

SPEED

The VIPA Journal

Company Newspaper of VIPA GmbH No. 6 | May 2014

Our contribution to energy saving

Energy management by VIPA!



VIPA business management

B. Linkenbach new at business management



Bob run Sochi

Refrigeration engineering controlled by VIPA

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VIPA Company Management

VIPA GmbH expands management board

Foreword

VIPA continues to grow. Since the takeover by YASKAWA the growth of VIPA has increased again and the effect of this can now also be felt at management level. I am very pleased to be able to inform our readers and our friends of the company that on April 1, 2014 I was appointed to the VIPA executive board.

The primary goal in my new role will be to make lasting impressions for the strategic and organizational re-orientation of VIPA GmbH. You, as readers of this journal, will be regularly informed about this.

In keeping with the current political debate, we turn to the issue of energy transition and energy efficiency. In this issue, we introduce our solutions in detail for energy management.

Once again, we can present some new products and we would particularly like to draw your attention to our attractive Panel PCs and our new safety concept with the samos safety modules. In this issue you will also find short descriptions of new YASKAWA products that, appropriate to the issue of energy saving, are particularly relevant.

As always, we will show you, by means of examples from Germany and abroad, the almost unlimited application possibilities of our control systems, this time including the areas of logistics and chillers.

We are especially pleased to again present an interesting travelogue by our globetrotter colleague, Sascha Isinger, about his trip to south Africa. This time he traveled outside the usual tourist paths.

Interested? Then we hope you will enjoy reading and browsing through this latest edition!

Yours, Bob Linkenbach



Vipa GmbH, located in Herzogenaurach, is expanding its business management team with the addition of Bob Linkenbach, and is aligning strategically and organizationally anew to be fit for the challenges of the future.



Noboru Usami congratulates Bob Linkenbach



f.l.t.r.

Toshio Kawasaki - Cooperate Planning Yaskawa Europe, Noboru Usami - Senior Executive Vice President Yaskawa Japan, Bob Linkenbach - CEO VIPA, Wolfgang Seel - CEO VIPA, Koichi Takamiya - Chairman CEO Yaskawa Europe, Manfred Stern - President - COO Yaskawa Europe

Bob Linkenbach (47) has been appointed into the expanded executive management board of VIPA GmbH, taking effect from April 1st.2014. As CEO of the YASKAWA Europe GmbH subsidiary company Bob Linkenbach is taking over the departments sales and marketing, corporate strategy, as well as finance. With more than 17 years of VIPA experience he is very well prepared for the new task. His professional career led him from export manager to complete sales manager and head of strategy. Besides being responsible for sales and marketing, Bob Linkenbach, together with Wolfgang Seel, has been responsible for the new re-orientation and future positioning of VIPA over the past few years. With the merger of YASKAWA Europe GmbH, in December 2012, VIPA faces many new aspects and challenges with the strategic re-orientation and integration into the YASKAWA concern.

Tailored, intelligent customer solutions form the portfolios of both companies will make VIPA a more attractive partner in the automation industry in the future- this will be rapidly implemented and further developed by Bob Linkenbach in his new position as CEO.

YASKAWA Electric Corporation with its

headquarters in Kitakyushu, Japan, is home to almost 15.000 employees and is the world's largest manufacturer of inverters, servo drives and industrial robots.. The Herzogenaurach control specialist VIPA complements the YASKAWA product portfolio perfectly, both technically and strategically. In the future, both companies will offer its global customers innovative system solutions for industrial automation on a consistent technological basis.

Exactly this repositioning of VIPA gives the Herzogenaurach company, which has enjoyed many years of success, another surge in growth with a high demand for highly qualified engineers, technicians and marketing specialists.

Currently, more than ten newly created top positions are to be filled and according to planning, even more engineers and technicians will be needed in the second half of the year. In the coming years YASKAWA Europe will invest considerably in VIPA research and development. CEO Bob Linkenbach sees this as a commitment by YASKAWA to the VIPA location in Herzogenaurach and the expertise successfully built up over the years in the development of High-Tech automation components. ■

Energy – more than just electricity and heat

The energy, which, for example, comes from original energy sources as fuel, is usually referred to as primary energy. These energy sources can be of fossil origin, such as coal and brown coal, petroleum, natural gas, and others. Nuclear power is also one of the primary energy sources. The focus is moving ever stronger to renewable energy, derived from solar energy, biomass, wind energy, hydropower and geothermal energy. In order that industrial and private energy consumers can use energy from various sources, primary energy needs to be converted, for example in power plants, into usable secondary energy in the form of electricity and heat.

Especially as fossil fuels are only available to a limited extent, it has, for many years, already been thought about a reduction in energy consumption of these energy sources in favor of an energy supply based on renewable energy sources while at the same time reducing the overall energy consumption. The key word is **energy transition**.

Germany has set itself the goal, on the basis of the situation in 2008, to reduce primary energy consumption 20% by 2020 and 50% by the year 2050. In order to achieve this goal, a massive increase in the effectiveness of energy use (energy efficiency) is required. A suitable instrument to continuously increase energy efficiency in companies and organizations is a systematic **energy management**. This leads, as is shown in the following remarks, to better environmental protection, but also mainly to cost savings for the company and with this to increased competitiveness.

Energy management – management system with special functions

In general, energy management is viewed as a combination of measures that serve to meet the required energy needs of users with minimum energy consumption. Important aspects such as the best possible resource conservation, maximal climate protection, and achievable cost reduction are goals in the implementation of these measures and apply to both the commercial as well as to the private sphere. In to the reduction of energy consumption, the sustained increase in energy efficiency also means a saving in the consumption of raw materials, auxiliary materials, and consumables.

At the end of all processes and measures there should be a significantly improved energy balance. With the help of the energy

Energy transition – Energy management, Attempt to clarify the concept



„Mindful also of its responsibility toward future generations, the state shall protect the natural basis of life ... within the framework of the constitutional order by legislation ...“

In this way the constitutional mission for the preservation of the environment is fixed in paragraph 20a of the German constitution as a governmental task. It is clear that the state alone cannot cope with this task, but can only provide the framework here for the implementation in all public and private sectors. The keywords for this are environmentally friendly energy, resource-saving energy use, up to all energy-saving measures. In this article we want to concentrate on the situation in industrial enterprises and identify measures as well as solutions, as to how the environmental goals can be achieved in this area.



management system all energy flows of a company are recorded. This is done in the simplest case with measurement points for consumption data recording and ends in the most complex case in management processes that map the entire company, control automatically, and are monitored by “energy managers”. In other words, an energy management system serves to determine the energy situation in a company, in particular the factors that influence energy consumption, in order to define decisions regarding energy policy, with the data obtained, so that that the end there is an improvement in the energy balance.

In addition to environmental and climate protection, for companies, particularly cost and revenue aspects are in the foreground; this especially in view of rising energy costs. It is therefore necessary to invest in energy efficient technologies. Using the example of investment in energy efficient compressed air and pump systems as well as air-conditioning, cooling and conveying technology, the Federal Environment Agency estimates realistic reduction in consumption between 5% and 50%. The Renewable Energy Sources Act (EEG) is a law which contains provisions on precedence of electricity from renewable sources, and the producers of which guarantee fixed energy feeding rates. The share of renewable energy in electricity supply is expected to increase from 35% in the year 2020 up to 80% in the year 2050. These

energy feeding rates will be financed by a charge, adjusted annually, and paid by all electricity consumers. For „energy-intensive manufacturing industries“ with an annual electricity consumption of more than 1GWh and an electricity cost share of more than 14% of the gross value added of the company (EEG amendment 2012) electricity discounts of up to 99% of the EEG apportionment apply. The prerequisite for the granting of these electricity discounts is a certification in accordance with DIN EN ISO 50001. In the political debate, these discounts are controversial, however, since they offer little incentive to save energy. Added to that, there are also European regulations that are contrary to the EEG regulations.

The above mentioned certification in accordance with DIN EN ISO 50001 has a positive effect on the external representation of the certified company and facilitates transactions in which the certification is a prerequisite.

All in all it can be said, however, that the best way to save on energy costs is a reduction of energy consumption. ■

Authors: Alwin Faber, Norbert Schlimm



The conscious handling of energy in all areas of life becomes more and more important. Here the protection of the environment is only one aspect. Rather, it is more and more a matter of appropriate actions to reveal and implement potential savings in energy use in business because of drastically rising energy costs. This is where VIPA's Green Solution can be used by individually selectable modules that can be precisely tailored to the requirements and needs of customers, which are described below.

The PDCA cycle

Management always consists of a cycle. This cycle is called PDCA cycle and consists of

plan, do, check and act.

- **plan:** Planning phase where the actions for the implementation of the aims are established
- **do:** concrete implementation of the actions
- **check:** the measures introduced are evaluated and controlled in terms of their effectiveness on the target achievement
- **act:** due to the monitoring and evaluation results corrections and improvements are made on the measures introduced.

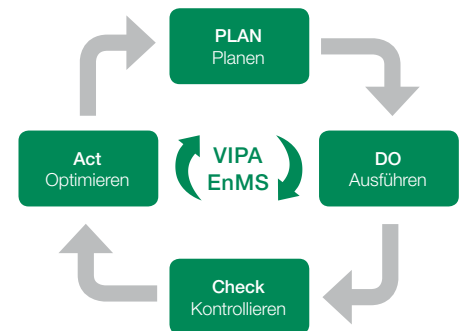
This is also called PDCA cycle if this cycle is repeatedly re-launched. The following figure shows, how the PDCA cycle is concretely implemented within the energy management DIN EN ISO 50001 and where our EnMS system is included.

