGRATED SOLUTION: STRATON AND ZENON

What does this mean? The aim of the integrated solution is to provide end users and system integrators with a tool that gives them the ability to create a complete automation project using a single engineering environment. As a result, the development time and the commissioning time of a project will shorten.

How is this done? First, there is a common database where the variables are declared once for both the SCADA and the PLC application. This avoids the possibility of error while importing or declaring variables in two tools. The project is stored in a unique place with concurrent access and version control, guaranteeing the compatibility of the developed application and providing an easy way to make archives of the complete project. The parameterization of the communication is an integral part of the solution: the straton protocol provides a powerful event-based communication with full support for redundancy, quality information and time stamping. Additionally, some utility protocols such as IEC 61850 and IEC 60870 have been fully integrated, and these can be used to define the communication between straton and zenon.



### THE BUILT-IN SOLUTION: STRATON ON PLCs

Hardware manufacturers have seen the benefit in offering open platform solutions with minimum firmware, allowing software companies to create built-in solutions. Siemens S7 Mec EC31 and Mitsubishi Q-Series C Controller are such platforms where a straton Runtime is available. The straton Runtime supports the local Inputs/Outputs configuration, the IEC 61131-3 programming and the built-in protocol implementation for IEC 61850, IEC 60870, EtherNet/IP, MOD-BUS, and PROFINET.

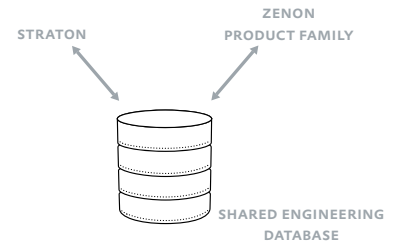
### STRATON AND ZENON LOGIC

zenon Logic is the PC-based version of straton. zenon Logic serves as an integrated PLC System. The zenon Logic Runtime can act as a Soft-PLC on a Windows based system or can provide SCADA Logic functionality, like data pre-processing or mathematical calculations.



<http://kaywa.me/GG1hr>

IEC 61131-3 programming system  
zenon Logic: Learn more.



### BENEFITS

- PLC and SCADA engineering in one system
- Reduced engineering times
- One common database
- Consistent communication
- High intelligence on hardware level
- Programmed driver simulation: PLC code without testing hardware
- Faceplates: PLC code generated automatically on the foundation of graphical elements.

Learn more about straton at:  
[www.copalp.com](http://www.copalp.com).

COPA-DATA SUPPORT &amp; SERVICES WEBSITE

# A Central Information and Communication Platform for zenon

When developing solutions in a complex industrial environment, it is impossible to avoid tricky problems and challenges. In automation, this usually starts with cabling, , leads to hardware and finally to the software used for a certain project.

IN ADDITION TO the technical features and the usability of ergonomic software such as zenon, the overall experience depends on the possibility of finding a quick solution and thus relies very much on the support “ecosystem” offered.

Time is money. The quicker a problem can be solved, the better. In addition to time and money, a quick solution to a problem also reduces mental strain. Mental strain that may well be needed for more important tasks in a project.

## **MORE EXPERTISE FROM THE START**

The initial contact with COPA-DATA support usually starts with questions to gain understanding, such as “Can I solve this task or that task with zenon?”, “Which module supports me in doing so?”, “Does this module require a license?”, “If so, what effects does that have on the costs of my project?” etc. After this, there are generally detailed technical questions and finally you get to the suspected problems with the software, so if zenon does not respond or act in accordance with the documentation.

While basic questions relating to the performance of the product can be answered by the sales contacts in charge, detailed technical questions usually require the support of technical specialists.

However, in this support information chain, COPA-DATA Support is not the first link in the chain. Strictly speaking,

this chain starts with each of us. Good, thorough training, acquired expertise, and learned and trained abilities help us to recognize problems by anticipating them correctly and dealing with them properly.

zenon, as a software product, offers help in the form of technical documentation, in the form of debugging tools, such as the central log mechanism consisting of the log server and log client (also known as DiagViewer.exe). The zenon Editor output window, with its useful messages, warnings and error outputs, is also one of the standard aids available as standard in the software. Meaningful error messages and the Tool SIC (system information collection) assist you in finding the cause of a problem on your own.

## **REGISTER ON THE WEBSITE AND GAIN ACCESS TO ALL RESOURCES**

The quickest help can be found through our valuable tools and resources. For this reason, we at COPA-DATA aim to support our customers to help themselves as much as possible. As a company, complete transparency for our customers is very important. In this case, this means that we meticulously document all problems and effects that are known to us and that have been reported to us, and disclose this to all registered users.

The central starting point of all COPA-DATA assistance is the online platform [www.copadata.com/support](http://www.copadata.com/support). All new issues can be seen there and the website offers access to all other



databases and information sources – the Forum, the Knowledge Base, the FAQs, the Blog and much more. Search queries for the FAQs, the Knowledge Base and the Forum can be started right on this page and you are forwarded directly to the results list of the individual information sources.

Please note: a pre-requisite for unlimited access to all this information is registration on the COPA-DATA website and subsequently logging on to the website with your personal login data.

#### 4 STAGES OF PROBLEM SOLVING

Our four-stage concept helps you to search for answers. This gives you a clear path to achieving your objective:

**IN THE FIRST STAGE**, users are requested to include our technical documentation in their search. The documentation is an often overlooked source when searching for the solution to a problem. Many questions can be answered early by using the documentation.

**IN THE SECOND STAGE**, a FAQ search or Knowledge Base search can be started directly. These two sources of support have been recently revised and now contain many more useful features.

**IN THE THIRD STAGE**, the Forum can be searched for answers or already known effects directly. The COPA-DATA Forum is a popular and proven communication platform, where zenon users share their experiences with other users. Here, approaches to a solution are discussed, problems are considered and basic questions for the understanding of zenon are clarified.

**FOURTH STAGE** If the three previous stages have not lead to a satisfactory solution to the problem, it is possible to contact local COPA-DATA support as a fourth stage. The contact addresses of your local support team are visible once you have selected your country on the contact page.

#### FIND SOLUTIONS MORE EFFECTIVELY – ANY TIME, ANY DAY

Because the FAQs and our Knowledge Base have been revised from the ground up, we would like to present you the two sources of information in more detail. The improvements include, in particular:

- The usability of the search
- Quicker returns of search results
- Clear communication of the results (IDs)

We reacted to the feedback from our customers and completely revised the **usability** of the search. For example,

there is now an error message if you wish to start a search without entering a search term. Furthermore, the advanced search - "extended search" - presently features a check for the selection of the zenon version, the service pack and the build number. Therefore, it is now possible to only select service packs and build numbers that are actually available for a certain zenon version. In addition, the extended search area remains open until this is consciously no longer needed. Up to now, the area closed automatically, without any notification of the search limitations in the background. If you have selected many search options and want to empty these in order to enter new search criteria, clicking on "extended search" with the mouse is sufficient. This area then closes or opens; all filters that have been set are emptied and you can start a new query.

**Result lists** can often be very long, however they do offer some functions to limit the result further. First, you can select the number of result entries displayed. The ideal amount depends on the display area of your screen. Furthermore, you can enter a search string in the "Search all columns" field, which is then only applied to the entries in the results list - immediately and interactively. As a third filter possibility, you can find all the different entries in a column, which can be selected using a drop-down box. Here, you can, for example, set a filter to obtain FAQ entries or Knowledge Base entries only, or have the results for a certain zenon version, a certain zenon module or a category displayed. In combination, these new filters offer various possibilities to limit a search and increase the probability of finding a successful solution to the problem.

Another useful feature is the **Quick preview**: Each entry in the results list has a green 'plus' icon in front of it in the first column. If you click on it, the entry opens directly in the list and you can have a quick look at further details in order to establish whether this is the entry you are looking for. With the same icon, which has now turned into a red 'minus', the information can be closed again. This way, it is possible to look through the respective filtered results list quickly, entry by entry. If the entry that is being searched for is found, this can be opened by clicking on the description, whereupon the complete article appears. Here, further status information and additional comments are displayed in an easy-to-read format. Additionally, there is now a print option available, allowing a page to be printed out at any time.

An invisible, but nevertheless very important improvement for communication is the introduction of a unique **article ID**. This identifies the entry from the FAQs or the Knowledge Base and makes explicit references to individual entries much simpler. The article ID is unique, which means that the results list only provides a single hit when an ID is entered into the search field.

Another advantage of the COPA-DATA Support & Services website is its **availability**. It is accessible around the clock, 7 days a week, 365 days a year - and internationally. All the information is provided in English, in order to remove language barriers as much as possible.

### **SEARCHED FOR... AND FOUND! ALL AT WWW.COPADATA.COM/SUPPORT**

Many of the updates mentioned are not directly visible to the user. However in combination, these many building blocks allow you to receive information more quickly, informatively and with a clearer overview.

Highlight the Support & Services website on your zenon map as an important destination. Explore the platform! You will be surprised what a powerful package of information and expertise is waiting for you. Integrate our trouble shooting strategy into your daily work with zenon and test out which source or combination best supports your query.

The Support & Services website is a valuable cornerstone for the whole COPA-DATA support "ecosystem". We will continue to develop this step-by-step, in order to make your zenon user experience even more ergonomic.

WOLFGANG MOSER  
TECHNICAL CONSULTANT MANAGER

# FAQs

## Mobile Solutions – the Everywhere App by zenon Essential Information From Your Pocket at Your Fingertips

Finally finished for the day, I shut down my computer and turn off the light at my desk, ready to be on my way home to my family and a well-deserved warm dinner. Then that sudden feeling is creeping up on me that perhaps I've forgotten something important on the production floor. Did I initialize the process correctly after the maintenance check? Cold sweat breaks out, shivers on my back. I can't remember, it's been so hectic today! I immediately take out my smartphone and fire up the Everywhere App, relieved to see that everything is running smoothly and there are no alarms, I take my coat and close the door behind me with a smile.

ARE YOU INTERESTED  
IN LEARNING WHAT THE  
EVERYWHERE APP BY  
ZENON IS ALL ABOUT?  
READ ON AND THESE FAQS  
WILL PROVIDE YOU WITH  
MORE INFORMATION.



### **What is the Everywhere App?**

The Everywhere App is a zenon "app" for smartphones with iOS (iPhone) or Windows Phone. Smartphones with Android or Blackberry are currently not supported.

### **What can I do with the Everywhere App?**

The Everywhere App allows smartphone users to display selected alarms and selected values from their zenon Runtime project with a live update, in graphical displays on their smartphones. For safety reasons, changing values or acknowledging alarms is not possible from the Everywhere App or through the Everywhere Server.

### **Where can I get the Everywhere App and what does it cost?**

You can download the Everywhere App for free on your smartphone from the iTunes Store or from the Windows Phone Marketplace. Simply search for "Everywhere App" and look for the logo with the zenon "z".

### **What is the Everywhere Server and where do I get it?**

The Everywhere Server is a small application to which the Everywhere App connects to retrieve the data that is displayed. The Everywhere Server application comes pre-installed with zenon 7.10 SPO and is an optional module for a zenon Runtime on a PC (Windows CE not supported) that requires a license. Get in contact with your local sales representative to find out more about the pricing and licensing options for the Everywhere Server.



<http://kaywa.me/M5G2I>  
 Everywhere App by zenon:  
 Learn more.

### **What else do I need in order to use the Everywhere App for my projects?**

Apart from the Everywhere App on your Windows Phone or iPhone, you need a PC with a zenon 7.10 SPO Runtime and your zenon project(s). On this PC the Everywhere Server must be licensed, and running. In the workspace for your project you need a global project with equipment model groups and sub groups which are offered to the smartphone user as categories to choose from. At the lowest level of the equipment model groups, you link the variables from your project that the smartphone user should be able to select, for alarms and display of data.

### **How do I configure the Everywhere App?**

After the first start of the Everywhere App, the smartphone user needs to set up the connection to the Everywhere Server. The name or IP address of the computer running the Everywhere Server, the port numbers for HTTP and HTTPS, the name of the zenon project and whether HTTPS is used or not, needs to be specified.

### **How does the Everywhere App work?**

After the connection is setup, the smartphone user can login with the zenon user credentials and choose categories and sub categories (equipment model groups), to be displayed. Once the variables are selected, the values are displayed in different graphical representations (lists, graphical elements or bar graphs). The smartphone user can change the view to see active alarms.

### **Is the viewing of the data protected somehow?**

In order to display the information, the smartphone user will have to authenticate using credentials of a zenon user created in the zenon Runtime project. Active Directory user authentication, which is available in the zenon Runtime, is not supported in the Everywhere App.

### **Who can access this data once the Everywhere Server is running?**

That depends on a number of factors. First of all, only those smartphone users to which you provide the required con-

figuration and login information have the necessary information to access the Everywhere Server. When using HTTPS on the Everywhere Server with a self-signed certificate, smartphone users additionally need to have this certificate installed on their smartphone. It further depends on your network configuration and firewall configuration.

See also *"Is the Everywhere App safe to use"*.

