SPEED

The VIPA Journal

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YASKAWA & VIPA

Japanese tradition meets
Frankonian ingenuity

DEW Witten
Modernization of steelworks with SPEED7

Japan culinary
Exotic - in need of getting used to

Content

VIPA - YASKAWA

Stronger through cooperation

Forword

What is VIPA doing in fact one year after YASKAWA's takeover? One focus of this edition is dedicated to this question and the numerous arguments for this far-reaching step. As this fits the topic perfectly, we deal with the different culture of Japan, which we discovered in our discussions with the YASKAWA people. Interesting impressions of country and people of Japan can be found in a travel report of the cherry blossom festival (hanami) at the end of this edition.

The experts are waiting with interest for the new SLIO CPU from VIPA. It can offer exceptional features, which didn't previously exist in the automation world. You will find a detailed account in this edition.

Our product range is growing continuously. Besides the new SLIO CPU there are two new SPEED7 CPUs, which make the connection between the EtherCAT network and the SIMATIC world.

Of course there are also examples of interesting applications from around the world. We report, amongst others, about the latest ones from South America.

In the sport section we also report on a connection between VIPA and YASKAWA. A YASKAWA colleague had the courage to master the triathlon distance of 180 km cycling for the first time. Her first hand description of the competition together in a relay team with VIPA colleagues gives you an impression of just how exerting it was. Anyway, her relay team achieved a very respectable result.

Are you now eager to read it?
Have fun and enjoy!

Ihr Wolfgang Seel

The 20th November 2012 is a very important date for VIPA. On this day, VIPA CEO Wolfgang Seel, in the presence of Manfred Stern, President and COO of Yaskawa Europe GmbH, announced to VIPA and Profichip employees that that the majority of the VIPA GmbH company shares was to be acquired by Yaskawa Europe GmbH. At a joint press conference at the automation fair SPS IPC Drives on 27.11.2012 professional circles were also informed of this move. This is now almost exactly a year ago. Reason enough to report on the experiences of the first year together.

Who or what is YASKAWA?

The history of YASKAWA Electric Corporation in Japan dates back to the year 1915, in which the Yaskawa Electric Manufacturing Co. was founded. In 1919 it was transformed into the Yaskawa Electric Manufacturing Co. Ltd., in 1949 was the passage rather than to the stock market of Tokyo, Osaka and Fukuoka. From the early beginnings as a

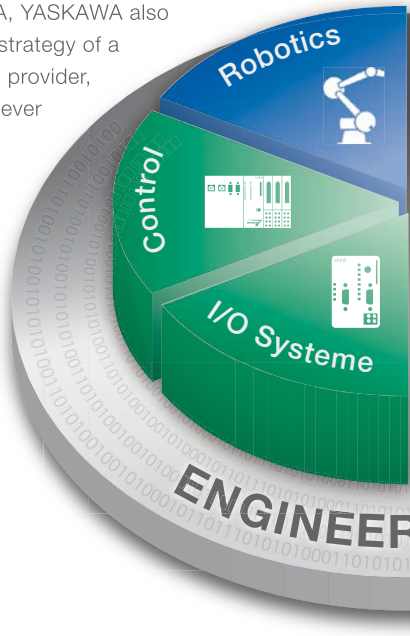
pioneer in drive and control technology YASKAWA grew to the present day world-leading manufacturer von frequency inverters, servo drives, machine controllers, medium-voltage inverters and MOTOMAN industrial robots. The headquarters of YASKAWA are located in the city of Kitakyushu, which is on the main southern island of Kyushu and belongs to the prefecture of Fukuoka.

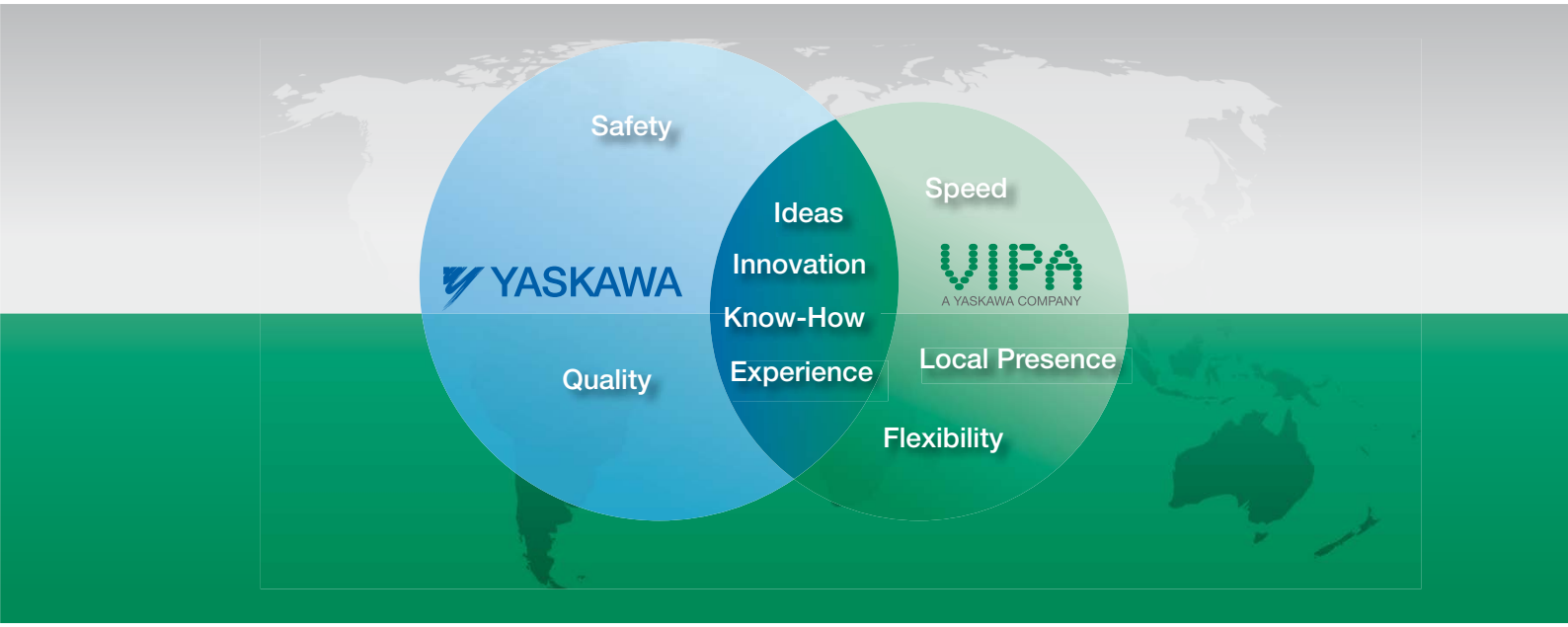
The focus of the worldwide activities is in the areas of Motion Control and Robotics. YASKAWA employs14,600 people in developing, manufacturing, sales, application support and customer service worldwide. With production facilities, development sites and sales and service offices YASKAWA has a global presence. The total sales reached in the financial year 2012 (ending late February 2013) amounted to the equivalent of 2.3 billion euros. Expressed in terms of quantities, this means 1.8 million frequency inverters, more than 800,000 servo drives and 20,000 industrial robots per year.

This product range is also reflected in the European YASKAWA subsidiary, YASKAWA Europe GmbH, founded in 1981 with its headquarters in Eschborn near Frankfurt / Main. Initially consisting of two companies, namely the Yaskawa Electric Europe GmbH with its headquarters in Eschborn and the MOTOMAN Robotec GmbH in Allershausen, Bavaria, YASKAWA Europe GmbH emerged, uniting the two divisions „Robotics" and „Drives & Motion" under a holding company with currently approximately 1250 employees. In Europe, in addition to the two German sites, YASKAWA products are also designed and manufactured in production plants in Scotland, Slovenia, and Sweden. The development activities are focused on locations in Germany, Scotland and Israel. The European development sites stand under an integrated network directly in combination with research and development in the Japanese headquarters. A total of 15 individual companies within the Yaskawa GmbH (including VIPA GmbH) extend across the entire EMEA region and ensure maximum customer proximity.

New business unit VIPA controllers

Just like VIPA, YASKAWA also pursues the strategy of a total solution provider, that is, whenever possible to





offer the customer solutions from a single source.

For VIPA that means extending of the product range for the world of automation with the very important field of motion control and drives, which is part of many automation solutions today. YASKAWA, however, were looking for a way to supplement their product range in the area of control and automation, because integrated system solutions are needed more than ever. It was therefore understandable that two companies whose products up to now in no way overlapped considered merging their respective product range. In the first stage the system solutions encompass control, servo and converter technology. In a second stage, robotics will be integrated into this system. For both companies, the main aim is to significantly expand market presence.

At the end of discussions and negotiations on an integration of VIPA GmbH in YASKAWA Europe GmbH the result was to unite the VIPA-activities in the new YASKAWA business unit VIPA Controls. Together with profichip, VIPA will become a Center of Excellence in the YASKAWA group, where know-how and expertise from automation and control technology and motion control concentrate.