The VIPA EnMS supports and optimizes this

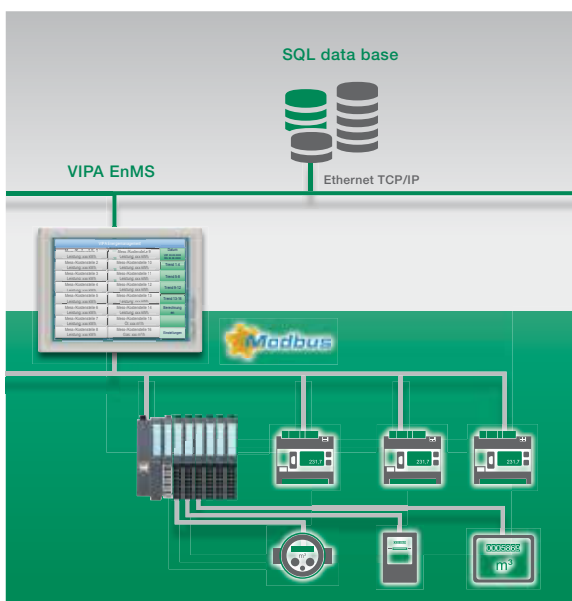
Green Solution

New solution statements for energy management

Management systems are modern tools of management that give companies regulation frameworks in important company areas. There are standard specifications and certifications for different areas, both internally and externally, to document the implementation of management systems. The most established is the quality management in accordance with ISO 9001, the environmental management in accordance with ISO 14001 and the energy management in accordance with DIN EN ISO 5001. The following article describes how VIPA energy management supports our customers in the implementation of DIN EN ISO 50001.



cycle and offers transparent data at anytime for archiving, analyzing and controlling of processes.



The module energy management



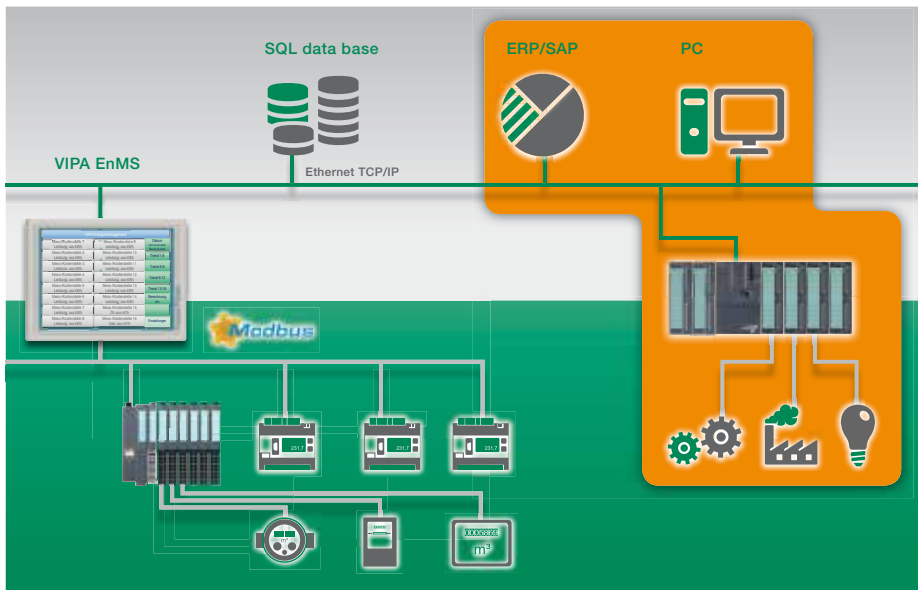
As already described above the implementation of an energy management system (EnMS) is essential for achieving the targets of energy saving. In the smallest case scenario this solution consists of a control unit for recording, logging and displaying the energy consumption, which is placed directly on the machine or system. The interfaces for measuring the energy consumption are detected via distributed decentralized I/O modules, such as VIPA SLIO. The existing energy meters and measurement devices such as electric and gas meters, but also water meters,

compressed air meters etc. continue to be used as much as possible. The data of the different measuring points are transmitted to

the control unit via Ethernet that is usually already available. Complete data logging, recording and backup is performed centrally in an SQL database. This creates a higher security and availability of data that are saved by the on-site IT infrastructure.

This module („Out-of-the-Box!“) allows an energy management in accordance with DIN EN ISO 50001. It enables logging, measuring and monitoring of energy consumptions and the fast analysis of the main cost causers or in other words:

- Energy management
- Energy monitoring
- Energy measurement



The module load management



We understand by this module, not only the conventional peak load management, which has been around a long time on the market and which we can implement, of course. In this module it is rather a matter of switching intelligent loads / consumers. We can access for example your production planning

through the interface to the ERP system.

Why? Here an example:

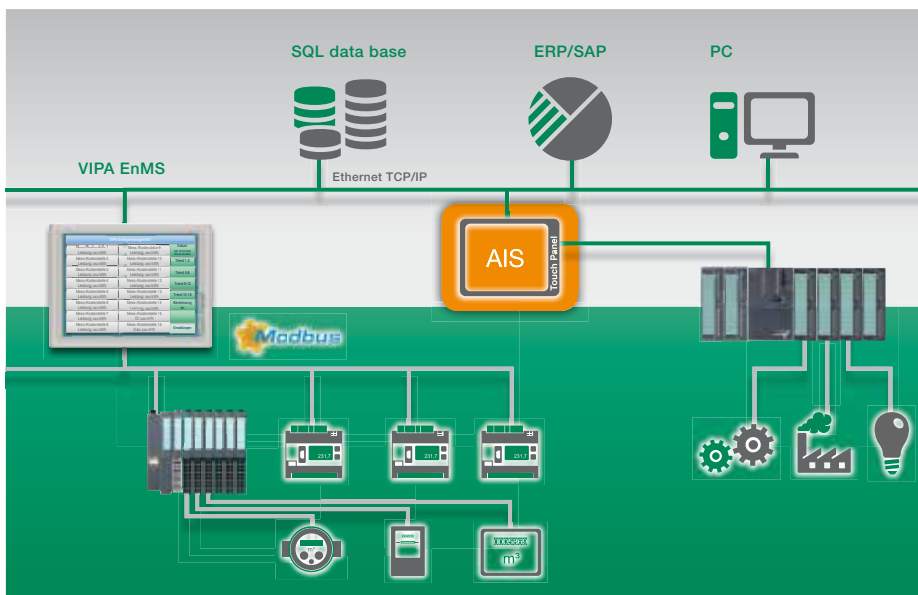
Normally your company works seven days a week and three shift operation thus around the clock. Now, due to the orders inflow, production during the weekend is not necessary. In your management this information is available we use it to automati-

cally shut down, etc. Hydraulic power units, air compressors, lighting after the last scheduled shift and switch on time before the first shift starts, to ensure your production / manufacturing. The installation of the module load management leads directly to cost savings in electrical energy.

Another example is compressors for the production of compressed air. Here also a consumption oriented control ensures the availability of exactly the required amount of compressed air. Compressors not required can be cut back or shut down completely.

In short, the module load management allows you

- Energy control
- Intelligent process control,
- Energy adjustment in accordance with your production process,
- Intelligent resource protection.



The module plant information system



The main focus of the plant information system (AIS) is to reduce the energy unit costs and to increase productivity. It is aimed at avoiding production failure by plant standstills and to react preventatively to possible interferences. Plant standstills together with the reasons for the disturbance are protocolled at the AIS operating device.

The reasons for disturbances can be read automatically from the installation/plant of the controller or can be recorded by a user input via a pre-defined mask. Hereby organizational disturbances are also ascertainable. The AIS assumes an operating device to be detected at each plant/installation, optionally this can be expanded by the module ERP/SAP which for example allows paperless production.

With this module several system-related features can be used:

- Increasing the plant effectiveness
- Core error analysis,
- Preventive maintenance,
- Quality management,
- Factory data recording.

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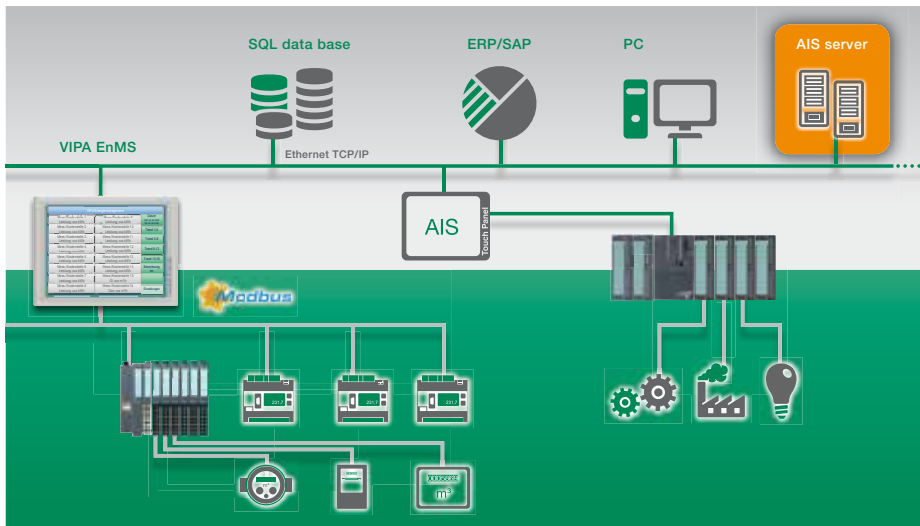
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The module ERP/SAP – Top floor and shop floor

This important module creates an interface between the ERP system and the production



level. This means, here the coupling of your production to your management system is implemented. Thus an unlimited data connection and communication is possible

that enables maximum transparency. It opens up the possibility of complete traceability from raw material to final product. You immediately recognize the load on your production, harness the resting potential and derive from this the increases of your productivity. In this way, paperless production can be possible.

Of course this module enables you to save energy within your production area by consolidated and synchronized processes. The deployment of the ERP/SAP module together with the module load management opens up considerable advantages for you in energy optimization and increase of energy efficiency.

The interfaces of the VIPA Green Solution

The figure shows the variety of interfaces of the VIPA Green Solution. The remote access to the pages via internet/intranet is possible through the **web server**. The **SQL and XML data bases** allow data exchange. With this the communication and storage of data in data bases can be realized easily and safely – the same as with **OPC server/client** connections. The data exchange can be carried out via **240 communication drivers** from the installation control level. Here the VIPA Green Solution leaves nothing to be desired!

