

PACO WORLD

Our International
Wire & Mesh Magazine
for Existing and
Prospective Customers


Editorial:

A Call of Duty, That You're Gonna Pay For!

It's customary to think that having a sense of duty is a fine thing. But everything can become very nonsensical when countries use tit-for-tat customs duties to fight their economic battles. Whoever makes the first move with such a strategy is convinced that they will come out on top. Though who do we mean with whoever? Was it some entrepreneur who has taken the initiative here? Was it a manager with corporate responsibility? A trade union official worried about members' jobs? No. It was a purely political decision. First by one side. And then the other. At the end of all this somebody is sure to come out as the winner. Or become invincible? Nothing of the sort – at least if healthy business acumen is anything to go by.

The problem with all of this is that those affected by such customs disputes are not individual presidents or countries, but countless companies all around the world. Regardless of whether they are affected directly or further down the line, they suffer through increased costs, loss of competitiveness or an increased struggle to survive in the market. And all of this coupled with a sense of entrepreneurial powerlessness. There is no way that an increase in price of, for example, 20% can be compensated for by normal cost-cutting measures. The systematic disadvantaging of economies outside of your own borders may be a great way of ensuring political one-upmanship. But it is most definitely not a suitable means of protecting your own economy. Globalisation means that the networking of manufacturers, suppliers, raw material producers as well as distributors, service providers and customers across national borders is so intense, that it is only a matter of time before the negative effects will be felt in back in your country. Particularly, small and medium-sized enterprises are absolutely reliant on dependable conditions for their export and import activities. Customs skirmishes could prove to be their downfall.

Best regards



Peter Ruppel
CEO, Managing Director



Digital and Fully Connected:

HETA 4.0 – the Innovative Leap Forward in Filter Control

The topic is so hot that after Filtech 2018 a number of companies were compelled to tell the trade press all about developments that they had not even started on. HETA on the other hand already has its innovation home and dry and ready to patent: the smart control of automatic filters according to the requirements of Industry 4.0. – combined with optimum connectivity and user-friendliness.

At the start familiarity breeds contempt – but then...

For the average user, the scenario is very familiar: SPS controls do their job, filter for filter, very much stand-alone. But all of a sudden there is an all-encompassing vision on the horizon that also takes in process technology: Industry 4.0! Some have got too much to do to take this into consideration. Others feel that are simply too small for it to be worthwhile. In the midst of this someone has knuckled down and got working on it: HETA Verfahrenstechnik in Lich, Germany, a member of the PACO Group. The question that they asked themselves on the behalf of a number of companies was: what's stopping the data processing infrastructure that is already in place in a company being used for the networking, control and monitoring of all filtration processes? The development work that then followed included looking at the software side as well as the integration of the necessary hardware components – from decentralized sensors through to the system control panel. The result is HETA 4.0 – the first smart, fully integrated and at the same time cost-effective control and monitoring system for automated and manual filtration processes.

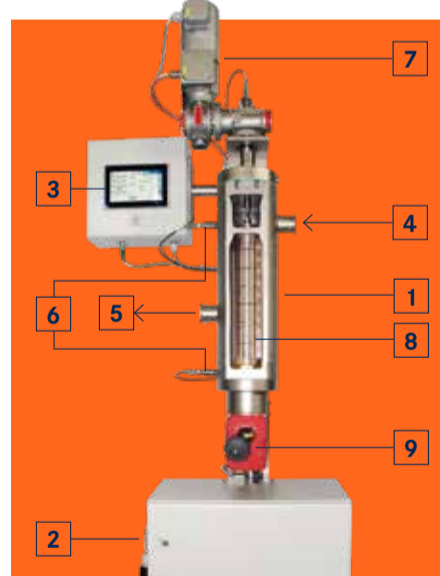
Ease of use plus efficiency plus safety

The question of which development goal is the most important cannot be easily answered as they are very much reliant on each other. Functional safety, for instance, goes a long way to ensuring efficient and cost-effective operation. And ease of use is an essential requirement for both of these. That is why ease of use was one of the highest priorities during the conception of the HETA 4.0 system. Until now standard practice is the isolated control of each individual filtration function. But this does nothing for the monitoring, early fault detection or flexible use of

tomatic filter controlling system that can be linked into an Industry 4.0 environment was presented at the FILTECH 2018 in Cologne, Germany.

At a glance with the tap of a finger

It's one thing to come up with the idea of a smart automatic filter controlling system.



