

inside acat

■ Newspaper for customers, friends and employees



CMS 17 BERLIN

Cleaning. Management. Services.

19. – 22. Sep 2017

www.cms-berlin.de

REDISCOVERED, AND
NEVERTHELESS BRAND NEW:
Iron II Chloride PIX 209W exclusive at ACAT!

GOOD BYE ODOUR NUISANCE!
Thanks to VPS and Ecosorb®

IF THE DIGESTION TANK FOAMS OVER:
DefomStar® 300 L



Applied Chemicals International Group
Technical Service is our Success

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Wuppermann is refining steel products - Kemira is refining the valuable production by-products and ACAT is marketing them. A highly successful triangle relationship with a future!



Problem solution in the processing of the tunnel water during the construction of the new Albulatunnel in Switzerland with AluStar® und FlocStar®.



Our mobile demonstration unit with screw press AS250 for the sludge dewatering for small WWTPs has come into „firm hands“ in the Waldviertel.

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Manfred Zabl

Dear readers,

The 24th edition of *inside acat* is dedicated to Environmental Technology. New concepts and technologies had to be developed to meet the constantly growing requirements.

In the early days only a simple purification of water, air and soil was required. Today, in addition to effective cleaning, the recovery of valuable raw materials is essential. Industry and municipal companies are increasingly striving to recycle even the waste of cleaning processes and to generate value from it. This ranges from the recovery of chemical materials up to energy recovery. But they all have one thing in common, namely to conserve resources and reuse more substances which have already been processed once. This is called the Environmental Protection 2.0. Today we do not only clean waste water and contaminated air, but to an increasing extent we value the treasures of nature and its resources. We have only one earth, and we have to protect it

and to keep the environment healthy and intact for future generations.

Urban mining - is the buzzword of environmental technology today

The development demand is high and in many areas there are interesting ideas that need to be developed and integrated into processes. Well, it's not about making clothes from old rags, but about the recovery of the individual raw materials. In most cases the recycled substances are of the purest and best quality - sometimes they are better than the primary products had been and the derogatory term „waste product“ is no longer applicable.

The most difficult task of Urban Mining is to develop technologies which are commercially compatible, because recovery is often more costly than degradation from natural resources. We are all challenged to get these things under control!

We owe it to our descendants and to history! Already our children, the first generation following us, see the world something different from us. They attach great importance to the work-life balance, on sufficient time for social contacts and on the recharging of batteries by outdoor activities and by doing sports. Money and career are helpful, but they are not enough to make a person happy. It simply needs something else for a satisfied, content life. I would say - we can learn a lot from our children. This new lifestyle, has something to be said for it. This often comes to my mind when I have spent 60 working hours a week on my computer.

Sun, fresh clean air and outdoor activities are balm for the soul. These elixirs of life have to be protected under all circumstances!

There are a number of interesting reports in the new edition of *inside acat*. I wish all friends of our house a long and beautiful summer as well as a successful autumn! We hope you enjoy this hopefully interesting reading!

Manfred Zabl
CEO Applied Chemicals International Group

EUROPEAN COATINGS SHOW 2017



Photos: Gabriele Horak (3)

This year, show and congress clearly showed: The trend towards environmental protection and new functionalities is a key innovation driver for the paint and coating industry.

After four successful days full of knowledge exchange, the European Coating Show and Congress closed its doors. ACAT had a lot of customer and supplier contacts. With 1,135 exhibitors in seven exhibition halls and more than 30,000 trade visitors from 110 countries, the European Coatings Show 2017 expanded its position as the world's largest and most important trade fair for coatings, paints, sealants, construction chemicals and adhesives.

This year, show and congress clearly showed that the trend towards environmental protection and new functionalities is a key innovation driver for the paints and coatings

Text: FR



HUNGAROCOAT 2018 – We'll be back!

Hungarocoat took place from 29-30 November 2016 in the ELTE Convention Centre in Budapest. Exhibition and conference are organized by the Research Institute for Paint Industry of the Hungarian Chemical Society. About 70 exhibitors and represented companies were present.

For the first time, the Chemtech division of ACAT participated in the show. Together with our supplier Münzing Chemie we gave a lecture at the conference. Mr. DI Hans-Rainer Seelig spoke on the subject „Rheological Modification of Water-based Coatings Using TAFIGEL“, with a focus on the latest developments in polyurethane thickeners. The response to the lecture was very positive and we had a great number of visitors to our booth. We discussed with customers developments and projects. By the way, the lecture was published in the last issue of our company magazine and can be downloaded and re-read for free from www.acat.com. Based on the positive experiences we plan to be represented again with our own booth at the conference in 2018.

Text: FR



CMS: The most important industry event 2017



CMS 17 BERLIN

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For the first time, the World Congress for Building Management and Services runs parallel to the World Congress of the cleaning industry. Once again ACAT will be there to launch its Skyvell product range and its VPS mini system.

In September Berlin will be the hub of the world for one week. From 19 to 22 September the international trade show for cleaning systems and infrastructure services CMS Berlin-Cleaning Management Services will provide a comprehensive market overview of products, systems and processes of the entire cleaning technology. Of course, ACAT must not be missing.

