

PACO WORLD

Our International
Wire&Mesh Magazine
for Existing and
Prospective Customers

View of
the Earth
from
Mars

Editorial: What is Good Business?

Dear Reader!

Business is good if you can earn good money from it. But, in this context what is the true meaning of good? Is it good if FIFA methods have been used to pave its way? Or is it good business if, within the context of TTIP, quality standards have had to have been lowered? Or is it good to pip a competitor at the post – at the risk of the deal being a zero-sum game? On the basis of PACO trading standards none of these cases would be good business.

It goes without saying that adding value to our products is an important part of our business model. But, for us, it is only one of a number of important aspects.

The deals that we like to do most are the ones where the customer can't find anything better on the market. The key factor behind each of our successes is our customers' positive assessment that they have got a good deal. As the price/performance was particularly convincing. As we provided the best possible solution for them. Or because we worked together to develop an innovative solution that is a first on the market.

In our view the best type of business is a deal that paves the way for a number of future transactions with the customer. Whereby the revenue from each transaction is sometimes more and sometimes less. As long as the business relationship with the customer is productive, based on trust and for the reciprocal benefit of both sides, the resulting business can most definitely be defined as good.

Best regards

Peter Ruppel
Managing Director



PACO on the Red Planet:

Moving with 400 Mesh Across Mars!

Every day the sun rises and sets again. Very often we are able to see the moon, even if we only get a view of its front side. But how well do we know our own solar system, our nearest neighbours within the infinite depths of the universe? Maybe the fact that PACO metal wire cloth has landed on Mars will help us to find out more about the red planet!

Relatively near: approx. 200 Mio. km away

In our solar system, the only destination that is closer to the Earth is the Moon. Our second nearest destination is Mars, which is in the direction that points away from the Sun. Due to its elliptical orbit around our central star, the distance to the Earth varies quite considerably. A fact that is further emphasized by the Earth having an elliptical orbit around the Sun of its own. This means that the distance between the Earth and Mars varies between 55 and 401 million km – which gives us an average of about 200 million km. As a result we only get a convenient opportunity of making our way to Mars every two to three years. Even then the journey will still take approx. 160 days. We will then have to wait nearly another two years for a favourable constellation to make our way back. This will, however, 'only' take 120 days. All of this makes it clear that space travel to Mars is not that easy, which is why probes and robots have been sent on their way first. One of their main assignments has been to try to find signs of life – either extinct or still in existence. It has long been clear to us that Martians only exist in science fiction stories. But even if only algae, bacteria or other simple forms of organisms are found, this is very important as it proves that life can exist or has existed somewhere else in our universe other than on the Earth. Already confirmed is the existence of water, even if it can only be found in a frozen state today. Clear evidence of life has, however, not been found until now.

A brief geography of Mars

Of the eight planets in our solar system, the inner four (Mercury, Venus, Earth and Mars) consist of rock. Behind this quartet (when looking away from the Sun) is a ring-like asteroid belt made up of countless small planets and meteorites. Further back, the four planets Jupiter, Saturn, Uranus and Neptune make their extensive journey around the Sun. As they are blanketed in large masses of gas,



The Mars Rover "Curiosity" is the third remote controlled exploration robot that has been active on Mars. And it is to remain in service for the NASA for many years to come. In 2018 the first European Space Agency (ESA) Mars Rover "ExoMars" is planned to land on Mars.

these are sometimes referred to as the "gas giants". Getting back to Mars, its diameter of approx. 6,800 km is approximately half the size of the Earth, the volume is only a bit more than a seventh of that of our own planet. Today Mars has the character of an arctic desert planet. The surface is made up of rocks, boulders and sand. It has six kilometer high volcanos and seven kilometer deep gorges as well as dried-up river beds that are hundreds of kilometres long. Extensive salt deposits indicate that surface water existed here billions of years ago. The inside of the planet is made up of an iron core that has most likely already cooled down. On the surface of Mars is rock that is very similar to the basalt found on Earth. Its red colour – which is why the planet is referred to as the red planet – is due to the weathered ferrous volcanic basalt that contains rust. Deeper in the ground, the Mars probes have found rock rich in quartz that is very similar to andesite as well as olivine and gravel-shaped conglomerates. The rather thin atmosphere of Mars primarily consists of carbon dioxide – which is not very good for humans to breathe. It has two polar caps which are predominantly made up of carbon dioxide (dry ice) and embedded water ice. Water is unable to exist in a liquid state for long due to the low atmospheric pressure of Mars and the severe cold on the surface of the planet. Whatever thaws will very quickly re-freeze.