HETA 4.0 Hardware

- 1 Filter system with attachments
- 2 Control box
- 3 Touch panel
- 4 Filter housing inlet
- 5 Filter housing outlet
- 6 Delta P sensors
- 7 Filter motor
- 8 Filter element
- 9 Shut-off valve

various filtration programs. The high level of expenditure for operation, management and maintenance provides a significant potential for cost-cutting that just simply has to be tapped.

Through their lengthy professional experience of automated filtration processes, HETA already had the needed process engineering hardware know-how. This was then supplemented through intensive development work by HETA und ATESI Elektrotechnik to provide the required control and software solutions – at Industry 4.0 level. The result is that in March of last year, the world's first smart au-

Whether this can do its job in a real world working environment is another. To answer this with the affirmative relies first and foremost on a profound and extensive knowledge of the various application objectives and related operating conditions. Such know-how is undisputed as far as PACO and HETA are concerned – from the ability to make filters through to complete filter systems. An important factor here is knowing all about existing deficits and difficulties as well as the wishes for improvement voiced by the users and operators of filtering systems. That is why a lot of care and practical experi-

Continued on page 2

Continued from page 1

HETA 4.0 – der Innovationsprung in der Filtersteuerung

ence went into the development, design and implementation of the HETA 4.0 filter controlling system.

The optical centrepiece is a compact touch panel that enables the control and management of all of the filter system's functions. In this way all operating, information and activation functions are bundled together and can be seen at a glance or called with a tap of the finger. Examples of what is available include monitoring of the differential pressure, flow measurement, amount of backwashing processes, opening and closing of shut-off valves, switching off of motors and calculating the remaining lifetime of filter media. It is also extremely easy to switch from one program to another. Incidentally, the touch panel is located at the front of the switch cabinet that contains all of the control equipment.

SMART FILTRATION: decentrally active, centrally managed

A series of special panel charts provide a clear view of system states and calculated values – from the "Overview of Parameters" through "Differential Pressure and Cleaning Cycles" through to password protected operating levels. As well as how access authorization is assigned and protected by passwords.

The HETA 4.0 filter controlling stations are placed just as needed at each strategic position in a process. In this way the desired operating modes and programs can be activated locally as required. At the same time all of these decentralized systems can be networked through WiFi and internet access, entirely according to the requirements of Industry 4.0. This means that the panel displays of each station can be centrally viewed

on a PC screen so that each of the respective functions is not only monitored but also controlled. The captured data is then recorded, stored and evaluated as needed. As far as the acquisition, documentation and administration is concerned, HETA 4.0 is fully compatible with Microsoft Office as well as Excel. There is also the option of networking with portable devices such as mobile phone, tablet or notebook. Further to this a link to plant or site specific intranet or cloud solutions as well as more global information, communication and control networks can be implemented without significant additional costs.

Because practice is the operational be-all and end-all

Incidents, downtimes and repairs are the cost drivers that cause the greatest concern.

The HETA 4.0 Filter Controlling System has proven its reliable high performance in a standard production environment.

They are difficult to counteract with conventional means as it is in their nature to occur unexpectedly and when you least need them. HETA 4.0 especially uses its smartness and extensive attentive capabilities to proactively deal with potential incidents and, in this way, avoid needless downtime. Not to mention the savings in repair times and costs. On the basis of the continuous acquisition of operational data and its systematic evaluation as a diagnostic tool, negative developments can be detected in good time and incidents thus avoided. This instrument can also be used to predict necessary maintenance actions and prevent unnecessary costs. In addition, it also enables maintenance and up-keep cycles as well as filter change intervals to be optimized. An additional safety buffer is provided by the data-based stock management of consumables and spare parts. Replenishment orders are automatically placed by the system. Provision has even been made for the event of a power outage: in such cases HETA 4.0 will automatically restart the system, taking into account the last known system state and restoring any lost data. This also effectively avoids downtimes and unnecessary costs.

From test run directly into service

The promise of the HETA 4.0 automatic filter controlling system has already been proven in practical day-to-day service. Together with a leading chemical company, a test run scenario was developed that placed particularly high demands on the filter system controlling package. On one hand this was due to the high viscosity of the medium being filtered and on the other hand the enormous throughput being handled. Both challenges had to be mastered with the utmost process reliability and dependability. On both counts this was a convincing success: so much so that the customer immediately decided to incorporate the HETA 4.0 system in their standard production environment. A specially developed cleaning function was also able to be added. In the meantime, PACO has applied for and been officially granted registered design status. Additionally the patent for HETA 4.0 is also pending.

Job Description „Innovation“:

HETA 4.0 has hit the Mark!