The natural odour eliminators of the Skyvell product range are ideal complements to almost all cleaning systems. Again, we will present our VPS mini system, a very efficient alternative to conventional ozone devices.

It eliminates bad odours in many areas: in hotels, retirement homes as well as in crime scene cleaning.

In the same period, from 18 to 20 September 2017, also the Congress of the WFBSC (World Federation of Building Service Contractors) will take place in Berlin. The top representatives and key decision-makers in the industry will meet there on the topic of „Cleaning in a digital world - processes, people, technology“. Here, too, it is important to establish international contacts and to position oneself.

Text: GG

REDISCOVERED, AND NEVERTHELESS BRAND NEW: Iron II Chloride PIX 209W exclusive at ACAT!

Wuppermann is refining steel products - Kemira is refining the valuable production by-products and ACAT is marketing them. A highly successful triangle relationship with a future!



Photos: Wuppermann AG (2)

AUTHOR:

ERICH SAILER

Wuppermann stands for experience and expertise in the manufacture of quality steel products — for innovative product development, streamlined production, and first-class finishing. Ever since its foundation in 1872, the family-owned company has pursued a strategy of long-term growth and the steady creation of value in the interest of its customers, employees and shareholders. The latest expansion took place in Hungary with

HungaryKft, a new gigantic plant for the production of flat products. With this plant situated in the port of Győr-Gönyű the family company has made the largest investment in its more than 140 years of company history. Kemira has built an ultra-modern location with pickling and hot-dip galvanizing lines having a processing capacity of 500,000 tons of steel per year.

Wuppermann Hungary Kft., the new Wuppermann plant for flat products in Hungary.

„We have put our entire experience into this work, especially in the development of the hot-rolled strip pickling and galvanizing line. The test and commission-

ing phase with the first pickled material and the ramp-up curve for the first galvanized strip were carried out already in autumn 2016. The "first coil „has already been produced at the new longitudinal section.“ Carl Swoboda, the division manager for the distribution of flat and tube products says. „The first split belts have already been successfully processed for the future supply security of the two Wuppermann locations in Judenburg and Altmünster (Austria) and the trial operation is running smoothly,“ Mario Dorfer, one of the two managing directors in Hungary, explains.

Finally, at the beginning of this year, the production of the film-coated hot-rolled strip „WProtect“ started in Hungary. This is strip steel, protected by a zinc layer and an additional molten high-performance foil. The polyolefin film is applied on both sides immediately after the galvanizing process.

„This sounds simple, but in fact it is a very complex process, where an optimal combination of strip temperature and contact pressure results in an excellent chemical and mechanical bond between foil and galvanized steel strip,“ Mr. Dorfer explains. „WProtect defies virtu-

ally any corrosion by wetness, mechanical abrasion or numerous chemicals. Decades of undamaged use, for example in sewage technology, proves this optimum corrosion resistance. „

Currently, Wuppermann Hungary employs more than 100 people. When fully operational, some 200 employees will be working at the Hungarian site. On the 100,000 m² site four production and logistics halls with a total area of approximately 32,000 m² have been built. The construction of the production facilities required:

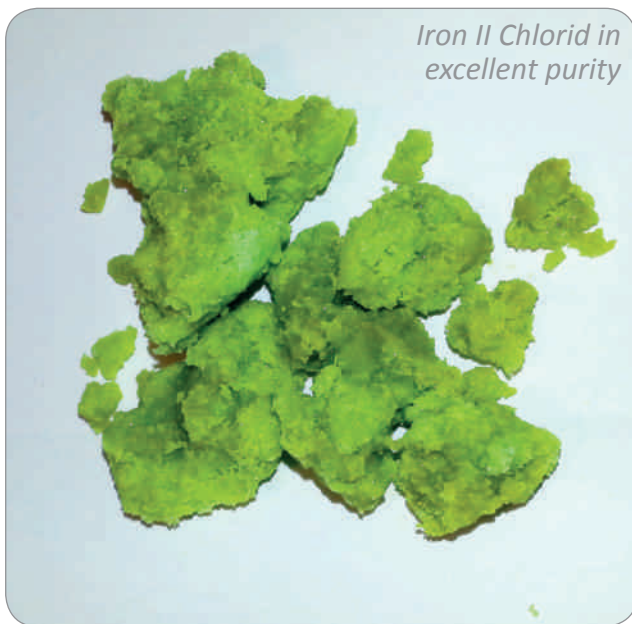
- Backfill with approx. 400,000 m³ of rubble. This corresponds to approx. 36,000 dump trucks.
- Processing of 14,000 m³ of concrete. This corresponds to about 400 single-family homes.
- Use of 7,000 tons of steel. With this amount the Bayarena in Leverkusen could be built 2½ times.
- The strip galvanizing system weighs 3,200 tons. This corresponds to 1,600 Audi Q7.

The official opening of the site is expected to take place in September 2017.



Wuppermann Hungary Kft., the new Wuppermann plant for flat products in Hungary.