Of notoriety are the gigantic sand storms and cyclones on Mars that can even be seen from the Earth through telescopes. Incidentally a Martian year consists of approximately 687 Earth days; a Martian day, which is referred to as a Sol, lasts 24 Earth hours plus

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Mesholutions created by PACO



Continued from page 1

PACO on the Red Planet

almost 40 minutes. And last but not least: the Mars has two potato-shaped moons called Phobos and Deimos – which literally mean fear and terror.

Mars Rover “Curiosity”: high-tech serving the desire to know

In November 2011 the NASA launched an Atlas V rocket from Cape Canaveral with the destination Mars. On board was a “Mars Science Laboratory” (MSL) which included an exploration robot called “Curiosity”. Curiosity, also known as the Mars Rover, landed on Mars on 6th August 2012 and had already sent back its first pictures after four minutes. With a weight of 900 kg, Curiosity is the heaviest device that has ever landed on Mars up to now. It is important to know that every gram of weight transported on a space mission matters, as it costs thrust and fuel. And when a quarter of the weight of the complete Mars Science Laboratory is accounted for by an exploratory robot on wheels this shows how important it is for the complete mission. One of the most important tasks for the Curiosity was to take soil samples from Mars and analyze them. Something that it is still doing now – and on into the twenties of this century. For this purpose it is equipped with a variety of devices. For example, with the “ChemCam” system that consists of a powerful laser telescope and an integral spectrometer in combination with a special camera. These devices are able to work together to analyze the Mars soil, scree and rocks with high precision up to a distance of seven metres away. A further camera system not only examines the topology of the surface of Mars, but also the atmosphere through optical analysis. The Rover Environmental Monitoring Station carries out meteorological measurements: wind speed and direction, temperature, relative humidity, atmospheric pressure and also the ground temperature. And these are just some of the systems and features that Curiosity has on offer.

PACO cloth screening Mars soil samples on-site

We were particularly honoured to learn that of all the screen cloths that the world has to offer, PACO was specially chosen to be sent to Mars to prepare soil samples on board the Curiosity. A task that has now been carried out in the following way for more than three years (> 1200 Sol): at the front of Curiosity is a robot arm with a length of approximately two meters. The arm has three joints that enable it to be moved in the same way as the human system consisting of shoulder, elbow and wrist. This allows instruments to be accurately guided onto target objects on the surface of Mars. At the front of the robot arm is a drill, an excavator shovel, a brush and a PACO sieve with a collecting container. These instruments are able to take samples from deeper layers as well as to drill holes in rock. The core sample is then pulverized and transported to the filter system – the Sample Manipulation System (SMS). This also consists of a number of sieves with PACO cloths (400 mesh and finer) as well as a total of 74 collection containers. Two ovens are also provided to enable gaseous substances to be outgassed from the samples through the application of heat. All in all PACO is part of possibly the most complex and most productive research system that has even been used for space exploration – apart from the international space station ISS orbiting the earth.

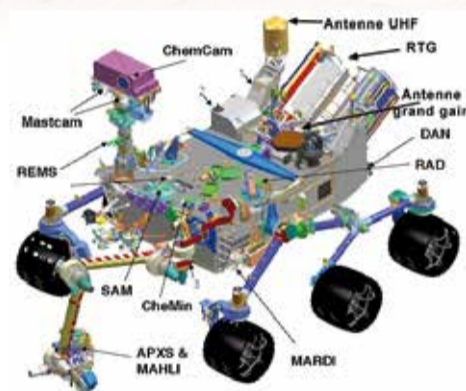
Send Your Name to Mars

The Curiosity mission is currently the latest in a long line of Mars missions: Mars Global Surveyor, 2001 Mars Odyssey, Mars Express and Mars Pathfinder with the vehicles Spirit and Opportunity as well as the Mars Polar Lander are the NASA missions that have been successfully carried out since the year 2000. And Curiosity won't be the last Mars mission. The NASA has been working for a long time under the project name “Orion” on a manned expedition to the red planet. And whoever wants to be part of it even if they personally

can't fly to Mars can at least send their name: “Send Your Name to Mars” is a NASA campaign that is open for everyone to register for through the Internet (www.mars.nasa.gov). The Mars Science Laboratory Rover Mission with Curiosity also carried two coin-sized microchips with it onto which 1.2 million names were lasered to remain now (and forever) on Mars. So if you would like to be part of the next mission, now is the time to register. PACO most definitely wants to be there with its screen cloths or other products that have been qualified for space travel.