PACO World:

Mr. Hensel, what does it feel like to be an inventor?

Heiko Hensel:

(laughs) What do you mean inventor? I was only doing my job.

PACO World:

But nobody asked you to do this particular job. You were entering completely new territory.

Heiko Hensel:

That might be so. But isn't it always our job to find better solutions for our customers and specialist areas? Anyway that's the way that I see it. And that's why I saw that the conventional methods of controlling filter systems had become outdated. While more and more workplaces in offices and in production areas were being linked up with each other, filter systems were more or less still working all on their own. So why not use the existing infrastructure of PC technology, WiFi, internet, and mobile phones etc?

PACO World:

That makes it all sound very much like child's play. Hook it all up to the internet and away we go.

Heiko Hensel:

Of course it was not all that easy. On the one hand there is a lot of complicated measuring and sensing work going on, such as determining working and differential pressures, flow rates and temperatures. Then there is the control of motors and shut-off valves etc. And we don't want to forget the complex software development to evaluate the data that has been mined and how the rest of the system should ideally react to all of this.

PACO World:

That all sounds very complicated though.

Heiko Hensel:

That's true. But the real challenge was making the whole system as easy to use for the client as possible. And I think that we have achieved this. This all starts with straightforward installation. Also repairs don't demand the services of specialists such as electricians and electronics engineers. Operation is simply through a touch panel and is almost completely self-explanatory. The compatibility with Microsoft Office and Excel means that you don't need any specialist IT knowledge.

PACO World:

How much of this is still theory and how much practice?

Heiko Hensel:

None of this is pure theory. The application and practice implementation stage is in full swing. Since May the system has been online under the most extreme operating conditions. The test with an especially high viscous medium that until now had to be manually filtered is now running in a standard production setting. The echo has been far more positive than we had hoped for. HETA 4.0 has truly hit the mark!

PACO World:

And where does it go from here?

Heiko Hensel:

The market is showing a lot of interest in it. We are continually receiving specific enquiries. The official registering of the design has been completed. And the process of getting it patented is well underway. We are determined that HETA 4.0 will be a resounding success.

TIPP

See also the report "Smartere Automatik-Filter-Controlling erfüllt 4.0-Anspruch" (Smart automatic filter controlling fulfils demands of 4.0) in F&S, Filtrieren und Separieren, edition 5/2018, page 356-358



Heiko Hensel, Technical Director of HETA in Lich, Germany was primarily responsible for the development and market launch of the HETA 4.0 Automatic Filter Controlling System.



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www.paco-filter.de

What's the Mars Rover Curiosity Sifting Through at the Moment?

There really is a parallel world

Parallel to us living and working here on earth, human hands have enabled work to be carried out over 200,000 km away on a different planet: on Mars. Anyone trying to imagine this might start to get dizzy. Particularly when they stand in front of a PACO loom and start to envisage that a piece of 150µ metal wire cloth that this machine has produced is at this moment in time on the red planet enabling freshly collected soil samples to be viewed. When you look into the night sky it is not easy to think of someone such as the German astronaut Alexander Gerst at his weightless workplace on the international space station ISS. How he floats around performing experiments while writing Twitter messages to those back on earth. How much further our thoughts have to go when, instead of people, we picture a robot scrutinizing the surface of Mars sol for sol drilling and screening before carrying on drilling and screening! Admittedly the use of the word sol instead of day is something that we have taken (pinched?) from the NASA internet page, as a solar day on Mars is called a sol, and doesn't just last 24 hours, but has an extra 37 minutes and 22.66 seconds. That is why NASA doesn't refer to today or yesterday, but to tosol and yestersol. A line of thought that we simply have to willingly cross to enter a parallel world that really exists.

CHIMRA – engineering from another planet

The NASA really likes acronyms, those words made up of the first letter of phrase that can be a real enigma if you haven't got a clue about the background. One such verbal construct is CHIMRA: **C**ollection and **H**andling for **I**n situ **M**artian **R**ock **A**nalysis. This descriptive mouthful stands for a necessarily robust mechanical process that places extreme demands on the engineering and control of the required equipment. And we can say with a certain authority that the screening stage – featuring the cloth made by PACO – plays a central role in the overall process. In short this works as follows: the samples that have been drilled out of the Mars rock are carried from a container through a system of tubes onto a coarse perforated plate which is placed above a screening cloth with a mesh size of 1 mm. This pre-screened material is then transferred to a 150µ sieve to recover approximately 12 ccm of sample material, which can then be moved on and finally collected in a 75 ccm sample chamber. The carefully extracted sample then enters into the analysing unit SAM (Sample Analysis at Mars). SAM then carries out extensive physical and chemical research that culminates in gas chromatography and mass spectrometry.

