SPEED

The VIPA Journal

Company Newspaper of VIPA GmbH No. 10 I Nov. 2015

07

Networking Solutions

14

Stone by stone
SLIO system in tough working conditions

Contents

Foreword

Dear SPEED readers,

The merger of VIPA GmbH and YASKAWA Europe GmbH is now almost three years ago and it is time to draw a resume and to provide an outlook for the coming years. In an interview with the trade journal A&D I had an opportunity to comment on the cur- rent topics. We have printed the text of the interview in the present edition.

As always to the SPS/IPC/Drives new products are the focal point of our exhibition activities especially of course joint developments with YASKAWA. So even Motion Control functions can be easily parameteri- zed by our engineering tool SPEED7 Studio. Also the matching hardware, the SLIO CPU iMC7 and the new SLIO compact CPU with the integrated I/Os will be presented for the first time. Further- more we will present complete robotics ap- plications e. g. in the form of packaging machine with VIPA controller at the VIPA booth as well as at YASKAWA.

Interessting applicaiton reports from the field of building application, concrete blocks and mill technology show the product suitability of our components for the most diverse applications of our customer-oriented system solutions.

We are happy to report that our energy management system has been recognized as eligible by the BAFA. We are delighted at being awarded the gold prize for the VIPA human resource development program which has been carried out for many years in cooperation with the company Coaching Concepts.

This issue concludes with a report from our participants at this year's DA- TEV Challenge Roth.

I am sure that the article selection from the VIPA/YASKAWA world will find your interest this time too.

I hope you enjoy reading!

Yours Bob Linkenbach

Interview with B. Linkenbach, VIPA CEO

„We want to open the spectrum of automation"

On 1st April 2015 Bobbie Linkenbach took over the operational management of VIPA, a producer of control systems. A&D asked him about the first 100 days, the challenges he has to face and how the company is oriented in the future.

A&D: Three months have passed since the handover. What are the most important things which you have tackled?

Linkenbach: We are currently working on two change processes. With the YASKAWA products, which we now have available, our market position is changing from a pure component producer to a system supplier. Previously we were mainly in control cabinets, now we are leaving control cabinets and moving onto machines and trying to improve the machines for and together with the customer. This means, we do not only talk on the component level to the customer, but on the level of applications. For sales and marketing this means no longer only using the argument of Siemens compatibility to use VIPA components but also having system thoughts in the foreground, including support right up to consultation during the initial application.

A&D: What is the second change?

Linkenbach: Siemens started a technical change with its new software portal and the appropriate new hardware systems, which also affected our strategy on controllers. Besides the pure Siemens users we also want to reach new customer groups and market segments. For this reason we are developing new products which remain software compatible as well as programmable with our own software SPEED7 Studio. This allows us to make new offers with hybrid and pure VIPA solution. This means our customer portfolio will expand significantly.

A&D: What will the portfolio look like in the future?

Linkenbach: The previous very successful systems will remain and continue being developed, and this for many years to come as there is still a high customer demand. With SLIO we have already started to develop our own PLC system that is not hardware compatible with Siemens any longer. We are also developing a micro PLC with its own form factor for the lower range. We will launch stand-alone systems for the upper range, too. The software compatibility will remain unchanged, but in addition the customer can use SPEED7 Studio, which significantly allows us to represent more functions. In this way we integrate the subject Motion Control in matters of software and hardware and support, in addition, EtherCat as a master next to PROFIBUS and PROFINET.

A&D: What does this mean for the OEM?

Linkenbach: Customers who want to keep the software compatibility can still do this with our hardware. We offer a complete platform for their demands with our SPEED7 Studio for power users or system users who want to change to VIPA and YASKAWA completely. All inverters and servos from YASKAWA are integrated in the hardware catalog. At the end we

try to offer our customers a complete solution with perfectly matched components that allows them to program, configure, and parametrize their machines and plants right up to robotics from a single source. Furthermore, we want to simplify the deployment of VIPA and YASKAWA products by using pre-assembled modules, libraries and templates. This allows the customer to reduce the time for engineering and the efforts for programming. We intend to achieve this by the end of 2018.

A&D: This means, the customers do not have to make a tough decision between Siemens and VIPA technology?

Linkenbach: Exactly! That`s the big difference to other market competitors, where the customer has to make a black and white decision. With us, users can continue using their existing software, optionally also SPEED7 Studio. According to our experience there are many customers who want to use both in order not to be dependent on one supplier. Here we are positioning ourselves as second supplier who, in their systems, is relatively similar and in the look and feel of the software too. Siemens programs that were written with Siemens Step7 can be imported and still used in SPEED7 Studio. Only re-export is not possible.

A&D: How strongly does the decision depend on the supported bus systems between VIPA and Siemens?

Linkenbach: That is an interesting question. From our point of view in Europe Profinet and EtherCat will mainly prevail as Ethernet-based bus systems. The Siemens community will keep to Profinet, but we have a lot of customers who like EtherCat but want to retain the Step7 programming environment. We support this with our hardware and SPEED7 Studio. Our philosophy has always been that we want to open the spectrum of automatization a little further, not define any fieldbuses for the customer, but to represent the best solution for him.