Expectations for the merger

For VIPA the Integration into the global YASKAWA organisation represents a meaningful and also necessary expansion of their product portfolio in order to secure their growth opportunities in the future. YASKAWA's majority stake gives VIPA financial security, even in the next few years, to be able to cope with significant new and continuing developments both in hardware and software. At the same time, even in association with YASKAWA, VIPA's independence is preserved. As traditional suppliers in the automation market, their position will strengthen, since VIPA, in association with Yaskawa, can now be a full-range supplier. Everything that has distinguished VIPA up to now, namely flkexibility, speed and proximity to customers, still continues to remain a hallmark of VIPA.
For YASKAWA, in association with VIPA, a market opens up with a range of customers that so far could not be reached. In the control and automation market customer requirements clearly tend towards complete solutions, for example from motion control, and with that harmonizing control solutions that, as far as possible, come from a single source.

For VIPA and YASKAWA many synergies arise from the merger. This includes for both companies a common product portfolio aligned to both previous product spectra that moves away from individual components to a complete solution.

The previously separate development activities are now together in a common development pool that benefits both companies. In Europe alone, a team of around a hundred engineers with concentrated know-how and extensive expertise for motion control and automation technology has emerged from the association with VIPA that is further strengthened by the global development resources of YASKAWA.

Our customers also gain from the common presence of VIPA and YASKAWA. Whereas before, two contact persons were needed for motion control and the controlling sector, the customer now has only one contact person and he has the expertise in both areas at his disposal. ■

Wolfgang Seel

The first joint year of VIPA and YASKAWA, review and outlook

Interview with VIPA CEO Wolfgang Seel

Almost a year has now passed since the unification of VIPA and YASKAWA. What results from your point of view can be specifically documented after this first year?

W. Seel: First of all, it should be noted that VIPA's independence has been maintained by the merger. The fact that there is no overlap in the product range of either partner, neither side considers moving operations to other locations or thinks about reducing staff.

What is the strategic significance of the merger for VIPA?

In the foreground for VIPA is to meaningfully expand the existing range of products with the products that up to now have been missing for a complete supplier in the control industry. Furthermore, in association with Yaskawa, new markets in the Far East region are opening up for VIPA, which were previously difficult to reach. The financial commitment to a financially strong international group gives VIPA the financial security in the coming years to cope with new and important developments both in hardware and software.

A merger of this magnitude is not created in two weeks. What was the biggest challenge?

W. Seel: Here we faced the challenge of reconciling flexibility, clear corporate structure and the mentality of a medium-sized company with the dimensions of a worldwide organized group and a tight group structure. It was also necessary, to find a common corporate philosophy, in which both YASKAWA, as a company arising out of Japanese traditions and VIPA as European-oriented company could identify themselves. In the practical corporate merger the adaption of the financial year and reporting to the YASKAWA specifications presented themselves as a major challenge for VIPA. The reporting system at VIPA had to be converted from the previously binding requirements of the German Commercial Code (HGB) in this country to international standards. With this the reporting at VIPA now meets the international standards of the parent company for the joint accounting.

What are the major differences between VIPA and YASKAWA in the daily operative business?

W. Seel: The biggest differences between VIPA and YASKAWA are alone due to the different company size. VIPA is a typical medium-sized company with short decision paths and a flat hierarchy, YASKAWA, on the other hand, an international group with very different decision-making levels, resulting alone from the international network of a global corporation.

Are there any joint projects by VIPA and YASKAWA?

W. Seel: Many projects have already been started in the first year of our cooperation, which at first focused on the development and sales area. The important consideration here is to implement the existing comprehensive know-how on both sides in the development of new products and adapting existing products. In these projects the direct cooperation of the Japanese YASKAWA colleagues with their German colleagues in the development at the Herzogenaurach site is also firmly agreed upon. The first two YASKAWA colleagues are already working in the software development at VIPA and the chip development at profichip in Herzogenaurach. We have been also working closely together in the sales area. The common appearance of new and existing customers creates additional opportunities to expand our market position.

After one year of a joint appearance on the market can you describe how customers of both companies have responded to the merger?

W. Seel: We have had an almost entirely positive response from the market to the merger. We are seen, as I said, as a full-range provider and that puts us in line with the large automation suppliers. In addition, we have a financially strong parent company in YASKAWA, which of course is viewed positively on the market.

Are there any reactions from competitors?

W. Seel: From the statements of our competitors, it is clear that we have now grown from purely a control provider to a fully-fledged player in the automation market, we can now rank ourselves with the „big names". ■

Interview: Norbert Schlimm, VIPA Marketing

Industrialized Country Japan

Geography and Economy

Japan is an island chain along the eastern coast of Asia and the north-western portion of the Pacific Ring of Fire, with about 40 active volcanoes. The main islands are Hokkaido in the north, the central and largest island of Honshu, as well as Shikoku and Kyushu in the south. In addition there are still about 6800 smaller islands belonging to the Japanese sovereign territory. The island position has determined the life and behavior of the country's inhabitants for centuries and also explains some peculiarities that are typical for Japan, but the rest of the world seem very strange.

Geography

The land of the rising sun, as Japan is also called, and with its 126 million inhabitants is the tenth most populated country around the globe. With a population density of about 337 inhabitants per km² (compared with Germany: 225 inhabitants per km², source wikipedia.org) it is one of the most densely populated areas in the world. This can be explained by the fact that a mountain range runs through the entire Japanese archipelago, which accounts for about 73% of the total land mass (377.000 km², Germany: 357.000 km²). The highest mountain of this range is mount Fuji at a height of 3776m. Since the country is so strongly inclined in the area of this mountain chain, only the remainder of the total area of the country can be used for agriculture or as a settlement area. Therefore the settlement areas are limited to the few large plains, the coastal strips, and in mountain valleys and agricultural areas are often found in the form of terraced farmland.

Since Japan stretches from the 45th line latitude in the north to the 20th line of latitude in the south (for comparison Germany is situated between the 47th and 55th lines of latitude), it is divided into several climatic regions with big climate differences. Hokkaido in the north is regarded as cold-temperate with cold, snowy winters, while in the southern region of Nansei-shoto with the Ryukyu islands a subtropical climate prevails. The weather is determined by heavy rainfall, especially during the rainy season and typhoons occur regularly.

Economy

As far as the economic situation in Japan is concerned some parallels to Germany can be drawn. In 2012 in the ranking of economic performance, as measured by gross domestic product (GDP), Japan was in third place ahead of Germany according to calculations by the International Monetary Fund (IMF). Only the USA and China are in front of Japan. That the balance is shifting, can be seen from the fact that in 2005 Japan was still in second place behind the USA and ahead of Germany, whereas China ranked in fifth place still behind the United Kingdom. Like Germany, Japan is poor in natural resources and is dependent on imports for both its energy and food supply. But in production, research and development, mechanical and automotive engineering, in the electronics and chemical industries, Japan counts as one of the world's leading countries. Of course, it also applies to Japan, in the current situation of weak domestic demand and a rapidly aging populati-

on, to focus more on export. The problem is aggravated for Japan by the fact that the economy had to contend with the consequences of the Fukushima nuclear disaster and a threatening energy shortage. As in Germany, China plays a very important role as a trading partner in Japan.

Abenomics: new recipe for sustainable economic growth

Shinzo Abe, Prime Minister of Japan re-elected in December 2012, is the name giver for a new business and economic policy, which is meant to get Japans economy back on a course for growth especially after the last natural catastrophe. The program is based on three pillars: A policy of cheap money, Government investment in infrastructure projects, Structural reforms in the economic system.

After the Japanese stock markets initially reacted to the first two points with massive share price increases, the enthusiasm gave way to a certain disillusionment, as details of the third part also became known.

Germany's role in the Japanese economy, and vice versa

Germany's export balance shows that at the forefront of exports are primarily the major European neighbor countries and the United States. According to the statistics China also belongs to the five large importers of German goods. Exports to Japan are ranked in the middle and lie with 17.1 billion euros in 16th place.

The situation is similar with regard to imports into Germany. Here the major EU countries together with China and the USA are among the frontrunners of German imports. Japan lies here in 15th place with 21,8 billion euros. For Germany, the foreign trade balance with Japan reveals a negative difference of 4,7 billion Euro. Thus there are more goods imported into Germany from Japan than are exported there.

The Japanese trade balance is largely determined by trade with the Asian countries, China at the top, and the USA. Main imports are petroleum with over 20% a with

approximately 10% of total imports. Exports are motor vehicles and motor vehicle parts approx. 20%, machinery 19% and electronics approx. 10%. The structure of trade with Germany deviates from this slightly. As for German imports from Japan electronic products are at the top at about 22%, followed by machinery at around 19%. Electrical engineering and cars account for 11% and 10% respectively.

Very different is the situation with German exports to Japan. Here the ranking is: motor vehicles and motor vehicle parts as the most important export goods at approx. 30%, followed by chemical products at about 22% and machinery with about 15% share in the total foreign grade volume with Japan. (Sources: Federal Office of Statistics; www.destatis.de and Germany Trade & Invest (www.gtai.de).