Objective of the VIPA Green Solution

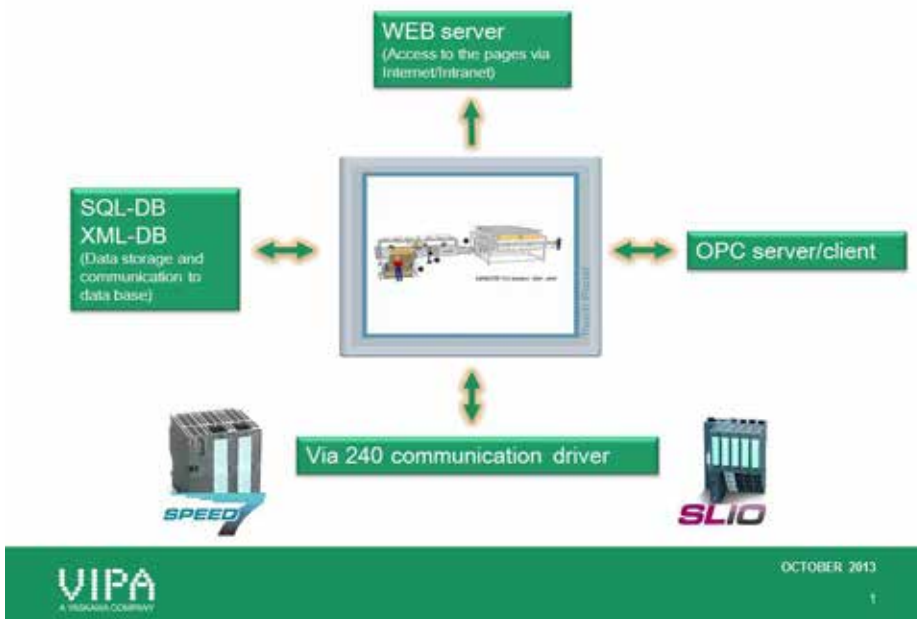
It has already been shown that the current debate about rising energy prices has caused all energy consumers, whether private or commercial, to think about the energy situation. Of course all approaches that deal with saving energy in any form are especially welcome here. In addition, within the national and European framework, the legislator enacts ever stricter specifications for measures to save energy, such as the ban on sales of conventional bulbs. So it is clearly defined that the prior target has to be to **decrease energy costs**. Therefore, this approach is designed for industrial enterprises in the exact places in the company

where energy is consumed. As this is not done by simply switching off energy consumers, a detailed energy balance by achieving the consumption values on all points has to be established. This leads to the second target of the EnMS, namely the **increase of energy efficiency**.

The single modules of VIPA EnMS “Green Solution” enables the user to **protocol, archive and to document** e.g. for certification purposes all relevant data of the single processes.



VIPA GREEN SOLUTION - INTERFACES



The PDCA cycle described above allows step-wise **optimizing** of **single processes** within a **closed cycle**. One objective that is particularly important for middle sized and large companies can also be implemented with the VIPA EnMS, namely the **connection** of production and logistics machines and plants **to the global management system**. This allows the business management a direct insight in all process levels of the company and simplifies entrepreneurial decisions.

Resource saving energy management is the final objective of the environmental management system with overall economic relevance. Overall targets are defined with the energy revolution which can only be achieved by rigorous energy savings and largest possible energy efficiency in all

economic areas. Here the installation of an EnMS makes an important contribution.

Benefits and advantages of VIPA Green Solution

With the Green Solution from VIPA you receive an energy management system which functions simply and reliably together with controller components from a single source. Consulting, solution and implementation are also scope of our performance. With the Green Solution we make all tools available which you require for the **energy audit and the certification according to DIN EN ISO 50001 or DIN EN 16247-1**.

The results of all measures of the energy management are **decreasing** energy costs and considerable **improvement of your**

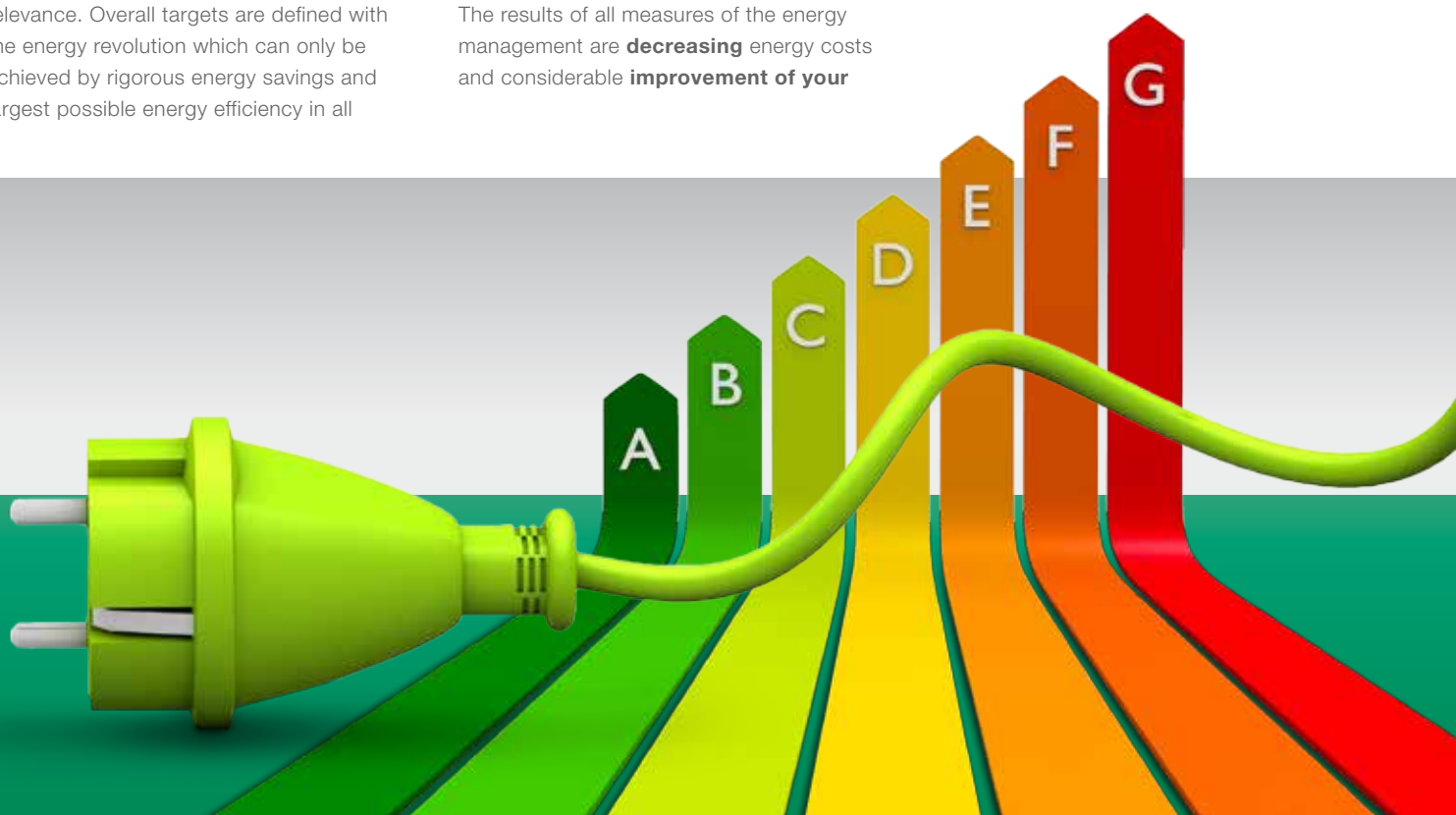
energy balance.

Further advantages:

- High data security through SQL database,
- High data availability and unlimited data transparency compared to data based solutions
- Established Ethernet transmission technology
- Simple integration of S0 signals consisting of energy measurement devices, energy meter and consumption meter in combination with our SLIO system,
- SLIO in combination with S0 signals reduces the demand of Ethernet ports,
- Modular scalable system, anytime expandable through further EnMS systems.

To summarize the Green Solution from VIPA is **efficient, intelligent, easy to integrate and flexible**. ■

Authors: Alwin Faber, Norbert Schlimm



Carefully checked

Strict quality control in SLIO CPU production

With the SLIO-CPU's VIPA has not only broken new ground in terms of the configuration of the CPU models, but also further refined the production process and quality control in manufacturing, in order to meet the high quality expectations placed in the products. This begins already with the physical checks of the components used in the assembly phase and ends with the traceability information stored in a database. With this a complete tracking of all relevant data is possible when the finished assemblies leave the house. The following article describes the individual steps of this process.



Quality – efficiency – delivery reliability

Our quality policy is determined by these three pillars:

High product quality combined with **maximum delivery reliability** while maintaining a **high efficiency**, in order to turn out a cost-effective and competitive product.

For the implementation of these objectives in the production area, the following criteria must be met:

- Standardized production processes
- The most modern and the most automated, test equipment
- Highly qualified employees
- Statistics and process control on the basis of production data

Just 6 steps to a high-quality product

The production process of SLIO CPUs was designed in six steps so that complete tracking from the first production steps in the PCB assembly, through to final testing of the products ready for dispatch is possible. This is described by the term „Traceability“.

Traceability along the production process means a permanent record of all the production and testing steps with recording of results in each stage of the production process.

- Step 1: Physical checks at the component level before the assembly. Multi-stage inspections in the assembly line.
- Step 2: Individual testing of each circuit

board by means of automated test systems and standardized test procedures.

- Step 3: Databank-based production management: all product-relevant data for each CPU is stored in a centralized database. The product-specific software is retrieved and installed along with the tracking of test results.
- Step 4: Now linking of all the test data from the test piece with the serial number of the finished device is carried out.
- Step 5: Finished goods inspection of each CPU and transfer to the ERP.
- Step 6: Dispatch of the CPUs in packaging, which is stable and ensures quality.