### **Is the Everywhere App safe to use?**

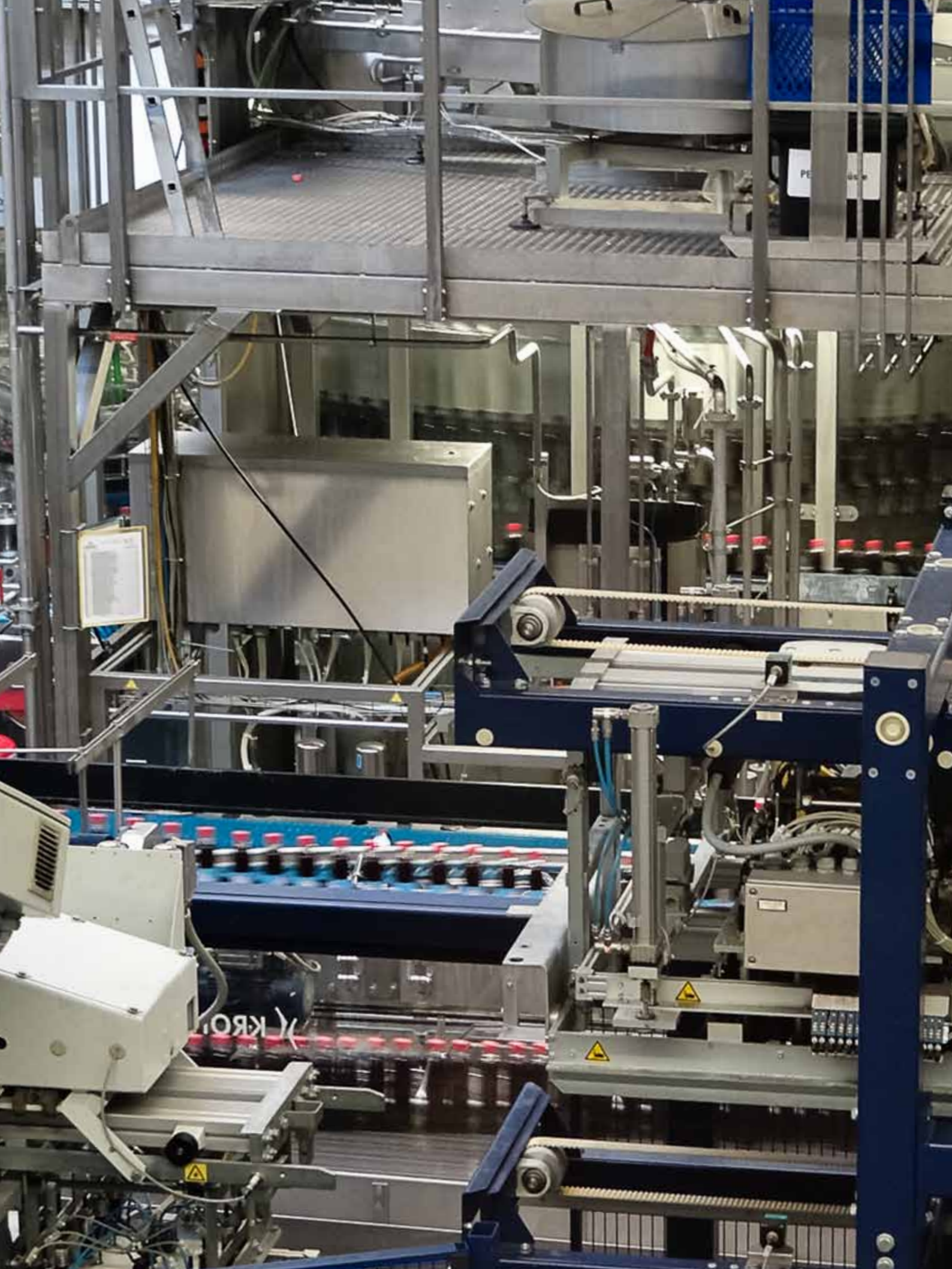
The simple answer is yes. The Everywhere App requires authentication and only allows read-only access of the data. However correct configuration of your network, firewalls, intrusion detection systems, DMZ and network monitoring systems can further enhance the security. Of course this does not only apply to the Everywhere Server, but in general is an important part of the planning and operation of any control system.

You could limit access to the Everywhere Server to a single secure WiFi access point in your factory that is behind a firewall, configured to only allow communication to the Everywhere Server (not to the control network, not to the corporate network, and not to the internet). When you activate the HTTPS option, the network traffic is also protected from prying eyes.

### **Where to go from here? What if I have concerns, questions or would like to see more functionality?**

You can rate the Everywhere App in the iTunes Store or Windows Phone Marketplace and leave feedback for us and other users. For further information, you can of course also always contact your local COPA-DATA support representative.

MARK CLEMENS  
 SENIOR CONSULTANT





# INDUSTRIES

&

# SOLUTIONS

FOOD & BEVERAGE

ENERGY & INFRASTRUCTURE

AUTOMOTIVE

PHARMACEUTICAL

TOP PERFORMANCE IN  
ENERGY MANAGEMENT WITH ZENON

## Adelholzener Alpenquellen GmbH received ISO 50001 certification

What can make us happier than collaboration with professional manufacturing teams? Working with people who bring high competence to their role in their teams, seeking perfection in following the company targets, reducing the time from first ideas to complete system implementation, easily adapting to new demands, permanently keeping flexible and – above all – enjoying all this dynamism. When a team like this has zenon in its hands, something close to alchemy happens. Our product philosophy is embedded into the manufacturing company's culture. The results? Top performance.

HOW EXACTLY does this work? In this article we will reveal to you a perfect model of top performance: the company Adelholzener Alpenquellen GmbH's approach to an Energy Management System (EMS) implementation according to the international standard ISO 50001. In an ISO-50001-dedicated interview and several other conversations at Adelholzener Alpenquellen with Mr. Christian Stephan, Plant Manager, Mr. Herbert Schrobenhauser, Automation Specialist, Mr. Rudolf Kropf, Head of EET and Mr. Gerhard Holzner, Head of Building Management, we had the opportunity to get fascinating insights into a real ISO-50001-based EMS implementation using zenon. We would like to express to them our special thanks for sharing this valuable information with us and our readers.

The German beverage manufacturer, Adelholzener Alpenquellen GmbH, has relied on the HMI/SCADA software zenon from COPA-DATA for their plant visualization. In the late summer of 2011 the management decided to introduce a further product from the zenon Product Family – the zenon Analyzer – for the analysis of the entire operational production and consumption data. Today, around two years later, Adelholzener Alpenquellen has become ISO 50001:2011 certified. zenon significantly contributed to this certification.

Adelholzener Alpenquellen GmbH is based in Chiemgau Germany, and offers mineral and medicinal water and numerous soft drinks under the brand name Adelholzener

and Active O2. The company puts efficient energy management at the top of their priority list. Since the beginning of production a sustainable attitude to energy sources and efficient production resources has been put in place. From as early as the 1990's the management has been keen to emphasize this within the company and, in turn, laid the foundation for the ISO 50001 certification.

### IMPROVEMENT BEGINS WITH THE RIGHT PLANNING: PLAN-DO-CHECK-ACT (PDCA)

The interest Adelholzener Alpenquellen took in ISO 50001 and the achievement of certification was a logical result of the many years of commitment to continuous production optimization and energy conservation. Rudolf Kropf explains: "The most important thing is first to carefully think about what one actually wants to evaluate and analyze. A huge amount of data is produced every day, so that it can be easy to lose the perspective. Improvements are only possible if the data flow is prepared in a simple and compressed format, in order to offer comparisons and, in turn, make optimization potential visible. With the zenon software we can profit from a tool which makes our equipment simple to visualize and easy to operate. The COPA-DATA reporting software, zenon Analyzer, can particularly assist here. We can now generate clear reports on production data – measured according to 1,000 fillings – and on our largest consumers – compressed air, water and electricity. At a glance, we can see if we are working

according to plan, if we are reaching our goals and which areas need to be readjusted and improved.”

#### **AN OVERVIEW OF THE ENTIRE DATA: AT THE RIGHT TIME AND THE RIGHT PLACE**

Gerhard Holzner adds an example: “One of our largest consumers is compressed air which blows up the bottle blanks for the subsequent PET bottle filling. It is a challenge to keep compressed air leakage to a minimum. Individual consumption meters are installed throughout our bottling systems and cumulative meters are installed at compressor stations for data recording. They continually deliver data on to zenon. I used to have to walk from meter to meter, note all the meter values by hand, input them manually into Excel sheets and create two complicated diagrams. Today the HMI/SCADA software collects this data for us and on this basis we can create simple reports in zenon Analyzer, which then converts the data into valuable information by means of pre-defined figures and clear graphics. For example, at the beginning of a new week I can see which leakage values we had over the weekend – all in just a few mouse clicks. This saves a great deal of time. In production plants of our size and production level a leakage value of between 5 and 10 % can be expected. Thanks to numerous improvement measures we presently have an average leakage value of under 2 %.”

#### **THOSE WHO OPTIMIZE IN THE RIGHT AREAS SAVE TIME AND MONEY**

Other energy consumers at Adelholzener Alpenquellen could also achieve optimization success in recent years thanks to comprehensive data collection, targeted analyses and the resulting improvement measures. Rudolf Kropf said: “In the case of process water we were able to achieve marked savings when comparing 2011 and 2012. And this, even though we had increased the production at this time by approximately. 5% fillings. For electricity the savings were less, at ca. 3% in the same time period when comparing 2011 to 2012. It is, however, worth mentioning here that during this period we switched from gas fork lifts to electric fork-lifts. This means that even though new consumers were added, we could still achieve savings. Of course we pay close attention that all our equipment is built with energy efficiency in mind right from the start. This spans from energy saving motors to sleep control of the conveyer belts, which ensure that the belts stop automatically for a certain duration if a filler standstill takes place. In addition we rely, for example, on a particular type of insulation

#### **YOUR ENERGY DATA MANAGEMENT SYSTEM WITH ZENON**

The zenon Product Family has already proven itself as the centerpiece of an Energy Data Management System during live operation.

##### **zenon:**

- provides over 300 communication protocols: so energy data can be easily collected from the entire plant infrastructure and archived in various formats and databases, such as SQL.
- observes and processes the energy data in real time and provides Energy Performance Indicators (EnPI), alarm management, trend analyses, peak load management and more.
- delivers comprehensive energy management analysis through the technology of Dynamic Production Reporting.
- involves any desired number of employees, by making available the energy information wherever needed, including via the web and mobile devices.
- cost-effectively assures the flexibility required by the Plan-Do-Check-Act process of ISO 50001 standard, by efficient engineering without programming.

Find out more about implementing an Energy Data Management System with zenon at [www.copadata.com/ISO50001](http://www.copadata.com/ISO50001).

*Even though we have generated more fills and could increase our turnover in the last year, we have managed to achieve a large savings in individual consumption through our Energy Management System with the support of zenon.*

**RUDOLF KROPF**, HEAD OF EET,  
ADELHOLZENER ALPENQUELLEN GMBH



Adelholzener Alpenquellen has its home in the Bavarian Alps in Southern Germany. It is here that the company produces medicinal water, mineral water and soft drinks under the Adelholzener and Active O2 trademarks.

Altogether there are six bottling lines at Adelholzener Alpenquellen: two are for filling returnable glass bottles, two are for filling returnable PET bottles and two bottling lines are for filling non-returnable PET bottles.

for the bottle washing machinery, which surpasses the standard insulation of customary machines.

### WITH ZENON TO ISO 50001 CERTIFICATION

After Mr. Kropf qualified as an Energy Management representative at the end of 2012, the official audit for certification according to ISO 50001 followed in January 2013. For the associated administrative tasks the beverage manufacturer brought in support through an external consulting firm. Thanks to the many precautions which had already taken place in the previous years with zenon, the certification could be achieved in the short time period of six months. Rudolf Kropf concludes: "Our main advantage proved itself again and again – it was having access to a comprehensive data pool, which was already in place, thanks to zenon. For a certification according to ISO 50001 it is not just about the complexity of the equipment or the number of measuring points. It is much more about how things are done that plays the deciding factor – how comprehensive and target-oriented the data can be collected, evaluated and archived. And here the product family from COPA-DATA proved itself, particularly the zenon Analyzer, as a valuable supporter, significantly benefiting to the certification. Thanks to the introduction of an Energy Management System according to ISO 50001 we can now address this topic in a more structured way. We have established an energy team consisting of five people, who get together regularly for energy meetings to coordinate and plan new tasks. Additionally, the Adelholzener Alpenquellen employees continually take part in internal training courses in order to keep their knowledge updated. We thereby promote a way of keeping our energy policies observed. As we have been using zenon for many years now, the system has a high internal acceptance and familiarity. The employees can work well with it and are not afraid or shy of using it. This is a prerequisite, but something which is not a matter of course. We not only profit from the ISO 50001 certification financially, but it also forces us, in a way, to stay on the topic of always setting ourselves new goals. We are therefore, on the one hand perfectly equipped with the legal and tax framework which relate to the energy changes in Germany, and on the other hand, can positively contribute to the ecological footprint of our time."

EMILIAN AXINIA  
INDUSTRY MANAGER FOOD & BEVERAGE



### TÜV SÜD

**Accelerate your certification process!**  
**zenon meets TÜV SÜD requirements for certified Energy Data Management according to ISO 50001**

In summer 2013, TÜV SÜD confirmed that zenon meets their defined requirements for a certified Energy Data Management.

As per the definition on the official TÜV SÜD certificate, this means that zenon fulfills all demands for monitoring, measurement and analysis as described in chapter 4.6.1 of the ISO 50001 standard. This is a confirmation of the fact that the zenon product philosophy applies perfectly to initiatives dedicated to continuously reducing energy consumption and carbon dioxide emissions in any industry.

TÜV SÜD is an international leading technical service organization catering to the INDUSTRY, MOBILITY and CERTIFICATION Segment. The experts and technology consultants are dedicated partners in their clients' processes, offering comprehensive industry expertise throughout the entire value chain. They focus their services on their core competencies of consulting, testing, certification and training. About 19,000 employees are committed to optimizing technology, systems and know-how at over 800 locations in Europe, the Americas, Asia Pacific and Africa.

Further information is available at [www.tuv-sud.com](http://www.tuv-sud.com).