More about Curiosity:

https://de.wikipedia.org/wiki/Mars_Science_Laboratory



Recommended reading for Mars-Fans:

The Martian by Andy Weir

This enthralling book describes the fight for survival of an astronaut, who was mistakenly left behind alone on Mars. It contains fascinating descriptions of the scenery on Mars, the technology used, the living conditions on the planet, the need to improvise, the way the NASA administration works and the breath-taking attempts to save him – the Martian. It is no surprise that the book is a New York Times bestseller that is shortly to be filmed.

New from PACO Mechanical Engineering:

Razor-Sharp Miniaturization: Industrial Marking with a Laser

The new laser marking system can not only mark parts with letters and (running) numbers, but also with machine readable bar codes, QR codes and other 2D codes.

The PACO mechanical engineering team is also consulted when tenders are to be invited for new machines and systems. This was again the case as a new system for the customer-specific laser marking of PACO products was being evaluated. This upgrade of the existing marking technology was necessary to satisfy permanently growing customer demands and assist automated part management at PACO and its customers.

Existing technology reaches its limit

The marking of system components such as filters and screens with special codes is increasingly becoming a matter of course. The advantages are immediately evident: secure identification of the part right down to the most detailed specifications, traceability throughout the manufacturing process, allocation to batches or production runs, documentation for quality assurance through simplification of stock management and ERP. The technologies that PACO have used for marking until now, etching and stylus writing, have reached their limit due to the increas-

ing range of product variations as well as the current level of part miniaturization. This bottleneck in production had to be eliminated.

Laser marking: faster, clearer, more versatile

The first step out of this bottleneck for the marking of PACO products such as filters and screens was a project that investigated the specific requirements of a dedicated laser marking system. In addition to usual standards, it had to have a swiveling laser head (0-90°) and an automatically traversable Z-axis, be capable of marking the ends of tubes as well as large-area flat parts and enable cascade marking. The laser system has proved that it can more than fulfil the demands placed on it. The inscriptions and markings can be easily applied to difficult to reach locations (e.g. head ends). Even extremely small markings are extremely good and durable. The automated preparation of the surface to be marked enables e.g. 2D codes to be applied in contrast on a light background. The level of automation, ease of operation and range of available markings have been significantly increased. We are extremely grateful to everybody that has played their part in the successful implementation of this project.

No Custom Finish is Too Special!

Metal wire cloths are often the first of a series of manufacturing and processing stages that are required to produce a finished product. Starting with running metres of cloth, precisely defined parts have to be cut-to-size, stamped out, processed and finished. This is another area in which PACO is pleased to provide assistance to its customers and final users. And more than this: through custom fabrication that is quality-assured and tailored to the specific needs of the user, PACO adds the value of application-specific, professional processing to a high-quality base product – in other words, PACO added value.

It started decades ago with filter making

At a very early stage, PACO laid the basis for its reputation as an experienced and visionary supplier through the custom fabrication of its cloths – i.e. “the division according to user-specific dimensions and specifications”. It all started with the entrepreneurial foresight of the company founder Wilhelm Ruppel who, after successfully establishing the company as a cloth manufacturer, took the strategic step of becoming a filter maker as well. Ruppel’s vision was that his company should enter into the further processing and finishing of its products to provide new sources of value creation. Consequently, Paul & Co. commenced its filter making activities in 1975 in the main factory in Steinau – initially extrusion filters for synthetic fibre production. The products were very well received by the market so that filter making – and consequently custom fabrication – was able to establish itself as a second pillar in PACO’s production activities within a relatively short space of time.

Innately skilful

Who else can do better than the manufacturer themselves when it comes to providing the best requirements for optimally preparing their metal wire cloths for further processing and optimization? This is however easier said than done for even a company like PACO: the variety of cloths on offer is so extensive and the characteristics of the individual

products are so different that a wide range of specialist knowledge, practical ability and technical infrastructure has to be on hand. This requires a large level of investment, places particularly high demands on employee training and significantly influences the company’s conception of itself. The supplier of the base material cloth has redefined itself as a close partner for the development and implementation of custom solutions. Filtration, separation and screening should never be viewed on their own but in each case as a step within a complex production sequence. This means, for instance, that whoever wants

to correctly design and produce a filter has to have a thorough knowledge of the complete customer process. But talking in confidence: it is exactly this that makes the whole area so attractive for PACO.