The collection of quality data from the production enables a continuous process monitoring as well as statistical analysis right down to component level. In this way deviations in the components used can be identified in sufficient time so they have no chance of affecting the end product.

Automated test equipment

Standardized test platforms and automated test equipment ensure that the product tests run with consistent quality and reliable accuracy. Here also end products are immediately sorted out as soon as they do not meet the defined requirements in only one of the test criterion.

Ease of servicing by integrated web server

The web server integrated as standard in every

SLIO CPU allows the user to call up diagnostic information and the status of the CPU online using the serial number. The web interface can, of course, also be called up remotely via a simple and secure VPN connection to the customer network. This means for troubleshooting while servicing, enormous savings in time and thereby costs.

Conclusion

Although the test processes in SLIO CPU production are, as shown, largely automated,



highly qualified and motivated employees stand behind the processes, convinced of their products. And because this is so, we can guarantee our customers and users of SLIO-CPU's a consistent high quality and reliability. ■

1.
Equipping
Circuit board

2.
Pre-test
Circuit board

3.
Configuration
Hardware / Software

4.
Mounting
Device

5.
End test
Run-In

6.
Dispatch



Intelligent Controlling and Monitoring

With PC performance in the control cabinet

VIPA is expanding its up to now very successful series of various touch panels for a wide range of applications with two new models in the form of panel PCs. With this we provide a bridge between an industrial PC with cutting-edge features and a touch panel with optimal display. The wishes of our customers were the driving force in the development of the two panel PCs with 15,6" and 21,5" display sizes, to combine the best universal deployment options with maximum performance, without having to compromise the performance data of the PC part or the resolution of the display.

Features of the PC part

As in the meantime embedded operating systems are the absolute standard in automation technology and therefore a must for Panel PCs, it is clear that the VIPA Panel PCs are equipped with the Microsoft operating systems Windows Embedded Standard 7 or Windows Embedded Compact 7. With this they are state of the art in the PC World and offer the user the opportunity to have access to all executable programs under windows 7. In addition, most PC users are very familiar with the Windows system environment and nothing new needs to be learnt here.

Of course, the operating system requires a correspondingly powerful PC hardware in terms of speed and memory capacity. Again, the VIPA Panel PCs leave nothing to be desired. The latest Intel dual core processors with clock speeds of 1.86 GHz and 2 GB available memory ensure smooth operation without restrictions.

Optimum display options

We also looked at present and future customer requirements in terms of display size and resolution. Both Panel PCs have widescreen displays in 16:9 format. The resolution for the 15.6" display is 1366x768 pixel, for the 21.5" display, it is 1920x1080 pixels, with which full-HD standard is in fact reached. Even multi-touch use of the displays, which today belongs to all mobile devices, is possible with VIPA Panel PCs. Besides the display sizes and resolution, the choice of materials and the overall visual impression of the Panel PCs were very important to us. With a clear glass front and a high-quality metal casing, the Panel PCs give your cabinet a particularly glamorous touch.

Typical VIPA: numerous interfaces and pre-installed software

As you are already accustomed from VIPA,

the Panel PCs also have a large range of useful interfaces from USB, through Ethernet, up to serial interfaces that significantly expand or simplify the application possibilities of the Panel PCs.

An overview of the integrated interfaces is contained in the lower panel. Also with the software we take away work from the Panel PC users. Depending on customer requirements and the particular application the above mentioned operating systems, Microsoft Windows Embedded Standard 7 and Windows Embedded Compact 7 are already installed. In addition, in the case of the runtime, our customers can choose between their own programs or runtime Movicon 11 CE Standard., which likewise is optionally already installed.

With this our customers and users gain very fast and uncomplicated entry into the premium class of operating and monitoring devices and that at a very good price/performance ratio.

The market launch of the Panel PCs is planned for May 2014.

Increase in performance in other VIPA panels also

In the course of the technology adjustments to the latest state of the art, our eco panels and professional panels are also upgraded. The enhancement of our eco panels is called eco+Panels. In the 4,3" and 7" eco+ Panels there is a faster processor with a clock rate of 667 MHz and an expanded memory of 256 MB. In all eco+Panels the installed software with the operating system Windows CE 6.0 Professional and the visualization runtime Movicon 11 CE now belongs to the basic configuration.

The market launch of the new eco+Panels is planned for May 2014.

There will also be some feature improvements in the professional panels. A new Trizeps processor operates at a clock rate of 1.1 GHz with a doubled RAM of 256 MB. The on-board flash memory offers 512 MB and the screen resolution is adapted to 640x480 pixels in the 5.7" Panels and to 1024x768 Pixels in the 12.1" panels. These product changes are expected to be included in the professional panels from July 2014.

Why do we mention all this?

In order to show you that we can adapt our products to customer needs and to current market trends quickly and flexibly. VIPA has been standing for exactly this for many years!

Fuction	PPC 15,6"	PPC 21,5"
Processor	Intel Atom D2550 dualcore @1,86 GHz	Intel Atom D2550 dualcore @1,86 GHz
Work Memory	2 GB	2 GB
Operating system and user memory	8 GB with WES7 2 GB with WEC7	8 GB with WES7 2 GB with WEC7
Memory card slot	CFast	CFast
Interfaces	- 2x Ethernet (10/100/1000) - 4x USB2.0 - 2x serial (RS232, RS422/RS485) - Audio out	- 2x Ethernet (10/100/1000) - 4x USB2.0 - 2x serial (RS232, RS422/RS485) - Audio out
Display size	15,6" wide (16:9)	21,5" wide (16:9)
Display resolution	1366x768	1920x1080
Display color	16,7 Mio.	16,7 Mio.
Touch	PCAP, multitouch	PCAP, multitouch
Casing	metal	metal
Cooling	passive	passive
Protection class	Front: IP65	Front: IP65
Operating voltage	12 - 30 V	12 - 30 V
Environment temeper- ature	0 °C up to 50 °C	0 °C up to 50 °C
Dimensions	415 mm x 310 mm x 63 mm	560 mm x 380 mm x 63 mm
Mounting cut-out	397 mm x 292 mm	543 mm x 363 mm
Certification	CE und UL	CE und UL



samosPRO is a compact and fast, modular constructed micro controller for monitoring and controlling applications in system and machine construction. The samosPRO modules consist of controller modules, I/O modules and gateways. These modules are complimented by various samosPRO accessories as well as safeRELAY, contact extension relay

Functionality

The following application diagram shows the functionality of the safety controller with samosPRO safety modules and a VIPA PLC controller including connected visualization:

- The samosPRO Safety I/O modules that include the safe sensors and actuators, are connected to the samosPRO Safety Controller.
- All safety signal values are transmitted from the controller via PROFIBUS or PROFINET to the VIPA PLC and are available there for process control and diagnostic functions.
- The standard process, including the panels, is controlled by the VIPA PLC.
- The corresponding commands (Start, Stop, confirm), which also affect the safe actuators, are sent from the VIPA PLC to the safety controller, which outputs them under priority of the safety logic.

Overview of the technological features

The main features of the samosPRO safety solution are shown here at a glance:

- Certified to PL_e/Kat.4 (ISO 13849-1) and SIL3 (IEC 62061)
- Up to 96 secure inputs, up to 48 secure outputs
- Fast-Shut-Off allowing a reaction time of 8 ms
- Compact safety solutions from 45 mm overall width possible
- Connection to the standard VIPA controller via Feldbus-Gateways (PROFIBUS, PROFINET as well as CANopen and Modbus/TCP)

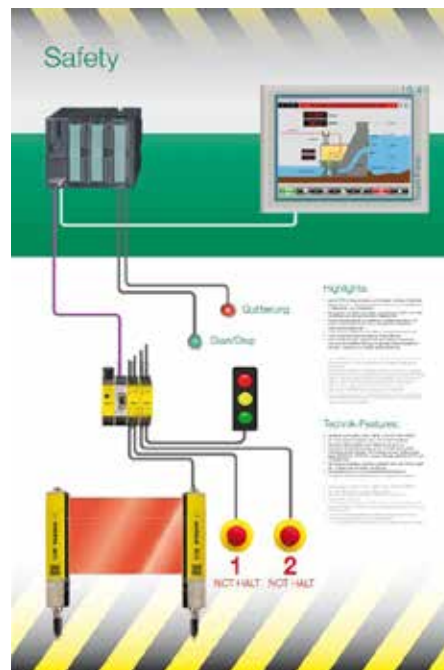


Safety with samosPRO

Flexible, inexpensive and uncomplicated

In the world of system and machine construction the prejudice still exists that, in general, safety solutions are expensive, complicated and inflexible. But is this still true? We have been looking for solutions that disprove this prejudice have come across the safety controller, **samosPRO** by Wieland Electric GmbH. This safety controller harmonizes perfectly with various VIPA control systems. **Sicherheitssteuerung harmonisiert in hervorragender Weise mit den verschiedenen VIPA-Steuerungssystemen.** It is worth examining these safety solutions more closely.

- The Ethernet gateways also allow online access including programming and remote maintenance
- Networking up to 4 small safety control systems for cross-safety functions in modular concepts



Special features of the VIPA / Wieland safety solution:

At this point some highlights of the samosPRO-Safety solution that distinguishes it over other solutions:

- The modular design of the control and safety system produces a clear separation according to hardware and software.
- The particularly short reaction time of the safety system of 8 ms for the command „Fast Shut-Off“ is independent of the CPU cycle time. This significantly distinguishes samosPro safety solutions from the competition.
- The speed advantages of VIPA SPEED7 technology are fully regained in this solu-

tion.

- The samosPRO software has a very user-friendly design, intuitive to use with graphical device configuration and a functional diagram editor with extensive certified function block library. The software is available free of charge and supports the commissioning by simulation option and debug functions. Hardly any other software for safety technology is as good.
- The modular structure also allows for subsequent expansion and therefore flexible planning with manageable module variants.
- samosPRO Safety is more flexible and budget-friendly than conventional relay technology.