Japan surges into the rest of the world

Even more interesting than the balance of trade figures are the statistics on foreign investments. As almost expected these show clear differences between foreign investment in Japan and Japanese investment abroad. While the share of foreign investment in Japan, based on the GDP, is still below 4%, Japanese direct investment abroad exceeds this value almost fourfold. Main investors in Japan are the EU and USA. The Japanese foreign investment, mainly focused in the past in the United States, is now spread much wider geographically according to figures from 2011. The order is: Asia 34% (of which China 11%), EU 31% (of which Germany 2%) and the United States with nearly 13%. It was observed that the biggest increase in investment Compared to 2010 was to Europe. It is expected that this trend is maintained in 2012 (Source: Foreign Office, www.auswaertiges-amt.de).

Viewed from this aspect the investment by YASKAWA in VIPA GmbH lies within the overall economic trend. ■

Japanese mentality

Despite the forces of nature always remain calm

In Europe we are used to showing our moods and feelings, even outwardly or to reading from the face of our counterpart . Very different in Japan. It's vital here never to show your emotions to the outside world but to hide them. The Japanese are afraid of losing face if they show emotions like anger or fear. Despite the numerous natural disasters, like the earthquake on March 11, 2011, the Japanese remain relatively calm and there is no panic. Reasons for this lie in the history of the Japanese people and their religions, especially Shinto and Buddhism.

The famous three monkeys that see, speak or hear no evil

Ganbaro – Do your duty

The Japanese people have been shaped over many centuries by an hierarchical structure reaching deep into work and private life, which, in Japanese society, is still partly held to this day. That is, everyone was assigned a certain place and the fulfillment of his life was not self-realization as in most of the Western world, but in the fulfillment of the tasks assigned to him within his community. **„Ganbaro"** is the call to do your best, to make a great effort, or not to give up. In Japan the hero is not the one who emerges from a fight as the winner, but the one who has to endure and suffer most in the fight. As for the Western coverage of the natural disasters in recent years, the Japanese are particularly proud that their calm and serenity was emphasized in the light of the catastrophic destruction in Japan.

Natur – Take it the way it is

Unlike Europe, in Japan there is the constant fear of natural disasters and is accepted as part of everyday life. On account of the religious diversity, particularly Shinto and Buddhism, the Japanese also have a completely different relationship to mortality. For them, life is a constant cycle of death and rebirth as well as the constant recurrence of major natural disasters. Japan is one of the most earthquake-prone areas of the world. One of the most important festivals is the Cherry Blossom Festival in Japan. In the short life of the cherry blossom reflects the idea that nothing is of long duration, which is why the cherry blossom is particularly honored.

Ralph Schneider, Managing Director of the company Wiedner Advertising Media was travelling in Japan precisely at the cherry blossom time and gives us fresh impressions in his article on our page „VIPA touristic". ■

Sources

http://tinyurl.com/nlaxsqo
http://tinyurl.com/pufgjfc

Electronics Country Japan

Japanese and their relationship to electronics

Gambling machine hall for the game „Pachinko"

As already mentioned the Japanese are very strongly intermingled with ancient traditions. It is all the more surprising therefore that the country takes completely different paths in terms of technology, especially electronics,. This is reflected in the fact that Japan has long been a leading nation in innovative products for consumer electronics and also with new developments in the automotive industry. Meanwhile countries like China and South Korea are challenging Japan for this leadership role in electronics, but meaningful and sometimes less meaningful innovations are still coming from the Japanese electronics industry.

Japanese electronics developers obviously have to put less emphasis on the real benefits of their inventions than anywhere else in the world. The best example of this flooded all electronic markets worldwide in the 90s. It was the electronic chick „Tamagotchi", literally „egg timer", and also looked very similar to one. After hatching, the chick developed a life of its own and afterwards, like a real pet, demanded sleep, food, drink and affection from its owner.
If it was neglected by its owner the small virtual animal would die after a short time. Only by pressing the reset button could a

new chick be brought into the world and everything started from the beginning again. The development of this „toy" however didn't stand still, as new game varieties followed, in particular for mobile and smart phones, and also many copies came from non-Japanese countries onto the market.
The technology that was in the original version of the Tamagotchi was certainly not very complicated and could have been developed all over the world. It is doubtful however that German engineers would have occupied their time with such a „gimmick". But in Japan anything can be developed as long as the Japanese themselves like it. Nobody asks very long what use it has.

Nevertheless there are as ever still stimuli for meaningful new innovations from Japan. Thus, the Japanese manufacturer Toyota brought the world's first Hybrid car onto the market, while European and American manufacturers were still busy with the development of such vehicles. It looks very similar for vehicles powered solely by electricity.

Another example is robotic technology. Now that robots cannot be dispensed with in the manufacturing sector all over the world, particularly of course in automotive production, they are gradually conquering other areas. One aim is to make things easier for people in everyday life. At trade fairs, therefore, YASKAWA, who have, amongst other things, also concentrated on the development of industrial robots, is showing its two-armed robot SDA10 that can even play with Lego or fry pancakes. As the advertising slogan of a famous Japanese automotive company says: **„Nothing is impossible..."**

More about this and other topics in:
„Die spinnen, die Japaner",
Published in „Die Welt" from 30 January 2010, Author Martin Kölling,

http://www.welt.de/welt_print/vermischtes/article6035120/Die-spinnen-die-Japaner.html

EtherCAT master CPUs

World premiere: The first EtherCAT master CPUs for the SIMATIC world

„VIPA always thinks in terms of its customers and seeks solutions that didn't exist before." This statement is particularly true for the new EtherCAT CPUs. With completion of the development work on the SPEED7 EtherCAT Manager the full performance of the two CPUs 315SN/EC and 317SN/EC can now be utilized. For project planning only SPEED7 EtherCAT Manager together with the SIMATIC Manager version 5.5, from Siemens need to be installed. It will be even more convenient soon when the new Framework SPEED7 Studio von VIPA can be used for this purpose.

Hardware performance of the CPUs

Both CPUs offer an EtherCAT master interface on the integrated EtherCAT CP with cycle times of at least 500 us. As with most VIPA SPEED7 CPUs the 300 series also includes the PROFIBUS master as one of the essential features. In addition the CPU 317SN/EC also has VIPA's own SPEED bus for a high-speed data communication via the backplane bus. Otherwise, the CPUs 315SN/EC and 317SN/EC with those features correspond to the existing SPEED7 CPUs of this performance class. Therefore, the standard RJ45 Ethernet interface for PG / OP communication, the PtP interface for serial protocols, PROFIBUS master and a PROFIBUS slave belong to the already traditional standard equipment. Of course, both CPUs have the SPEED7 CPUs possibility, well-known by all, of using the Memory Configuration Card (MCC) to expand the memory without CPU swap. The CPU 315SN/EC can come up with a working memory of 1024kByte, which can be upgraded using the MCC to 2048 Kbytes. With the CPU 317SN/EC the values are: base memory 2048kByte, expandable up to 8192kByte.

Bridging the gap between EtherCAT and the SIMATIC world

We have already gone into the growing importance of EtherCAT technology for the world of automation both from a technological as well as commercial point of view in earlier articles. With the SPEED7 EtherCAT Manager VIPA has now created the prerequisite, to connect the SIMATIC world with EtherCAT, a unique connection in this form. With this tool all the possibilities of the EtherCAT network technology can be utilized. The bridge between the PLC world with the usual programming with SIMATIC-Manager, the decentralized connection via PROFIBUS/ PROFINET and now the networking via EtherCAT is thereby built. We know that many users have been eagerly waiting for this.

Familiar programming environment

The SPEED7 EtherCAT Manager from VIPA is integrated throughout. In practice this mean that the SIMATIC Manager (V 5.5) can remain the programming base. Only SPEED7 EtherCAT Manager must be additionally installed. With this combination then, all the possibilities of EtherCAT are fully available. It will be even easier for the PLC programmer in the future with the brand new engineering tool SPEED7 Studio. He will then be able to carry out his project planning without being familiar with the EtherCAT technology. The program, which includes SPEED7 EtherCAT Manager, automatically converts the configuration into the EtherCAT format. The user can therefore utilize the advantages of this networking in the simplest way.
With EtherCAT many more options are available for the user. With this can access damit a considerably greater number of products than with PROFINET for example. Even the combination of PROFIBUS and EtherCAT is feasible. For example, it allows drives to be run via EtherCAT and to bind the rest via PROFIBUS. EtherCAT also offers, in connection with SPEED7 technology, the highest performance at the lowest cycle times.

A complete EtherCAT-Netzwerk can ideally be achieved with VIPA components as a combination of EtherCAT CPUs and decentralized SLIO setup. In addition the SLIO EtherCAT coupler 053-1EC00, which has been available for quite some time, is employed together with the signal modules of the proven SLIO system to provide a decentralized connection. Extensive compatibility tests in collaboration with the EtherCAT user organization ensure full compatibility in the use of other brands of different manufacturers.

The launch of the new CPUs SPEED7 EtherCAT Manager coincided with the SPS/ IPC/DRIVES 2013 trade fair in Nuremberg. For first entry, we offer every user, who would like to utilize this combination, a starter kit, that includes a CPU 315SN/EC, the SLIO EC coupler (mentioned above), the compatible I/ Os as well as VIPA SPEED7 EtherCAT Manager. In this way our customers can be best convinced of the clear advantages and the user-friendliness of this combination.