Custom fabrication at PACO: totally customer-oriented

Selling the customer a cloth, screen or filter and leaving them completely alone with it, is simply not PACO. On the contrary, there is always the offer of working closely together from the outset of each project to determine the optimum parameters for a custom finish. In the course of the research, a number of development and correction loops may be required. Unusual tasks may also sometimes require extraordinary effort. For instance, the filtration of Newtonian liquids. Ten or more different attempts are sometimes required to determine the optimum cloth design. The same is true for the development of the base of a frying pan that is to heat up quickly and distribute the heat as evenly as possible. Often all that the customer says to us is “here are my process parameters, please find out the best material, weave and finishing data”. The chances of quickly achieving this are very high among PACO experts. Firstly, they can look back through extensive case histories and draw on their own experience. Analogous conclusions often enable a solution to be quickly found. And secondly, all of the necessary technology and measuring devices are available to enable the targets of the project to be successfully attained.

With everything that is needed

Suitable custom fabrication often goes a long way further than simply the choice of material, definition of the dimensions, cutting to size and stamping. The parameters for the frame or supporting construction also have to be determined: e.g. the type of sheet metal, quality of the steel and method of forming etc. Often the cloth itself has to be annealed,

smoothened or specially cleaned. The finished products require special preparative treatment or finishing. The production techniques that are used may also be part of the custom fabrication solution: automated or manual welding (resistance, plasma WIG or arc), the type of metalworking and forming, whether from a machining centre or individual and by hand. After all, some things can be produced fully-automated in large batches, other things require the infrastructure of a watchmaker’s workshop to be perfectly produced. One thing is clear however: in PACO’s custom fabrication, skilled workers and fully-automated machines are experienced team players.

Added value as a competitive advantage

Custom fabrication provides PACO with an additional opportunity to create value. This is particularly important in a globalized economy in the face of competition from emerging industrial countries such as those from Asia. Also the higher level of vertical integration increases the quality control and reliability in the application of the corresponding PACO products. This provides our customers with “added value” when competing within their own markets. The range of PACO-products that can be classified as being custom fabricated is extensive and growing all the time. Here are just a few examples: candle filters, basket filters, flat filters, filter plates, disc filters, sieve trays, round sieves, hooked screens, screening belts as well as templates and frames for screen printing.

Custom fabrication ultimately provides solutions similar to those offered by the PACO Group Company HETA: fully-automated filtration and separation systems for fluids and gases for demanding applications such as oil production through water treatment to nuclear energy. (See also the article “HETA Safety on the Increase around the World” on page 4.)

Custom fabrication has to be perfectly planned, organized, monitored and permanently assisted. The success of these activities is assured by Gavin Ruppel and the PACO IT.



Online with a New Web Presence



The new PACO web presence demonstrates what is technically and communicatively "state of the art": intuitive operation, short paths, fast information that is optically attractive with a high degree of benefit for the user.

PACO World – Archiv Live!

This is now the 24th edition of PACO World, the International Wire & Mesh Magazine for Existing and Prospective Customers. The first edition appeared in December 2000, i.e. fifteen years ago. Whoever wants to have a look at this edition or any of those in-between can easily do this on the new PACO web site – under:

paco-filter.de/paco-gruppe/paco-world

These days the proverb that the better is the enemy of the good particularly applies to websites. On one hand the provider needs to provide more and more information and, on the other hand, the demands of the user are continually increasing. And all of this on a platform of continually improving and expanding information technological capabilities. That is why PACO's internet presence migrated from a web site of the early days to an interactive information service that is fully in line with the latest web standards. Clicking in is not only desired it is also extremely worthwhile.

Promises variety

The landing page shows the variety of information that is available on the PACO home page. Thirty-eight square picture and text tiles invite you to click into the information that is on offer. And if the user knows exactly what they are looking for, they can use a menu at the bottom of the page. The first item provides a choice of languages: German, English or Spanish. Those that take a more gamely approach to discovering the information on offer can simply move the cursor over the square tiles on the landing page – use the mouseover method so to speak. The subject behind the respective tile will then appear in writing. When a tile is clicked with the left-hand mouse button, a box with introductory information appears. Whoever wants to find out more simply has to carry on clicking. Otherwise it will quickly go back to the beginning. In other words, regardless of whether forwards or backwards: our users will quickly reach their goal. Whereby,

the information gained is completely left to individual needs – from quick overview to detailed research.