Price advantages over competitive solutions

We subjected various possible combinations of VIPA controllers and samosPRO safety solutions to a comparison with competing solutions. On the control side, we included both SLIO CPUs as well as the SPEED7 300S CPUs in the model calculation. It was found that the VIPA + samosPRO safety solutions, depending on the technology employed, are much less expensive than technically comparable competitive solutions. The basis for the price comparison was in each case the latest manufacturer's list of prices.

If you want to learn more about the described advantages of the safety solution, your VIPA contact partners in marketing and support will gladly give you advice and practical help. They will also inform you of the opportunity to receive a control structure from us for a limited hire period to test hardware and software under practical conditions. ■

samos is a registered trademark of Wieland Electric GmbH, Bamberg.



The one-channel module has an input filter (ADC filter) with a cutoff frequency of 4.5 kHz and resolves measured values with 16 Bit. In addition to automatic calibration of the zero point and end point a manual calibration of the zero point and the load balance is also possible. Of course, the parallel operation of load cells is also possible. Typical applications are, for example, level

From milligrams to tons

Measurement value processing with SLIO-DMS modules

The SLIO family continues to grow. With the SLIO-DMS module VIPA introduces a new analog input module, with which measured values can be obtained precisely and compactly by strain gauge sensors. The 031-1CA20 module is ideal for all applications where measurements are made with load cells, force sensors, or torque measuring shafts. The measuring range extends from milligrams to tons; the absolute accuracy of $\pm 0,1\%$ allows extremely exact measurements.

monitoring of silo tanks and bunkers, measurements and findings of rope and crane loads, load measurements for industrial elevators, monitoring of belt tension, force measurements, hopper scales, platform scales, or also crane scales.

Addendum to our SLIO CPUs

The demand from our customers for the new SLIO CPUs exceeded our expectations by many times, so that we were able to register a much higher sales than originally planned.

The new configuration concept is very well accepted by the users. We have already adjusted the production of SLIO CPUs to the increased demand. We can not exclude, however, that there may occasionally be marginal delays in delivery. But it's worth it is well worth the small wait. ■



YASKAWA

Innovative drive package from YASKAWA

Saving energy at the push of a button

Fitting to the topic of energy management in this VIPA journal we would like at this point to introduce an innovative energy-saving solution for drive technology, which was developed by our parent company YASKAWA.

It consists of a package solution from a new type of permanent magnet motor SPRiPM, which already meets the strict future EuP directives and the high standards of energy efficiency class in accordance with IEC TS 60034-31 (Super Premium Efficiency). The package includes a V1000 frequency converter.

Since the engine-specific parameters are already integrated in the inverter software a system builder only needs to connect the motor-converter-package. With the powerful and technically uniform drive package maximum efficiencies corresponding to IE4+ for a variety of applications are

achieved, making it well proven in controlled pump drives.

Overall, there are currently nine different variants available: for motor shaft performance from 1.5 KW to 18.5 KW, for nominal speeds of 1,500 and 3,000 rpm, with standard axis heights of 71 to 132 mm and for standard foot or flange assembly (B3/B5). Other intermediate sizes are in preparation. The motor can be modularly expanded with options such as temperature sensors, encoders, special storage, or higher IP protection classes. ■



Ready for the energy revolution

Biogas plants of PED Dargun

Biogas plants in rural regions are one of the most important future technologies for power generation. Industrial controllers, which control the processes reliably and at the same time keep investment costs at a reasonable level, provide optimum output.

ing courts. Only with the right know how maximum production can be achieved.

PED brings relevant experience

PED Ltd. in Dargun (Mecklenburg-West Pomerania) is a company that has specialized in biogas plants. Here in the rural region there are many interests for biogas plants naturally – besides this the company has more than 50 years experience in water and sewage technology and so the best preconditions to handle the subject biogas.

“Pump controllers and fermentation processes are also part of sewage plants – so we were already experienced when the first inquires for biogas plants in our region occurred”, said Helmut Lang CEO and founder of PED Ltd. Together with three further master craftsmen he started his own business and built industrial plants and switch frameworks already in 1958. In 1990 - when his business was privatized again, after he had been forced to change its name to VED - he started to deal with PLC technology as there was a large pent-up demand in the new East German states.

“Water supply companies and pump stations were back fitted at that time and we had a lot to do”, he explained, talking about the time after German reunification.

PED established the first biogas plant in 2008. “At that time an engineering office was looking for a company, which was coming particularly from the industry and not from the building technology”, said Helmut Langer describing the beginnings of the business.

“Usually farmers establish biogas plants which are an additional source of income. They have to calculate each investment very carefully. They invest only when the price performance ratio is right”, Helmut Langer said.

Technical and economic arguments – cost saving with VIPA controllers

The costs play a main part in this segment and so he was searching for a controller which brought many features as a standard and thus saving the budget. They particularly

Energy production with renewable raw materials

The energy revolution is already a done deal and relies on a number of decentralized energy producers in place of large power plants. Biogas is an important element in this change: It uses incidental materials such as manure and plant remains in agriculture and returns the remains again as manure into the production cycle. A large advantage of biogas is that the energy can be produced continuously, compared to wind turbines or photovoltaic systems and is therefore base load capable. No wonder biogas plants are getting more and more popular. There are completely different types of plants and sizes, but all of them work on the same basic principle.

Manure and solids start to ferment in a fermenter. Gas is produced which is used for the operation of the combined heat and power plant (CHP). It sounds so simple, but it is a complex engineering process with many pumps and pipelines. Manures and solids have to be continuously available in

the fermenter in an exact proportion. A pre-pool for the manure fulfils the function of a buffer. Also the solids are collected in a container where the different components are mixed before they are transported to the fermenter. The produced gas is collected under the dome and is forwarded into the gas tank and afterwards to the block heat and power plant. The fermented remains are pumped and transported into a special storage and from there into the tank wagons.

Precise process controller

Essential for the yield is a powerful controller that controls all processes that ensures maximum gas production and avoids supply shortages of raw materials. Levels of the different containers are therefore constantly monitored the temperature is regulated in the fermenter and the weight of the raw materials is recorded for the control of the dosing. Quantity and quality of the appropriate gas is also regulated and stored as well as the power of the combined heat and power plant or the distributed heat quantity to surround-



want to use Ethernet and PROFIBUS without any extra costs.

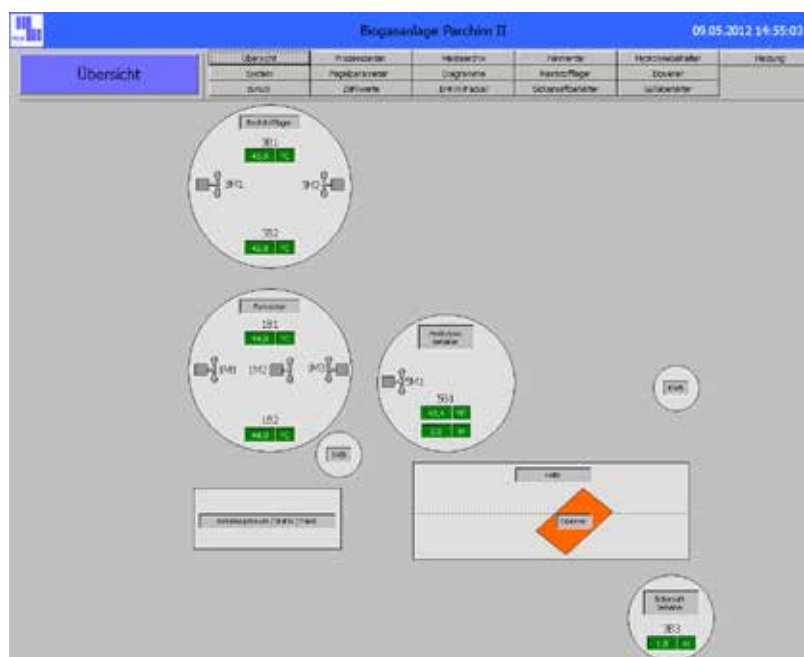
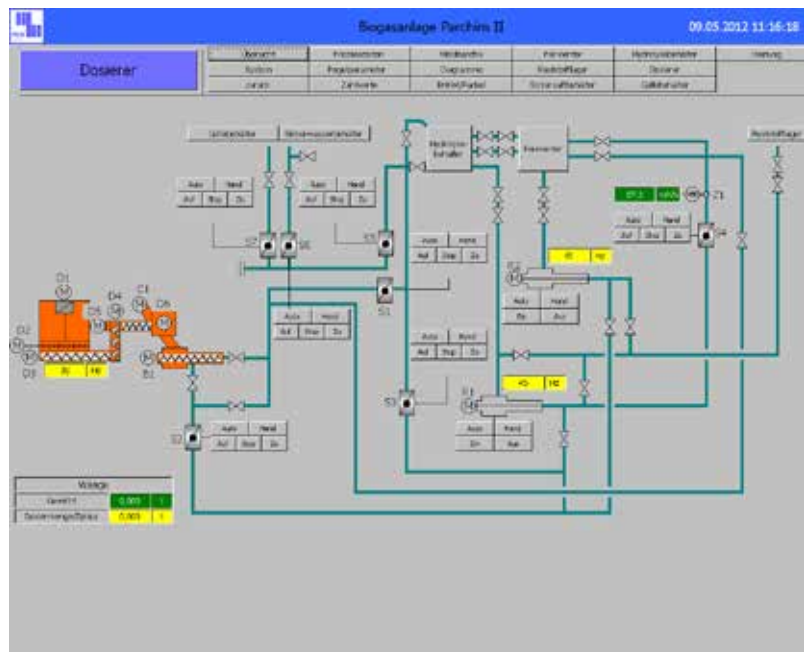
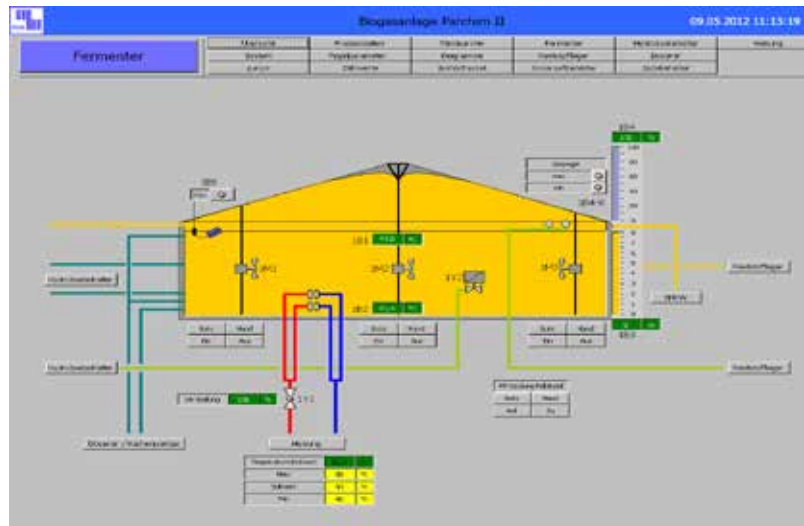
He found this at VIPA. "We already know Wolfgang Liebner, sales manager at VIPA, from other joint projects", said Helmut Langer, whose company also implements switchgears and automation systems for other