As our motto says:
Always one step ahead with VIPA innovations! ■

The new SLIO-CPU

A conversation about its origins and special features

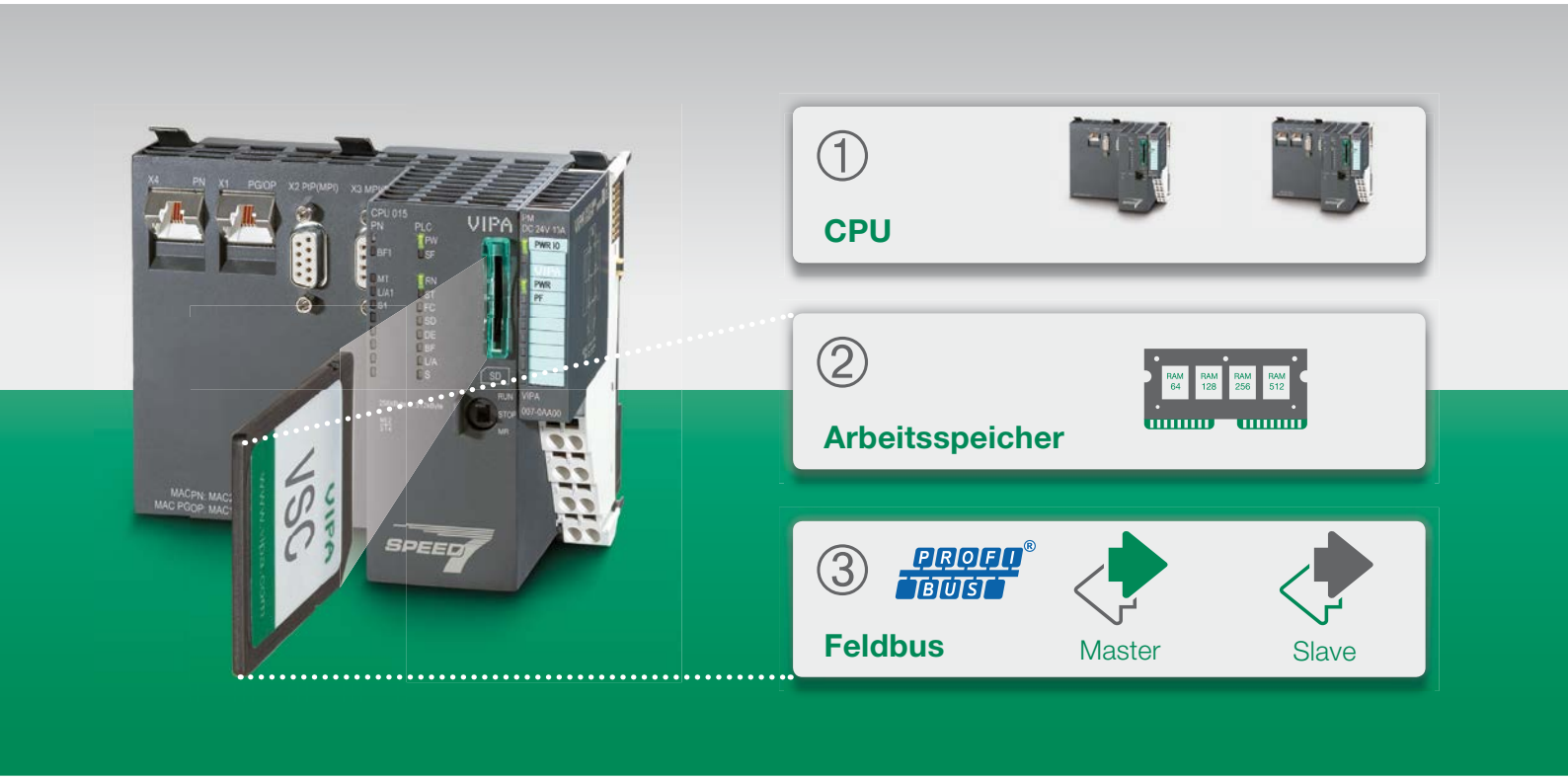
SLIO – for nearly three years the name has stood for the extremely compact decentralized I/O system from VIPA. A completely new mechanical design was combined with outstanding features and provides a performance up to now unprecedented in this class. We have now supplemented our SLIO family with CPUs that combine the compactness of SLIO with the outstanding features of our SPEED7 technology. We had a discussion with the people responsible for this project at VIPA: Rainer Habermann – Head of technology and development, Rolf Lintzmeyer – project leader for SLIO-CPUs, Sascha Isinger – product manager for control and HMI, and Andrej Suares – team leader for sales abroad.

Since when have there been plans at VIPA to supplement the SLIO system with compatible CPUs?

R. Habermann: Already in the design stage of the SLIO I/O system VIPA pursued two goals. On the one hand the I/O system had to be got under way. On the other hand at the same time we had to worry about producing a compatible CPU for this system. At the same time the CPU had to fulfill several criteria: in the compact design of the SLIO family high performance, integrated programming, a variety of interfaces, already familiar in our 300 series, and a low power dissipation should all be combined together. Furthermore we wanted to limit the number of variations in the hardware, in order to make it easier for our customers to select the appropriate CPU. These requirements were fulfilled by the processor chip 7100DEV from our in-house „chip manufacturer"- profichip. The chip is a further development of the processors, tried and tested over many years, and in which we have implemented our SPEED7 technology. That was no easy task when you also take into consideration that the result should be an absolutely competitive product with a convincing price / performance ratio.

What basic idea especially played a significant role in the last point - price / performance ratio?

S. Isinger: From the many discussions of our sales and marketing staff and of the partners at home and abroad we know that up to know it's always been a little difficult for PLC users to find from the multitude of hardware varieties exactly the CPU which best fits to the requirements of the control. It is unfortunately very often the case that, if the user wants to have certain features integrated in „his" CPU, he must also pay for other expensive features in addition, even if he doesn't need them.
A second point was the adaption or expansion of memory or other features in existing systems, if, for example, the CPU memory is no longer sufficient due to program changes. The customer then usually has to replace his CPU for a new CPU with more memory. Not so, if he uses VIPA SPEED7-CPUs. With the CPUs of the 300 series we have followed a completely new memory concept with SPEED7 technology right from the very beginning, namely memory configuration via the MemoryConfigurationCard. That means memory adjustment without CPU swap. That was immediately very much welcomed by our customers, because apart from less time needed also lead to significant cost reductions due to the reduction of



stockpiling, especially there, where several different controls are run in parallel.

How was this concept of CPU adaption via the memory card implemented into the SLIO CPUs?

R. Lintzmeyer: We were able to build on the reuse of the modular memory concept and improve the functioning again. We only had to adapt the concept to the variety of possibilities of the SLIO-CPU, because in addition to the memory expansion the choice of communicati-on options should also be made via a memory card. Thus, an SD-Card, the VSC (VIPASetCard) was developed from the MMC-Card, the VIPA MCC (MemoryConfigura¬tionCard). The customer or user now has the possibility from a total of 24 variations to generate the CPU, which exactly suits his requirement. He has the choice between two hardware variants, four memory variants, and three communication options. Here, the two hardware variants differ in the basic configuration, i.e. without VSC, in the integrated work memory and the communi-cation possibilities. The entry-level CPU 014 has a base memory of 64 Kbytes, the base memory of the CPU 015 has a size of 256 Kbytes, moreover the CPU 015 is equipped with a second RJ45 interface and a PROFINET controller for networking with up to 128 devices. This makes it eminently usable in this affordable and now very popular network. Even in the basic configuration, both CPUs are therefore equipped with almost the same features and interfaces as their big brothers of the 300 SPEED7 series.

What special features do the SLIO CPUs have to offer?

R. Habermann: AFirst of all we should mention the SPEED7 technology here, which was even further developed and refined, vis-à-vis the existing technology of the 300 series CPUs, with the 7100DEV chip. It was only possible to build the SLIO-CPU in such a compact design due to the new processor chip generation. All serial protocols that VIPA offers are also to be found, as standard, in the SLIO-CPUs. These include, amongst others, ASCII, STX/ETX, USS, 3964(R), Modbus-Slave and Modbus-Master. As with all VIPA-CPUs, there is also an MPI interface with the SLIO-CPUs and, as with the CPUs with SPEED7 technology, a passive Ethernet interface, the PG/OP interface. This is particularly popular with our customers, because you can use both the traditional MPI interface as well as the modern Ethernet interface for programming the CPU. In addition, this interface opens up a lot of other options, because remote maintenance can also be connected via this.

S: Isinger: From our selling statistics, we know that we can now deliver our own Teleservice module with many of our CPUS, and 80% of all users of the VIPA Teleservice modules choose an Ethernet connection as the communication path.

R. Habermann: We have carried over the already existing features of the SLIO coupler into the CPUs, such as the possibility to connect up to 64 modules in one row. In addition, the SLIO-CPU enables a fast and, thanks to the LVDS transmission, also safe backplane bus with 48Mbit/s.