Latest information and archives

It is not only the case that the internet doesn't forget. The latest information on the PACO web site make sure that nothing gets forgotten: upcoming show dates where PACO are taking part, for example. Equally, current job offers and training positions are also among the information that is regularly updated.

Behind the "Downloads" section is the PACO archive of printed media. Image brochures, descriptions of product ranges as well as product information, technical data and certificates. The media can be looked through as well as downloaded. Of particular interest is also the archive of the company magazine "PACO World". In each case, the latest edition provides information about the latest developments in the company group, technical innovations or the export markets.

This is rounded off with information extras from areas such as culture, education and local history. As a sign of our commitment to the company's home, each edition of "PACO World" has an article about the Brothers Grimm town Steinau an der Straße, which is the location of the corporate head office as well as two production sites. And when you look through each edition from start to finish you are taken on a journey in time that goes far beyond the milestones in the development of PACO as a group of companies.

Efficient communication

Of the wide variety of functions that an internet presence has to provide, the most important is a fast and direct route to the information – combined with a professional dialog capability. In this respect, the new PACO website is also a user-friendly platform. On one hand it provides a concise description of the company activities and product range. On the other hand, numerous application examples provide practice-related illustrative material so that possible solutions can be more easily envisaged. The case examples take up most letters of the alphabet from automotive, through chemicals, energy, environmental technology and screen printing to the wood industry – our mesholutions A-Z.

The landing page is an excellent example of the way in which the new PACO website puts communicative efficiency into practice. Whoever scrolls down the page from the initial hyperlinked tiles gets an overview of all of the information that is on offer. This enables fast page access and shortcuts to be practiced. Of course, being state of the art means that the complete PACO internet presence can just as easily be viewed on a smartphone or tablet, i.e. it can be used on the move.

www.paco-filter.de

Duplex filter station for the production of fertilizer:

HETA Safety on the Increase around the World

Although filtration and filtering plant production are rather rational activities, they still provide plenty of room for phantasy. On the one hand, in the engineering skills required to satisfactorily apply the technology, i.e. to provide a suitable solution. On the other hand a lot of phantasy is needed to try to imagine all the places in the world where PACO Group products are being put to use. For instance, a HETA duplex filter station was recently commissioned in the south of USA. Or to be more exact in a factory for artificial fertilizer located in the Mississippi delta near New Orleans.

Uninterrupted safety for MDEA filtration

Methyldiethanolamine (MDEA) is an organic compound out of the group of the alcohols and amines (alkanolamines) that is often used in the chemicals industry. This colourless liquid has a strong alkaline reaction with water and is also extremely sensitive to air. That is why during storage as well as the application process, MDEA has to be reliably protected against all external influences. This places particular demands on the HETA duplex filter station for the fertilizer production. The most important was that the filtration process had to be possible without interruptions. In other words: even during filter purification, nobody is allowed to press the

stop button. A permanent process 24/7 in a safe closed circuit! The HETA developers solved the problem with a double filtering system that is completely made of stainless steel. The two filter elements that are each self-contained in separate housings perform their assignment alternately – using the so-called standby principle: while one is doing the filtering, the other is cleaning itself. And then vice-versa. The switch-over occurs fully automatically through pneumatically actuated 3/2-way ball valves. The filtration accuracy which was specified by the customer as 10 µm is attained using filter elements made of pleated stainless steel cloth with supporting bodies on the inside and outside made of perforated stainless steel sheets. The system is automatically back-washable so that the filter elements can be cleaned without the respective housing having to be opened.

Trust is good, certification is better

Methyldiethanolamine is a medium that has to be handled with extreme care if it is to demonstrate its capabilities without harm to health or the environment. That is why the customer took an extremely close look at possible suppliers all around the world before placing an order with HETA. As HETA, like the rest of the PACO Group, had already gained experience in the handling of hazardous substances such as MDEA, had the necessary know-how to work with stainless steel including the required welding techniques, and was able to exactly tailor their time management and logistics, the detailed quotation contained a number of convincing arguments.



This HETA duplex filter station has been shipped to Louisiana in the south of the USA. For the transport it was broken down into its individual components including the maintenance platform. The total weight of the freight package was 2.5 tonnes.

PACO Presents Highlight at the Power Show!