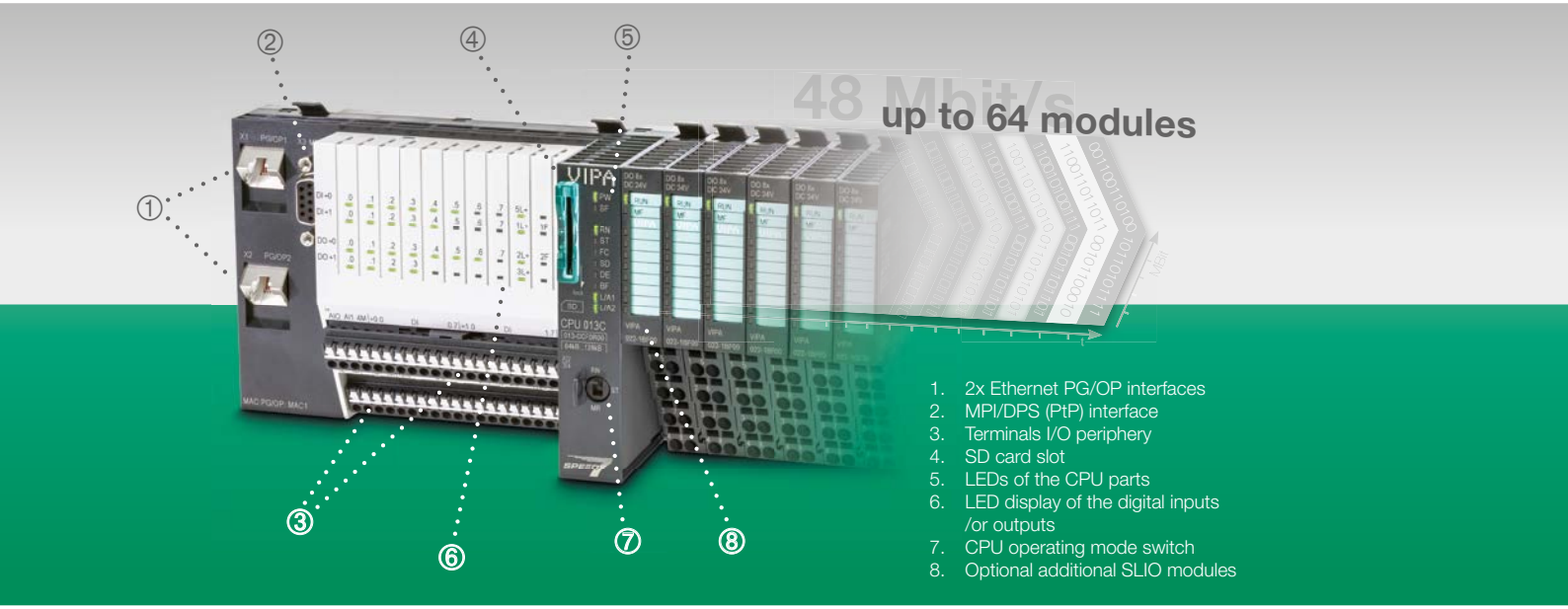
A&D: You already mentioned the parent company – are there also changes because of the cooperation with YASKAWA?

Linkenbach: Technologically speaking, we have jointly developed IMC7 on the basis of the existing systems SLIO: the first VIPA PLC with integrated motion controller whose sales release is planned for the end of the year. Additionally there is intensive cooperation with our subsidiary company Profichip for the development of future ASICs (Application Specific Integrated Circuits) for the drive technology, the PLC controllers up to the communication processors. Thus within the concern we are successively becoming more and more a technology location. Hence, many developments in the future will be implemented with consideration to European and also American interests.

A&D: And you are now selling a common range of products...

Linkenbach: Yes, first we have access to the entire portfolio and together with our colleagues from robotics we can offer clear advantages in competitive comparison and are also available worldwide at the same time. Secondly, we can also rely on the global service network of YASKWAW as well as the worldwide existing VIPA network, which in sales and marketing is a strong argument. Not least, it makes a tremendous difference in announcements and customer releases when you are perceived as an integral part of a worldwide group with over 14,000 employees. Suddenly, the doors of larger machine and plant manufacturers open as well as those of end customers that were previously always closed. ■

Wording of the interview from the magazin A&D Okt. 2015, text: Harry Jacob, A&D, picture: VIPA



SLIO compact CPU 013

The new super class of compact CPUs

VIPA is introducing a new CPU inside the SLIO CPU family at the SPS IPC Drives 2015. The compact CPU 013 combines a PLC CPU with integrated SPEED7 technology and digital and analog input and output channels as well as special channels with technologically special functions in one case. The well-known option of the existing SLIO CPUs to configure the work memory and the fieldbus connection with the VIPA SET Card (VSC) will also be adopted in this new CPU.

Performance features that previously did not exist

The usual interfaces of the SLIO CPUs are also available in the CPU 013:

- 2x Ethernet PG/OP interface with RJ45 jack for programming and remote maintenance and the access to the integrated webserver
- PtP (MPI) interface (RS485) for following functions:
  - MPI interface for the connection between programming device and CPU and the communication of several CPUs and HMIs,
  - PROFIBUS DP slave (the functionality will be activated via VSC),
  - PtP functionality switchable via RS485 interface to activate a serial Point to Point process coupling to different target and source systems (ASCII, STX/ETX, USS, 3964(R), Modbus RTU, master/slave)
- DC 24V power supply for CPU and I/O supply voltage
- Lockable plug-in place for external storage medium (SD card) or VSC

The particular things with this CPU are the integrated I/O perpherie channels:

- 16 DI DC24V
- 12 DO DC24V, 0,5A
- 2 AI 0-10V (12Bit)
- Channels for technological functions: 4 counter / frequency measurement, 2 PWM.

The memory equippment of the CPU 013 covers all demands of a compact CPU. The basci version of the work memory has 64kByte with each 50% code and data share and can be expanded up to max. 128kByte by means of VSC. As load memory 128kByte are integrated.

Nearly unlimited expandability

The expansion possibilities of the CPU 013, in comparison with other compact CPU in this class, represent a special feature because of the following outstanding characteristics:

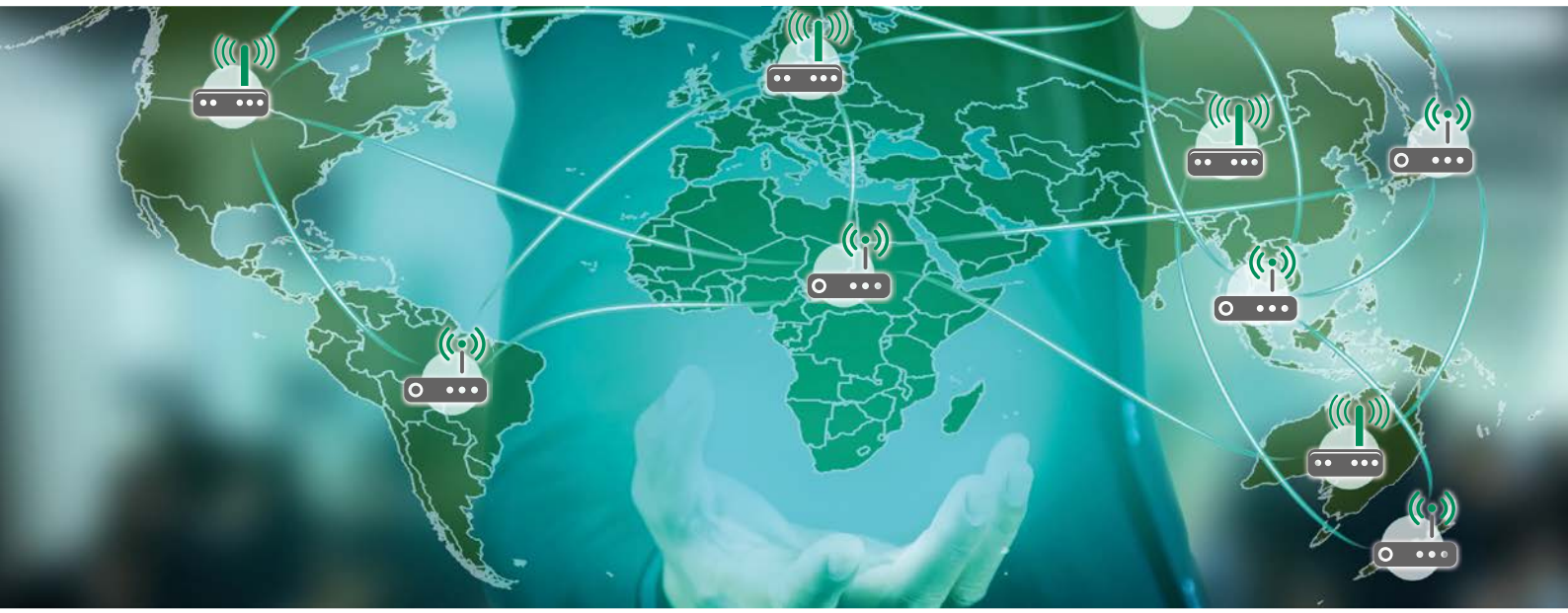
- The SLIO compact CPU is expandable with all module types from the SLIO system and so it can cover all special demands. Usual compact CPUs can often be only expanded by digital or analog modules.
- The SLIO compact CPU can be expanded with up to 64 modules, common compact CPUs are limited up to 8 modules.

Other familiar features such as the fast backplane bus and the stable mounting on a 35mm DIN rail are also available at the new CPU 013.

What has proved worthwhile at the SLIO CPUs is the possibility to configure the CPU via VSC in accordance with the requirements of the system control concerning work memory and PROFIBUS functionality (DP slave).

The advantages of this concept lie in the simplified system logistics and the cost saving on procurement.

VIPA SLIO – a successful concept contiunes to grow! ■



Networking Solutions

Intelligent remote maintenance and network components

VIPA is expanding its product range in communication modules with several new components. In addition to the existing teleservice modules, Ethernet and PROFINET switches as well as a wide range of PROFIBUS repeaters are now available.

Remote Access – new Teleservice modules

Under the term Remote Access VIPA now summarizes all products and this enables world- wide access to plants and machines via a safe VPN connection.

This avoids the expensive deployment of a service technician on site. The use of an em- ployee on site would cause higher costs with arrival and departure fees and expenses than the one-time investment in a teleservice module. So you are prepared in time in case of service - and have access to your controllers, panels and other automation components. Therefore, you can organize regular maintenance and any necessary subsequent adjustments by remote access or monitor the system status in the same way for example

TM-C VPN router:

On the one hand three TM-C VPN routers belong to our teleservice product range, with which - depending on the version - either the outgoing internet connection can be setup easily via the factory LAN whereby only access to the machines exists and not to the factory LAN. With the WLAN or mobile radio router, internet connections independent of the existing factory LANs are possible. They offer a cost free usage of the OpenVPN service „Talk2M“ , and also high band width in the field of mobile communications with HSPA+ modems.

TM-H router:

Our TM-H router allows complete remote maintenance of your systems that has among other things an alarm management and Tag polling. Furthermore these devices offer the possibility to upload and display self-created websites on their web server. They are ideally deployable for broadband connections via LAN/ ADSL and HSPA+. These teleservice modules can read out data directly from the PLC via ISO/TCP, MPI/PB, PPI and Modbus/TCP, process them internally and use them for alarm. As soon as a parameterized trigger event occurs an SMS or an e-mail will be sent. The transmission of data via FTP is also possible.

Overview TM-H router:

	900-2H611 (WAN/LAN)	900-2H682 (WAN/LAN/HSPA+)
Remote maintenance via MPI/PROFIBUS	•	•
Remote maintenance via routing/plug'n'route	•	•
Ethernet/serial gateway	•	•
Tag polling	•	•
Alarm management	•	•
Customized webpages	•	•
M2Web	•	•
Basic scripting	•	•
Talk2M ready	•	•
Integration in an existing VPN network	•	•
MPI/PROFIBUS/PPI (RS485)	1x	1x
LAN (RJ45) | machine network	4x	4x
WAN (RJ45) | external network	1x	1x
Integrated modem	-	HSPA+
Suitable for	broadband connection	mobile broadband connection

Overview TM-C VPN router:

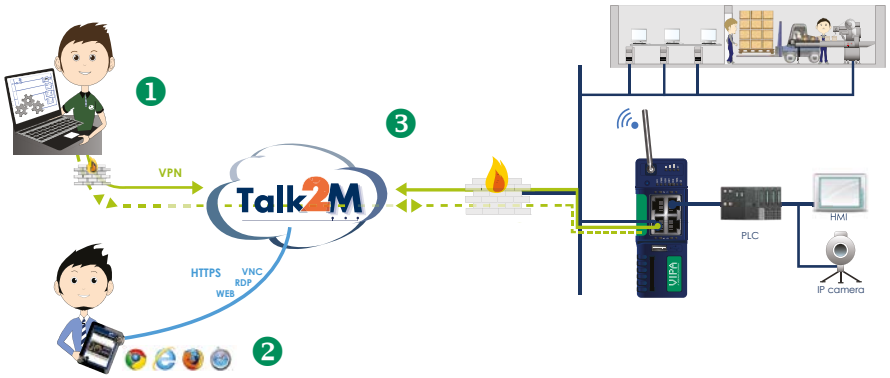
	900-2C510	900-2C520	900-2C580
RJ45 Ethernet	4x 10/100 Mbit/s (LAN/WAN configurable)		
Fieldbus interface	USB		
Input/Output	2x DI, 1x DO		
SD card reader	yes		
WAN connectivity	LAN	LAN + WLAN 802.11 b/g/n	LAN + GSM/GPRS/ EDGE/ HSPA+ modem
Power supply	12 – 24 VDC, +/-20%, LPS		
Temperature range	-25°C up to +70°C		
Identification	CE, UL		
Guaranty	24 month		

Talk2M – industrial cloud for remote access

Talk2M is the first industrial service for remote maintenance in the cloud. With worldwide distributed servers Talk2M offers a very reliable, efficient and save solution for remote maintenance of machines. Talk2M collects thousands of accounts and manages thousands of connections per day including a complete conneciton monitoring on the basis of protocols.