SEE WHAT IS GOING ON, WHEN AND WHERE

# COMBINING GIS AND SCADA WITH ZENON

---

TEXT JÜRGEN RESCH  
INDUSTRY MANAGER ENERGY & INFRASTRUCTURE

GEO INFORMATION SYSTEMS (GIS) are an essential tool for energy and infrastructure companies. Lines spread over large areas, e.g. for power, gas, water or ICT, must be correctly documented in a system according to its location. Whilst such information was previously kept on paper, nowadays only digital formats are used. In the control centers of transmission and distribution networks, in connected control rooms of municipal services or in the control rooms of wide-ranging industrial facilities, the existing geodata is now planned to be combined with the process data from SCADA systems. Or put another way: the

static geoinformation should be given a breath of life. It is primarily a case of providing status information for a line in its geographically-correct location. In most cases this is achieved by means of coloring the lines, whereby a defined color code must be indicated in order to assign information to the color. For example, it is possible to define electrical power codes for “live”, “not live” and “grounded”. Think of a simple use case: can excavation works be started in area X? A brief look at the dynamic GIS image in the control center leads to the finding that there is an energy cable in area X, however this was switched off as a precautionary



measure and grounded at both ends. Operations management can therefore give a green light to start excavation work. But how do you get such GIS data into a SCADA system? How do you then link this to the process data? And what possibilities do you have if you are a small, municipal services facility with a lack of geoinformation? At COPA-DATA, we looked at this and other questions as part of an internal research project and created an executable proof of concept.

### **STEP BY STEP TO THE PROOF OF CONCEPT**

The .NET control in zenon was used as an ideal graphics container. The lines, the corner points of which are stored as geo-coordinates (longitudinal and lateral) in an XML file, are displayed in geographically-correct form. In addition, the graphics displayed therein can be zoomed in and out or moved using the mouse and scroll wheel. The first part has been completed: the lines were displayed in the SCADA screen. A screen that shows only the lines, but not the environment in which the lines are located, is however merely a fraction of the information necessary for the operator. For this reason, at least one additional layer of mapping material from the real world must be shown. For test purposes, we primarily used the maps from the online service Open Streetmap. However Google and Bing were also used as a source of online mapping. The satellite maps with the lines overlaid are particularly impressive.

In the next step, the connection between the process information and the display elements was created in the geomap. The process information relevant for the electrical lines results from the switch settings in the transformer substations. From this, the zenon ALC module (Automatic Line Coloring) – part of the zenon Energy Edition – calculates if a line is live, not live or grounded. The correct process status of the lines is shown, via a reference from the ALC into an XML file with the geocoordinates, in the .NET control in the zenon screen. Because, with this proof of concept, there was always the intention to keep good ergonomics in mind, the areas highlighted as transformer substations in the GIS screen (.NET control) were given jump targets in the detail views of the transformer substations or in the schematic Worldview. That way it is possible to easily switch to the view of the relevant area at the click of a mouse.

### **USE ONLINE MAPS OFFLINE**

A network control system does not usually have internet access and thus cannot use online maps. Experiments were therefore carried out with the possibility of using cached maps. This means that mapping that has been viewed when there was an online connection is stored in a cache and can then be provided to the offline system. The results were impressive.

However many network operators use their own mapping instead of publicly-accessible sources. There are quite a few software manufacturers in this field as well as numerous data formats for the electronic storage of maps. Therefore, for our proof of concept, we converted the different formats into the OSM format (Open Street Map). From this point, it was very easy to display the mapping in the zenon .NET container. Because the work writing a conversion tool was already underway, we added an editor to this, in which the lines, points of interest (POI) and areas could be drawn using the mouse (online or offline). The tool can then use these entries to create the above mentioned XML file, which is then displayed in the .NET control.

Smaller municipal facilities often have little or even no electronic illustrations of the positions of cables laid. For these operators, the above described tool is an excellent aid for simple and quick creation of their GIS data sets, which can then be displayed in the zenon screen immediately.

GIS is and remains an important part of network operation and network maintenance for infrastructure companies. For this reason, COPA-DATA will continue research in this area and allow the findings and experience from the proof of concept to gradually be applied in zenon.

---

### **SCADA::GIS RESEARCH PROJECT**

In addition to our internal research in the field of SCADA and GIS, we are continuing the SCADA::GIS project collaboration with the Information Technology and Systems Management (ITS) degree program at Salzburg University of Applied Sciences and other partners from research and industry the project will run from March 2012 to February 2014. The exciting task is to find out how process monitoring and process control can best be combined with geoinformation. Once the research work has been completed, the bridging of SCADA and GIS with a newly-developed system architecture will be tested using a prototype.

# HOW ZENON SUPPORTS SMART GRIDS:

## Benefits of IEC 61850 based SCADA Platforms with integrated Automation Functions

“TOMORROW, THERE IS GOING TO BE A BLACKOUT ACROSS THE ENTIRE EAST AND SOUTH COAST OF AUSTRALIA THAT WILL TAKE 48 HOURS TO BE RESOLVED.”

Just kidding of course. But while that is very unlikely to happen, I would like you to think about the possible implications. People in hospitals relying on backup generators that could fail, your parents suffering from heat stress due to lack of air conditioning, the majority of the Australian economy coming to an abrupt standstill.

Despite efforts of introducing more energy efficient equipment it is rather unlikely that the demand for electricity in the years to come will shrink significantly. However expanding the congested transmission networks to places where there is an increase in demand, is a time and cost intensive task. The expected growth in the use of renewable energy generation poses a further challenge with generation sites being offshore or in remote areas. Also distributed energy resources need to be considered, like small wind farms, photovoltaic power plants and battery storage.

And while this article is not about climate change, we should factor in possible climate changes as future challenges, with droughts affecting generation of hydro plants and higher temperatures putting a bigger load on the network.

More and more sensitive equipment being used, results in an increase in power quality demands. The highest level of availability and reliability is expected and simply

assumed as an absolute minimum requirement. Yet there is an emphasis to further reduce overall costs while still meeting these demands. To keep up the pace with the ever faster changes and these challenges, the grid needs to become smarter.

**MARK CLEMENS**  
SENIOR CONSULTANT



<http://kaywa.me/OE3du>

Read more in our paper that was presented first at the ANC Cigre SEAPAC 2013 conference in Brisbane, about how zenon can be used as a CRAS (Centralized Remedial Action Scheme) as one step towards WAMPAC (Wide Area Monitoring Protection And Control).

*CRAS are a cost effective solution to improve the reliability and security of the electrical transmission and distribution networks. Our test results clearly demonstrated the versatility and flexibility of zenon. It was successfully demonstrated that a CRAS scheme can be added to a zenon SCADA system, converting it into a powerful real-time automation platform.*

**PASCAL SCHAUB**, MANAGING DIRECTOR,  
D.T. PARTNERS PTY LTD, AUSTRALIA

EXPLOIT POTENTIAL, CARRY OUT UPDATES EASILY AND EFFICIENTLY

## zenon – compatibility par excellence

The highest degree of equipment availability, uninterrupted production processes and maximum productivity are the complex objectives of automotive concerns. Software updates for production equipment are often seen as a possible risk factor that can impair these objectives. However, you are on the safe side with zenon.

TEXT BERND WIMMER, INDUSTRY MANAGER AUTOMOTIVE



Thanks to the Runtime compatibility, companies with a current version of zenon can also use the project files for older versions without converting them beforehand. This is also possible across the network in a multi-project configuration.

**NEVER TOUCH A RUNNING SYSTEM** – hardly any rule is quoted in the IT field as frequently as this one. If a system is able to work and run, you should change as little as possible in order to avoid interruption to production, breakdowns or faults.

### **RISK FACTOR UPDATE**

Automotive manufacturers are also skeptical of system changes during the lifecycle of their equipment. Our many years of practical experience and many conversations with users have taught us that many companies delay updates as much as possible – often until it is unavoidable. They usually only make exceptions if there are new manufacturing requirements – for example, a product change – or when major updates to the operating system or security updates are necessary.

### **UNEXPLOITED POTENTIAL FOR MODERNIZATION**

The withdrawal of support for Windows XP means that a number of automotive manufacturers are facing the challenge of switching their system. This is perceived as a challenge because version changes and updates can hide risks and may cause, for example, equipment failure or interruptions to production. At COPA-DATA we believe an update should be capable of being implemented quickly, reliably and safely. zenon makes this possible. At the same time, companies also have the potential to benefit from the new features and innovations of the HMI/SCADA solution to the full extent.

### **COMPATIBILITY IN ZENON: WELL THOUGHT OUT, SIMPLE, SAFE**

Thanks to the compatibility mechanisms in zenon – which have been a component for many versions – companies can significantly reduce the work involved and the attendant tests and checks. Forward compatibility, backward compatibility and Runtime compatibility take the load off the user considerably. zenon makes it possible to separate the

individual steps for updates and also allows the checking of individual steps in ongoing production. The overall system is constantly available thanks to the redundancy in zenon.

An example involving a conveyor system: the system consists of three individual projects: feed-in, storage and feed-out, which are connected via an integration project. The individual projects each have a redundant server pair and

in Runtime, such as user passwords or recipes, and then create the Runtime files for all projects. If these are transferred to the respective server by the zenon Editor, they can be updated without interruption using the "Hot Reload" function: this function integrated into zenon automatically distributes the updated project data from the servers to the connected clients. An identical project status is therefore available on all networked zenon stations.

---

*Thanks to the compatibility mechanisms in zenon,  
a zenon update is much more relaxed and can even  
be carried out during operation.*

**BERND WIMMER**, INDUSTRY MANAGER AUTOMOTIVE  
COPA-DATA GERMANY

---

a total of 15 connected clients. The additional zenon Web Server provides the project with five web clients on the intranet. The proven zenon version 6.xx is used.

Without the compatibility in zenon, an update would be as follows: the user would have to convert all data into the desired version with the zenon Editor. At a defined point in time, they would shut down the whole system in order to install the new version – at the same time as far as possible. Then they would transfer the converted data and the whole system can be started again. Now the new version is tested: if any noticeable problem arises, the whole system must be searched to identify the cause. In the worst case, the whole system must be moved back to the original version in order to restart production.

Thanks to the compatibility mechanisms in zenon, a zenon update is much more relaxed and can even be carried out during operation: zenon Runtime can operate with the project data from older versions without conversion with no problems at all (Runtime compatibility). A connection to a server running or communicating with older versions is also possible. In practice, this means that each computer can be updated without changing the project. In doing so, the individual stations are only offline for the duration of the installation. The whole system remains available during the updates and the stations continue to be operable. Another advantage is that the alarms and archive logging are also retained and are safeguarded, because the server is also completely available thanks to redundancy

If the current version of zenon is installed on all computers, the project conversion can be started. It is sufficient to open the projects with the zenon Editor: when reading back project backups from older versions, the project data is automatically converted upwards after you are requested to confirm you want to do this (forward compatibility). Now the user only needs to import the settings configured

With the method described, all Runtime computers are updated to the current version in the first stage and then the Runtime files are converted to the desired version with the zenon Editor in the second stage.

In addition to the above-mentioned compatibility mechanisms, zenon also offers backward compatibility: if companies use a current zenon Editor, they can also read in project backups from older versions. The Editor files are automatically converted to the respective version in the process. It is therefore possible to work with the most recent zenon development tool, to benefit from the latest functions and to also create Runtime files for older Runtime versions with the current development tool. To do this, it is only necessary to set the target version in a selection box in "Project properties". The Runtime files created this way can then be transferred to the older systems and used there.

The compatibility mechanisms in zenon make it possible to use different versions of the software in a network structure. This way the overall system is available at all times when a version is changed – even if individual computers are switched off during the software administration.

The compatibility that zenon offers provides companies with the freedom to plan migration strategies on a long term basis and to quickly react to market trends. The administration and maintenance of existing systems is thus very easy and also very safe.



ERGONOMICS IS A WHOLE LOT MORE THAN CHAIRS!

## The door to Pharmaceutical Optimization is open

All things in life evolve. Why? Because of the influences upon them, the barriers that limit their choices and the opportunities which unfold in front of them.

TEXT ROBERT HARRISON,  
INDUSTRY MANAGER PHARMACEUTICAL

LIFE-SCIENCE PRODUCTION INDUSTRIES operate within tight regulations; the risk of not achieving regulatory compliance has created a culture of fear. A fear which has restricted automation advances through the 'validate all' culture for all processes: 'whatever you do, don't change anything!' On the other side of the coin, the 'patent cliff' and increased generic production are seriously influencing evolution.

So that's the barriers and the influences dealt with – let's take a look at how the opportunities unfold...

Ergonomic solutions create the environment and transparency to really see production. Automation with zenon makes validation of processes as efficient as possible. The way forward in pharmaceutical automation can be distilled into three key elements: 1. Native communication, 2. Integral functionality, 3. Compliance and validation efficiency.

**1.)** Native Communication gives you direct connection to PLCs, devices, and industrial networks. The connection is configured and not designed. Simply connect and get data without stopping or making any changes on the device.

Communication drivers go beyond process level connectivity, reaching vertically interfacing Business & Management layers. Native SAP, MS Dynamics NAV, SQL and OPC interfaces connect automation to business IT. Business objectives are linked in real-time to production operations.

Production Operations are now processes, connecting individual machines with holistic control and acquisition of data.

Your facility is now a transparent entity, pulling information from different sources. And pushing it, focused to the specific need, direct to the user wherever they are and whichever device they use to display it.

**2.)** Our high-end functionality sits on top of the communication platform and embraces key strategic control mechanisms needed in a GMP environment, such as Batch Control, Parameter Recipe Management, Archiving, User Administration, Alarm Management, and Audit Trail. zenon offers beneficial changes to the control structure.

**3.)** Efficient validation is the combination of our communication platform bringing multiple systems together, integral functionality, and the design which is achieved through parameterization. Reducing complexity, novelty, and risk.

The difference is night and day from other systems we find in our business: zenon implements leading-edge Life Science Automation, optimization, and superior control of processes. Solutions which are efficient on validation – high on optimization.

## NATIVE COMMUNICATION

Accessing data as read-only means no change to the equipment, and validation hasn't been compromised. This is how we can start to make optimization advancements.