One of the strengths of the easyFairs show concept "SCHÜTTGUT & RECYCLING" is that it combines a wide range of well-focused information for a demanding specialist public under one roof. For the first time, the double show attracted 450 companies from home and abroad as trade exhibitors. The reaction was that the more than 6600 specialists in attendance provided a new visitor record. The PACO stand was also well frequented during the two show days on 4th and 5th November. We would, therefore like to take this opportunity of thanking our regular visitors as well as those that came to see us for the first time. For a number of people, the highlight was the new R.I.S.E ONE high performance machine that was taking part in the show ground "ral-

ly" for the first time (see also the article below).

The fact that bulk goods as well the recycling of reusable materials is closely connected to screening technology meant that there was a lot of interest in PACO solutions for metal wire cloths, screening frames and complete sieves. In particular our services such as the custom development of sieves for screening machines as well as the refurbishment and re-covering of used screens were frequent subjects. This meant that the SCHÜTTGUT RECYCLING 2015 once again completely fulfilled expectations – those of the PACO show team as well as the numerous visitors. The next EasyFairs power show will take place in Dortmund on the 10th and 11th May 2017.



PACO. EXPORT. REPORT.



The 40 g high performance screening machine R.I.S.E. ONE with a racing red paint finish – doesn't it look excitingly powerful?



of at least 25 g to be permanently available. With a peak value of approx. 40 g available if required.

The screen construction is also remarkably practice-oriented. The screen inserts and screen cloths have been specially designed for use in rapid impulse screening. The screen cloth is laterally sealed and can be efficiently replaced whenever required. An integral winding device automatically advances the screen cloth directly from the coil throughout the complete length of the machine and ensures that it exactly fits through a precise separating cut.

Further features: the screen cloths are double stimulated by a sinus curve that is displaced by 180°. The noise level is comparatively low. Spare parts can be quickly and easily exchanged. The cost-savings in practical everyday operation are a consistent characteristic. And finally: for aggressive screening materials, the R.I.S.E. One is available in a complete stainless steel version.

The Red Racer under the Screening Machines!

There are machines that are simply just overwhelming. A formula 1 racing car for example, a tunnel drilling machine as well – or the new high-performance screening machine R.I.S.E. ONE from PACO and SEPTEC. Its special design enables it to reach the hitherto unattained screen acceleration of approx. 40 g.

An enormous jump instead of a step forwards!

Sometimes there are increases in performance for which there are simply not enough superlatives. As PACO presented the MAG 10 screening machine in 2009, the 10 g screen acceleration was a world record. Now, after further research and development work together with the machine and plant builder SEPTEC, the two companies have launched a high energy screening machine with power for 40 g! It is called R.I.S.E. One, whereby R.I.S.E. stands for Rapid Impulse Screen Energy – exactly the characteristic that makes this muscle machine stand out above all other screening machines! In comparison all

others, such as expansion shaft screening machines, are tired vibrators, shakers and trampoline hoppers. The critical observer will, of course, argue that power isn't everything. And they are right! Then the true art of engineering is to tame and control these forces so that the machine construction only has to withstand forces of between 3 and 5 g. This not only ensures that the machine itself has a long lifetime, but minimizes the costs for maintenance and spare parts.

Designed and built for everyday hard work

It seems paradoxical, but it is logical: fine-grained screening materials are particularly

difficult to screen when they are wet. The smaller the grain diameter, the worse the relationship between adhesive power and inertia force. In other words, they are more difficult to separate without the screen clogging. The greatest force can be generated when the screening area itself can be accelerated. If, as is the case with an expansion shaft screening machine, the screening material is simply thrown into the air, only the earth's gravity is available as the separating force. The R.I.S.E. One in contrast brings significantly more force onto the screening area to consistently ensure precise separation and, on the basis of the technology used, inherently avoid clogging. The machine frame has an enclosed design that is particularly robust. Similarly, the 2-pole electric motors that work at half speed with only approximately 50% of the swing weight setting. This means that a relatively low amount of energy is required to enable high acceleration values

Something that, nevertheless, would not have been possible if the necessary certificates and quality guarantees were also not able to be presented. HETA had the needed approval from the US Food and Drug Administration (FDA) as well the German clean air act. Further to this, the complete design was to be configured according to the ASME Code Section VIII, Division 1, Edition 2013 with U-Stamp and be implemented for the National Board Registration. The fulfillment of these demands is routine practice for HETA within the context of the globalized market.