All right options for connections with your external devices:

- Easy allocation: the external devices and remote locations can be connected within minutes without the support of IT specialists
- SMS and relay for alarm management
- Mobile remote control: access to your devices with your mobile phone via the high-performance M2Web access control for safety improvment
- Checking path for connections: detailed report for tracebility of all remote connections



ECATCHER:

1 TALK2M VPN CLIENT SOFTWARE

eCatcher is a complete solution which allows the remote programming of PLCs.
Download eCatcher here: www.talk2m.com

M2WEB:

2 BROWSER-BASED MOBILE ACCESS ON EXTERNAL HMIs

Control and access to your HMI from any device by remote access:
Connect with M2Web under http://m2web.talk2m.com

TALK2M:

3 THE COST FREE VPN SOLUTION:

Talk2M is the first secure industrial service for remote maintenance. With worldwide distributed servers Talk2M offers a very reliable, secure and scalable solution for remote maintenance of machines.

Industrial-Switch EN5-R
910-1EN50

Industrial-Switch EN8-R
910-1EN80

Industrial-Switch PN5-RD
911-2PN50

Industrial-Switch PN8-RD
911-2PN80

Unmanaged Ethernet switches

The industrial switches EN5-R (5-Port) and EN8-R are entry-level models which support the IEE 802.3 or 802.3x/u with 10/100M full / half duplex and MDI/MDIX recognition. They are designed for operating temperature ranges of -10° up to 60°C and can also be deployed in rough industrial environments.

Managed Ethernet switches

The Ethernet switches PN5-RD (5-Port) and PN8-RD (8-Port) are Managed Ethernet switches with integrated PROFINET functions. This makes it easier to integrate the PN switches into PROFINET oriented engineering systems and also support a variety of useful management functions such as IGMP Snooping, IEE802.1Q VLAN, Qos, Port mirroring, SNMP, bandwidth management and warning by e-mail or relay output.

As special feature all VIPA industrial Ethernet switches offer the navigation approval in accordance with DNV/GL and the approval FCC, TUV, UL and CE.

Fieldbus repeater, MultiSwitches and bus terminatoren

Here VIPA has added a range of new network components into the product range. The range includes one, two up to 5 channel PROFIBUS repeaters which are transparent for all PROFIBUS DP protocols but are also suitable for PROFIsafe and MPI. All repeaters have automatic recognition of the transmission rates of 9,6 Kbps up to 12 Mbps and support the following protocols: DP-V0, DP- V1, DP-V2, FDL, MPI, FMS, PROFIsafe, PROFIdrive and each other FDL-based protocol. In addition, a 5 channel MultiSwitch and a bus terminator are available.

Repeater B1 (920-1BB10)

- Compact PROFIBUS repeater
- 12 MBps core
- Cascadable without limit
- Increases the RS 485 signal strength
- Permanent monitoring of the data on the glitches that are filtered out digitally

Repeater D1 (920-1BD10)

- Compact and robust PROFIBUS repeater in a demanding IP66 environment
- 12 MBps core
- Cascadable without limit
- Increases the RS 485 signal strength
- Permanent monitoring of the data on the glitches that are filtered out digitally

MultiRepeater B2-R (920-1CB20)

- Deployable for all PROFIBUS DP protocols, Profisafe and MPI
- Optional robust Modus (high-integrity telegram check)
- Variable bus setup with tree or star topology possible
- Optional bus redundancy possible

MultiRepeater A5 (920-1CA50)

- Flexible network components for PROFIBUS DP installations
- Allows the implementation of long spur lines with many users
- Network structures with star-/tree shaped segments
- Useable in IP65 environment

MultiRepeater B5-R (920-1CB50)

- Modern und robust network components for PROFIBUS DP installations
- PROFIBUS DP protocols, Profisafe and MPI
- Optional robust Modus (high-integrity telegram check)
- Variable bus setup tree or star topology possible
- Optional bus redundancy possible

MultiRepeater B5-RD (920-1DB50)

- First Profibus repeater with integrated PROFIBUS DP slave
- Transfers diagnosis data to a PLC
- Ideal for maintenance and monitoring of PROFIBUS DP installations

MultiSwitch B5-R (921-1EB50)

- 5 channel Profibus DP/MPI MutiSwitch
- Variable adjustable baud rate per channel
- Deployable for all PROFIBUS DP protocols, Profisafe and MPI
- Optional robust Modus (High-integrity telegram check)
- Variable bus setup with tree or star topology possible
- Optional bus redundancy possible

Bus-Terminator T1 (924-1BB10)

- For the active termination of PROFIBUS RS485 networks
- Switch off, removal and replacement of devices without interrupting the bus communication

A complete overview of our remote maintenance and network components appears soon on our homepage. ■

The new inverter generation GA700 replaces the A1000 series.

The 400-V servo drivers of the series Sigma-7 from YASKAWA had world premiere in Nuremberg.

New YASKAWA products

Two product novelties on the SPS IPC Drives 2015

Two fair novelties determine the appearance of YASKAWA on the SPS IPC Drives 2015: The 400-V servo drivers of the Sigma-7 series had world premiere in Nuremberg. And also the new frequency inverters generation was presented live on the booth at the trade fair in hall 1 (booth no. 1-310) for the first time.

New generation of servo drivers

Two targets were focused on in the development of the new servo drivers: consistent, simple and appropriate fast commissioning, and a maximum machine performance at high precision. The prerequisite for this is given by the intelligent functions such as auto tuning, automatic load adjustment or the integrated vibration suppression for example. The book style case also supports the complete side-by-side mounting of several amplifiers in a small space. So a high power density in the control cabinet can be realized. Sigma-7, as the suc- cessor of the Sigma-5 Series, now also offers in the 400 V version a powerful answer to current market demands of mechanical engineers and end users in the production industry. At the same time this new generation combines the experience of 25 years development know how and nine million servo products in the field.

New inverters

The new inverter generation, which will replace the series A1000, is also new. The inverter GA700 is the first one and will be presented in action on the YASKAWA booth.