Remote-controlled perfection

The Mars Rover Curiosity has been working its way across Mars since August 2012 – or since Sol 1 of its very own calendar. It has now passed Sol 2300 and is showing no signs of letup. Over six years of reliable operation at the highest possible level. This ongoing dependability can be attributed to the unconditional fail-safety that is inherent to its fundamental design and implementation. This is the result of close attention to even the smallest of details, such as the choice of the most suitable screening cloth. There was no room for even the slightest negligence on



In principle, the Mars Rover "Curiosity" is a drilling robot that has also been given the task of collecting, screening and processing soil samples. Whereby the process step of screening plays a central role.

the part of any one of the planning scientists, design engineers or executive machine and plant manufacturers, no matter how insignificant their contribution appeared to be. The management and control of Curiosity's activities lies with the NASA Jet Propulsion Laboratory (JPL). They can use the Rover's

cameras to see everything that it is doing, right down to what is in the sample chamber. They can use motors, vibrators, shock inducers, and other functions to guide and control the CHIMRA system as it works, protect conveyor paths and screens from clogging, and keep everything up and running for new drill-

ing and sighting operations. Even if Curiosity is "only" a machine the size of a car, it is full of the "spirit" as well as the heart and soul of many dedicated persons. And some of this hails from Steinau an der Straße. ■

> www.mars.jpl.nasa.gov

PACO und HETA SHOW REPORTS

Show presence plays a central part in PACO market communications. As expensive as they may be, they are extremely valuable for the thorough ongoing care of customer relationships as well as gaining access to new market opportunities. After all, face-to-face conversation is the best way putting across questions and answers, needs and solutions and above all showing interest and being friendly.

FILTECH 2018: Interest Reaches New Heights

This is the trade show where PACO and HETA really are both at home. Here they have the chance of meeting up with users of their core skills "Filtration & Separation" – from special cloths through innovative filter solutions and on to automated filter systems. To symbolize the creativity of our filter solutions, a model of the Burj Khalifa Towers built out of filter elements took centre stage. This was the work of PACO metalworking apprentices and was inspired by the highest building in the world (828 m) in Dubai, United Arab Emirates. Compared to FILTECH 2016 the team on the joint stand were able to record even more interest from visitors.

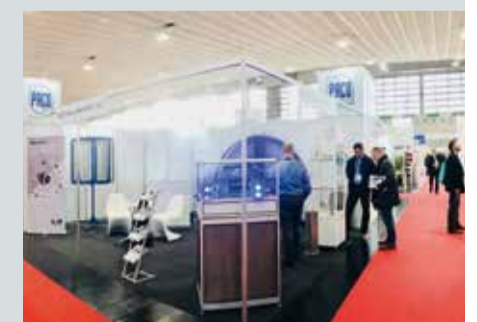


ACHEMA 2018: Attraction „HETA 4.0“

The highlight of the PACO/HETA show year. That is why there was so much intensive preparation to be there (see also PACO World 26, page 4). This featured the PACO und HETA joint show stand with a completely new look. It had enough space for a range of exhibits as well as a quiet corner for intense business discussions. This was all centred on the installation of the innovative filter control HETA 4.0. This combines smart operating state screening, process monitoring and control with department-wide and company-wide networking – all in the spirit of Industry 4.0 (see main article in this edition of PACO World 27). At the end of ACHEMA, the PACO and HETA show teams were very satisfied with the cross section of the visitors to the stand as well as with the quality of the discussions with users and interested persons.

SOLIDS 2018: The Solid Classic

SOLIDS, which used to be called SCHÜTTGUT, focusses on screening and separating technology. The RECYCLING-TECHNIK is also held at the same venue at the same time. Of particular interest to PACO is the internationality of the show, with visitors from 60 nations. The convention program that



accompanies the show caters for a particularly technically demanding target audience. Which was reflected by the visitors at the PACO stand. In times when trade fair icons such as CeBit are shutting up shop, trade shows such as SOLIDS have to think hard to stay attractive.



PACO Training

Reviving the Trade of the Metal Fabric Maker!

After the chamber of commerce and industry withdrew "metal fabric making" from the list of possible apprenticeships this profession steeped in history risked dying out. PACO has now found a way training young people to become metal fabric makers.