industries. "At that time we deployed a VIPA SPEED7 CPU into a test system and were excited", he says. "The CPU runs faster than any other comparable type of other manufacturers and has a larger memory and shorter cycle times." Important communication interfaces as Ethernet and PROFIBUS are already integrated in all SPEED7 CPUs. While initially PED focused on the CPUs of the 315 series, now they only deploy the cost effective CPU 314-2AG12. "That is absolutely enough – the CPUs of VIPA are so powerful which allows us to reduce our costs without the loss of quality", explained Helmut Langer.

A large biogas plant in Parchim was completed recently, which supplies two CHPs with gas. Here, VIPA, with its SPEED7 CPUs, is also on board again.



Author: Wolfgang Liebner, VIPA sales Northeast





Hightech for a perfect view

Higher efficiency and security in car glass production

The glass specialist Pilkington has a factory in Witten where safety glass panes are produced for many popular automobile manufacturers. Here nothing runs without powerful and fast controllers. The manufacturing of car glass is a highly complex process and is getting more and more demanding due to the increase of on-board technology.



Long gone are the days when it was enough to put safety glass into the vehicles. Today antennas and sensors are included in the glazing. Design specifications of the manufacturers require shades and patterns, which are applied by screen printing. Even mirror bases and sensor units are mounted in the factory in Witten. The glass manufacturer now has to be integrated earlier into the development process of vehicles due to the new requirements and the resulting interfaces – engineering and know how are becoming more and more important.

There is lot of special knowledge in windscreens

Today the production of a windshield consists of many individual stages, from cutting and grinding the edges to the correct bend and the marrying of two base glasses of which each windshield consists. A special foil ensures the stability between the two base glasses, which also acts as a glue and may include additional technical elements such as antennas. After each production stage the plate is cleaned and the quality is controlled – often by cameras and computer-aided – partially also manually to detect even the smallest deviation.

After all the automotive industry is a highly competitive market and only suppliers with first class quality and competitive prices are able to compete. This means that for the production at the location in Germany a high degree of automation is required in to order to keep to the international price level.

Only a small timeframe

There are only a handful manufacturers worldwide who hold the corresponding capacity and are internationally present on

production sites of car manufacturers. One of them is Pilkington Automotive, part of the NSG Group who, besides vehicle glass, also develop and produce powerful functional glass for the building industry. The production for the initial equipment of the German automotive industry is primarily on the historically grown location in Witten.

Here, the most modern production plants are

flexibly and step by step into the current S7 standard in a short time. The deployed SPEED7 controllers of VIPA, in Herzogenaurach/Germany, are especially impressive, above all by their speed and features: "Our production lines are highly complex and contain a great deal of sensor technology and control engineering. The glass plates have to be transported at speeds of up to 1 m/s and positioned exactly within an

Hundt.

In Witten the CPU 315SN/NET and the I/O modules in the design of Siemens S7-300 series are deployed. New plants are equipped, of course, where possible, with modules from VIPA. "Meanwhile we instruct our plant engineers to use VIPA modules because we have had good experiences with these PLCs", says Wolfgang Hundt.



located on 60,000 square meters. Operational reliability is the highest priority as the supply in the automotive industry is traditionally just in time. There is no standard stock keeping available any longer.

„There is only a small timeframe available, if we want to modernize or extend the production lines”, says Wolfgang Hundt, who is responsible for the operation of the plants in the area of technical services. He makes sure, that the required spare parts in quantity and quality are available and can be installed quickly if necessary. Work that would require the shutdown of a complete line, could possibly take place during the planned summer production stoppage. "For these kinds of action we only have two weeks per year, when our customers have company holiday", says Wolfgang Hundt. The rest of the time all 400 programmable logical controllers (PLCs) and the operational and production plants must run trouble free.

Assured: Calculations constantly less than 10ms cycle time

As Siemens do not produce the S5 controllers of the 115 series any longer, which were used until now in Witten, an adequate replacement had to be found to ensure operational reliability. A solution was sought that would fit into the existing cabinets and could be upgraded step by step to remain available for supply.

Wolfgang Hundt found the required controllers at VIPA. With the S5 to S7 conversion solution IM306 it is possible to convert

accuracy of 1/100 millimeter. The deployed SPEED7 CPU 315SN/NET has to constantly perform mathematical calculations within cycle times of less than 10 ms. "This cannot be achieved by every brand", says Wolfgang Hundt.

"And this is not converted in a trice", he added. Therefore he joined together with the electrical equipment manufacturer JL Automation GmbH from Bochum, also system partner of VIPA since end of 2013. For this reason he set a target to modernize two lines per year and otherwise only to be active should there be a danger of any failures. The structure of the VIPA solution makes this particularly easy, because here only the S5 CPU and the intelligent card have to be replaced by the IM306 Profibus DP module. All further adaptations of the EA level can be done in a second step, rack by rack – exactly then, when permitted by the planned shutdowns.

Several installations have already been converted in this way. The new VIPA CPU is installed in a current project – so the I/O modules are still the old ones.

CPUs with Ethernet interface creates flexibility

A further advantage of the VIPA solutions is that the deployed CPUs have an Ethernet programming interface and an Ethernet CP as standard. "So they are not only cheaper, but also faster and more universally deployable than other products", says Wolfgang

The next modernization project is already in preparation. "We will shortly modernize a material feeding device for the pane bending process (furnace) and step by step replace the old S5 PLC 115U with the high-speed CPU from VIPA." ■

Author: Marco Roth, VIPA sales Northwest

Setup of the electrical systems:

JL-Automation GmbH
Josef-Baumann-Str. 21
44805 Bochum

<http://www.jl-automation.de/>



Trend-setting logistic processes

Full automatic commissioning with Witron and VIPA.

With more than 40 companies and 600 consumer markets Migros is one of the largest group of companies in Switzerland. To ensure that all goods are delivered to the right destination within this consortium, a distribution center in Suhr with a record breaking high bay warehouse has been put into operation.

Enormous logistical demands

It is not an easy task to supply more than 600 branches in Switzerland with dry goods from a single logistic center within between 24 to 48 hours. Keeping large home stocks are out. Most consumers spontaneously buy whatever they have an appetite for. Shelf gaps are now no longer tolerated. In addition there are fluctuations in demand due to weather, advertising and social trends. For retailers, this means not allowing large warehouse stock to build up but to ensure their branches maintain a continuous, individual, fast and needs-based supply. The Migros distribution center in the Swiss town of Suhr readjusted their logistic processes concerning service, ergonomics, flexibility and sustainability to cover these demands.

Trend-setting logistic system OPM

There has been a central distribution center since 2000. Initially the goods were picked predominantly by hand here. Today the

warehouse has a full automatic OPM system (order picking machinery), which was planned and implemented by the logistic expert Witron Logistik + Informatik GmbH, who was responsible for the entire planning and implementation of all material flow, IT, control and mechanical components.

In order not to affect delivery processes the change had to be made during operation. Centerpiece of the full automatic warehouse and commissioning system OPM (order picking machinery) is the Case Order Machine (COM) that stacks completely different trading units store-specific and packed tightly on order pallets. Also, when loading the pallets, the OPM is completely flexible. For example, if a market can be supplied because of its existing frameworks with pallets of a particular height grid, the system considers this requirement. The articles are arranged on the pallets already during commissioning so that in the

shop they can be cleared by the shortest route onto the shelves.

Full automatic process from goods receipt to goods dispatch

Instead of gripping, the COMs push the articles exactly to the position on the order pallet that is calculated by the system. "Conventional gripping technology would enormously reduce the range of goods that are capable of automatic commissioning and would make the entire system more expensive", said Josef Pollinger, manager of



the Migros projects at Witron. The entire procedure is monitored by sensors to enable high availability. Prior to this, the products in the goods receipt are verified and stored, fully automated, as correctly sorted pallets in a pallet high bay warehouse. They are again removed from storage, depalletized in layers, combined with trays of different sizes, sorted mechanically in upstream fine-tuning processes and separated from the tray before being commissioned according to branches. As soon as the pallets are commissioned the OPM system pushes these to the wrapping station where they are secured with a foil. Then the pallets are transported via a conveyor technology network towards goods dispatch into a buffer area, consolidated according to tours and finally stand ready for shipping.

As Migros commissioned a large number of order pallets with beverages and PET bottles an efficient processing in the beverage area was an important decision criterion for the implementation of OPM. So the automatic insertion of an additional cardboard layer as a strengthener increases the stability at the beverage pallets.

Awarded logistic solution from Witron with VIPA SPEED7

Compared to conventional commissioning methods the Witron OPM solution is characterized by extremely high efficiency, quality and quantity. Controllers from VIPA are deployed in the COM system of Migros to ensure that all processes run fast and safely.

According to the manufacturer the CPU 317SN is the fastest automation component currently available.