What possibilities does the user have to expand the memory capacity and communication of the basic SLIO CPU?

R. Lintzmeyer: We have also created something new in the storage technology of the SLIO-CPUs. Here the modern NVSRAM technology (non-extinguishing SRAMS) is used and replaces storage with battery buffering. In this way we increase the reliability and longevity of the CPU. The user can decide between three levels of memory expansion, namely 64 Kbytes, 128 Kbytes and 256 Kbytes. Added to that is the possibility to activate one of the two serial interfaces as a PROFI¬BUS-Slave or PROFIBUS-Master. Since, as already mentioned, the CPU015 also has a second RJ45¬ interface including PROFINET controller, the simultaneous use of PROFI-BUS and PROFINET is possible. That can be a drive, for example, that is controlled via PROFINET and a PROFIBUS network with several substations. For each of these combinations there is exactly the right VSC card. When this is put into the SD slot of the CPU the CPU can be operated with the selected combination.

What does the user need to do now to get to exactly the right CPU?

A. Suares: Our online downloadable CPU configuration editor provides valuable help, because here the possible combinations and the order numbers for the CPU hardware variants and VSC can be called up immediately. The customer only needs to actuate the order and he gets exactly what he needs. The process of generating the features of the CPU is done within seconds. For this, the VSC only needs to be inserted into the SD card slot provided and a memory reset can be performed. The features are enabled in no time.

I would like to take this opportunity to point out another important feature of our SLIO-CPUs, namely the Web server, which is also integrated here, because it makes contact easier for the customer worldwide and for us in the case of service support. When the IP address is entered into a browser a diagnosis of the CPU appears immediately. Furthermore this integrated web interface can read even more data such as, for example, the serial number of the CPU and the VSC, the amount of memory used and other data, which could be useful for our support.

R. Habermann: There is another important aspect that makes life easier for our customers. If, in fact, it should turn out during operation of the SLIO-CPU that the memory or the communication possibilities are no longer sufficient, it is enough to simply exchange the VSC. The CPU can stay in the rack. This saves considerable time and money. Before the new VSC is activated after an overall reset and restart the user should, however, secure his program.

Does the VSC offer any additional possibilities?

S. Isinger: The SD card slot has an additional function. Both with the VSC as well as with any other commercially available SD card the program and data of the CPU can be stored externally. The VIPA VSC has enough space for this. Feature changes, however, can only be carried out with the VSC. The VSCs have a copy protection and a serial number, by the way, which, after creation, is displayed in the web server of the CPU as long as the VSC is inserted. We have even thought of the eventuality that the VSC may get lost despite the card lock. Then, as also with the 300 series CPUs, the SLIO-CPU continues to run 72 hours with the chosen features. The CPU switches to stop modus only after this time. By specifying the serial number of the card within the 72 hours a card identical to the original SD card can be ordered and inserted into the CPU. In this case a CPU replacement is unnecessary. This gives our customers the advantage of being able to react very quickly and without much effort to avoid shutdowns in such cases.

How are the new SLIO-CPUs programmed?

R. Lintzmeyer: Here, the system programmer does not need to learn anything new. As is usual with VIPA, programming can be carried out in the SIMATIC world familiar to most users, i.e. with Siemens' SIMATIC Manager or TIA Portal to be precise. The customer can therefore access existing knowledge and know-how. With our own tool SPEED7 Studio programming, project planning and configuration of the controller is then even easier, because this tool is optimally adjusted to the VIPA hardware.

What positive aspects do the new SLIO CPUs bring for our international business?

A. Suares: In the first place we should mention the reduced variant diversity here, which contributes to simplified stock warehousing and logistics. Of course, the resulting simplified on-site support also has a positive impact on our business abroad. Our overseas customers do not have to order a new CPU every time whenever there are system changes, only a new VIPASetCard. The supply of spare parts becomes globally much easier. This means that our partners abroad stock a certain contingent of VSCs in addition to the CPU hardware on-site in order to respond directly and quickly to customer needs. We are confident that this will put us significantly ahead of our competitors.

Will the concept of CPU generation via a memory card also continue into the future?

R. Habermann: Specifically we are already planning to adopt the concept of CPU configuration by means of an SD card in our 300 series system and thus replace the MMC card. We are also thinking about implementing the concept in the other new and already existing systems too. This includes the long-term conversion of the integrated CPU memory to NVSRAM technology.

S. Isinger: We should also think about the cost aspects. In our conversation we have already listed numerous facts as to how money can be saved with SLIO CPUs without compromising on the features and performance. The significantly reduced number of necessary components brings enormous cost savings in planning and warehousing for our customers and users. In addition the ordering expense and effort is significantly reduced due to the fewer number of variants. With our list prices for the SLIO CPUs and their expansion possibilities, as well as their flexibility, performance and extremely compact design we have created another challenge for our market competitors. With this concept as it was first implemented in the SLIO CPU we have the possibility in the future of being able to react to new challenges quickly and flexibly both with new as well as already existing products. We can continue to give our customers the security of knowing that we can implement their requirements for their control technology precisely and at a low price.

Gentlemen, many thanks for the discussion! ■

Interview: Norbert Schlimm, Marketing

S5 becomes SPEED7

DEW steel works in Witten modernizes with VIPA

With VIPA, the modernization of S5 controllers can be done in a particularly economical way, as the exchange of the intelligent modules is all that is necessary – the S5 peripherals can continue to be used. In this way the transformation is realized especially quickly, as the example at the German steel works in Witten shows.

Stainless steel from wire to block

Deutsche Edelstahlwerke GmbH is the leading manufacturer of stainless steel long products. The offer ranges from drawn wire with 0,8 mm diameter up to forged products with 1100 mm diameter. The company, which operates from several German locations, is one of the world's largest tool steel manufactures and has many self-developed and patented special steels in its portfolio. Stainless, acid and heat-resistant steels are used for example in the chemical industry and in the offshore area. Also special products for aerospace, non-magnetic materials for petroleum drilling rods, or special steels for Formula 1 engines are supplied by the company. The vertical range of manufacture can be seen on the grounds of the Witten location at first sight: Wagons with stainless steel scrap stand there on the tracks next to shiny new blocks, which are intended for collection and processing. All process steps from melting through casting and annealing up to the design according to the customers wishes are carried out in the different halls of the large area of the Witten station.

Energy efficiency is everything

German steel works are among the most advanced in the industry – the presentation of the German Environmental Award or the Maintainer Awards show that sustainability and modern forms of organization even in heavy industry have an important role to play. Energy efficiency takes on an especially high improtance here, as heat plays a central part not only in the production of steel, but also in the subsequent shaping. Furnaces with temperatures of more than 1000 °C ensure that the huge, several-ton blocks can be brought into shape with massive rollers. Also as compensation the material has to be heated from time to time so that stresses in the structure do not compromise the quality.

Particular demands on the automation technology

„Each of the furnaces has two controllers", explained Ibrahim Agpolat, who is responsible for the process technology in the Witten stainless steel plant. One PLC is responsible for the material flow – the other takes care of the furnace parameters such as gas or air consumption. „With the inclusion of the furnaces in higher-level systems, such as energy controlling, we reached the technical limits using the S5 technology, because for this we needed an Ethernet connection", the data processing technician explained. Also for specific certifications, such as a supplier for aeronautics and astronautics, special quality rules apply that can only be met with powerful controllers. „Above all memory size and cycle times were no longer adequate", he said, describing the main problems of the proven S5 technology. The time was therefore ripe for modernization.

Combination of old and new

He finally found the solution at VIPA. Here the system did not have to be completely converted in one go in fact – it was sufficient in this case to replace the CPU with the VIPA interface module IM306 and to leave the existing S5-E/As in the control cabinet. „We prepared everything well of course. We created the programming in advance and used the opportunity to create a visualization according to the corporation standards ",Ibrahim Agpolat said. The conversion itself then took less than an hour. „If it hadn't worked, then we could have simply used the S5 controller again and let it continue to run", he explained.

He did not have to make use of this possibility. The existing visualization communicated easily with the VIPA SPEED7 CPU, the old S5-E/As continued doing their job and the entire wiring remained in place, which is why it was not necessary to produce new documentation for this area. The VIPA 315SN/NET¬CPU also brought with it the necessary Ethernet interfaces.

Another positive side effect is that most of the S5 replacement parts that are still in stock can still be used. „This gives us time and space and we can gradually convert die peripherals onto newer systems", said Ibrahim Agpolat pleased with the smooth and budget-friendly modernization of his systems. He has now brought some of his

furnaces up to his new SPEED7 standard and the next modernizations are in preparation. „As soon as we have a scheduled outage of the furnaces concerned, we will take the opportunity again to exchange the controller“, he explained.