If you help yourself, the chamber will help you

There are not many trades that can look back on such a long tradition as that of the weaver. From the outset of human history textile "fabrics" have been produced through crossing at least two thread systems (the warp and the weft). The cloths that have been produced in this way have been used to make clothes out of, a process vital to life. Just as much as functional and technical products such as canvas and flour sacks. Whereas weaving with animal or plant-based fibres has been common practice since time immemorial, the techniques for producing cloth out of metal wires only came about in the course of the industrial revolution. But this too has a legitimate tradition. It was therefore all the more unsatisfactory for PACO that the apprenticeship that has been the most important of all to them over many

decades has simply been struck off the list by trade officials. But thanks to the diligent research and intensive negotiations of persons such as Andreas Karsdorf, as human resources manager, and Martin Statt, as instructor and examiner, PACO have succeeded in reactivating the metal fabric maker apprenticeship and gaining the recognition of the Chamber of Industry and Commerce as the responsible body of public law that oversees all apprenticeships.

Reaching our goal through clever cooperation

In their search to find a workable solution to officially resume the wire weaving apprenticeship, the PACO management met-up with a number of like-minded people. Other industries have also found that occupations such as rope maker, knitter or tanner have been struck off the list of possible appren-

ticeships and are now being painfully missed by them. Various vocational training colleges have recognized this and have now supplemented the range of courses that they offer with such traditional ones that were in danger of dying out. To take this up, however, the usual apprenticeship process has had to be varied, which requires a portion of flexibility – on the part of the company offering the apprenticeship and the apprentice alike. In the case of PACO and the metal fabric maker, this means that practical training takes place on site at PACO, and the vocational schooling takes place at the Staatliche Textilfachschule (state textile trade academy) in Münchberg, Bavaria. The budding metal fabricators take their final theoretical exams there. The practical tests, on the other hand, are carried out by authorized examiners at PACO.

Well, it works at last!

Münchberg is located in the Bavarian region of Upper Franconia, a road trip of about 250 km from Steinau. The PACO apprentices board the train in Steinau and arrive at their textile academy about four hours later. There they find out that when it comes to weaving,

The metal fabric maker apprenticeship is very wide-ranging: this includes looking at the origins of the trade in textile weaving through to the operation of modern automated looms for metal wires. Whoever is able to weave PACO metal wire cloth is among the best in the world in their trade.

the basics of textile and wire weaving are very closely related. Both have, for example, linen, twill and satin weaves. And the looms in both fields also work very similarly. All of this means that the textile academy is the place to go to learn everything theoretical, in block release of sometimes a week or sometimes two weeks at a time. The accommodation in the dormitory has the character of a sports school or youth hostel, and after classes and "homework" there is plenty of time for face-face chats and other leisure activities. It goes without saying that PACO as the employer pays for travel, board and lodging. But this is a just a small investment in the joy that the PACO management and supervisors have felt in getting the first successfully trained metal fabric makers after so many barren years. ■

PACO OS

Smart Eyes that Remember Everything!

Over the past decade quality assurance demands have become more and more stringent due to the increasing complexity of quality management systems, particularly those employed by the larger players in in the technical sector. PACO has also had to take into account the needs of its customers that require the documented objective proof that products comply with established quality criteria. A current example of this is the automated inline surface inspection solution for metal wire cloths that has been implemented by PACO's own plant building team.



Mathias Ruppel (left) and Heiko Fritz have developed the plant and the control technology for the new PACO and Pixargus system that provides fully automated optical cloth control.

Like the human eye – but on a hard disk

The 100% quality control of PACO cloths is, of course, nothing new. Until now, however, executed with the human eye and followed up with the human touch. A process that even the most advanced cameras are not going to beat. But the biggest argument against such methods is that the visual and tactile sense of a person, even if they are one of the best experts to judge the quality of metal cloths,

cannot be recorded and evaluated on the basis of objectively determined data. That is why PACO immediately responded when a customer that supplies the off-shore oil drilling industry demanded systematic and objective proof of our quality control results. The parts in question are cylindrical components that PACO manufactures according to a special design with respect to the fabric geometry and material used. Their assured quality is essential for the dependable retention of sand particles as well as the uninterrupted oil extraction process. The results of the 100% control are now recorded without break – on high capacity hard disks – and can be evaluated as required using specialist software.