Forty of these CPUs are in the Migros distribution center. The memory ranges of these CPUs are larger compared with CPUs from the same performance class of other producers and can be flexibly adapted. A further advantage is that VIPA controllers are programmed and operated via Siemens STEP7 – special training courses are not necessary.

The backplane bus of the SPEED7 CPU is particularly powerful and reduces the dead times in the closed-loop control circuits that are led via the controller and the fieldbus. The high processing speed allows the operation of a large number of controlled axes in a single control which enables higher machine clock cycles.

The compact design of the PLC and bus components has a positive effect on the space in the control cubicle. Because of the modular concept at VIPA the entire hardware can be adjusted individually to the project demands. The customer only pays for the functions that he actually needs, but he can expand and complement these at anytime.

Besides the standard backplane bus the VIPA CPU has an optional SPEED bus for expansion with high speed signal modules and communication processors. Here two modules are deployed which have been especially developed for this purpose. Each is equipped with two masters on which up to 512 slaves can be coupled so 112 double Interbus masters can be implemented. Additionally 16 serial communication processors are deployed at Migros. Besides Interbus, PROFIBUS and Ethernet are used in the Migros installations.

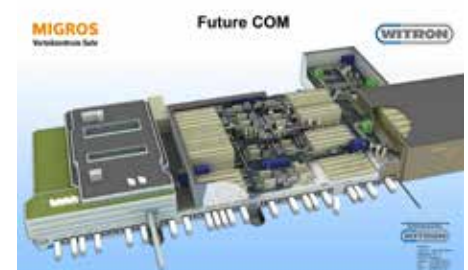
Best experiences in the daily operation

Meanwhile, the new system runs in the Migros distribution center in Suhr already since April 2011 to the complete satisfaction of all parties. „We have achieved all defined targets with the introduction of OPM“, said Migros division manager Daniel Nussbaumer. The supply chain is considerably more stable and the processes have become more transparent. Witron also uses fast VIPA controllers in other projects. "At the high dynamic installations – especially when they are starting in the running operation – we want the highest possible security", explained Stephan Schmid, team leader at

development controller engineering. This is also guaranteed by the PLC accumulators, which supplies the PLC memory with energy at a power failure. Buffering batteries, which have to be monitored and changed, are not required anymore.

„Besides these reliable, powerful components we also need a partner, who is flexible enough to make adjustments and is approachable at anytime for queries“, Schmid said, explaining why Witron will also rely on VIPA in the future. "The partnership with a global player like Witron which has existed for more than 10 years, makes our company very proud and encourages us never to be satisfied with the results achieved but always continue to develop", said Udo Richter, International Key Account Director at VIPA. ■

Author: Udo Richter, VIPA Key Account Director
Pictures: VIPA, Witron



PLC on vacation

How industrially proven control technology optimizes the energy consumption of a premium holiday village in Carinthia

The holiday village Moserhof lies in the middle of the marvelous landscape of the Carinthia Möll valley. Nine quaint, fully equipped wooden houses, a small chapel in the village square, a spa cottage with extensive spa area and a pond form the idyllic setting of the holiday paradise on the banks of the River Möll which is near to the farm and stables of the Moserhof itself. The guests shall want for nothing – however the owners Gerhild and Heinz Hartweger pay particular attention to a sustainable, resource efficient handling of the environment. And this includes the efficient use of thermal and electrical energy. The local specialist for automation engineering Nikolaus Hartweger has realized a clever energy optimizing system based on VIPA control technology and Profibus communication – which has delivered demonstrable success.

Vacation on a farm, at a riding stable and in an exclusive alpine village with four star comfort – this and much more is offered at Moserhof in the community Penk/ Carinthia near High Tauern National Park. Whether hiking, climbing, mountain cycling, alpine riding or skiing - various leisure time activities are offered for each season. Gerhild and Heinz Hartweger took over the parental farm with dairy cows and agriculture and set up the first guest rooms. Later, the riding hall was added. A large fire destroyed the entire property a few years ago. Mr. and Mrs. Hartweger not only succeeded in rebuilding the manor house and the riding school, they also realized a dream - they built a premium holiday village for families. This includes six solid wooden houses and three historical alpine cabins, which were taken down elsewhere and rebuilt in Moserhof. The individual houses have bedrooms, living room, kitchen and bathroom, which, despite the rustic charm, are exclusively equipped (incl. flat screen SAT-TV) for up to eight persons. The bath house with a Finnish sauna, herbal sauna, infrared cabin, panorama relaxation room, fireplace, herbal and tea bar as well as a bathing room for different bathing treatments turns out to be a real spa oasis in the middle of the village. A barefoot path made of wood, stones and herbs leads directly from the spa area to the river bank of the river Möll, where there is a small bathing pond.

Energy control from the tablet PC

Whether a guest wishes to visit the sauna outside the regular opening times, or someone hadn't turned the light off in the riding stable, or one of the village houses has



to be heated – all this can easily be managed from the office computer in the farmhouse or via mobile Tablet PC and smartphone. "This is very convenient", says Heinz Hartweger. "Previously I always had to go into the bath house to turn on the sauna – now I do this from my dining table". The remote control capability is only one convenient aspect of the installed energy optimizing system, which his cousin Nikolaus Hartwenger "had persuaded him to have", as the owner says jokingly, and he was initially very skeptical about it. "I am not a fan of computer and other electronics – but this solution saves me money". With this he spoke about the main benefit of the system, namely the permanent energy control and optimization. Nikolaus Hartwenger has been self-employed for about 10 years and had already implemented numerous electronic and automation projects. "In my opinion the most important requirement of energy optimization – whether in the area of building or industry – is to control everything from one central processor. Only when all the data of the whole periphery is collected and managed by a common intelligence, is the optimization potential fully realized." The success of the project proves him right. Since his energy optimizing system has been running at Moserhof, the total power consumption has reduced, so the power input of 55 kW as

contracted with KELAG – the Carinthia power company – was not exceeded once. So, there haven't been any additional costs for electricity due to short-term peak loads. Heinz Hartweger, head of Moserhof, even expects to reduce the power input and so downgrade the rate with KELAG.

The control engineering at the holiday village

The industrially approved SPEED7 CPU from VIPA 315-2AG12 operates as the control engineering heart of the energy optimizing system. "I almost always use VIPA controllers and periphery units", Nikolaus Hartweger said. "Here the price-performance ratio, the quality, and above all the support of VIPA Elektronik Systeme in Vienna are perfect. The



SPEED7 CPUs are faster than comparable products and have functions on board as a standard that you only receive as an option anywhere else. This simply enables more flexibility in project planning." The PLC receives, via Profibus, the latest energy data of the main power supply with three phase currents from the network analyzer unit manufactured by Janitza. All decentralized "VIPA 200V" I/O stations distributed at Moserhof are also connected to the central controller via Profibus. Currently, besides



parts of the main house and the central woodchips heater, the stables, the workshop and the bathhouse are connected to the energy optimizing system. “one cottage after another is connected in succession”, Nikolaus Hartweiger explained. Lighting,



heating including warm water preparation, air conditioning and the individual sauna stoves are controlled – even the sockets in the bath house are integrated into the concept. “So this ensures that the tea maker doesn’t run all night”, the automation expert said as an example. Another special feature of his concept is that Nikolaus Hartweiger deploys the battery free remote switches from EnOcean instead of the usual light switch. “I am fascinated by the used Energy Harvesting technology. The user does not need to worry about batteries that, with other wireless solutions, have to be exchanged at some point, because it does not exist here. The EnOcean reception modules can easily be coupled with the VIPA I/O modules.”

The process of optimization

Nikolaus Hartweiger programs the energy optimizing system with Step7 from Siemens, the whole application runs on the VIPA CPU. “The compatibility with the Siemens world makes the VIPA controllers so practical.” The controller collects all energy values and

calculates from this the current total energy consumption. Consumers are specifically disconnected as soon as the value reaches the limit value of the connected power. “The measuring interval is 15 minutes at KELAG. If a consumption peak is reached within this time it will be charged. I have created an index, a kind of priority list. On basis of this list the controller manages the power supply of the individual participant so that within a 15 minutes interval no load peaks ever occur”, Nikolaus Hartweiger explained the functional principle. “It doesn’t matter at all if, for example, the heater in the sauna is switched off for three minutes. The guest doesn’t sweat any less because of it. But under certain circumstances it is also sufficient to deactivate the air conditioning in the workshop for a short time, because just at this moment several powerful hairdryers are being used in the holiday village at the same time.” A touch panel with integrated web server is used as an HMI unit in the control cubicle of the main control on site – this practical feature enables the access on the visualization via each web browser and therefore also via mobile devices such as a Smartphone or tablet PC as mentioned at the beginning of the article. The clearly designed visualization not only gives information about the latest energy values but also depicts them graphically. Various consumption and trend curves are available – from voltage curves, through phase current, up to network symmetry. The parameters collected from their own weather station, such as temperature, humidity, wind direction and intensity of the sun, are fed into the system and contribute to energy optimization. The recording of all energy data is still made via a 16 GB CF card in the panel

– in future all data will be transmitted automatically to a server. “The entire system is prepared in such a way to be very useful to me”, said Moserhof owner Heinz Hartweiger about the solution. “I get information at all times with only a few mouse clicks.” His cousin added: “And we can show KELAG the actual consumption values in case of discrepancies in the invoice.” ■

Author: Thomas Reznicek, chief editor of Austromatisierung, Austria

Pictures: Moserhof, Austromatisierung





Glaze ice desired!

Perfect ice for the bob run in Sochi

In 2014 the winter sports competition took place in a subtropical region by the sea for the first time. The task to create perfect competition conditions for the athletes was particularly demanding here. The refrigerating plant specialist GEA Refrigeration Technologies supplies optimum ice to the stadium and bob run in Sochi and have used VIPA components for this.

When the major sporting event of the winter was opened in February 2014, for the participants it was a premiere. For the first time the winter sports competitions took place in a subtropical region directly by the sea. The area, where all stadiums and equipment had been built completely new, is located on the Black Sea coast. Here in the middle of the city Sochi the ice stadiums for the different kinds of sports are so close together that can easily be reached on foot.