Advantages of the VIPA solution:

- Separation of hardware modification and software implementation
- Easily recoverable (when under time pressure, for example)
- Software can be created in advance (via converter or manually)
- Quick implementation on SPEED7- or other PROFIBUS master possible
- Existing E/A modules can be further used saving costs
- I/O wiring remains, therefore, no new documentation necessary
- Ethernet CP and PG/OP interface as well as PROFIBUS master and MPI included in CPU 315SN/NET
- IM306 conversion module available for S5-115U/135U/155U

Author: Marco Roth ■

New front connector

Pre-wired front connectors for the 300 family

Up to now, the wiring of the signal lines from the Sensors and actuators to the input/output modules of a PLC controller was a very time-consuming process, and which also represented a source of error for the controller. VIPA therefore decided to offer a front connector with pre-wired signal cables for the widely used system 300S in addition to the standard front connectors. In other words we do the annoying pre-wiring for our customers in advance.

Product features:

- Mechanical stability of the cable cores by means of cable sheathing for the first 30cm
- Marking of the individual cable cores with clear and legible contact numbers
- Ordered and clear wiring
- Cost and time savings of up to 80% compared to standard wiring

Convince yourself of the advantages and order your sample today! ■

ISO 9001 Certificate

extended for further three years

On June 19 and 21, 2013 a certification audit was held at the VIPA premises for the second time by TAW Cert certification company. Thanks to the excellent preparatory work of our QM department and the participation of numerous other departments the two auditors found good reasons for extending the certificate for a further three years. With this VIPA was able to demonstrate once again that the process-oriented quality management also meets the strict criteria of the certification. The certificate gives our customers the security of knowing that they will continue to receive products with the highest possible reliability.

The results of the two-day inspection in numerous VIPA departments were written up in a detailed audit log. The functional effectiveness of our quality management system stretching right into individual departments is especially emphasized. Almost all technical and commercial departments were subject to a detailed inspection by means of case studies. We have already described how important this certification is for us in the first edition of this journal, November 2010. Prior to the ISO 9001 certification was the introduction of a process management that maps the entire product development process from the initial design considerations up to the point of final product maturity. The quality policy was redefined and the existing QM system was adapted to the new process orientation. The granting of the ISO 9001 certificate created the necessary framework for this. The extension of the certificate is proof that the path taken in recent years was successfully pursued further and the result of our newly oriented quality policy does not need to fear any comparisonst. ■

Highly efficient environment protection

Process control of a slurry recycling plant

HighQ-Factory Ltd. is part of the Fäth group which is active in the field of development, production and installation of gas and chemical supply systems for customers in the semiconductor, photovoltaic and LED industry. As one of the first companies on the market HighQ Ltd. has been offering slurry recycling plants since January 2011. Especially in the semiconductor industry extensive polish processes are indispensable for quality assurance.

Slurry recycling – What is it?

Until now the slurry water mixture, which is required for the polish process, was a pure waste-product resulting from the CMP process (chemical-mechanical planarization) and had to be discharged into the sewage. The HighQ-Factory Ltd. has developed a process that enables the used water slurry mixture, which is used during the production process, to be filtered and the valuable slurry to be recovered. In this way it is possible to separate the constituent parts, slurry and ultra pure water, from the process water in several filter steps in a closed process and to feed them again into the semiconductor production process. The recycling rate for slurry and water in this process is over 80 percent.

The slurry, which is recycled in the plants of HighQ-Factory Ltd., has no quality loss compared with fresh slurry. This procedure has further advantages besides the saving of expensive raw material:

- considerable decrease of stock and transportation costs for slurry and ultra pure water,
- savings in the ultra pure water treatment costs and in sewage costs.

In addition, high demands in the production plants could be met in terms of reliability and plant availability, including all maintenance and repair times, which are greater than 98.5% and less than 1.5%. Of great practical importance is the possibility of being able to maintain all plants supplied worldwide, centrally from the headquarters via remote maintenance. Particularly noteworthy is the immense contribution to environmental protection by the reduction of waste water that could only be cleaned at great effort and expense.

The highest demands on reliability and stability of the processes

The special situation in the production processes of semiconductor manufacture requires special solutions for automation engineering. The monitoring and controlling of highly complex processes alone, with thousands of process variables, alarms and formulations place particular demands on control engineering. So the controllers deployed have to be highly reliable and stable. These can only be provided by innovative partners, with excellent customer care, worldwide service and very short reaction times.

The automation components themselves have to be designed for these tasks:

- High speed process data processing
- Large basic memory, that can be adapted easily and flexibly to increasing demands
- Modular circuit arrangement
- Compatibility to program standard STEP7
- High capacity in memory and CPU performance to handle demanding STEP7 programs
- Networking of many CPUs via Ethernet
- Worldwide teleservice via TM-H router

VIPA controllers can keep up

The VIPA controllers, especially the CPUs of the 300S family with integrated SPEED7 technology are tailored for these requirements. The complete know how of the process lies in this CPU, which, with its computing power, must fulfill the highest standards and be able to be fully exploited. The 315SN/NET, together with the PROFIBUS slave CPUs 314 SE/DPS and diverse in/output modules of the 300S or 200V families is deployed as the central CPU. These products are available worldwide and are suitable for use in harsh environmental conditions.

Cost savings all along the line

Besides the above mentioned cost savings by means of an almost complete recycling of slurry and water the control engineering itself provides many opportunities for savings. The numerous interfaces that are integrated in the CPU, especially the Ethernet interface avoids the additional deployment of communication modules. This not only contributes to savings in costs but also to valuable savings in space in the control cabinet. The procurement and storage expense is limited to a manageable number of individual components of a single supplier, namely VIPA, especially as the remote maintenance modules are delivered in the form of TM-H router from VIPA. Here VIPA can once again show that the product portfolio is strongly oriented to customer needs and the features of the individual components are tailored to the high demands of customers. We are pleased that we are able to fulfill high environmental standards in this particular case with the know-how of HighQ-Factory Ltd. and our experience in PLC control technology. After all, environmental engineering is one of our main industries. ■

Links:
http://www.vipa.com/de/branchen/umwelt/
http://highq-factory.com/

Authors: Heinz Hirtreiter, Norbert Schlimm

PROFINET controllers in use

Automation for aluminium pressure

The BIS Chemserv Ltd. as a supplier of die-casting cells with integrated operation equipment and robots deploys the high performance controllers VIPA CPU 315PN for PROFINET network and control tasks. Amongst other things, customer installations at TCG Unitech are implemented very compactly and powerfully with this technology.

The TCG Unitech group with its headquarters in Kirchdorf/ Upper Austria is well known as the market leader in the automotive and automobile supply industry. From light metals such as aluminum and magnesium or plastics, customer specific and highly technical key products for automobiles are molded and components are assembled into systems. The long list of references ranges from Aston Martin to ZF.
The concentration on the core business is supported by a long lasting and a well-established partnership with the experts from BIS Chemserve Ltd. which is also located in Kirchdorf. BIS Chemserve Ltd. is one of the leading suppliers for maintenance and engineering in the expanded process and production industry and has a further five locations. BIS Chemserv is part of the Bilfinger Berger Industrial Service Group which is one of the leading suppliers of industrial services focusing on the process and energy industry worldwide.

Established partnership

DThe Kirchdorf site of BIS Chemserv mainly operates in the industries of die casting, injection die casting, CNC processing, automobile and solar. The expertise lies in customer specific integration, automation and chain-linking of single components. More than 40 devices for die casting are already implemented at TCG Unitech. Martin Pichler, manager of automation engineering at BIS Chemserve describes one of the current facilities that now also use the latest VIPA controllers: “We put this die casting unit for aluminium parts into operation in May. It is connected via a VIPA CPU 315SN/PN, a powerful controller, perfect for our purposes,

and concerning memory capacity leaves nothing to be desired. With this type and size of system, parts with up to 10 kg shot weight and with measurements of up to 700mm x 700mm can be produced”, Martin Pichler explained. The facilities are connected via PROFINET fieldbus and also partly via PROFIBUS. The task of the VIPA CPU 315SN/PN as an integrated communication center is, among other things to ensure process data acquisition, whereby all information of each produced part is transferred to a higher level MES database. Around 1200 features indicate whether the process meets the exact criteria.

Production process

In a multi-stage production process, high-precision aluminium parts of up to 10 kg are produced. The single production stages range from precise measuring of the liquid aluminium to injection into the tool, exactly defined setting and cooling phases, numerous test processes right up to several burring processes at the end.

TCG Unitech appreciates the extensive know-how of the experienced teams of BIS Chemserv highly, so the project could be completed in a very short time. “I would particularly like to mention the commitment of VIPA, which I have been familiar with for some time, but with this system the support was particularly invaluable. We have deployed a new CPU 315SN/PN for the first time and thanks to the ideal support we received, top results were achieved straightaway”, said Martin Pichler. We have been supported by VIPA in every phase and this is one reason why I continue to trust VIPA exclusively”. The change to VIPA PLC systems was already completed three years ago, Martin Pichler explained. The memory capacity compared to competitive products was a major factor, but also the overall performance was very good. “The CPU is very fast, highly reliable and therefore my colleagues and I, as SIMATIC experts, were able to effect a seamless transition. The programming and parameterizing is carried out on the same Siemens software and so not a single employee had to re-train”. The realization of additional die casting cells of the same type for TCG Unitech and other systems for customers from southern Germany to Slovenia is already in preparation. The geographical coverage is another reason, why the cooperation with VIPA electronics systems is optimal, Martin Pichler concluded. ■

Finished automotive part

First plant with PROFINET-CPU 315SN/PN.