- The production process is not stopped
- The qualification/validation state remains unchanged
- Data is available from multiple pieces of equipment
- Results are seen in real time
- Focused results are visible across the facility
- Validation is as efficient as possible

## HIGH-END FUNCTIONALITY

Optimization turns into productivity advancements. Business initiatives are visible throughout the supply chain in real time. Increment OEE through facility-wide reports; step-by-step tuning of your processes can be valued against the cost of time and resources. See what is good and what doesn't work as planned in the shortest possible duration – then act!

Analysis of alarms, analysis of production: whether engineering or operations is your thing, streamline activities that make a difference. We can put optimization into any facility.

LIFE SCIENCE AUTOMATION IS IN A NEW ERA

# Ergonomic Batch Control

An earlier article in this magazine *The door to Pharmaceutical Optimization is open* describes bringing Ergonomics to pharmaceutical automation, and then focusing on 'Optimization'. In this article we use the same flexible ergonomic platform to layer the Batch Control module in zenon into pharmaceutical production to realize unforeseen potential.

TEXT ROBERT HARRISON, INDUSTRY MANAGER PHARMACEUTICAL

SO HOW DOES THIS WORK? Well, the concept is simple – it utilizes several elements which create agile production control:

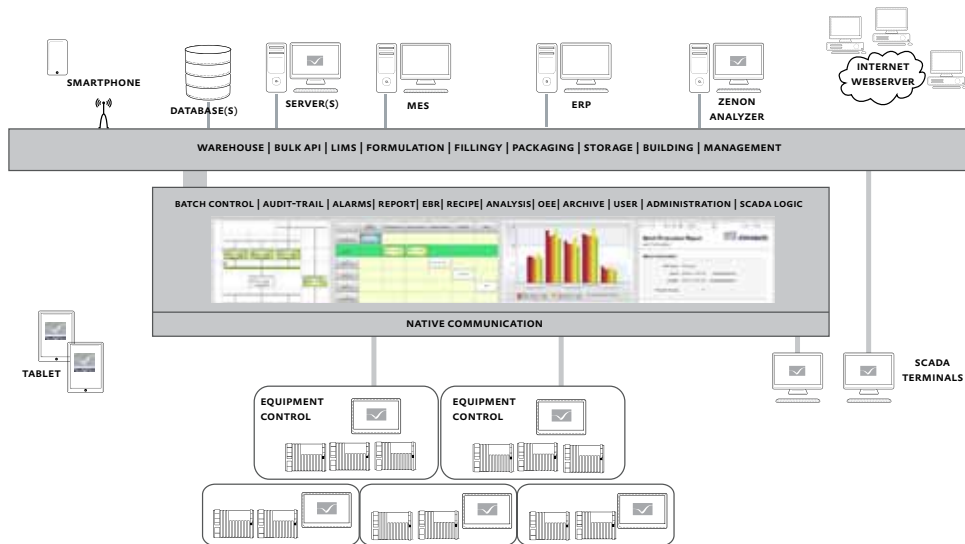
- Communication to equipment: connect to many different systems via native communication drivers
- Seamless vertical integration to ERP (e.g. SAP), MES, SQL. Command, control, acquire and visualize
- Basic logic control loops in the equipment control only the physical hardware not the process
- 'Phases' in zenon provide the knowledge link to the equipment control loops
- Master recipes define the process engineering, containing phases and other process logic
- Control recipes execute production batch orders
- Report on recipe details, integrate into a structure of quality management
- Report on the batch production, batch report, Report By Exception, Alarm analysis, etc.
- Recipe management and development performed by non-automation personnel
- Recipes are easy to create, modify, add, execute, and validate

Agile platforms create opportunities and offer significant advantages. Batch Control in zenon allows you to progress and continually evolve process engineering simply by changing the recipe. The process is then very adaptable to different products, and complete process flows can be changed by applying different recipes to the same equipment. In a world where processes need to be lean and adaptable to change, the Batch Control module enriches our ergonomic platform.

- Strong communication capabilities bring multiple systems into the same control sphere
- Vertical integration, closed-loop data exchange between shop-floor and enterprise systems
- Production operations are executed in a predictable manner
- Consistent process control
- People are empowered to monitor, measure, control, and act in real time
- Quality is designed into the manufacturing chain; assurance from start to finish
- Regulatory compliance in the most efficient manner

Separation between 'equipment logic control' and 'process control' brings opportunities to continually evolve and adapt. In the Pharmaceutical sector, changing equipment control logic on a running validated machine is a nightmare. If you mention to any automation engineer in a pharmaceutical facility an ad-hoc change to PLC code, the fear of the regulatory compliance will keep him or her awake for many long nights! Using the Batch Control module removes this need to revalidate the running machine; changes to the process are now only a change to a recipe. The recipe is still a validated procedure, however the machine hasn't changed, the process change is within design limits, the outcome is predictable, and the exposure to risk is reduced. Recipe evolution is well known within pharmaceutical activities and is part of an established culture of change management. All of which equates to a faster time-to-market through highly flexible production control.

Non-value-added activities are removed from the continuous improvement process – such as compliance documentation on the equipment change, with specifications,



test procedures, and test results. All of which cost serious amounts of money and resources, involving qualified professionals to carry out the task, plus the incurred production downtime.

In production, the process from end to end is traceable, logged in archives, electronic records and signatures traced in the Audit Trail, which is visible at all levels, analyzed and reported on – thus giving one single version of the truth. All the data originates and resides on one platform, where the information is focused to a specific need at all levels in an organization. Process-wide production data is accurate, automatic, and optimal; individual machines and their transactional data are documented as one process. Paper-based batch reports and paper-based SOP's (Standard Operating Procedures) are eliminated. Ergonomics means that gaps are bridged between enterprise systems and shop-floor systems, clear alerts, real-time decisions and fast response times come from operational visibility – resulting in fewer quality deviations. Higher productivity and increased revenue are achieved as a result of fewer rejects and reworks – increasing process availability to produce more!

Usability is also a key factor: providing intuitive user interfaces at all levels and aligning the information to an individual's need or function. See and command the process at many levels through: server workstations, internet or intranet, SCADA terminals, machine HMI, tablet PC, or smartphone app.

The platform is ergonomic. The process is ergonomic. The operator's workflow is ergonomic. Experience ergonomics with zenon and watch our new Batch Control video.

## LEARN MORE



<http://kaywa.me/O9kk1>

Ergonomic Batch Control  
with zenon (video)



INTUITIVE MACHINE  
AND EQUIPMENT OPERATION WITH ZENON

## Master complexity

Large facilities need users to be able to record all information quickly and to be able to act accordingly. For continuous process monitoring, all machine and production information must be available with a clear overview. Krones AG has achieved increased quality, safety and productivity for its whole range of machines with a new user interface. The basis of this new user interface is the HMI/SCADA software zenon.

TEXT SUSANNE GARHAMMER  
PHOTOGRAPHY: KRONES AG

45 YEARS AGO, Krones was able to implement all relevant operational processes with conventional display lamps and switches on an A4-sized control box – approximately one page of a modern touch screen. By the mid-nineties, there were 30 control pages on the Krones touch panel. The touch screen is now much more than a control panel, with 100 to 250 screen pages available on the panels, a third of which are for operation, two thirds of which are for diagnosis. The reason for this is the increased level of automation and the increasing number of electric drive units. For example, stickering machines must now be more flexible: there are different stickering processes for different materials such as foil or paper, the stickers must be cut and located correctly and the machines must monitor the quality of the processes. The simple and efficient operation of machines and equipment therefore becomes an ever-greater challenge: “With the increasing scope of output and function, the possibilities for using a machine or facility also increase. However, this must not lead to the operator of the machines being unable to cope. The amount of functions and outputs of the machines must take a back seat. The operation of the machines must be designed in such a way that the employee notices nothing of the complexity. The most important priority is that the operator can complete their tasks efficiently and productively,” explains Robert Giehl, Manager of Control Technology, Research and Development at Krones AG in Neutraubling, Germany.

## ZENON – THE BASIS FOR ADVANCED DESIGN

Krones AG had already been using zenon as their HMI/SCADA solution since 2001. zenon is equipped with all the graphical capabilities that are necessary for the modern design of effective interfaces between operators and machines. The focus for continued further development of the HMI/SCADA software is usability research. The results of market studies show that applications with optimized user guidance increase productivity considerably. There are two reasons for this. Firstly, mistakes are minimized due to a clear interface design. Secondly, systems that are designed in a user-friendly manner make it easier to learn and master complex control units.

## REUSABILITY INCREASES EFFICIENCY

One of the most important basic principles in zenon is the reusability of objects and screen elements. This makes it possible to configure projects very efficiently and to implement subsequent changes centrally and quickly. “For Krones, it is important to develop a consistent corporate design for all touch screens at a central location and to distribute this to different divisions, so that all machines and facilities can use this user-interface design worldwide,” explains Thomas Stauber, Manager of HMI Systems, Research and Development at Krones AG.



As a technological leader, COPA-DATA is continuously investing in the graphical capabilities of the HMI/SCADA solution zenon.



User-friendly visualization of machines, equipment and processes is the key to the optimization of processes.

### ZENON OFFERS DESIGN FREEDOM

In addition to the multiple reuse of objects, zenon also allows the grouping of related elements and the free design and placement of elements. Existing and expandable icon libraries simplify the work of the user interface designer and project engineer to a considerable extent. Because all requirements and links are saved centrally, a consistent look and feel and the efficient adaptation of the design

- A task-orientated control structure
- Perception-orientated user guidance and navigation
- A solution-orientated messaging system
- An overview of connected machines

### WORK IN A TASK-ORIENTATED MANNER

Up to now, the Kronos control principle was primarily orientated towards the technical function of the machines.

*The flexibility and openness  
of zenon makes it possible for us  
to develop  
in new ways and implement  
ergonomic solutions.*

**ROBERT GIEHRL** MANAGER OF CONTROL TECHNOLOGY  
RESEARCH AND DEVELOPMENT, KRONES AG

are always ensured. In addition to a comprehensive set of standard elements consisting of fonts, colors, frames and shading, the HMI/SCADA software zenon now offers modern design possibilities such as free template forms, shaded display of elements including transparency, free rotation and universal and asymmetric buttons. Thanks to the integration of the Windows Presentation Foundation (WPF), the person configuring the project can create the user interface according to requirements and in the desired design of the user using XAML files. "For us, zenon is the ideal platform for creating user friendly and intuitive user interfaces. The HMI/SCADA software allows us to display our requirements for a user interface in conjunction with our own program expansions comprehensively and with the details implemented correctly. We appreciate the freedom when designing our user interfaces very much," explains Thomas Stauber. The online language switching and unit switching provides additional ease of use. This way, the zenon applications can be used internationally without additional development work.

### WELL THOUGHT-OUT VISUALIZATION

In close cooperation with customers, their own service department and external specialists, Kronos used the HMI/SCADA solution zenon as the basis for the development of a new user control concept for approximately 50 different types of machines. The new visualization is now more closely oriented towards the individual requirements and knowledge of the users and can be operated more easily and intuitively. The Neutraubling, Germany based company set out four main criteria for the implementation of this new user design:

"However, users think in terms of tasks. They have to complete their tasks and one of their tasks is to maintain production," explains Robert Giehl. The new user interface provides all functions, and the related information such as process values, in a task-orientated manner – be it an energy monitor, production statistics or an overview of the parameters. If changes occur, such as a change to process values, the user can react to this quickly and thus safeguard the process and product quality.

### INTUITIVE NAVIGATION, QUICK ORIENTATION

The user guide of the Kronos machines was previously constructed as a menu tree that guided the user from side to side and from function to function – a widespread concept. Now, the user interface comprises a total of three navigation levels. The user can find all functions that they need to complete their task on the first page.

### MEANINGFUL CONTROL ELEMENTS

Kronos has also revised the controls and icons that were previously in use. Colored elements now aid optimum orientation to the user interface and the correct interpretation of the controls. The new design of 'icons plus text' helps users to select the desired function in the main navigation bar. "Tests prove that ideal controls should be a combination of icons and text. Although symbols need to be used, if they are used alone, they can often be unclear or misleading. In addition, there are few international standards," said Timo Pronold, Usability Engineer at Kronos AG. "A combination of text and icons makes it possible for the user to learn quickly. For an experienced user, the icon is a quickly recognized characteristic."

## **QUICK DIAGNOSIS, QUICK TROUBLESHOOTING**

One of the most significant technical developments in the operation of Krones machines is the solution oriented message system for troubleshooting and diagnosis. The new message management allows simple navigation and quick switching between the message list, message description and a graphical overview of locations with a problem. The structured message descriptions provide the employee with clearly understandable and traceable information such as who can rectify the problem, what type of problem it is and where it is. Robert Giehl from Krones says: "The texts must be adapted to the knowledge and experience of the user in terms of simplicity and conciseness, not aimed at a technician who develops machine visualization. The key is to give the user instructions on what they actually have to do based on the current status of the machines or events." He uses an example to explain: in previous HMI versions, the user would receive a message, for example, "Series production error - bottle width measurement". Now, the message system has been divided into four parts: the user receives clear information that bottles are being rejected. They are also informed of the cause, for example: the bottle width of several consecutive bottles exceeded the defined limit values. In addition, the error screen and the reference designation state the actual location and thus allow easy localization (such a reference designator/electronic symbol can be an electrical construction element, assembly or components of electrical equipment). In addition, extensive instructions explain the action to take in detail. The message system for the different Krones machine types comprises between 500 and 5,000 main messages, supplemented with dynamic additional text and critical process values.

## **CONSISTENCY ENSURES EFFICIENCY**

The machine overview provides the user with information and functions for all machines at each control terminal. At the press of a button, all production-related functions are activated and attendant machines, such as blow-molding machines, stickering machines or filling machines can be connected or disconnected in the ErgoBloc. Furthermore, the status display will also provide information on the consumable materials and production values. The use of zenon now makes it possible to operate machines from the whole Krones product range with uniform machine visualization – including filling systems, labeling systems, plastic systems, process systems, packaging and palleting systems, inspection systems, cleaning systems, pasteurization systems and transport systems. A consistent look & feel at all control stations makes it possible for the user to easily find their feet. There is therefore no time-consuming training sessions or long periods of induction for machine operation and maintenance.