From PACO mechanical engineering to PACO plant construction

As PACO were unable to buy weaving machines that fulfilled their requirements on the open market, the metal wire cloth weavers in Steinau and Herolz decided a number of years ago to set-up their own mechanical engineering team at the site in Herolz. In recent years there has been an increase

in demand for other types of bespoke equipment that could not be bought off the peg. That is why PACO has established its own plant construction team at the Steinau site that works very closely with the company's own electrical engineering and automation team. This group received the order to plan, build and implement a system for the automated inline surface inspection of metal wire cloths. Leadership responsibilities were given to Mathias Ruppel as plant and mechatronics engineer as well as Heiko Fritz as specialist for automation and control engineering. After just over a year of intensive work, they have delivered the required result: an innovative merger of camera system and data processing infrastructure with smart mechanical engineering and high-end quality assurance technology.

The finest features

Cameras, electric motors, and aluminium profiles are among the standard components used in plant engineering. The art is putting them together and complementing them in such a way that innovative solutions can be provided. The optical fault detection system that the PACO plant engineers set out to master had to overcome two potential show-stoppers that were particularly challenging. The first was the non-destructive feed of the metal cloth being examined. This has to be completely flat and tightly stretched as it faces the scrutinizing gaze of the cam-



The PACO plant construction team are currently working on a fully automated system for the optical checking of metal cloth – a CAD model is shown here. The constituent camera system is supplied by Pixargus, the image processing specialist.

eras – without any risk to the quality. This is achieved with the help of two rollers and a "touch only" gripper system, which have teamed up to provide a feed rate that can be precisely adapted to the fineness of the cloth. The other challenge was the need for double checking and surveillance through the intensive view of cameras placed at 90° and 45° angles. This was solved by integrating a mirror. A total of 16 cameras supported by 4 computers make up the hardware supplied by Pixargus. This is supplemented by a sophisticated software package that has been specifically created for the job. With this attention to detail it comes as no surprise that the test reports produced during the trial run have more than satisfied our customer. In addition, the system is also being used for testing cloths that are being supplied to the automotive industry, pharmaceutical manufacturers as well as for various other screening applications. ■



Looms are Getting More and More Communicative

The latest generation of PACO automatic loom controllers can turn lone wolves into a centrally controllable production team. And at the same time preserve energy and cut costs.

Automated looms with a total weaving width of over 250 running metres are already working hard in the PACO weaving rooms in Steinau and Herolz. And new machines are being added all the time. Not unusually, the last are the first when it comes to the state-of-the-art of their technical development. At the same time control engineering has the greatest innovation potential. To prevent the precursors from becoming antiquated, PACO's control team are consequently performing a series of upgrades.

When possibilities become necessities

Some companies like to view technological advances as a fashion trend that you either follow or ignore. But denial can very quickly become an existential problem. In the case of metal wire cloth weaving, the low-wage cost structures of manufacturers in the emerging economies are putting a lot of pressure on established manufacturers. Even if they can't quite offer 100% of the usual quality, the lower prices can easily offset any reservations that there might be and sway purchasing decisions. This means that sitting back and relying on superior quality will sooner or later lead to loss of market share. That is why using new technology to further improve quality and reduce costs while at the same time increasing productivity is a vital strategy in the face of global competition.

Today less can do more

Until now the common means of controlling automated looms was based on application-specific programmable inverters. A concept that was considered to be a technical



advance at the time of its introduction. Further technical upgrades required additional control equipment, so that in time each loom needed three control cabinets. The new control concept follows a radically different approach that takes thinking away from the individual looms and creates a comprehensive infrastructure that enables both individual management as well as central control of all units. Powerful central industrial PCs take over logic and motion control. In addition, a touch panel with a simple user interface ensures the effective interaction between man and machine on every machine – fully in line with advanced HMI (human machine interface) solutions. Parallel to this, control

centres have been installed, from which everything can be monitored and controlled. Incidentally, the new system was developed by the PACO automation and control engineering team, which is headed by Heiko Fritz. He is also responsible for all planning and implementation of the system.

Numerous benefits as welcome side effects

The primary advantages of the new control concept are, of course, the more efficient and, at the same time, safer production of metal wire cloths: correct operation, notification of malfunctions, downtime, and production progress – everything is fast and easy

to control. But there are also other important added benefits: compared to inverter technology: the new system requires significantly less energy. Regenerative energy can even be recovered and reused. The integration of a standby function means that power consumption is almost reduced to zero when the motors are at a standstill. New functions can be much more simply implemented. Spare parts procurement can also be organized far more efficiently on the basis of constantly up-dated information. And finally, operation is extremely straightforward: the weavers at the machines enjoy work simplification – just as much as the plant management in the control centre. ■

Our Man in the North Country (of Germany)



Sales and distribution is a company's gateway to its market. In this respect, PACO has had good experience of working together with independent distributors. Over the years a number of trustful as well as successful partnerships have been established. But that does not mean that such established solutions are immune from re-organization and generation changes. Consequently the PACO sales force in the north of Germany has been given a new footing in 2018.