Quality falls on fertile soil

Imagining where the HETA filter stations and systems are doing their job can be very awe-inspiring. The destination of the duplex

station described in this article was the production plant of a leading fertilizer manufacturer in Donaldsonville, Louisiana, USA. Unmistakable for this area is that a lot of things have a very French sound to them: the names of the neighbouring cities are New Orleans and Baton Rouge. The carnival is called Mardi Gras. And the most famous street in the area, the Bourbon Street, has nothing to do with American Whiskey, but a French royal dynasty, the Bourbons. The coat of arms of the federal state contains a pelican, hence "Louisiana, the Pelican State", or the "Bayou State". Whereby the term "Bayou" relates to a particularly slow flowing river, in this case, the Mississippi delta.

It is no coincidence that the HETA duplex filter station was commissioned in this area.

Louisiana is a state that is very rich in agriculture, where for instance soya, cotton, sugar cane, rice and yams are grown. An ideal location for a fertilizer factory, such as the one that ordered the HETA filter station. Also of advantage are Louisiana's deposits of salt and sulphur, which are the raw materials required to produce fertilizer. Incidentally, Donaldsonville was the first town to elect an African American mayor – way back in 1868.

Another important economic sector for the area is tourism, with it being the home of Louis Armstrong as well as Britney Spears. There's a lot to see there on the bayous and good things to eat too. So when are you going to take a journey there?

> louisianatravel.de

Yes We Can:

For the Hardest Cases

There are screening materials that are well known for their resistance to screening, particularly when damp or wet. The R.I.S.E. One knows all of these and has them under control – from A-Z:

- Agricultural lime
- Aluminium hydroxide
- Aluminium oxide
- Basalt chips
- Brick dust
- Briquette dust
- Cinders
- Clay
- Coke
- Drilling mud
- Dolomite rock
- Grit
- Iron ore
- Organic waste
- Pumice stone
- Rubble
- Scrap
- Soil
- Soil sludge
- Sugar
- Waste glass
- and much more

Bits and Pieces

Max Planck researchers ask: How Old Do Companies Get?

Company jubilees are always seen as something to celebrate as – like most other things – companies are not considered to be everlasting. Even the biggest can fall on hard times or disappear altogether: Rolls Royce, Hoechst, Dresdner Bank etc. Whether the ageing and dying of companies occurs according to generally applicable laws was the subject of an investigation carried out by researchers at the Max Planck Institute for Economics in Jena. They analyzed data collected by national statistics offices in countries such as Spain, Italy and India. On the basis of this they developed a mathematical model that describes the age distribution of companies within an economy. Their findings are, however, not based on individual companies but on the age distribution (and anticipated mortality) of the company population as a whole. This enables predictions of how many companies currently in existence will still be around in 10, 30 or 50 years. The chance that a company will be able to celebrate its 100th or even 1000th anniversary is statistically relatively low, but nevertheless cannot be ruled out completely.

Parallel to the age distribution, the distribution of company size was also examined. It was of no surprise that older companies tend to be larger than younger companies as they have been able to increase their capital, know-how and market share over the course of the years. On the other hand, younger companies are more at risk of going out of existence in the first year of their existence. All of this is nevertheless purely statistics. But getting back to specifics, the oldest company in the world was the Japanese building contractor Kongo Gumi that first went bankrupt after an astonishing 1425 years. And the oldest German company is the brewery Weihenstephan which celebrated its 975th anniversary this year. At PACO, after looking back on sixty years of existence and continuing growth, the various probability calculations show that we have got a lot of company jubilees to look forward to in the future!

Source: Press and Public Relations Office Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. / Information Service Science



It's not always high-quality metal wire cloths that carry the name PACO. Our foreign correspondents have found objects of the same name in the "wild west" of Brazil. Moreover, as a double-bill: Paco-Paco, which means something akin to "tuk-tuk". These are a wide variety of types of do-it-yourself vehicles that are threatened by extinction – or to be more exact, by the scrapyards crusher.

The story of the Paco-Pacos began about thirty years ago with the gold rush in the Serra Pelada as thousands of adventurers came looking for gold. Once the gold rush was finished, they not only left a huge hole in the jungle, but also a large number of devices that they had used. Among these were water pumps that were powered by Diesel engines.

And these were exactly what an ingenious man named Jair Graff realized could be used as power units for small trucks. There were enough parts of old cars laying around for him, with the help of his friend Astor Voos, to go into vehicle production. Their first Paco-Paco was sold for the princely sum of 150 grams of gold.