## **FURTHER INDIVIDUALIZATION AS A TREND**

The trend is already moving towards individualization of task-oriented user interfaces. Timo Pronold from Krones says: "In the long term, users will be able to compile their user interfaces according to their individual wishes and requirements – simply by dragging and dropping. They will no longer need to worry about the technical functions or data that is involved. For them, all that matters is the information and functions required to complete their individual tasks optimally. This will be the next evolutionary stage."





# AROUND THE WORLD

COPA-DATA Partner Community

Who's Who

zenon Powered by: Sales Representatives

Interview: At Home with zenon

Learning for Life: Intercultural Competence at COPA-DATA

News from the COPA-DATA Subsidiaries

Quiz: Test Your zenon Knowledge

zenon Challenge 2014

Events 2013/2014



## **COPA-DATA PARTNER COMMUNITY**

With great commitment and dedication, both from our partners and COPA-DATA employees worldwide, the COPA-DATA Partner Community is continuing to expand. Together we focus on the essential – to bring the strengths and benefits of zenon into the real life automation of our customers.

When the COPA-DATA Partner Community was launched in 2011, there was a clear aim – we wanted to grow together with our partners. Using “Growing Together” as our motivation, we have been focusing on several areas: growing the knowledge transfer to our partners, growing the business opportunities together with our partners and, finally, growing the network of partners around the world!

#### **OPEN KNOWLEDGE TRANSFER**

COPA-DATA has always surrounded itself with competent business partners who have spread the knowledge of zenon further into the world of automation. With the COPA-DATA Partner Community, we went one step further by also creating an open and visible network of competent partners. All our partners participate in regular product training, and on top of this we also ensure that they receive partner specific information at an early stage. This

petence. All partners are given the opportunity to upgrade their level depending on their own ambitions and dedication. At the moment we already have a good number of Qualified Partners and the first upgrade to the Expert Level was completed in the beginning of 2013, with Prozesstechnik Kropf from Germany becoming the first Expert Partner worldwide. To reach the level of Expert Partner requires a strong commitment and passion for zenon. Prozesstechnik Kropf has had a very long relationship with COPA-DATA and zenon, going back to the late 90’s, and was among the first to join the COPA-DATA Partner Community when it was launched.

#### **GROWING TOGETHER ACROSS THE WORLD**

With our Headquarters based in the beautiful town of Salzburg in Austria, it was a natural step to start the implemen-

---

*After several years of highly successful collaboration with COPA-DATA, it was a natural step for Iprel Progetti Srl to join the COPA-DATA Partner Community. We are looking forward to further intensify our cooperation and to take advantage of all the benefits that are provided. With this partnership, we are truly able to gain competitive edge in our market and together we can grow our business.*

**DAVIDE TASSINARI, IPREL PROGETTI SRL**  
REGISTERED PARTNER, ITALY

---

proactive information – given in, for example, the COPA-DATA Partner Newsletter – guarantees that our partners keep abreast of new releases and functionalities, thus assuring the best solutions for their customers. We also invest a lot of time in creating partner-exclusive information packages to support their complete organization from sales to implementation. At COPA-DATA we have the clear objective of ensuring the latest information flows to our partners. We want all our partners to be well informed about the latest in zenon so that they always can provide the newest technology and most innovative solutions to their customers.

#### **ALL PARTNERS ARE GIVEN THE POWER TO GROW**

As part of the competence growth of our partners, we have divided the Partner Community into three levels – Registered, Qualified and Expert Partners. All partners start as Registered Partners, and a certain knowledge about zenon is already required. As a Partner moves from Registered to Qualified and then Expert Partner, the competence required increases. The COPA-DATA team review the product & technical competence acquired through training and on-site implementations, as well as marketing & sales com-

tation of the COPA-DATA Partner Community in Europe. Austria, Germany, the United Kingdom and Sweden were the first subsidiaries to implement the COPA-DATA Partner Community. As time has passed, more and more subsidiaries and sales representatives have enrolled to take advantage of the benefits and the strength of a global network. The growth of the Partner Community has been constant, with more partners joining in existing countries, as well as the coverage increasing to incorporate new continents and countries such as Australia, Canada, Russia and the U.S. At this stage we have more than 100 strongly-committed partners in over 25 countries – and we can say with confidence that the growth will continue.

#### **CRESCERE INSIEME: GROWING TOGETHER IN ITALY**

COPA-DATA Italy has long-standing business relations with many System Integrators and Machine Builders, and is keen to bring them into the global network of the COPA-DATA Partner Community. In January 2013, the Partner Community was kicked off at a well attended partner event. The partner event was a great start and immediately – during the first week after the event – more than a dozen partners had signed up. The focus for



**PROZESSTECHNIK KROPF GMBH  
EXPERT PARTNER**

Prozesstechnik Kropf GmbH is your innovative and high-performance partner in the area of automation technology. Since 1995 our competence lies in greater high-quality services with a focus on process control systems and data technology and related switching equipment. For the last couple of years we have been supplying numerous customers in the Automotive, Food & Beverage, Building Automation and Energy industries with high-end projects using the leading technology product, zenon.

VISIT [WWW.COPADATA.COM/PARTNER](http://WWW.COPADATA.COM/PARTNER) OR  
[WWW.PROZESSTECHNIK.DE](http://WWW.PROZESSTECHNIK.DE) FOR MORE  
INFORMATION.

COPA-DATA Italy is now on growing together with its partners and on developing new business opportunities, based on a win-win relationship.

#### **GLOBAL PARTNER ACADEMY 2014**

As part of our strategy to increase the information flow to our partners, and to support them with quick and proactive information, we will host the Global Partner Academy in June 2014. The focus will be to give more technical in-depth information in parallel workshops as well as unique selling points to leverage. There will be a wide range of people from management roles present such as product managers, head of technology services and head of development. This is the perfect opportunity to share knowledge and experience in a relaxed and welcoming atmosphere and we are looking forward to meeting our partners from around the world.

#### **GROWING TOGETHER IN THE FUTURE**

There are many ongoing activities for and together with our partners. The future is not set in stone, and neither is the COPA-DATA Partner Community. More information is being created for our partners, more projects are being implemented with our partners and more customers are looking for our partners. As we grow, we will continue to focus our energies on keeping the Partner Community a personal and user friendly network of competent professionals. We will continue to grow together – for even more expertise in automation.

Looking for a partner in your region? Visit  
[www.copadata.com/find-a-partner](http://www.copadata.com/find-a-partner).

Interested in becoming a partner? Contact your closest sales representative or send us an e-mail at [partner@copadata.com](mailto:partner@copadata.com).

**LISETTE LILLO FAGERSTEDT**  
PARTNER PROGRAM MANAGER

**JOHANNES PETROWISCH**  
PARTNER ACCOUNT MANAGER



## COPA-DATA USA

DAVID BRENNAN  
MARKETING MANAGER

The COPA-DATA Partner Community was launched in North America in the beginning of 2013. With strong companies such as A&E Engineering (U.S.) and D&D Automation (Canada and the U.S.) registering for the Partner Community, we now have a strong basis for a successful growth in the future. Matt Ferguson from A&E Engineering states: "The combination of the COPA-DATA Partner Community together with the software zenon gives us all the benefits we need in order to be able to offer innovative and reliable solutions, gain competitive advantage and increase our market share in the U.S." We are looking forward to further expand our reach with the Partner Community and to build up a strong and competent partner landscape in North America as well as to additionally cover Mexico. With our latest achievements and future goals in mind, we are looking into a bright and successful future.

**IF WE SHOULD** describe the COPA-DATA Partner Community in one sentence we would say that it is ... a group of companies who are experienced with zenon software and are able to take on project referrals when needed.

---

For more information please send an e-mail to [david.brennan@copadata.com](mailto:david.brennan@copadata.com).



## COPA-DATA Poland

URSZULA BIZON-ZABA  
MARKETING MANAGER

In Poland, our number of partners is continuously growing. Having already several partners with different industry and product focuses, the future goal is to reach the highest number of qualified and expert partners within the COPA-DATA network worldwide. This effort on further developing the competence and experience of each partner company will guarantee the best possible solutions and services for our end customers. In order to meet this target, we will provide our partners with the appropriate training and workshops, the right tools and even more partner-exclusive information. In accordance with the general terms of the COPA-DATA Partner Community, we perform annual reviews to assure the competence of our partners and the fulfillment of the defined requirements.

**IF WE SHOULD** describe the COPA-DATA Partner Community in one sentence we would say that it is ... an international partner program that is the springboard to success for automation experts who truly want to make a difference in the automation industry by engaging with knowledgeable experts to make automation an easy, hands-on, enjoyable experience.

---

For more information please send an e-mail to [urszula.bizon-zaba@copadata.com](mailto:urszula.bizon-zaba@copadata.com).



## COPA-DATA Korea

YOUNG SU KIM  
DEPUTY MANAGER

The COPA-DATA Partner Community in South Korea is well perceived and has a good number of partners. The most appreciated benefit for our partners in South Korea is the pro-active and exclusive information they receive before anyone else in the market. Information about forthcoming product releases, in-depth technical information as well as videos and presentations are given to our partners on a regular basis. In addition our partners are promoted online on the COPA-DATA website and social media channels – which results in continuous customer lead generation. As local language is of great importance when dealing with the Korean market, we will continue to provide more material in Korean, starting with the content given on our website. This especially includes the main pages about our products, industries, references and the Partner Community.

**IF WE SHOULD** describe the COPA-DATA Partner Community in one sentence we would say that it is ... the fundamental key to become a successful player in the automation industry using the software zenon.

---

For more information please send an e-mail to [youngsu.kim@copadata.com](mailto:youngsu.kim@copadata.com).



## WHO'S WHO

With the move towards internationalization, COPA-DATA laid an important foundation for continued growth and sustainable success in 1996. The first foreign subsidiaries were founded, many new markets were entered and numerous users throughout the world have been impressed by zenon since then.

At the center of this growth are smart minds with comprehensive expertise, creative ideas, initiative and a high degree of drive: our employees. With "Who's Who" we offer the people at COPA-DATA a stage on which they can personally introduce themselves so that you, the reader, know who you are working with.

Curtain up!

PHOTOGRAPHY LUIGI CAPUTO



## Martyn Williams

MANAGING DIRECTOR  
COPA-DATA UK

**AT COPA-DATA SINCE:** 2012 (2<sup>nd</sup> time) **RESPONSIBILITIES:** As well as having too much fun and generally getting overly excited about our amazing technology, my job is to grow our UK brand and create a stable, profitable business for COPA-DATA, our staff and our client base. It is to support and build a great team in the UK and ensure that our customers get the very best service as well as achieve their goals when using zenon. It is helping people create the best ergonomic process control solutions! **I GET MY INSPIRATION FROM...** family, friends and colleagues. Especially my children, who always seem to have more energy than I do and are definitely more persistent! **IF I COULD DO AS I WANTED, I WOULD...** travel the world with my wife and children, buy a Porsche, play with LEGOs more often, score the winning try against England to win the grand slam and eat chocolate before I go to bed.

You can reach me at:  
martyn.williams@copadata.co.uk



## Phillip Werr

MARKETING MANAGER  
COPA-DATA HEADQUARTERS

**AT COPA-DATA SINCE:** 2010 **RESPONSIBILITIES:** Leading the most awesome marketing team under the sun! Hell yeah! **I GET MY INSPIRATION FROM ...** being out and about with my two sons. If a 2-year-old demonstrates the iron will to resist any limitations (for example, gravity), then why shouldn't we grown-ups, too, think without boundaries? **IF I COULD DO AS I WANTED, I WOULD ...** write a book, time travel, feed a Triceratops, fly to the moon to plant a zenon flag there and be back home in time for dinner.

You can reach me at:  
phillip.werr@copadata.com



## Gianluca Silvestroni

SALES AREA MANAGER  
COPA-DATA ITALIEN

**AT COPA-DATA SINCE:** Januar 2013 **RESPONSIBILITIES:** I am responsible for sales in the center of Italy, specifically the area of Emilia Romagna, Toscana and Marche – a strategic area for automation machine builders, particularly machines for food, packaging, wood and ceramic. **BACKGROUND:** I started my career in automation engineering. Then, after ten years, I went into automation sales, motion and control systems, sensors, and components. I like interaction with people and new technology. **I GET MY INSPIRATION FROM ...** the people around me, my family and my friends, and my motto is: "audentes fortuna iuvat" **IF I COULD DO AS I WANTED, I WOULD ...** go on adventures in search of treasures and mysterious objects, just like Indiana Jones, and travel to unknown countries. But for now traveling around Italy comes first – it has so many treasures to be discovered. **HOBBIES AND INTERESTS:** I like new technologies, working with people, nature, sports, good food and antiques. I like to wake up early in the morning to look for ancient things in flea markets.

You can reach me at:  
gianluca.silvestroni@copadata.it



ZENON POWERED BY

## **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.

Under the title *zenon powered by...*, 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, Maestro Technologies from India and our South African sales partner, Anytech, introduce themselves. Voilà!

# Maestro Technologies

YOUR ZENON SALES  
REPRESENTATIVE IN INDIA



The four Directors of Maestro Technologies in India (from left to right): Mr. Mandviya, Mr. Yashodhan, Mr. Satish Patil and Mr. Prasad Khadilkar.

MAESTRO TECHNOLOGIES was established in 2006 by three Technical Engineers each with more than 14 years of experience in the field of automation, working with Mitsubishi Automation products at a national level. Maestro is recognized in the market for its technical competence. We continue to strive to improve by taking on challenging opportunities. At Maestro, we have three primary product ranges, including COPA-DATA's zenon as our core product. In order to grow our business, we focus on four key strategies:

1. Sale of zenon SCADA software and automation hardware like IPCs and HMIs to machine builders, system integrators, etc.
2. Promote "Smart HMI" solutions comprising of zenon SCADA and IPCs to machine builders from Pharmaceutical, Printing, Automotive, Plastics industries.
3. Undertake responsibility to engineer, design, and install complete automation projects in the Automotive and Pharmaceutical industries.
4. Establish strategic relationships with large electrical companies like Larsen & Toubro (L&T), GE, Crompton Greaves etc. to promote zenon and straton for SAS and Embedded Control.