Chris Menius – a real PACO home-grown talent

As the decision was made to take distribution in northern Germany into its own hands, the next question was: who was best suited to do the job? The persons with closest contact to customers and the most convincing arguments for PACO solutions are, of course, existing members of PACO's internal sales-

force. And of these Chris Menius particularly stood out. Although only just 30 years old, he has already been working for PACO in Steinau for ten years. After completing his industrial management training he has perfectly become one with the job in hand as well as with the rest of the team and has repeatedly distinguished himself through his special commitment to customer wish-

es and concerns. The question of whether he could imagine representing PACO in the north of Germany met with a convinced and resounding reply: Yes!

Lüneburg – mon amour!

In the search for the best possible location to further develop the northern German market (Mecklenburg-Vorpommern, Lower Saxony, Schleswig-Holstein), the choice fell on Lüneburg. Chris Menius had already had the chance of doing work in the city in the past and the seemingly obvious choice of nearby Hamburg was disregarded for a number of reasons. Not only because of the high cost of living there, but also the fact that you are too often and too long in traffic jams to effectively work as a travelling salesman. After all, Lüneburg was also in the Hanseatic League and, so to speak, the capital of salt. This is in abundant supply beneath the city and was once very popular, for example, for treating herrings caught in the Baltic Sea. Today, Lüneburg is one of Lower Saxony's "large independent cities"



Chris Menius (30) is pioneering the factory-owned PACO sales office in northern Germany. From his base in Lüneburg he is looking after the states of Lower Saxony, Schleswig-Holstein and most of Mecklenburg-Vorpommern.

and offers everything a sales base needs in terms of infrastructure. What's more, Chris Menius has also fallen in love with Lüneburg and has settled down to really enjoy life there together with his partner.

Offering good things to customers

When Chris Menius talks to existing and prospective customers, it is with conviction. Because he is convinced that he has solutions to offer that are worth their money and bring more than simply pecuniary benefits. For instance, environmentally and in terms of human well-being. He can, of course, back this claim with arguments from a number of different fields. The screening cloth made of stainless steel with ferrite content that PACO has developed has got the inherent advantage of being magnetic. This means that in case of screen breakage any metal parts that have fallen into the screening material can be magnetically extracted. This quality is very much appreciated by the sugar industry among others. On the other hand, a complete no go for Chris Menius are the screens in plastic frames that are on the market at the moment. Once they have been worn out all you are left with is hazardous waste. PACO screens with stainless steel frames and stainless steel cloths can be re-screened and the discarded cloths are made of a material that can be easily recycled. This and a number of other PACO solutions can be offered in good conscience and provide a solid basis for a sustainable sales activity. We wish Chris Menius every success! ■



Imagineer.Ing

The New PACO Corporate Presentation

Developing a new corporate presentation is an immense communicative challenge that has to be mastered to ensure common understanding with the market, the public and the company's employees. Just in time for Achema 2018, the PACO Group presented its new image brochure entitled Imagineer.Ing.

Explaining the self-explanatory

A printed image brochure in the age of www? Most definitely, and especially now! Digital information can without a doubt be quickly called, but just as quickly clicked away again. A brochure, on the other hand, has a completely different quality not only in terms of

haptics, but also in conveying content and messages. When the personality of a company is combined with optical quality and interesting information, communication becomes more intensive than the images that can be viewed on screen. But something that is invisible in a brochure is the considerable time and effort that is required in its preparation. Above all, figuring out the company's own self-perception requires a lot of analysis, discussion and self-criticism. In times of dynamic technical progress and globalization of markets, the current self-perception has to be just as much future-proof as it is capable of innovation. Only when a company and its management are clearly aware of exactly where they are now and precisely where they want to go can they succeed in presenting themselves. Getting back to the

PACO Group image brochure, the extensive preparations are evident in both its content and its appearance.

Ing. plus Imagination equals Imagineer.Ing

The academic title "Ing." which is a short form of the German word Ingenieur (Engineer) has a very good reputation – in Germany as well as internationally. The basis for this is the understanding of the engineer as a specialist in their field, who knows how to combine scientific knowledge with technical ability. However, in order to overcome challenges and provide solutions through knowledge and ability, the imaginative power of creative ingenuity is required. To bring all of this together in a short, striking formula, PACO has developed the term "Imagineer.Ing" for its corporate presentation. The legitimacy of this term is among other things



derived from the fact that there is virtually no field of activity at PACO and HETA that is not based on engineering. From the production of high-quality metal wire mesh to the development of innovative as well as high-performance solutions for filtration, separation or screening technology. Further to this all aspects of the work that our customers perform is also very closely linked to engineering skills.