Condensed version of the article „Automation for aluminium pressure die casting equipment“ published in March 2013 of the Austrian automation magazine x-technik AUTOMATION

Infos at web
www.unitech.at
www.chemserv.at
www.vipa.at

Martin Pichler, BIS Chemserv (li.), **Martin Zöchling**, VIPA Elektronik-Systeme GmbH.

VIPA International

South America: VIPA is well known here, too.

In the international part of this issue we will briefly present some interesting applications that were sent to us by our distributors in South America. With this we'd like to show you that our controllers are applied in very different industries here too. At the same time this proves that we are able to offer exactly the right products for an ever growing industry in these aspiring countries of South America.

Columbia

PARMALAT S.A.

Production of dairy products

The process control and automation at the production of various dairy products in the factory Chia in Cundinamarca north of Bogota are controlled by VIPA SPEED7 CPUs. The VIPA CPU 315SN/NET is the main CPU and backbone of the controller which is connected with the CPUs 313S/DPM or 214DPM in two PROFIBUS networks. Also all frequency converters for the motor control are networked with a controller process via PROFIBUS.

OLEAGINOSAS SAN MARCOS. Bogotá y San Carlos de Guaroa - Meta

Palm oil production controlled with VIPA

The whole production process with its single processes in the pressure vessel, the boilers and tanks and the control of the pumps is controlled by the VIPA CPU 313C/DPM. The control of the facility is done via a VIPA 12" touch panel with Movicon Runtime, the network communication via Ethernet and PROFIBUS. Here also the frequency converters are networked with the controller via PROFIBUS.

Arguments for VIPA:

- Immediate availability of the systems
- Favorable price /performance ratio compared to the competition
- Experience and know-how from similar projects and references

VIPA partner Columbia:

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Ecuador

Farmacias y Comisariatos de Medicina S.A. FARCOMED

Control of climate and humidity in buildings

ABuilding automation with PLC components was implemented at the headquarters of FACOMED. For the control of the air conditioning and the humidity the decentralized setup was performed with SLIO modules. 12 touch panels were connected and integrated into the existing network via Modbus/TCP.

Arguments for VIPA:

- Fast transmission rates with the decentralized SLIO modules
- Very good price/performance ratio with SLIO

ECOLUZ Central de Generación Hidroeléctrica, Papallacta

SLIO in the data transfer between hydroelectric power station and energy distribution

Connecting the energy production in the single decentralized hydroelectric power stations of Ecoluz to CENACE (Corporacion Centro Nacional de Control de Energía). The centralized national energy distribution and controlling is carried out via SLIO modules, for the data transfer via Modbus/TCP.

Arguments for VIPA:

- Economic connection of SLIO modules via Ethernet to the central teleservice module
- Speed of the data transfer

VIPA partner Ecuador:

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INDECO
(A Nexans company-France)

Production of three core electric cable

The control of the production of three-phase electric cables for middle and high voltage is carried out by VIPA SPEED7 CPUs. The point here is to run the process of isolation of the three cables synchronously. This means that the

application of insulation layer, the cooling process and the convergence of the three cables have to be carried out synchronously and very accurately. The precise sequencer for the synchronization is performed by the VIPA SPEED7 CPU 315SB/DPM. In the production line with a length of ca. 130 m 4 frequency converters, two stations with decentralized 200V modules and a 12" touch panel are integrated via PROFIBUS.

Arguments for VIPA:

- Speed of the CPU 315SB/DPM
- The accuracy in the control of the process speed is only optimally achievable with the VIPA CPU 315SB/DPM.

PAMOLSA
(Grupo Carvajal-Colombia)

Production of disposable food packaging made of plastic

In a thermal molding process at a temperature of 120° up to 180° the raw plastic is drawn into a metallic mould by a vacuum and is formed into the desired shape. Precise controlling of the thermal processes is of great importance for the quality of packaging produced in this way. After the change from

a PC controller to a PLC controller with STEP7 program the controller is now able to communicate directly with a Festo servo controller with the help of the VIPA SPEED7 CPU 313SC via a PtP connection for the positioning of the material. Controlling and command input of the controller is carried out via a VIPA 5" touch panel.

Arguments for VIPA:

- Many possibilities for communication of the VIPA CPU for data exchange between servo controller, CPU and visualization without further communication modules.

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DANONE

Automation in the field of food production and filling

CIMSA

Complete automation of a cement plant with SPEED7 CPUs, 200V modules and touch panels.

Here the specialists of our partner Zytech are especially proud to have realized the complete automation solution using only VIPA components. ■

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Several steps have to be controlled in the rolling mill:

The rolling mill is a complex automation system, and to better explanation, why its job was done as it was, we need to explain the old S5-configuration. It consists of 6 x S5-135 PLC's including remote IO's, which covered following areas:

- **Reheating furnace:** heats up raw material, such as billets up to rolling temperature of 1050-1200 deg. C for the further transport den Weitertransport on the rollings

- **Finishing area:** collects long bars from cooling bed, cuts to commercial length and forms bundles with exact the same bar numbers per bundle
- **Intermediate shears 1 and 2** cut head and tail of rolled material due to technological requirements

- **Cut to length shear and discharge** to cooling bed

- **Auxiliary mill control:** hydraulic and lubrication pumps, cooling water, gap control
- **Mill speed control**

How to upgrade the existing S5 control

The upgrade was done in different time-spans, as every noted PLC could be a stand alone system, except the area 5 and 6, which were upgraded together. The new automation system of an auxiliary mill control and mill speed control consists of only one VIPA CPU 314ST/DPM, which replaced 32 CPUs and is connected to 28 remote IOs including drives. The replaced CPUs are: 2 x S5-135, 18 x S5-95 in drive cabinets, 2 x S5-95 in auxiliary drive cabinets, 10 x RSC cards (special Danieli cards for rolling mill, one card controlled two stands or pinch rolls) Every main rack is supplied with IM306, S5-

95 and all IOs are converted to ET200U and connected to VIPA CPU by PROFIBUS. 18 DC drives are upgraded to PROFIBUS equipped types and connected by PROFIBUS as well.

Advantages of the VIPA solution with IM306 card in combination with SPEED7 CPU:

- IM306 card is very suitable for your upgrade, no other brands are present on

Steel with SPEED7

Rolling-mill-control at Bangkok Steel Industry upgraded

The company, established in 1964, manufactures reinforcing steel round bars and deformed bars, galvanized steel sheets/coils in the form of flat and corrugated sheets including prepainted galvanized steel sheets in various types.

the market

- SPEED7 CPU: the exceptional speed enables you to make program in a simple way, eg. no time interrupts are necessary, LAD program language can be used without restriction (which is very important for local maintenance staff).
- In case of shear automation (every rolling mill has at least three), VIPA CPU 314ST/DPM is a perfect solution, because integrated IO's with fast counters and analog outputs cover everything that is needed for two shears.
- The fears of every customer facing automation upgrade are mostly linked to the possibility, that after big investment and longtime plant stoppage results will be a worse machine performing than before Customers experience with VIPA technology was excellent
- Rolling mill was never stopped for upgrade works, all was done during normal maintenance job.
- Investment was minimal, you still can use most of old S5 cards including huge spare parts stock.
- Affordable price of VIPA equipment is big plus!
- Wiring works were minimal, conversion to Step7 and back to Step5 could be done within couple of hours (very important point in any migration project!)
- VIPA technology gives possibility to local maintenance staff for making complex projects by themselves. They can make tailor made solutions suitable for their needs, working on projects, when time is suitable regarding production schedule and make obsolete needs of "maintenance learning curve".

The extraordinary result:
rolling mill performs better than before upgrade! Good customer service, excellent quality and competitive prices are also reasons for VIPA hardware application. ■

The successful team in Thailand:

in front of the new VIPA System 300S (from left to right):

Theerasak Phetchot *–*
Project Sales Manager (Navachot Innovation Co., Ltd.)

Ingo Schliep *–*
Marketing Manager SEA (VIPA GmbH (Regional Office SEA)

Karlo Stimac *–*
Technical Advisor (Ratchasima Steel Products Co.,Ltd.)

Suchart Jeerapornbundit *–*
Electrical Maintenance Manager (Bangkok Steel Industry Public Co., Ltd.)

Sporty VIPA und YASKAWA

The team work between VIPA and Yaskawa also works well in sporting events!

This year VIPA again proved its long distance qualities at the DATEV Challenge Roth and some new colleagues from YASKAWA also joined the team. 14th July 2013, time for one of the biggest Triathlon events in Germany. 3,500 individual participants and more than 500 relays fought a fascinating, but very hard competition.

VIPA is not only one of the sponsors, but also took part with seven relays and two individual participants. Nicole Winter from YASKAWA Europe GmbH in Eschborn had the honor of taking part and competing together with VIPA colleagues. She describes her experience in great detail in the relay of the SPEED7 Racing Team before and during the discipline of 180 km cycling in this report:

What exactly does this mean for me six weeks before the biggest sporting event of the year? It means training, training, training and nearly no time for any leisure activities. But it also means never losing courage and to be enthusiastic despite everything. For six weeks nearly every second day I went out on the bike. A weekly total of up to 200km had to be met. Of course the weather is very important. The triathlon distance consists of 3,8km swimming, 180km cycling and 42km running. Each participant has only one goal in mind and that is to accomplish his or her part as well as possible, each in their own way.