The Maestro Team is led by four Directors: Satish Patil (Business Administration), Prasad Khadilkar (Technology Management), Mr. Mandviya (Business Development), and Mr. Yashodhan (Key OEM Development). Maestro Technologies has 15 engineers who provide technical support, development, engineering and after-sales service and support. Today we are a strong team of 25 people in India. To fuel growth, we are expanding our operation and enhancing our national presence in three ways:

1. Establishing offices at important locations in India.
2. Collaborating with system integrators as our partners.
3. Appointing resellers and local service providers.

These steps will ensure a closer contact with our customers and the wider market.

Since our inception in 2006, we have worked with COPA-DATA, along with IPC and other HMI suppliers. We soon realized that zenon should be the key product in our strategy. zenon's key features like extensive functionality, rich built-in drivers, ergonomics, and industry-specific product editions help us to position the software to targeted industry segments. Our success wouldn't have been possible without cooperation from COPA-DATA.

In India, we are focused on the control & automation segment of Energy, as well as manufacturing industries like Pharmaceutical, Plastics, Automotive, and Printing. We have formed strategic associations with large engineering companies in India, including Larsen & Toubro (L&T) and Crompton Greaves (CG). Our system solutions for production efficiency monitoring, flexible production and scheduling, and quality monitoring systems are used by leading automotive companies in India, including Suzuki, Bajaj Auto, Honda, Piaggio, FAG, INA Bearings, Faurecia, NKC etc. Many leading machine builders serving the manufacturing industry, such as ACG Pam, Pam Glatt, Kabra Extrusionstechnik (KET), Manugraph, Tox Pressotechnik etc. have standardized on zenon SCADA for their machines.

---

## YOU CAN REACH US AT

Maestro Technologies  
#4, Kala Kunj, Near Gandhi Bhavan, Kothrud  
Pune 411038, India  
Tel.: +91 2025396369

[www.maestro-technologies.com](http://www.maestro-technologies.com)  
[sales@maestro-control.com](mailto:sales@maestro-control.com)

# Anytech

YOUR ZENON SALES  
REPRESENTATIVE IN SOUTH AFRICA



Successful with zenon in South Africa: The team from Anytech under the management of Peter Erasmus

ANYTECH was founded in 1999 by the current CEO Peter Erasmus. Today our product portfolio comprises of industrial control automation hardware and software products including CPUs and related accessories, HMIs and SCADA systems. Based in northern Johannesburg, we are strategically located to serve the Gauteng region, the hub of South African industry. We have three main partners / principles that are integral to our success, namely COPA-DATA, CTI and VIPA.

We have a total of 14 people working at Anytech. The sales and marketing team comprises of six and carries ultimate responsibility for developing, building and growing the zenon brand. Three technical support staff assist the sales team to service the market and ensure we meet the expectations of our clients. As a member of the Directech Group of Companies Anytech also has a CEO, COO, CFO and an HR executive who are actively involved.

The key market sectors we focus on are the automotive, energy, food & beverage, mining and pharmaceutical sectors.

Our collaboration with COPA-DATA has been in existence since 2002 and we continue with this co-operation as it is an organisation on the move that is creating new benchmarks in the global HMI/SCADA market. COPA-DATA's innovation in continual product design and development, open communication, and support of our people are what keeps this cooperation moving forward.

We have chosen to market and sell zenon as it is the most innovative, user friendly and cost effective plant control (HMI/SCADA) system on the market today.

## YOU CAN REACH US AT

Anytech Pty Ltd  
Directech Industrial Park Cnr Orleans and Homestead  
Rds Kya Sand Randburg, South Africa  
PO Box 771174, Fontainebleau 2032

Tel: +27 11 708 1992  
Fax.: +27 11 708 1745

sales@anytech.co.za  
www.anytech.co.za

# AT HOME WITH ZENON

---

## Ambrogio – the Butler, Who Thinks of Everything!

AN INTERVIEW WITH GIUSEPPE MENIN WHO USES  
ZENON IN HIS HOUSE

PHOTOGRAPHY LUIGI CAPUTO



**Giuseppe Menin, Industry Manager at COPA-DATA Italy, with over 20 years of experience in industrial automation and HMI/SCADA software, decided to install zenon in his house as a building automation system. We spoke to him about his experience with zenon at home.**

**Giuseppe, we've heard that you installed zenon in your home. When did you decide to install zenon and why?**

When, about ten years ago, we built our new home, I wondered how to install the various home automation technologies and how to control them. Heating, lighting controls, security systems, and irrigation of the garden. Each system had its own control equipment, which would typically be located in different places and configured in different ways. Each represented more things to learn and remember. So I thought: why not integrate the various functions into a single system? I soon realized that they had to be managed by a home automation system. That way, we could control the various systems from a single point, simplifying our life.

I was working in the engineering department, designing industrial automation systems. So I decided to bring home a little professional experience to create a small automation system. It had to be open, independent of any specific hardware and based on recognized industry standards.

I chose a PC-based automation: a remote I/O system connected to an embedded PC via Modbus TCP-IP. In this way, I could control lights, heating, room ambient temperature and so on. Of course, what better than straton to manage the various systems? straton is a PLC that is IEC 61131 compliant, and can easily connect different fieldbus. The monitoring, control and data acquisition of the system is delegated to zenon. The PC is also able to perform functions of our home surveillance system. A real integrated solution, fully hardware independent. Thus was born "Ambrogio", our virtual house butler who, like the butler Ambrogio known from the popular Ferrero Rocher advertising of the 90s, "thinks of everything".

**Which are the most important functionalities you are using?**

The main idea is the integration and interaction between the various systems. We not only control the lights with the usual buttons, but also, for example, anti-intrusion sensors automatically turn on the lights when the passage of a person is detected and the alarm is disabled. At night, the same sensor switches on the "night soft light" in the house whenever someone gets up from bed. The heating system cuts off

automatically when the windows are open. Our smartphone can act as a universal remote control: enabling us to set the temperature remotely, open the gate, or to receive alarm messages. Small details that make the difference between an integrated system and many separate devices.

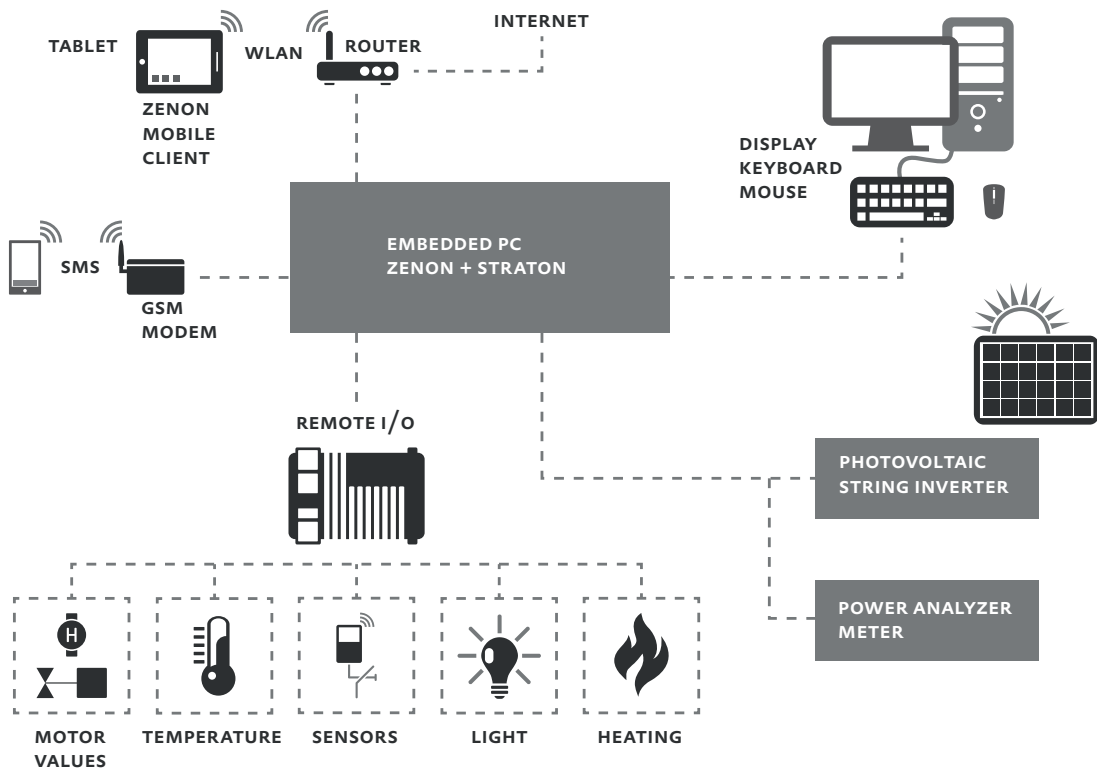
**How does zenon help you in the calculation of energy consumption?**

It was interesting to see how zenon can help you understand the consumption of energy at home. How long does it take for the heating to bring the environment to the desired temperature? How can I optimize my consumption of electricity during the day? Is the bill that I get from my energy supplier correct? And there is even more: through its Chronological Event List (CEL), zenon lets me know when my sons get home from school... nothing escapes from Ambrogio!

**We've heard that you installed photovoltaic panels on your roof. Does zenon help here?**

In Italy, the so called "Conto Energia", a governmental initiative incentivizing power produced by photovoltaic (PV) plants, terminated in June 2013. This brings new challenges for domestic photovoltaic plants – you could call it PV 2.0. The new objective for so called "prosumers" (producers and consumers at the same time) is to maximize the use of self-produced energy while reducing the power demand from the main grid. This can be done with a proper energy load handling and the installation of an "energy storage system". In the near future, energy storage systems will have an important role in homes: storing the energy produced during daylight hours, to make it available in the evening. Today, unfortunately, the storage technology is not yet ready at a reasonable price. I suggest to have a look at the latest "Smart Grid Report - July 2013" edited by the Energy Strategy Group – Politecnico di Milano, who analyze the state of the art of energy storage systems and e-mobility; ([www.energystrategy.it](http://www.energystrategy.it)).

To maximize the efficiency of your private photovoltaic plant, it is necessary to create a small Energy Management System. The ideal would be to have appliances interfaced to an automation system which automatically runs them at optimum periods of peak production and can stagger their operation to match production patterns. Of course this means that you need to change your habits a little – and also some of your appliances. At present, there are only a few prototypes available on the market though. We have already implemented this idea in part. Ambrogio needs to be addressed to evaluate the power produced by the photovoltaic system and can then activate the loads which are under its control. The garden irrigation, for example, will start not only at a specific time, but also when a certain level of PV power production is reached.



Ambrogio Hardware Architecture





zenon alias Ambrogio: In carrying out the project ergonomics and usability have been particularly considered. With its many screens, the touch screen application guarantees intuitive operation.

**Giuseppe, you have a wife and two young children. How do they interact with zenon in their everyday life?**

In carrying out the project I considered ergonomics and usability. I developed an application for a touch screen, with extensive use of images. Although there is no need for a daily use of Ambrogio, I noticed that it is quite intuitive, especially for my boys. The next step will be to integrate the Multi-Touch technology of zenon 7.10, so we can also use Ambrogio with a Tablet: I'm sure that will be greatly appreciated.

**Have there ever been any funny episodes in the interaction between zenon and your family?**

Sometimes I get some criticism from my wife. She argues that our house is a bit "too technical" for her taste and does not understand why, for example, the heating of the bathroom stops working when I am abroad. But, luckily, I can count on the zenon Web Server and see remotely if someone has thought it amusing to lower the temperature in the bathroom. I can fix the problem quickly and easily using zenon and close the "open ticket" from my most important customer.

**So now we know that using zenon at home is a positive experience! Would you recommend installing zenon at home to others?**

Installing zenon at home was very useful for several reasons. First of all, I was able to centrally manage the various domestic systems, resulting in a flexible interface and achieving an operating comfort unreachable using traditional products on the market.

It was also a good additional lesson in zenon and straton. I have tested the benefits of the "integrated solution" in every detail. Thanks to the suggestions of Roberto de Eccher, our Technical Consultant Manager at COPA-DATA Italy,

I discovered many tricks and functionality, thereby increasing my confidence in the product.

After about eight years of honorable service at our home, I can say that Ambrogio is certainly a reliable butler. He is never tired. He never stops, even when there is no power through the UPS! I guess it's now time to update to zenon version 7.10 and maybe also use some of the other members of the zenon Product Family. Perhaps zenon Analyzer? Although I have not yet thought about what to call it ... maybe "Battista"?

---

Interviewed by Noemi Torcasio, Marketing Manager at COPA-DATA Italy.

# Learning for Life

## Intercultural Competence at COPA-DATA



**Nine subsidiaries, around 15 distributors and more than 100 partners,  
active in more than 40 countries around the world – COPA-DATA's  
international orientation also means a variety of cultures.**

AS PART OF THIS, interculturality relates to not just different cultural groups, but also to different sets of values within a group. This might be gender specific differences, or special characteristics of different cultures within a company.

In order to further adapt to the topic of interculturality, COPA-DATA has started working together with the Salzburg University of Applied Sciences. As part of an EU project, it has developed a program for students who carry out internships abroad. The program ("Skill2E") should make it easier for students to find their way in every day working life and to increase their own awareness of other cultures. The objectives of the program can be transferred to the professional sphere, where business travelers face similar cultural challenges.