As each Paco-Paco is a rather hotchpotch construction, there is no way that any of them is going to go anywhere near passing the equivalent of a MOT test. That is why they have attracted the attention of the authorities who want to ban them, even though they are not able to do much harm in their natural environment deep in the jungle. As a result, the owners have hit back by organizing races over hill and dale with them. The aim of these is to increase their popularity and enhance their profile. At PACO we wish them every success in gaining their objectives, as we

Paco-Paco

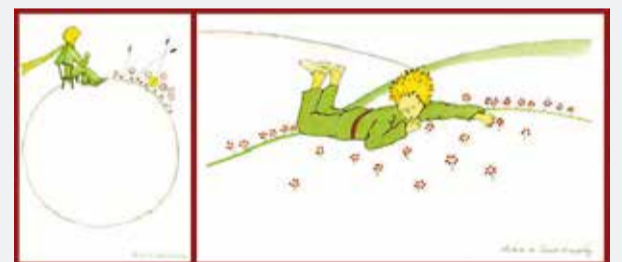
Formula Junk in the Jungle



have always had a soft spot for people that show a pioneering spirit. And particularly as the tuk-tuk that carries our name is the only truly original Brazilian vehicle design.

Paco-Pacos serve as toys. They are said to have saved the region around Peixoto de Azevedo from ruin after the end of the gold rush. Without them agriculture in this wilderness would never have been possible.

> <https://vimeo.com/55792753>



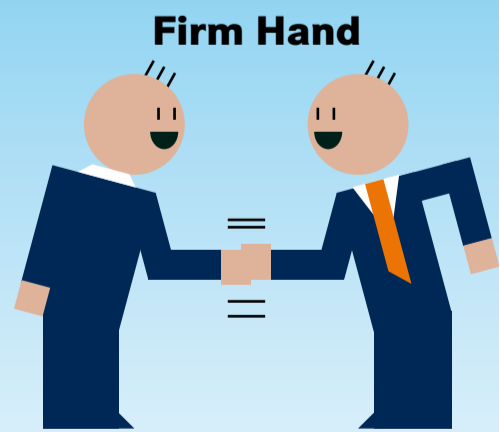
© Sussession Antoine de Saint Exupéry

Steinau an der Straße:

The Little Prince in the Brothers Grimm House

There are situations in which even a museum can be ahead of its time. Even before the spectacular animated film of this fantastic story reached the cinema, the original illustrations from the book were displayed in the Brothers Grimm House in Steinau.

The book "The Little Prince" from Antoine de Saint Exupéry is one of the world's most read works of all times. On the same level as the bible or Grimm's Fairy Tales. The story written by a French author and aviator enchants the reader through its subtlety and philosophical wisdom. The author himself produced about twenty illustrations which he considered to be inseparable from the text. These also impress through their simplicity and strong symbolic meaning. These rarely shown lithographs are a genuine highlight among the exhibits presented by the Steinau guardians of everything to do with fairy tales – the "Brothers Grimm House", which is always well worth a visit.



Firm Hand Makes Good Impression

At one time it was a feeling but now we can get to grips with it being fact: the best way to make a good first impression is with a firm handshake. 90% of persons interviewed in a representative survey are in agreement. Over 70% view people with a limp or clammy handshake as being uncertain and anxious. On the other hand, a growing number (20%) would prefer to completely avoid the conventional handshake for hygienic reasons.

Source: GfK Market Research Nuremberg, Germany

√ Brilliant Minds

Friedrich Mohs The Father of all Hardness Tests

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.

The hardness of materials in the manufacturing and implementation practice is very important factor for PACO and HETA – as, for instance, it is a determining factor for the quality and operational safety of our products. Among the characteristics that are provided for the stainless steels that we use is information respecting the respective hardness. This has to be measured, documented and guaranteed by the manufacturer according to a standardized procedure. The first person to have the idea of classifying workpieces according to their hardness was the German-Austrian mineralogist Carl Friedrich Christian Mohs (1773-1839). He arranged materials according to the principle: harder materials can scratch softer ones – for instance a diamond can scratch glass. His "Mohs scale of mineral hardness" is still recognized and in use by mineralogists and geologists down to this day. His findings provide the basis for the hardness tests and standards for metals and plastics etc. As metal workers, we mainly use hardness tests according to Brinell or Vickers.

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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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