„Total System Solutions“ and „Green Energy“

The new products at the trade fair are integrated into the YAS KAWA concept „Total System Solutions“. Modular combined products and software of the divisions Drives & Motion, Robotics and VIPA complement each other to technically unified automation solutions from a single source. Consistent system architectures of visualization and control up to drive technology and robotics enable optimized operating concepts and an easy device selection. Another strategic focus at the YASKAWA booth is the subject of „Green Energy“: current innovations for energy saving automation are offered from highly ef- ficient IE4 motors and energetic recovery sys- tem capable converters up to smaller and lighter robot- manipulators.

SPEED7 Studio

With expanded scope of functions

The development tool SPEED7 Studio is construed for VIPA controllers to make their engineering more efficient and to contribute to an increase in efficiency in the world of automation. Now the software has been expanded with new functions.

Engineering – easy and efficient

SPEED7 Studio offers an intuitive and clear user interface that puts engineering demands in the foreground. With this, VIPA wants to offer fast access in the complete planning of hardware and network configurations.
The programming, standard motion control functions, visualization and diagnosis are now easier to implement than ever before.

Hardware configuraiton

Even in hardware confi- guration the engineering environment simplifies and facilitates the work. With Drag&Drop funci- tons, tool tips and a photo realistic display of the modules the user should get the hang of it right away. Additional features support project development. The automatic current requirement calculation in the SLIO system, the integrated SPEED bus modules or the online display of the digital I/Os are only a few examples.

Networking

SPEED7 Studio makes networking via PROFIBUS, PROFINET, EtherCAT and standard Ethernet consistently logical. Regardless of the bus protocol the topology view is always the same. In this way the network configurations and the user allocation can be done easily and quickly. Now, as a special fea- ture the advantages of EtherCAT can be used together with the familiar the STEP7 world wi- thout additional need for change and training.

Programming

Editors and debug tools for IL, FBD, LAD and SCL are the instruments for programming with SPEED7 Studio. The clearly structured color scheme, the precisely marked hierarchy level, a cross- reference list and many other features make programming clear for the user. A diagnosis by means of chip status and monitoring tables is possible - even with history and trend display.

SLIO CPU iMC7 with integrated Motion Control, Sigma-7 servo drives

Motion Control – newly integrated

SPEED7 Studio offers a new highly efficient type of drive configuration. The VIPA motion control concept puts automation tasks into focus here. With the motion control library in accordance with international standards and coupled with the STEP7 programming machine functions can be planned without special system knowledge too. This leads to a considerable reduction in complexity and reduces the development requirements, since special drive, fieldbus, and communication programming will not be required any more for the motion control applications. Furthermore the advantages of the VIPA PLCs and the YASKAWA drive world such as Sigma5, Sig-

ma7, V1000 and virtual positioning and rotational speed axes are now available in one framework. For multi axis applica- tions the newly developed cam disk editor is available. With this the laws of motion of VDI 2143 can be designed graphically for the electronic cam disk. Here complex motions are divided into single motion sections whose transitions are implemented smoothly.

Mechanical cam disks can be reproduced exactly and developed easily. That reduces the mechanical wear and tear and increases the availability of the machine. The motion axes can be suitably and exactly positioned by the high performant clock synchronism.

Visualisation

TTwo visualization options allow the user free choice with SPEED7 Studio:

The web based version with vector oriented graphics offers easy and location independent access to the machines and plants via panel, notebook, smart phone and tablet PC – and this independent from the runtime.

The second version enables the implementation of extensive visualizations via the SCADA interface. All project variables of the VIPA engineering environment can be used for the visualization without the loss of interfaces by the joint variable household.

Test & diagnosis

Extensive test and diagnosis functions for PROFINET, PROFIBUS and EtherCAT lead to efficient and target oriented troub- leshooting in SPEED7 Studio. The auto- matic import of connected EtherCAT hard- ware, the fast and clear project planning and parameterization, and the complete network diagnosis simplify access to EtherCAT. With the integrated PLC and HMI simulations the user can test complex systems clearly and structured in advance. Time and risk for the commissioning on site can be reduced. Troubleshooting will be simplified by the newly developed real time recording of data points from the PLC. Even intermittent errors can now be localized. ■

The article „Engineering - einfach und effizient“ was printed in the SPS-Magazin Sept. 2015

VIPA – right decision

All advantages in a glance

In many ways VIPA has started to make its engineering tool easier and more powerful and efficient at the same time. The most important features of the SPEED7 Studio at a glance:

Profitability:
- Intelligent features for more overview and less effort

Consistency:
- Engineering from the hardware configuration and the communication, programming and motion control up to visualisation

Multi lingual:
- Easy language change, also during the programming process

Motion Control:
- Because of function modules no special pre-knowledge required

Multi-axis applications:
- Cam disk editor with law of motions in accordance with VDI2143

Quality assurance:
- Many integrated powerful test and diagnosis functions

Guaranteed future:
- For the existing S7 projects and existing know-how

Innovations on historical ground

Modern building automation for more efficiency

The medbo district hospital Regensburg modernized its control system. They now rely on a PLC based concept with VIPA controllers.

A balancing act between past and advancemen

Regensburg, diocesan and university town, looks back on a history of 2000 years. Today, protected as a UNESCO world heritage, one can find many buildings from the Middle-Ages in the old town. Here crusaders and tradesmen from all over Europe used to gather. Regensburg is still today one of the most attractive economic locations with a large port on the Danube and three universities.

The monastery Prüll is approximately 1000 years old and was built as a Benedictine monastery in the suburb. In the 20th century the administrative region Upper Palatinate bought this area. Since then the district hospital Regensburg is under the banner of medicine. Here today, the medbo® (Medical facility of the district Upper Palatinate) operates different hospitals and facilities for psychiatry and psychotherapy, neurology and neurological rehabilitation, in addition nursing homes and a vocational school for nursing. 2100 employees are active here. They carry out research and treat in close cooperation with the University.

New control technology required

As part of large construction projects the existing control system was to be replaced and connected to a trend-setting MSR concept. For this purpose the persons responsible from medbo® consulted ZEUS automation technology Ltd.

The company located in Pentling has 27 years experience in industrial automation. They develop complete solutions in the field of MSR technology for building, process and production facilities and central control sys- tems. Here the spectrum ranges from the auto- mation of single systems up to central manage- ment of several locations. The specialists had developed a tailor-made, equally powerful and economic concept for the whole clinic center.

A crucial aspect in the choice of the technology was the knowledge that the operating costs of a building during its life time could exceed the production costs by several times.