A quick overview for further reading

The new company image profile of the PACO Group is available in print as well as a downloadable PDF file. Both can be obtained through the PACO website. At the click of mouse or using the online request form to order a printed copy. Whichever you prefer it is worth taking a look at the list of contents and choosing the sections that interest you most to read. For each product and field of activity, it is easily apparent how much the work of the PACO Group is interwoven with engineering skills and the related quality principles. With the advantage for all existing and potential customers of getting background information as well as finding out the qualitative benefits of developing solutions in cooperation with PACO and HETA. Nevertheless the principle holds true that advertising is good but personal consultation is better. That is why existing and potential customers are encouraged to not only obtain their printed copy of the brochure hot off the press but also to take up the offer of personal contact and consultation.

www.paco-filter.com/downloads

Rafael Ruppel (34) began his apprenticeship at PACO in 2002. In 2018 the recreational athlete took part in the Ironman Triathlon competition in Hawaii.

Hawaii 2018

Der PACO Ironman is Called Ruppel

No, he is neither related to nor married into the family that owns PACO. Yes, he did complete the 3.8 km swim, 180 km cycle ride and 42.195 km marathon in Hawaii and has sensationally finished 105th in his age group!

There is something special about every human being. A fact of course that equally applies to every employee at PACO. But which company can claim to have a triathlete who has passed the acid test on Hawaii? And this although he was only able to train in his free time! At PACO, we are very proud that with Rafael Ruppel we have a company team member that not only competed at the Ironman Triathlon World Championships in Hawaii, but also achieved a good finish. His performance in Hawaii is all the more remarkable as it was only his second race over the full triathlon distance. With his first at the European Triathlon Championships 2018 in Frankfurt am Main he qualified for participation in Hawaii. At PACO Rafael Ruppel is, among other things, a specialist for occupational health and safety. We are sure that his stamina will take him a long way!

Steinau an der Straße Handball – the Ongoing Passion!

Clubs make an important contribution to the social fabric of the Brothers Grimm town Steinau an der Straße – especially sports clubs. As youngsters Peter, Klaus and Gunther Ruppel were among the active members of TV Steinau, Handball section. From the youth team setup right through to the first team they actively remained loyal to their team and the handball sport as dedicated and ambitious athletes. Particularly when it came to local derbies against Schlüchtern there was a lot of passion involved. Since the 2009 season both of these erstwhile opponents have joined forces to form Spielgemeinschaft Kinzigtal. They hope that together they have better chances of establishing handball as a top sport in the region. Of course not without the commitment of someone with the surname "Ruppel": Peter Ruppel, CEO of the PACO Group, has been chairman of the local handball booster club for over 25 years.

Dedicated young sportsmen are not something new. As this photo of a handball team from the 1970s proves. By the way, three of them are called Ruppel.



√ Brilliant Minds

Leonhard Euler ...created the basis for modern physics and practical applications



Leonhard Euler, Mathematician 1707 - 1783

There are scientists, researchers, mathematicians and other brilliant minds to which PACO is deeply indebted because their contributions positively influence the way that we carry out our day-to-day business. Theme-related we would like to introduce our readers to them in a series appearing periodically in various issues of PACO WORLD.

There are scientists who have devised and written so productively that you do not know where to start. One such person is Leonhard Euler, a mathematician and physicist whose complete works are still not fully in print more than 300 years after his death. Already published are "just" about eighty volumes. In which he demonstrated that he could work both very theoretically and extremely practically. He contributed the summation sign to notational conventions in mathematics. In addition, he developed and specified the concept of a "function" to such an extent that it is impossible to imagine mathematics and physics today without it. Goethe, who was ambitious enough to attempt to refute the optical laws of refraction developed by Newton, availed himself of Euler's findings – in vain. At PACO we are particularly grateful to Leonard Euler for the "Euler number e ". It represents the ratio of compressive forces to inertial forces in flow calculations, which is important for us e.g. in filtration. We can probably all benefit from his popular work "Letters to a German Princess" from 1768. In it he describes in letter form to the niece of Frederick II of Prussia the fundamentals of physics, astronomy, mathematics and philosophy.

Imprint

All information in this edition of PACO WORLD has been carefully checked prior to publication. Nevertheless, we can make no guarantee for completeness, accuracy and up-to-dateness.

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