"The creation of intercultural competence can only be successful in the long run when different sets of values are actively considered. Simply learning a list of 'dos and don'ts' is not sufficient," explains Dr. Gabriele Abermann, Head of the Department for English and Intercultural Communication for the degree program of Information Technology and Systems Management at the Salzburg University of Applied Sciences. As part of the course, a mentor is trained to support new employees with different cultural backgrounds in quick and effective integration into the company, as well as to act as a contact person for employees who are frequently in contact with business partners from different cultures.

#### **YES OR NO? A QUESTION OF CULTURE**

Misunderstandings can arise quickly. If, for example, a business partner in Bulgaria nods their head in a conversation, this means "No". If he shakes his head, this means that he is

agreeing. In many parts of Europe, nodding means "I understand what you mean" rather than "Yes".

In Paris, a direct "No" is often used, even without a smile. For many Asians, who are influenced by the teachings of Confucius, any "No" is impolite and to be avoided when speaking with strangers. And when a British person says "maybe", this often means "No" or even "impossible". So it is worth looking into the business culture of the country in question before a business trip!

The use of good common sense is also important when dealing with different cultures. This is because personal behavior can be different from the general culture.

#### **MULTICULTURAL TEAMS ARE MORE CREATIVE**

Different cultures can achieve many positive things together. Many studies have found that culturally mixed teams create much more creative solutions. In order to use this potential, we want to, together with Dr. Abermann, increase awareness of the different styles of communication and conflict resolution and create intercultural competence at COPA-DATA.

MARTIN SEITLINGER  
DEVELOPMENT OF COMPETENCE

COPA-DATA USA

## Further validation at Interphex

---

NEW YORK COPA-DATA's growing presence in North America has opened up a number of opportunities in a variety of industries. In order to keep this momentum going, and expand our reach in the US, we exhibited at the Interphex Pharmaceutical trade show from April 23-25 in New York City. The Interphex show is one of the largest Pharmaceutical Manufacturing shows in the world and continues to grow year over year. Interphex attracts a wide selection of equipment suppliers, machine builders, automation experts and contract manufacturers making it the perfect platform to exhibit solutions with zenon for the pharmaceutical industry.

Over the course of the three-day event we found that time after time the visitors to our booth were impressed by the zenon solution. Our focus on communication, compliance and validation efficiency, integral functionality and overall flexibility lent itself to providing comprehensive solutions for everyone from machine builders to CMOs to the largest pharmaceutical and bio-tech companies. Visitors appreciated our 'do it your way' philosophy and were pleased to learn that zenon had the drivers, communication protocols, and customizable features to support this philosophy.

As visitors moved beyond the zenon basics they discovered the leading edge technologies needed in the pharmaceutical industry were not only available, but seamlessly integrated at every level of zenon. Our Dynamic Production Reporting software, integrated Multi-Touch control, the new Batch Control and efficient validation processes received especially high praise from visitors. Overall our software, our solutions and COPA-DATA itself were very well received at Interphex. COPA-DATA has proven that it possesses both the technology and the vision to succeed in the North American pharmaceutical market. We are looking forward to Interphex 2014 and expanding our presence in the pharmaceutical industry in the months and years to come. David Brennan

---

Find out more at  
[www.interphex.com](http://www.interphex.com).

COPA-DATA CEE/ME

## KUKA Ideenaustausch

---

NORTHERN AUSTRIA Over 100 specialists in the automation sector met from April 25<sup>th</sup> -26<sup>th</sup>, 2013 in Egggenberg Castle (in northern Austria) for the third exchange of ideas hosted by KUKA Roboter CEE GmbH. As a partner of KUKA, we were also invited to present our solutions as part of this exclusive event.

"Tradition meets technology" was the slogan of the event this year. A varied program informed users of new trends and innovations in the field of control technology and robotics. One of the main themes, especially in research and development, was Ergonomics, which is also of particular importance at COPA-DATA. With the presentation "zenon – Ergonomic User Interfaces", Hans-Peter Ziegler, Sales Manager at COPA-DATA CEE/ME explained how simple and intuitive user interfaces can be the key to successful automation solutions. Using examples gleaned from practice, he showed numerous ways that Ergonomics can be experienced with zenon.

"Ergonomics with zenon means many advantages for users. For example simple, quick and secure operation of their machines or an individual HMI design that takes personal working habits into account and thus reduces the likelihood of errors. We are convinced that ergonomic user interfaces, most of all in the operation of robots, contribute considerably to the continued increase in the productivity and efficiency in industrial manufacturing. We are happy to be able to present our ideas, concepts and product developments for Ergonomics as part of this event", said Ziegler.

The cooperation between COPA-DATA GmbH CEE/ME and KUKA Roboter CEE GmbH began in 2012. There are already other examples of close cooperation in other countries, for such as Germany. As part of this partnership, we provide users with zenon as a visualization solution for the ergonomic operation of robots.

Dominika Belicova

---

You can find further information at  
[www.kuka-robotics.com](http://www.kuka-robotics.com).

COPA-DATA CEE/ME

## Partnership with KCT Data

---



PRAGUE Ergonomics with zenon means designing your working environment with as little stress and as much efficiency as possible. This approach for increased ergonomics, transparency and availability of all important data was the foundation for the new cooperation between COPA-DATA GmbH Central Eastern Europe/Middle East and the Czech technology company KCT Data.

“With the new partnership, we aim to clearly visualize current and dynamic production and operating data and also create a two-way communication between SCADA and ERP via a direct connection to SAP”, explains Alexander Punzenberger, Managing Director of COPA-DATA GmbH CEE/ME, “Data exchange is spontaneous and efficient via the certified SAP interface in zenon. This makes it possible for our customers to better optimize the load on their individual machines and to reduce downtimes. The combination of the worlds of IT data and process data facilitates both productivity and product quality.”

On May 22<sup>nd</sup>, 2013, journalists discovered more about the orientation and objectives of the new cooperation at a joint press conference in Prague. Dominika Belicova

---

For further information on KCT Data, please visit [www.kctdata.cz](http://www.kctdata.cz) or contact COPA-DATA Central Eastern Europe/Middle East on +43 (0)662 43 10 02-250.

COPA-DATA CEE/ME

## Welcome to Andritz Automation

---

AUSTRIA The Austrian ANDRITZ GROUP is an international technology group operating in many countries throughout the world. Their portfolio includes facilities, equipment and services for hydro-electric power stations, the pulp and paper industry, the metal fabrication industry and steel industry, as well as municipal and industrial separation of liquids and solids.

Over 23,700 employees ensure enthusiastic customers and solid revenues. If it is a matter of machines, plant engineering and integration, zenon is increasingly the software of choice at ANDRITZ. Now many years of the two experts working together is being enhanced: ANDRITZ AUTOMATION has now decided to become part of the COPA-DATA Partner Community. Welcome to the network!

ANDRITZ AUTOMATION has much valuable experience and will meet further high-caliber experts in plant engineering and automation. Christoph Sedminek, Engineering Manager at the COE DCS ANDRITZ GROUP: “COPA-DATA offers us, with zenon, clever automation solutions and provides our customers with numerous benefits thanks to its independence and reliability.” Jakob Miazga, Sales Manager at COPA-DATA CEE/ME, is already looking forward to actively sharing experiences and new, exciting projects. The main focus of the partnership is currently on projects for the creation of a production information management system (interfaces between SCADA and ERP) for the food industry. Dominika Belicova

---

The ANDRITZ GROUP has deployed zenon in the fields of pulp & paper, feed technologies and solid-liquid separation in many countries throughout the world since 2006. By joining the COPA-DATA Partner Community in March 2013, this long-standing customer will now cooperate even closer with us on comprehensive implementation solutions using zenon.

You can find further information at:  
[www.andritz.com](http://www.andritz.com).

COPA-DATA ITALY

## SPS IPC Drives Italia 2013

COPA-DATA ITALY INSPIRED VISITORS WITH ZENON MOBILE SOLUTIONS

PARMA The second SPS IPC Drives trade fair in Parma took place this year over May 21-23 and the COPA-DATA Italy team returned to wow visitors with the latest news and innovations from COPA-DATA and zenon.

COPA-DATA Italy's attendance at the fair was again very successful. Following our product vision "The Future is Ergonomics", we spoke to many people in Italy's most important automation industries – Food & Beverage, Energy and Pharmaceutical. The team worked together to convey to our visitors the concept that the future in industrial automation can be really ergonomic – using zenon.

The commercial success of mobile devices and intuitive operating systems is increasing the demand for the use of this modern technology in an industrial environment. Therefore, we focused at the presentation of the possibilities that zenon offers to engineers and operators who want to use the software on different mobile devices such as smartphones or tablets in their daily work.

We understand that a lot of zenon users would like to have a zenon client on their tablet which would enable them to benefit from the full native zenon Runtime performance – in real-time, anytime and everywhere, and using Multi-Touch operation, so we presented these solutions on a variety of different hardware (iPads, Android and Windows RT tablets). In addition, we presented the Everywhere App by zenon and demonstrated that the application is very quick and easy to activate, and that it allows our users to gain access to important production data, including alarms, directly on their smartphones.

The interest of our visitors was also strong in regard to our experience of and solutions for Energy Management according to ISO 50001, on our enhanced Batch Control Module, and regarding all the Multi-Touch operating possibilities supported by zenon.

Klaus Rebecchi, Managing Director of COPA-DATA Italy, concludes: "With around 18,000 visitors, the SPS IPC Drives 2013 increased numbers by 24 per cent in comparison to the first show. As an exhibitor we also experienced this greater interest from the market. We are glad that the two main topics presented at our booth – Energy Management according to ISO 50001 and zenon Mobile Solutions – received so much attention. Visitors were really excited about our innovations, which was great to hear and proved to us that we are on the right track." Noemi Torcasio



We are looking forward to seeing you at the next SPS IPC Drives in Parma. Save the date: May 20-22, 2014. For further information, visit [www.sps-italia.net](http://www.sps-italia.net).



<http://kaywa.me/UMym5>

Facebook photo album  
SPS IPC Drives Italia 2013

COPA-DATA GERMANY

## Further expansion in Germany

NEW COPA-DATA BRANCH OFFICE  
IN LUDWIGSHAFEN AM RHEIN



LUDWIGSHAFEN COPA-DATA Germany GmbH continues to aim for long-term and sustainable growth and founded a new branch office in Ludwigshafen am Rhein. The aim is to both collaborate with and support existing customers and partners there even better, and to acquire new customers in the Rhineland Palatinate region.

“The area around Ludwigshafen am Rhein is a dynamic center for industry and offers the optimum conditions for corporate success. Prominent manufacturing companies – for example, from the pharmaceutical and chemical industries – as well as small and medium sized engineering enterprises are located here,” explains Jürgen Schrödel, Managing Director of COPA-DATA GmbH, “Thanks to the new site, we can increase liaison with our customers and our partners and guarantee optimum specialist and technical support.” With the strategically-selected site of Ludwigshafen am Rhein, the team of COPA-DATA Germany will also expand their own training activities and carry out both standard training sessions on the zenon Product Family and individual training session.  
Susanne Garhammer

### YOU CAN CONTACT US AT

COPA-DATA GmbH  
Bismarckstraße 112  
67059 Ludwigshafen am Rhein  
Germany  
Tel.: +49 89 66 02 98-90  
Fax: +49 621 68 56 35-21

sales@copadata.de  
www.copadata.de

COPA-DATA GERMANY

## New Competence Center

COMPETENCE IN  
BUSINESS INTELLIGENCE

GERMANY Nowadays companies must increasingly focus on flexibly adapting their production processes and logistics to market requirements and optimizing their energy management. A needs-based display and analysis of key figures for decision makers and people in charge of production is becoming ever more important. That’s why COPA-DATA Germany is strengthening its expertise in the field of business intelligence and found-



Tobias Sedlmeier,  
Head of Business  
Intelligence, COPA-DATA  
Deutschland

ing the Competence Center Business Intelligence (CCBI). With this, we are grouping together our expertise and commitment, in order to satisfy the increasing demand for tools for the dynamic analysis and evaluation of data and flexible reporting. We are preparing an optimum solution with the zenon Analyzer, for both existing customers and new customers. “Decision makers and people in charge of production need meaningful information to be able to adapt to current market circumstances quickly and efficiently and to be competitive in the long term,” explains Tobias Sedlmeier, Manager of the new Competence Center Business Intelligence at COPA-DATA GmbH, “We have comprehensive expertise and sound project experience in the field of business intelligence and support our customers during the whole project cycle – from conceiving the solution to implementation, training and support.”  
Susanne Garhammer

COPA-DATA POLAND

## Partner Profile: Aniro Engineering, Poland

URSZULA BIZON-ZABA, DEPUTY MANAGING DIRECTOR OF COPA-DATA POLAND SPOKE WITH MACIEJ STASIAK, CEO OF ANIRO ENGINEERING.

**We're meeting on the occasion of ANIRO Engineering joining the COPA-DATA Partner Community. Before we talk about your plans and the solutions you offer, can you please tell us what your company specializes in?**

ANIRO Engineering provides engineering services in the field of industrial automation. With over 25 years of tradition and experience, along with a highly specialized staff, we have developed resilient, dynamic and flexible reactions to the needs of our customers. We support our customers in developing optimal concepts for complex control systems for technological processes. What we offer includes the comprehensive implementation of industrial automation systems from concept through design, implementation, deployment, maintenance and training at the highest level.

**When and how did you start working with COPA-DATA and how has that influenced the development of your company?**

It all started with a visit by Mr. Alexander Punzenberger from COPA-DATA, in 2005, to our headquarters in Sopot. The concept and wide-ranging possibilities offered by the zenon software intrigued us. As a result, we decided to work together with COPA-DATA on the use and implementation of a visualization system. We soon realized the advantages of this software, compared with what we'd used previously, and introduced it as our preferred solution for our customers. The continued training and professional technical support we received from COPA-DATA and the very positive feedback we got from end users assured us that we'd made the right choice. On the basis of the SCADA system zenon, ANIRO Engineering has developed a corporate standard for visualization systems. This enables us to carry out various applications in the field of SCADA, not only for customers expecting simple solutions but also those looking for something more demanding.