Plant optimization and energy management with ZEUS development

For this reason the ZEUS development, PRIAMOS, was deployed. They offer a comprehensive energy management and a wide range of possibilities in system optimization besides the usual functions of a control system. Here process transparency and system flexibility are particularly high and therefore exactly what the clinic center Regensburg wanted.

PRIAMOS was developed over many years in cooperation with leading companies in different industries and based on industrial standards.

Here the PLCs are directly coupled to the control system. The modules for energy ma-nagement of the plant are already integrated. Although all the data of the controllers is transmitted to PRIAMOS in real-time, the network load is so low, because of an event driven

transmission, that already existing networks can be used.

Of course, with this concept the automation of ZEUS has to be particularly powerful. Since the beginning they have been relying on VIPA. „Our cooperation started then with the fact that our

controllers had to be made LAN capable“, says Roland Wolff from ZEUS. At the beginning of the 90ties VIPA supplied appropriate TCP/IP cards and so the business started.

VIPA components bring „SPEED“ into the clinic center Regensburg

The successful cooperation of both medium-sized companies still continues today. And so the controllers from Herzogenaurach also found their place at the MSR technology of the building facilities in the clinic center Regensburg. Above all, high speed and consistency was required here. Finally each measured value consists of 30 - 40 attributes - without the corresponding memory this would not be achieved.

So the choice fell on the VIPA SPEED7 CPU 315SN/NET that is particularly impressive with a large data point volume and event controlled data transmission to the control system. Besides the price performance ratio, flexibility and customer orientation were the crucial reasons for using VIPA controllers. Added to this is the large number of interfaces which are integrated here as standard and don`t have to be ordered separately.

Complete control system integrated into the IT structure

A further important advantage is that the VIPA PLC technology is industrial standard and many electronic experts already learnt its programming via STEP7 during their apprenticeship. The standardized programming and the uniform communication to the central control system allow manufacturer independence at system level.

For the stand-alone, web capable system visualization on site the control visualization can now be taken over one to one without any further effort. With the browser the floor plan of the property can be displayed and so the measured values of each property can be viewed. An interesting feature is that not only current but also completely archived values can be called up, displayed as graphics and matched for fast analysis. Contexts, reasons and effects can therefore be recognized better and the entire plant can be optimized further.

The „core element“ of PRIAMOS is a high performance Oracle data bank. The entire control system was integrated as a virtual machine without physical server directly in the existing IT infrastructure. ■

Stone on stone

SLIO system in tough working conditions

The production of concrete blocks is more complicated than anyone can imagine. Anyone, who wants to produce premium quality at a competitive price, should not leave anything to chance. Flexible processes and high cost efficiency are the basic requirements to be successful. So like FCN Betonelemente Ltd.. The producer has been relying on VIPA controllers and peripheries for many years.

Concrete blocks – The production requires special know-how

One walks over them daily, without thinking about their origin. Cobblestones, sidewalk flagstones - all the luxurious road surfaces, which turn a muddy mogul field into a high heel capable race track.

Today the production of these heavy weights from concrete or natural stone is not only to make them into a certain shape - it is a research project and design challenge at the same time. At least for producers who don`t want to offer their customers cheap goods, but a long-term unique product with added value.

One producer that sets a good example is the company F. C. Nüdling with its headquarters in Fulda/Hesse. Its roots go back to 1893.

Research and development for eco-friendly end products

Here at one of the production sites not only stones are produced and presented. Here you can also find a research center where currently different tarmac mixtures are tested. They were to convert nitrogen oxides under the ef- fect of sunlight so that only harmless nitrate remains. One of many innovations of FCN preceded these tarmac mixtures: Paving stones in which titanium dioxide was included. Under the influence of sunlight the same chemical ef- fect as at the tarmac mixtures will be achieved. This AirClean® technology has long been rea- dy for the market and available in the FCN catalog in different designs for terraces and access roads.

„Research and development has an important place for us“, says Dr. Steffen Mothes, the person responsible for production and technology at F.C. Nüdling. Nearly 25 projects together with institutes and universities have already been implemented here.
In order to implement new market trends and production processes as fast as possible, the entire production has to be highly flexible. New concrete formulas have to be tried and additional processing steps can be added without great effort. To ensure this flexibility FCN decided on its own control system. „We maintain a department in Wandersleben“, says Dr. Mothes.

Ralf Six and Patrick Kraus have everything under control by remote maintenance and only have to be on site when larger problems occur. For the remote maintenance there are VIPA teleservice modules at each FCN location of. But this is not the only VIPA product.

Also with the controllers, which have to withstand an enormous amount, the experts rely on VIPA products.

Extreme environmental condition for automation components

Dust and vibrations put enormous strain on all modules. Here, especially at the compression and concrete forming stage, a great deal of energy is required. Only the combination of pressure and vibration ensures the required compression of the mass and so for extreme power. Up to 300G are possible and the volume competes with a jet plane taking off.

Only absolutely robust components are able to withstand these strains. „We have not had a failure up to now“, says Ralf Six. The stable backplane bus of the SLIO system from VIPA which resends telegrams within milliseconds in the case of failure certainly also contributes to this. And even if an exchange of the hardware is necessary, the electronic modules can be simply taken off from the base and quickly changed while the entire wiring remains unchanged. “To be maintenance friendly is not possible“, Six said, getting to the crux of the matter.

The control experts of FCN have been using VIPA products in all concrete works for over 10 years. At that time the plant was to be modernized and so they were looking for a producer who impressed with price and perfor- mance to produce as cost efficiently as possib- le. „So we very quickly found VIPA with their excellent service“, says Ralf Six talking about his experience.

Future safe control system concept

The integrated interfaces to PROFIBUS and PROFINET are further advantages for the controller experts of FCN. Especially when it is about the integration into superior systems, the quality assurance and the associated tracking of the products you cannot avoid these topics. Here lies the future. More and more data has to be collected and documented faster and faster“, the controller experts say. When the interfaces are then already on board and can be used without additional costs and integration steps, not only money but also time and nerves can be saved. ■


Ziegel
Beton
Stein auf Stein

Silo full

VIPA and YASKAWA components ensure a full-automatic operation

Until grain is ground to flour and ultimately ends up as bread and pastry on your table, the seeds have already passed through several steps and stations from the field to the bakery. We visited the hulling and silo mill Nestelberger in the Upper Austian Perg and carefully examined the automation solution with VIPA and YASKAWA components.