The second site, where everything takes place that has to do with snow, is located in a 70 km distant ski resort in the mountains.

Here disciplines such as biathlon or downhill racing take place. A particular masterstroke is the new bob run, whose profile has been developed by Udo Gurgel who is responsible for many world bob runs together with scientists from Leipzig.

The project planning and the construction of the bob run and the coasting slide is one of the most complicated tasks of the artificial ice production. Here, as in air-conditioning and ice production in the particular climate of the city, experts were asked to provide constant and perfect competition conditions for the best athletes in the world. The Moscow sales organization of GEA Refrigeration Technologies, who also got additional tasks such as the air conditioning of closed sports facilities in Sochi, won the contract for the artificial ice production on the bob run.

The GEA Group as an international operating technology group focuses on process engineering and components for demanding production processes in different markets. The segment GEA Refrigeration Technologies is one of the market leaders for industrial cooling systems and is specialized in development, construction, installation and

maintenance of key components and technical solutions. The applications include cooling processes for the food and beverage industry, shipping, oil and gas industry, building and leisure facilities such as indoor ski slopes and skating centers. In many countries ammoniac refrigerating plants from GEA are used for ice production and air conditioning in sports facilities. Also the bob run at Königssee, which is considered as one of the best worldwide, was equipped by GEA

For consistent competition conditions and ice conditions on the entire bob run the ice is produced with the help of ammoniac refrigeration systems on all first-class tracks worldwide, as it is particularly efficient and other refrigerants would not evaporate as evenly over the entire track. Besides the higher effectiveness this also leads to a reduction of the system's pipe cross sections.

In Sochi Ammoniac was also to be used – but due to national rules it had to be equipped with a system for gas detection, to detect and display leaks quickly. For additional protection an automatic sprinkler





system in the engine house and in the channel for the main line and along the fairway was planned for neutralization in case of accident. Additionally a gas scrubber in the system of the emergency ventilation is installed, which, in the case of an emergency, considerably reduces the concentration of ammoniac in the air to be discharged.

The control of the ice production and also the permanent monitoring of safety-relevant parameters require an extremely efficient technology. Apart from the planning the main focus is on the components, which have to be particularly reliable and due to the climatic conditions also very robust.

So here GEA relies on VIPA CPUs for the control of the self-developed refrigerating machines. VIPA CPUs are a good alternative for space saving installation due to their modular set-up and the extremely compact variants. In Sochi, therefore, VIPA components of the 200V series are deployed. "They tried to arrange the control cubicles in Sochi as small as possible to ensure that they were well accommodated along the length of the track. Because of its height the 200V series fits perfectly on the mounting rail so the space can be used particularly well", said Udo Richter, the contact person at VIPA for international key account like the GEA group.

Each aggregate is usable via a touch panel which is also made by VIPA. "Besides this, important parameters can be read and manual adjustments can be made. Also alarms run on here, so that malfunction messages can be handled immediately", Udo Richter said. In total, there are four refrigerating machines along the track each one with a VIPA controller, a touch panel and the components for the periphery.

GEA have already been using VIPA components since 2008 that can respond quickly and flexibly to special requests of its customers. So for example the touch panels are branded with the GEA logo so that the entire system shows a unified design for the operator. Another aspect, more important for an international company such as GEA, is the international availability of components.

AVIPA also has a worldwide distribution network, so that the GEA branch offices around the globe have access to competent contact persons on site and find products which meet international standards and that can be deployed without hesitation. Even though no official competitions were

held in the newly constructed facilities of Sochi, the athletes already examined the bob run carefully however, and were impressed.

Luger Alexej Wojewoda who already won medals in Turin and Vancouver said: "The track has an excellent profile!" The other riders will certainly agree with this. ■

Author: Udo Richter, Key Account Director, VIPA GmbH

Technical data of the bob run:

Ammoniac fill quantity:	75.000 kg
Cooling capacity:	4.180 kW
Evaporating temperature:	-15 degree Celsius
Ice temperature:	- 4 degree Celsius
Condensation temperature:	+ 30 degree Celsius
Capacity:	11000 seats (9000 visitors)
Bob run length:	1814 meters
Highest point:	836 m
Lowest point:	704 m NN





Strong Alliances

The 16th VIPA International Sales Meeting 2014

The annual International Sales Meeting (ISM) has a long tradition at VIPA. Nearly all VIPA partners from about 50 different countries met on 18th and 19th March already for the 16th time. In numerous presentations and live performances the introduction of the strategic orientation of the international business in accordance with the YASKAWA merger and the presentation of the internationally achieved results were on the agenda. The main focus was on the presentation of the new hardware and software products within the VIPA product portfolio.



This year's ISM took place in the Nuremberg Hilton and the event started with an award. Here the most successful and long-term partnership was honored. The partnership with PROSOFT in Moscow – our partner for the Russian area - has already existed for 10 years. Our partners from Brazil, Bulgaria, Israel, Korea, Ukraine and Uruguay also celebrated their 10th VIPA anniversary.

Our Turkish partner, OTES San. ve Tic., in Istanbul, and VIPA China were awarded distributors of the year 2013. Both partners fulfil the demanding criteria concerning turnover development, growth, sales and marketing strategy and the achievement of the VIPA goals. A special award, the "Distributor of History", went to our Austrian distributor VIPA Elektronik-Systeme GmbH in Vienna for their longstanding loyalty over many years and their particular commitment.

The focus of the product presentations were on the new SLIO CPUs and their unique configuration tool. Besides presenting their distribution, several VIPA partners used the opportunity to present new and up-to-date

application examples of the SLIO CPU. The presentation of our "Green Solution", a solution package for a PLC bounded energy management system, was very intensive. The live demonstration of the engineering framework "SPEED7 Studio" enjoyed the special attention of all participants. Compared to the first version, this version has been revised in many features and will go later this year in the sales after numerous customer tests.

Of course, the focus of this year's ISM was on the cooperation of VIPA and YASKAWA after some development projects have already been concretely implemented. The main focus was on the combination of the VIPA PLC world with the YASKAWA Drives&Motion world via EtherCAT or PROFINET. Here the concretely implemented combination of VIPA PROFINET or EtherCAT CPUs and the YASKAWA frequency converters and servo drivers connected via PROFINET or EtherCAT were presented. The ISM evening provided the necessary relaxation after the first busy day of the meeting in the premises of the Nuremberg Press Club. The marble hall

offered a stylish setting for a dinner with selected specialties. The following entertainment program with the saxophone artist Kathrin Eipert provided a good atmosphere. Of course there were also a lot of opportunities for mutual exchange of experiences and discussions among the VIPA partners and the VIPA staff. ■



Enjoying and experiencing South Africa

With Kathrin und Sascha Isinger on tour

Cape Town is deservedly often mentioned in the same breath as Rio de Janeiro, Sydney and San Francisco. For us, South Africa is one of the most beautiful countries on the world. Here simply everything is available: the roaring sea, wonderful beaches, green vineyards and breathtaking mountains and in addition the culinary highlights in form of vine and seafood. What more could be expected?

Many prejudices are not correct!

We've rarely met such friendly and satisfied people. Never mind which color of the skin or living circumstances – the people in South Africa are admirable. They have always a smile and friendly word on the lips. Here you can enjoy life to the full.

The Cape region experienced a boom in the past few years. Strongly driven by the FIFA World Cup in 2010 many things have been done on the topic of safety and living conditions. Of course, the Cape region is still



in need of improvements and is partly in very poor condition. The expectation of life in South Africa is a little more than 50 years. Only seven children from 100 have the chance to go to school. Afterwards, we were asked many times: "But it is supposed to be unsafe there" With our experience we can say: "No!" Of course you should not walk through the Townships draped with Dollars. But if you are



friendly to the people they are friendly in return.

A must for wine lovers

The Cape Town region is famous amongst other things for their vineyard areas. The visit to this region, which is set against the backdrop of the blue-violet mountains with its idyllic vineyards, is an absolute must.

The wines from the South African Cape region around Stellenbosch, Paarl and Franschhoek are one of the best in the world. But also the scenic attractions are recommendable. The South African wines as Merlot, Pinotage, Shiraz and Cabernet Sauvignon and the white sorts Chardonnay, Chenin Blanc and





Sauvignon Blanc are getting more and more popular worldwide. A wine tasting under old oak trees in the gardens of Cape Dutch wine estates brings the enjoyment of fine wines to perfection.

Different wine tastings are offered. You are sitting in the middle of a fascinating landscape between vineyards and the ridge and enjoying wine and view. Here the vineyard Waterford Estate in Stellenbosch is especially worth mentioning, where a wine and chocolate tasting is offered. This is an absolute tasting experience and the perfect combination of both special components. Another vineyard worth mentioning is Knorhoeck – small but fine. Here you can also stay the night. Just ask us and we will be pleased to give you some tips!



Looking for some sponsors for a football team

We also had the opportunity to get in touch with the other side of South Africa. Meanwhile we have found a lot of new friends in South Africa even although we have only been twice. And one of these friends of ours had emigrated from Belgium. He has fulfilled his dream and opened a guest house in South Africa, beautifully situated in Somerset West.

He and his family not only want just to live and work there but he also wanted to give



something back to this country and its people. So Robby supports the Township School "Hope & Light" with regular sport lessons. Together with the students he has founded a football team and so he trains and plays regularly with the children to offer them a pleasant atmosphere and a change from their often dreary daily routine. We attended his weekly visit in the Township School.

If any of our readers fly to Cape Town and still have one or other kilos free baggage allowance, please let us know. The young football players are happy to get old shirts, pants and shoes etc..

Our tip

Anyone who wants to get know friendly people, a breathtaking landscape, tasty food and good wine should include the region around Cape Town in his travel planning. This beauty spot is definitely worth a visit. Just try it! You will be excited! We promise you. For us, one thing is clear, and that is we will always fly back to Cape Town unwind there and relax. Because that can be done here best by far! ■

Text and pictures: Kathrin and Sascha Isinger