The big day is here! Nervousness, butterflies in the stomach and thousands of thoughts crossed my mind.
Arrival at the starting area. The transition area has to be arranged. This is the area, where every athlete goes after a discipline and gets ready for the next discipline. There you have to be fast. Each movement must be well-rehearsed, otherwise you lose time unnecessarily….

Now it´s time. The starting signal for the first group is at 6:45 am. Rainer Habermann, product development manager and Stefan Scholze, production manager are taking part. The relay athletes still have to wait patiently. But time flies! At 8:45 am finally comes the start for the swimmers, who are already waiting in the water, and thousands of people at the edge of the track cheering for the athletes!
Barely 58 minutes later relay colleague Christian Klein comes out of the water and gives me the transponder for time recording. He lies totally exhausted at my feet. He gave his all. Quickly change the transponder and then on the bike amidst wishes of good luck and all the best.

180km without a break and always one goal: ***"To finish!"***

180km – this means two rounds of 90km each with an altitude profile of 1000 m. The first round goes perfectly. I am delighted, everything is running well: legs and power – everything great. The spectators on the entire cycling course cheer everyone on and that is for the athletes the greatest thing.

A signal heralds the second round. Thoughts in my mind like "Oh no, the same again", but then these thoughts disappear because of the cheering public on the roadside. I am still on target with an average of 30km/h at the 120 kilometer point, but only 5 kilometers later I get the first cramps in my legs. Whatever happens, the name of the game is to stay the pace, to brush off the pains and to motivate myself. Km 140: no motivation at all. Thoughts like "give up" or "Why am I doing this?" are in my mind. Km 150: the motivation returns, the small low point

is defeated! There are only 30km to the finishing line. Km 170: my whole body hurts. My strength weakens from second to second and the finishing line is still not visible. The last few kilometers are the hardest.

Then I see the finishing line…. ***Yes, I've done it!!!***

Now I have to get off my bike, gather my strength again and run to Frank Wiegand, my relay colleague for the concluding marathon. It's only 300m, but it's painful. My legs are like jelly. The runner is already champing at the bit waiting for the transponder. I slump down in front of him. He grabs the transponder and sprints off. I lie dead on the floor and need another 10 minutes until I revive. Some colleagues give me a coke to get the circulation going. Everything is ok again! But I still can`t realize it. Runner Frank Wiegand gives his all! The team follows him via a live link. The experienced marathon runner overtakes one opponent after another. The last 500m Christian, Frank and I cross the finish line together as a team. The last bit of tension and tingling nerves! Then the incredible atmosphere. Thousands of people cheer our team. The mixed VIPA and Yaskawa team receives its award – the medal. We fought collectively for 10h:52:49 for this moment and pushed ourselves to the limit of our endurance. Our overall result was 122nd in the mixed team relays and rank 310 in all relay teams.

We mastered the long distance as a group of three, but there are 3,500 individual athletes who manage all three disciplines completely on their own. These athletes deserve the greatest respect! Rainer Habermann was the best individual athlete in the VIPA team. He came 50th in the overall ranking in 09h:09:50. Congratulations!

I thank VIPA, especially Holger Teichert-Ott and Rainer Habermann, for the great organization and for allowing me to participate in this wonderful event. Thanks also to the management, who made this event possible and all colleagues who kept their fingers crossed for me. ■

Text: Nicole Winter, YASKAWA Europe GmbH, Fotos: VIPA GmbH

Speed7 Racing Team 7:
swimming: Christian Klein in 58 min
cycling: Nicole Winter in 06:40h
running: Frank Wiegand in 02:58h

Dragon boat race in Frankfurt

Nico Angelinos, CAD lay-outer at VIPA took part together with 15 other colleagues from YASKAWA in the dragon boat race in Frankfurt. The participants had great fun despite the fact that it was raining cats and dogs!

There is a small dragon boat team at YASKAWA that takes part on two regattas each year. One of the regattas took place on 24th August during the Museums Embankment Festival in Frankfurt. Sixteen employees from the subsidiaries in Eschborn and Allershausen and Nico Angelinos from VIPA took part in this race. The regatta began under blue sky but exactly at start time the weather changed and it began to rain heavily. Nevertheless, our team „SPEED-Master" completed the race despite the adverse conditions.

In the first race Nico and his team colleagues came 3rd of three teams in total, which only left the repechage, in which the SPEED Master team came 2nd. "With this the regatta was over for us." But at least all paddlers including the coxswain stayed the course until the end despite the rain.

Conclusion: If the weather is kind it is easy to win!

旅行国は桜の花

A journey to the land of the cherry blossom

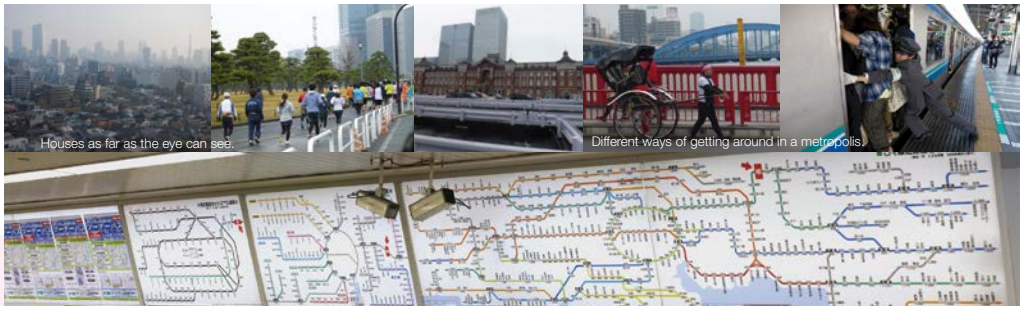
A travel report of Japan by Ralf Schneider

Today's tourist excursion goes far beyond the borders of Franconia and has a lot to do with the title of this edition. Ralf Schneider, CEO of Elke Wiedner Werbemittel GmbH, takes us on a journey to the cherry blossom in Japan. He has summarized his numerous impressions of an unusual country in this pictorial report.

The best time for a trip to the cherry blossom in Japan is from middle up to end of March. We were in Japan from 29th March to 6th April 2013.

東京

Starting point of the trip was Tokyo.



Houses as far as the eye can see.

Different ways of getting around in a metropolis.

Tokyo's local transport plan.

日興

First stage: temple of Nikko north of Tokyo with the Togoshu shrine.

鎌倉

Still within the range of Tokyo: Kamakura and Hase

Japan's fastest train Shinkansen needless to say served as the means of transport. The German tourists were also impressed by its punctuality and reliability.

京

After a trip to Hiroshima we went to Kyoto, in many parts still a very original city. This is not only reflected in the style of the houses with lots of wood, but also in the clothing of the residents with a traditional kimonos. By wearing this original clothing the residents of Kyoto even get discounts on public transport.

桜祭り

The cherry blossom is celebrated all over Japan with traditional cherry blossom festivals that take place over several days and nights. The dishes are traditional Japanese and countless varieties of tea are offered.

Far away there are also Nuremberg Club Fans thanks to Hiroshi Kiyotake

Pics:
Ralf Schneider, Elke Wiedner
Werbemittel GmbH, Veitsbronn
Rüdiger Merz, VIPA GmbH

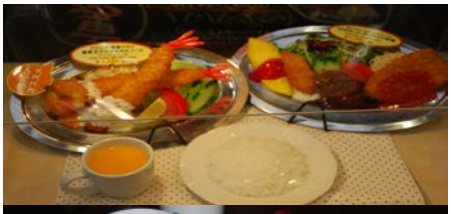
Food and beverage in Japan

Impressions of Japan by Ralf Schneider

As our readers already know from previous issues of this journal, here you can find tips for cooking and baking, and also culinary experiences and impressions from journeys into foreign countries. The topic of this issue is, of course, Japan. Ralf Schneider has kindly placed these photos of his trip to Japan at our disposal.

Is there anything to eat here?

Plastic replicas of ice cream or fried sparrows for those who can`t read the menu.



Set meal in the restaurant with noodle soup

Many things are different in Japan. Particularly significant are the differences in drinking and eating. It begins with what is regarded as palatable in Japan, in these parts, for example, nobody would touch fried sparrows. While in Europe beef, pork etc. are the absolute standard, the Japanese cuisine mainly consists of poultry, vegetables and all kind of salads and seafood. Fruit is very expensive as it has to be completely imported.
However, the small selection of pictures document how diverse the food is. Of course not every picture would whet the appetite of our readers. But Ralf Schneider confirms that most of the dishes pictured taste better than they look. You just have to have the courage and risk trying them out. ■

The markets are the most interesting, where both finished and raw dishes and ingredients are on offer:

Fish eye considered a delicacy.

…this is also palatable!

Sea snails

Japanese radish

Sweet rice wrapped in leaves

„Haribo“ Japanese style

Sashimi on a spit