VIPA
A YASKAWA COMPANY
YASKAWA

Extensive processes

Now, after the harvest the silos of the Nestelberger hulling mill are full – with organic grain. „We have stored approximately 2,500 tons of spelt, wheat, barley and oats etc. in 24 cells“, says Peter Pilsl, the person responsible for the production in the hulling mill of Nestelberger. But before this, the seeds have to pass several work stages:
The supplied grain is conveyed, cleaned and weighed in the mill. At the cleaning and weighing stage the grain falls back down due to the process and finally is peeled and / or conveyed back again and is stored appropriately in the silos.

Controller and visualization for full automatic operation

To optimally implement the automation of plants in these dimensions you have to be versed in the entire processes. Andreas Stingeder from the electronic company MESTA was responsible for the entire planning, the setup of the control cabinet, the cabling, programming, visualization and commissioning. During the construction and the commissioning Stingeder was also partly involved in the operational management of the hulling mill.

Now the mill operator can adjust all appropriate parameters with the visualization. Afterwards the plant operator starts the process with the »Start« button – and the mill runs.

So the process is very conveniently organized for the person responsible for the mill and he

can now operate the mill fully automatically himself.

VIPA and YASKAWA from the outset

„This was the first project which we implemented together with VIPA Elektronik-Systeme Ltd. The solutions of VIPA and YASKAWA were conclusive for me and were suitable for our projects from the very beginning. There were never any problems with these components“, Andreas Stingeder emphasized.

„Thereby the required components from our company have become more extensive during the course of time. First we only talked about one controller. After several conversations we recognized that we have more interfaces where we can cooperate“, says Christian Karl, product manager Drives&Motion at VIPA Elektronik-Systeme.

The background to this is that at the beginning of the project the extent of the automation on the customer side was not known. „In the course of time it became clear what had to be automated. Now we implement from the VIPA and YASKAWA components nearly everything from the company VIPA Elektronik-Systeme. Here the advantage is that everything comes from a single source. We were especially im- pressed with the service of VIPA Elektronik- Systeme with its competent contact people and the fast delivery times“, says Stingeder.

SLIO CPU 015 + YASKAWA FU controll everything

In principle the hulling mill, Nestelberger, consists of two system components. On the one hand there is the silo system for the storage of the grain and on the other side peeler. Both plant components are controlled by a VIPA »SLIO CPU 015« with memory expansion. So the controller is responsible for all motors of the conveyor plant - vertical and horizontal -, the valves for dosing, monitoring the filling level, and the contact indicators of the grafters. Furthermore the controller is equipped with a coupling via Ethernet for the visualization.

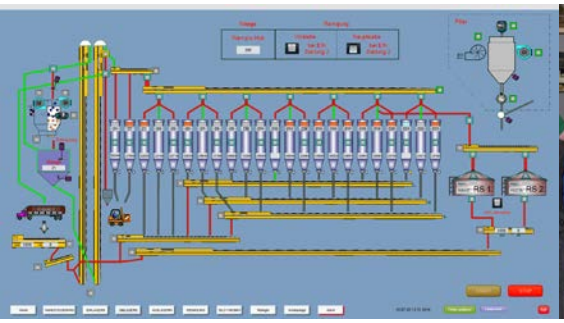
„The communication occurs via PROFIBUS in general, although the frequency inverters of YASKAWA are compatible with all common bus systems“, said Karl. In total there are three frequency inverters of YASKAWA from the series »V1000« for the control of the drivers. The frequency inverters of this series not only impress by their small scale but also with their extremely robust electronics and powerful performance values. „These frequency inverters are really very robust. Power cut-off or load throw-off after an emergency stop - there are absolutely no problems“, Stingeder said.

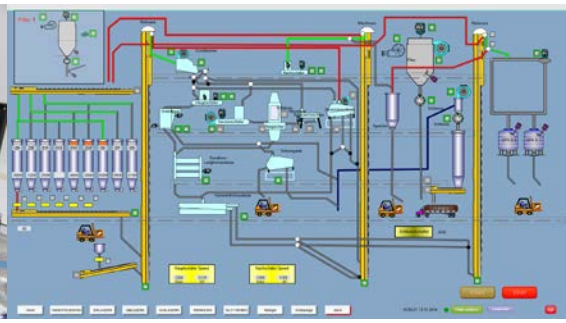
Complete package VIPA SLIO and YASKAWA inverter are also planned for future projects

„VIPA and YASKAWA products were the ideal solutions for this project. I will also use these products again in the future - right now I could not imagine anything else. But it is not only because of the excellent components. If I have any questions I can call at VIPA Elektronik-Systeme and will get immediate answers and proposals for solutions - just competent contact people“, says Stingeder.

The technical completion in the hulling mill forms a remote maintenance solution that will be implemented in all likelihood together with VIPA too. So the management of the Nestelberger hulling mill can retrieve all production data and system conditions via internet or mobile devices. ■

Abridged, taking over of the article from the magazin AUTlook 12/2014 www.autlook.at Author Christian Karl, VIPA Elektronik Systeme, Wien





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BAFA funding

For VIPA energy management system

On 7th July 2015 the Federal Office for Economic Affairs and Export Control (BAFA) declared the newly developed energy management software „VIPA Green Solution – EnMS“ as eligible. This means that as part of a certification in ac- cordance to DIN EN ISO 5001, VIPA cus- tomers can claim Federal funding for software for the amount of up to 4,000 Euros of the eligible expenditure for energy management from now on.

With the amendment of the Renewable Energies Act 2014 and 2015 and the EEG compensation scheme the Federal Government offers targeted incentives for companies to introduce energy management systems in accordance with ISO 50001. A specific directive of the Federal Government determines the precise conditions to promote a rational and economical use of energy.

With the „Green Solution – EnMS“ VIPA, customers receive an energy management system comprising four modules that easily makes possible a certification in accordance with DIN EN ISO 50001 or DIN EN 16247. The four modules, energy management, load management, plant information system, and ERP/ SAP, help to increase the energy efficiency and reduce the energy costs. A direct connection of the production facilities and plants to the management system allows transparency and optimizes control.

We have already published a detailed description of VIPA EnMS in our SPEED journal no. 7, June 2014 (http://www.vipa.com/de/aktuelles/speed-das-vipa-journal/).