Urszula Bizon-Zaba, Deputy Managing Director of COPA-DATA Poland, with Maciej Stasiak, CEO of ANIRO Engineering.

**What made you decide to join the COPA-DATA Partner Community?**

Years ago, we chose the software zenon as our preferred engineering tool on the basis of its flexible functionality, enabling us to adapt the system to our customers' needs. Dynamic product development, along with specialized engineering support was essential in keeping us one step ahead of the competition. Now the same factors, already borne out by several years of working with COPA-DATA, have convinced us to join their partner program. Also very important for us were the additional benefits, including even better access to information and technical material, as well as technical support and the capacity to use the firm's knowledge and strategies in the development and promotion of our own operations. Significant as well was the prestige connected with membership in the program: the visibility of our firm on COPA-DATA's website, along with the Partner Community logo.

*Joining the COPA-DATA Partner Community  
enables us to offer our customers the best  
HMI/SCADA solutions.*

**MACIEJ STASIAK**, CEO ANIRO ENGINEERING, POLAND

**What are your expectations regarding COPA-DATA in connection with working together in the Partner Community?**

At ANIRO Engineering, our most important values are knowledge, experience and innovative solutions. We hope that by continuing to work with COPA-DATA now within the framework of the Partner Community will enable us to offer our customers the best and latest solutions for HMI/SCADA. I also believe that the experience we have gained and the rapidly expanding functionality of the zenon software will enable us to effectively implement optimal applications for clients. We're also hoping for wider cooperation in the area of joint marketing and sales operations, with particular regard to pre-sale technical support from COPA-DATA. In particular, we hope to gain new customers in new industries as a recommended and supported COPA-DATA integrator. In the course of working together, we also want to make the most of the opportunities giving us access to product training, so that we can make optimal use of the potential and capabilities of zenon in our projects.

**In your opinion, over the next few years, will the automation market, in particular the HMI/SCADA sector, be vulnerable to the economic crisis?**

In observing the market, I don't believe that the crisis poses any threat to the automation industry in the coming years, despite the forecasts that you sometimes hear in the media. Investors with a high level of technical awareness and knowledge are going to benefit from more advanced products in the HMI/SCADA sector and they're going to expect innovative solutions from us.

Thank you for taking the time to talk to us.

Urszula Bizon-Zaba

# QUIZ

## TEST YOUR ZENON KNOWLEDGE

WE CHALLENGE YOU TO TEST YOUR CURRENT ZENON KNOWLEDGE WITH THE FOLLOWING THREE QUESTIONS.

HAVE FUN!

**1** What is required in order to use the 64-bit version of zenon if you already have a zenon 7.10 license? *2 out of 4 are correct*

- A A 64-bit operating system
- B A separate zenon 7.10 64-bit license
- C A 64-bit processor
- D Twice as much hard drive space

**2** Which of the following gestures are not Multi-Touch gestures? *2 out of 4 are correct*

- A Rotate
- B Tap
- C Drag
- D Pinch (to zoom in or out)

**3** From which version of zenon are, in combination with Windows 8, native Multi-Touch gestures supported? *1 out of 4 is correct*

- A zenon 6.50
- B zenon 7.10
- C zenon 7.00
- D zenon 6.51



GET READY FOR THE

## zenon Challenge 2014

The zenon Challenge is a fun and creative challenge for all members of the COPA-DATA Partner Community. The target of the zenon Challenge is to combine zenon with the playfulness of LEGO® MINDSTORMS® – with the focus on creativity and innovation. The first zenon Challenge was held in 2012, and now it is time to start preparing again.

TEXT LISETTE LILLO FAGERSTEDT  
PARTNER PROGRAM MANAGER

## ZENON CHALLENGE – A MIND-BENDING CHALLENGE

How hard can it actually be to just play around with LEGO MINDSTORMS and zenon? Can this truly be called a challenge? When the Challenge started in 2012, the questions were many and the expectations were high – what would the outcome be? With several participants from different countries, we ended up enjoying many creative, innovative and amazing contributions for the 2012 Challenge. And even though all our participants had fun working on their projects, it was also clear that a large amount of time and great effort had been invested to create a contribution that appealed to both the online voting community, who had a high level of interest in the project presentation videos, and the three main criteria of the COPA-DATA jury – project difficulty, project usability and overall creativity.

The winner of the zenon Challenge 2012 was SYNERGY Poland with their project SynergyRGB. This was a nice, bird-shaped model that elegantly picked up a single ball to sort into the appropriate container. This was also a lean solution rich in functionality with a smooth HMI appearance.

### NEW INNOVATIONS IN THE COMING CHALLENGE

In fall 2013 LEGO launched the third generation of their LEGO MINDSTORMS platform: EV3 – where EV stands for Evolution. At COPA-DATA we always strive to be at the forefront of the latest technology and this is no exception. The coming zenon Challenge will be based on the LEGO MINDSTORMS EV3 – and as a participant you have a golden opportunity to use the new functionalities available to create your unique project.

### START PREPARING FOR THE ZENON CHALLENGE 2014!

One valuable lesson we learned from the previous zenon Challenge is that it requires both time and preparation. Voting for the next zenon Challenge won't take place until October 2014 – but we are already giving all our partners the opportunity to start preparing. Are you an active member of the COPA-DATA Partner Community and already know you want to participate? Pre-register now to ensure you receive the latest information and greatest opportunities for preparation<sup>1</sup>. Simply email us at [partner@copadata.com](mailto:partner@copadata.com) or talk with your local sales representative.

### FIND OUT MORE

Not a COPA-DATA partner yet, but interested in the zenon Challenge and the possibilities in combining zenon and LEGO MINDSTORMS? Go to [www.copadata.com/zenonChallenge](http://www.copadata.com/zenonChallenge) to discover what you can do with zenon and LEGO MINDSTORMS and take a look at last year's participants and project presentation videos.

The winners of the zenon Challenge 2012 with their winning project SynergyRGB – from left to right: Jarosław Gawryluk, Wojciech Gregorczyk and Paweł Kowalik from Synergy Polska.



<http://kaywa.me/kNRA7>

Watch the SynergyRGB zenon Challenge video

At the SPS IPC Drives trade fair 2012 in Nuremberg, Lisette Fagerstedt, COPA-DATA Partner Program Manager, handed over the second place prize to EDAG Production Solutions from Germany for their project A.W.E.S.O.M.E. From the left: Mathias Medler, Dierk Nau and Lisette Fagerstedt.



<http://kaywa.me/oP3dZ>

Watch the A.W.E.S.O.M.E zenon Challenge video

<sup>(1)</sup> Please note that participation in the zenon Challenge 2014 is limited to active COPA-DATA Partner Community members only.

# EVENTS

2013/2014

## ZENON AROUND THE WORLD

In 2013 we have been travelling the globe with zenon, in order to present our ideas and solutions for better ergonomics in automation to customers, partners and anybody who wishes to become a customer or partner around the world. Regardless of where, when or why you have missed us: find out where you can catch up on all this and more here! Together with our distributors and partners, we will soon be bringing zenon to you. Find the exact details of the events at [www.copadata.com/events](http://www.copadata.com/events).  
We look forward to seeing you soon!

SEPTEMBER 17 - 19, 2013

### ENERGETAB

Bielitz-Biala, Poland  
powered by COPA-DATA Poland

SEPTEMBER 18 - 19, 2013

### IDC HIGH VOLTAGE CONFERENCE

Johannesburg, South Africa  
powered by zenon distributor Anytech

SEPTEMBER 25 - 26, 2013

### INTELLIGENT BUILDING SYSTEMS

Paris, France  
powered by zenon distributor JS automation

OCTOBER 1 - 3, 2013

### SMART AUTOMATION

Linz, Austria  
powered by COPA-DATA CEE/ME

OCTOBER 9 - 11, 2013

### SMART ENERGY EXPO

Verona, Italy  
powered by COPA-DATA Italy

OCTOBER 15, 2013

### INDUSTRIAL TECHNOLOGY EFFICIENCY DAY

Milan, Italy  
powered by COPA-DATA Italy

OCTOBER 28 - 30, 2013

### EUROPEAN MANUFACTURING STRATEGIES SUMMIT

Düsseldorf, Germany  
powered by COPA-DATA Headquarters

NOVEMBER 6 - 7, 2013

### TELECONTROLLO

Bologna, Italy  
powered by COPA-DATA Italy

NOVEMBER 10 - 13, 2013

### IECON 2013

Vienna, Austria  
powered by COPA-DATA Headquarters

NOVEMBER 19 - 20, 2013

### BRUNNENFACHGESPRÄCH 2013

Bad Kreuznach, Germany  
powered by COPA-DATA Germany

NOVEMBER 26 - 28, 2013

### SPS IPC DRIVES GERMANY

Nuremberg, Germany  
powered by COPA-DATA Germany

NOVEMBER 26 - 28, 2013

### INTELLISUB EUROPE 2013

Frankfurt on the Main, Germany  
powered by COPA-DATA Headquarters

## EVENT PREVIEW 2014: HIGHLIGHTS

JANUARY 8 - 12, 2014

### ELECRAMA

Bangalore, India  
powered by zenon distributor Maestro Technologies

FEBRUARY 11 - 13, 2014

### CFIA (CARREFOUR DES FOURNISSEURS DE L'INDUSTRIE AGROALIMENTAIRE)

Rennes, France  
powered by zenon distributor JS automation

MAY 20 - 22, 2014

### SPS IPC DRIVES ITALY

Parma, Italy  
powered by COPA-DATA Italy

JUNE 4 - 5, 2014

### COPA-DATA GLOBAL PARTNER ACADEMY

Munich, Germany  
powered by COPA-DATA Headquarters

AUGUST 25 - 29, 2014

### CIGRE

Paris, Frankreich  
powered by zenon distributor JS automation

NOVEMBER 25 - 27, 2014

### SPS IPC DRIVES GERMANY

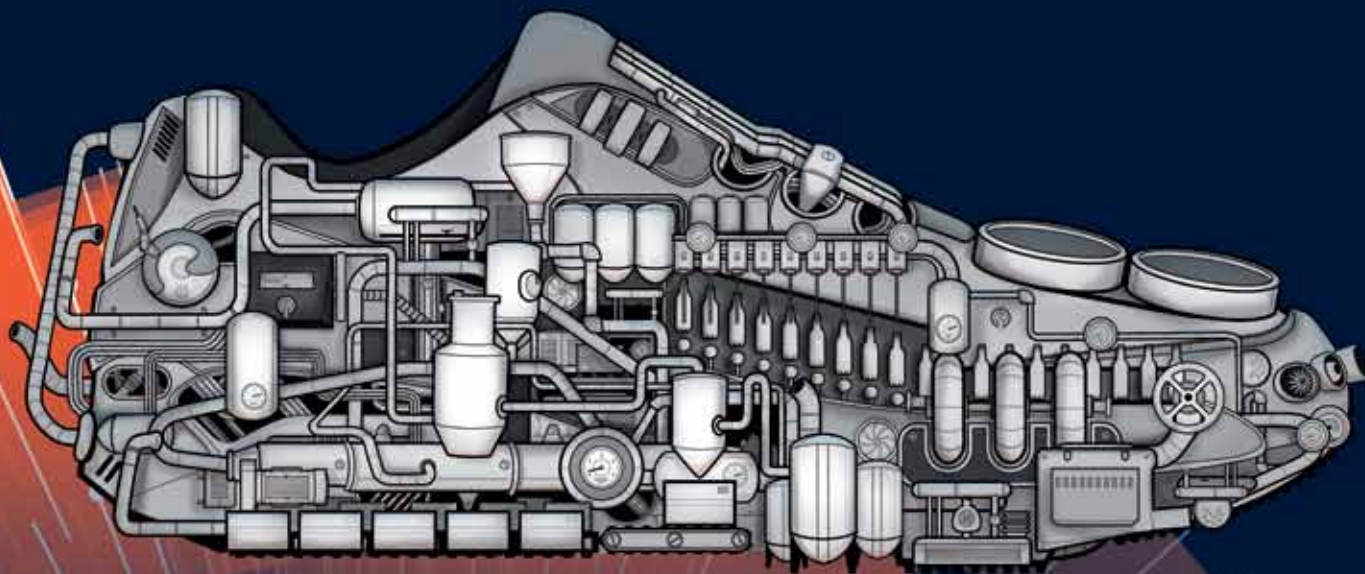
Nuremberg, Germany  
powered by COPA-DATA Germany



# Automation running well.



<http://kaywa.me/xOLW2>



Two minutes to go for the finishing line. His pedometer showed 10,897 meters. Andreas frowned. Again he had covered close to 11 kilometers, only by walking from one machine to the next. Attending to messages, checking on performance indicators, constantly interrupted by alarms that made him sprint to the other end of the facility. Eight hours, eleven kilometers.

He started wondering about a change. Surely there had to be work places which were better organized than this one. But then, things started moving: New monitors were set up, software was installed, and Andreas sent off for training, so he could get to know zenon. Letting his mind work and his body rest.

Once back, Andreas still kept an eye on his pedometer. Would this zenon software really make a difference for him? Fair enough, he now could see

all the parameters of all machines from one location, could answer to alarms with a simple click and only had to make a sprint for really important issues. Finally, the moment came when Andreas was attending to an alarm at one machine while another alarm was raised at the other end of the facility. No sprint this time, no panting, only a quick look at the display, using a switch to investigate the alarm, flagging it as, ok to do later, and continue working on the more pressing issue.

"That's what I'm talking about", he said when checking his pedometer at the end of the shift: 1,803 meters. Again he had saved 9 kilometers today. Again he had been able to keep up his energy levels for high-priority tasks, still feeling fit after his work day. So that's how ergonomics worked. And that's how relieving it felt.

**The Future is Ergonomics.  
Ergonomics is zenon.**

[www.the-future-is-ergonomics.com](http://www.the-future-is-ergonomics.com)



**COPADATA**  
do it your way