„With the Software „Green Solution – EnMS“, we support our customers in their endeavors to reduce their primary energy consumption. With the initial certification, you can now also get possible federal funding from the federal government”, said Jürgen Moll, head of the VIPA marketing department, talking about the classification of the eligibility for the software. According to the Federal Government the primary energy consumption will be reduced by 20 per cent by 2020. Further information about the funding of the energy management system is available under www.bafa.de/. ■

European further education award in gold

For special human resource development program at VIPA

During the „Zukunft Personal“ – Europes largest trade fair for human resource management - the award presentation for the „Oscar“ in the field of further education in gold took place in Cologne from 15th until 17th September 2015.

The jury of the leading professional association of the further education sector (BDVT) awarded the human resource concept ‚Leadership Sustainability Program‘ (LSP) which was developed by Coaching Concept for VIPA Ltd. with the European gold prize for consulting, training, and coaching. The syste- matic and efficient way with which the executive managers were bound to the company and their abilities strengthened were particularly commended.

The jury of BDVT justified the presentation of the European further education gold award with the „precise systematic which normally could only be found in concerns, that combine the power of a medium-sized company and keep it consistently on the road to success “(citation BDVT jury).

The combination of the newly structured company-wide personnel development with the individual “Performance Management Coaching” of the executive managers was classified as methodically groundbreaking.

The “Leadership Sustainability Program” at VIPA GmbH promotes the joint development of a tailor-made company-wide expertise development system after a comprehensive situation and needs analysis which is known in the industry as ‚Performance Management System‘. This allows them to define precise measures for all executive managers and employees which usually results in significant cost savings in the field of internal further education and increases the effectiveness at the same time.

The second focus of the LSP concept is the comprehensive individual accompaniment of the implementation of the training contents into personal functional practice by Performance Development Coaching.

Among the 19 finalists are very well-known companies such as Linde AG, Deutsche Bahn AG, Evonik Industries AG, Camel Active, Uni Credit Bank, and Atlantic Hotels GmbH.

Therefore the pleasure was especially great when on the evening of 16th September the prize was proudly accepted by Wojkan Kleinschwärzer (Coaching Concept) and Udo Richter (VIPA Ltd.) in the great hall of the Lindner Hotel City Plaza in Cologne. ■

Author Udo Richter, VIPA Ltd.

VIPA Sporty

DATEV Challenge Roth 2015

For the ninth time the employees of VIPA/profichip took part in the DATEC Challenge Roth 2015, one of the world`s largest long-distance triathlon competitions. Seven SPEED7 Racing Team race in three successfully completed events: swimming (3.86 km), cycling (180 km) and running (Marathon 42.195 km).
Also this year the participants of the seven relay races were colleagues from VIPA, profichip and YASKAWA.

The swimmers open the competition

While for the single participants the competition had already begun, the relay swimmers and cyclists met on Sunday morning at seven o`clock for the transponder handover in the transition area 1 at the Main-Danube Canal in Heuberg.

At exactly 9 o`clock the challenge started and the water turned into a sizzling mixture of arms and legs. After the first 500 meters the field was mostly sorted and it became quiet and you could concentrate fully on the distance. After another 1,000 meters the first marker was reached and now you had to swim the almost seemingly endless 2,000 meters. The arms gradually began to burn, the famous challenge bridge behind which the second marker was waiting, was already in sight but didn't want to get any closer.

The swimmers` final spurt

Finally the turning buoy was reached and it was the final sprint over the last 300 meters to the exit. Afterwards the swimmers had to sprint over 300 meters to waiting cyclists and hand over the transponder to them for the changeover. After one hour, give or take 10 minutes, all our swimmers came from the water and their day`s work was done. As always the swimmers celebrated their heroic performance with a white sausage breakfast with our colleague Fritz Dotzer.

Relay handover to the cyclists

While the swimmers were still enjoying their „finish", the cyclists pedaled in increasing temperatures on the first of two 90 km rounds that went from Eckersmühlen, Heideck, Thalmässing, Greding and back via Hilpoltstein and finally to Roth.

Different to road races such as the Tour de France it is strictly forbidden to ride in the slipstream of other cyclists and overtaking must be done within 30 seconds. The athletes' compliance of this is monitored by competition judges and time penalties and extra kilometers for the runners are imposed for offences.

Spectator motivation

The good atmosphere along the challenge distance highly motivated the cyclists and easily encouraged them to overvalue their own performance potential. The world-famous highlight of the DATEV Challenge Roth cycling distance is undoubtedly the Solarer Mountain. Nowhere else in a triathlon event do the athletes pass through such a narrow row of spectators who motivate the cyclists by cheering them up the mountain. The SPEED7 Racing Team cyclists were already expected by their swimming colleagues at the Solarer mountain and were frenetically cheered on. The cycling part ended for our cyclists after 5:15 to 6:18 hours in the transition area 2 in Roth where they gave over the baton or transponder to the marathon runners.

Runners starts with the last discipline

It was already 3:45 pm when the runners started in magnificent sunshine and almost 30 degrees centigrade with the distance of 42 km. From the transition area 2 they went the next four kilometers to Roth and then ever northwards along the canal up to the turning point in Schwand where many good-humored spectators were already waiting and wildly cheering each runner. Finally they returned to Roth and continued to Eckersmühlen to the second turning point. Now they knew that they were returning „home"to the finish.

When they reached Roth for the third time they were finally allowed to leave the monotonous canel and looked forward to the lap of honor over the market place and Roth's Kugelbühl square. Then they ran at Kosta a Greek restaurant into Garten road where the commentator, Joe Güthlein, was waiting at the 41 km point, together with many excited fans, to cheer the runners. Finally they arrived at the finish.

Finish of all participants

300 meters before the finish line the relay swimmers and cyclists were already waiting for the runners in order to complete the race together and to be fittingly welcomed with absolute goose bumps-feeling in the largest and most beautiful triathlon stadium. With the hard-earned medals around their necks, receiving the finisher- shirts and an ice-cold alcohol-free beer the „Best old Race" traditionally came to an end with a great Finish-Line party and fantastic fireworks!

Renewed participation 2016

After all seven relays reached the finish without incidents and losses they quickly agreed to accept next year's DATEV Challenge Roth.

Therefore the appeal: Anyone who wants to participate in 2016 in one of the relays as a swimmer, cyclist, or runner, or is searching for a personal challenge is welcome. The accomplishment of the long distance together is clearly the main thing, the times play only a subordinate role!

Author: Daniel Westphal, profichip Ltd.