Photo: Wikipedia



What does a steel plant have to do with phosphate precipitation / elimination?

Steel mainly consists of iron. When iron is refined into steel, part of the iron dissolves and iron II chloride is obtained as a byproduct. It usually is mixed with pure hydrochloric acid to make it usable as a stand-alone product, and magnetite or waste iron is added to increase the iron content, however, valuable and

unfortunately expensive raw materials have to be used. Depending on the purity of the substances used, contamination may occur.

Kemiras Way to PIX 209W

With an optimized process developed by the Kemira Company it is possible to produce divalent iron salts in the highest concentration and in excellent purity by concentrating and purifying. This process has extremely great economic and environmental benefits, so it has been easily approved by the Hungarian authorities. Constant quality controls ensure the consistently good effectiveness of this already proven innovative product.

Exklusiv at ACAT: PIX 209W, a well-proven, and yet completely new product for phosphate precipitation

Kemira and ACAT have committed themselves to supply the Wuppermann Group with the required chemicals and to market PIX 209W used as a precipitant in the environmental technology. We are very pleased to expand our portfolio in the field of phosphate precipitation with this new product and to offer our customers another "intelligent product"! See the following article for details on PIX 209W. For any further questions, at any time our employees are at your disposal with advice and assistance! ●

IRON II CHLORID PIX 209W

In wastewater treatment

Rediscovered, and nevertheless brand new: Due to our close cooperation with Kemira, we were able to add another product for phosphate precipitation to our portfolio: PIX 209W.

AUTHOR:

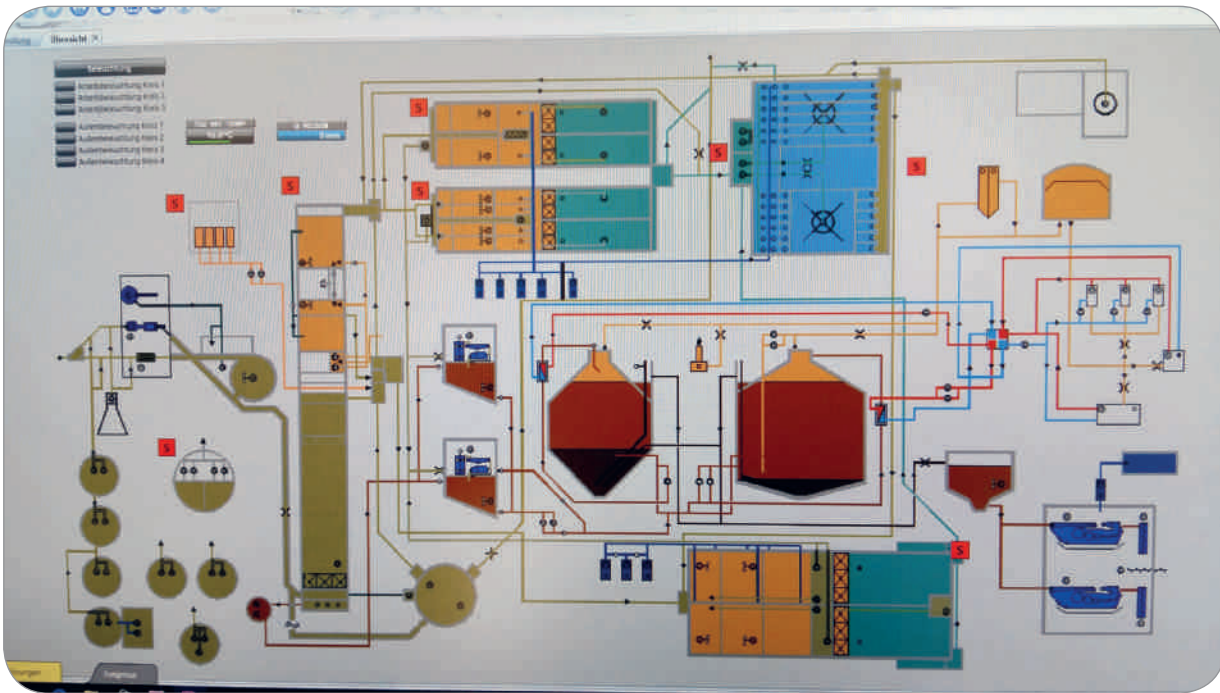
ERICH SAILER

Recently, divalent iron salts have rarely been used for phosphate precipitation, because they had the bad reputation of consuming vast amounts of oxygen for oxidation. Wrongly! As recent studies have shown, it takes only a few minutes to oxidise PIX 209W in the aeration tank and to start phosphate precipitation! Therefore, we decided to verify our experience in a well-founded manner and to carry out extensive operational tests in comparison with trivalent iron products.

Operational tests with trivalent iron products

In mid-January this year the storage tank of a large sewage treatment plant in Lower Austria was filled with PIX 209W.

In this plant the dosage takes place in the distribution building of the inlet to the biological systems; it is dosed before the upstream denitrification. Even after switching to 209W PIX as a precipitant the dosages were not changed. After a short time the P value fell to about 0.2 mg / l and so the dosage was reduced.

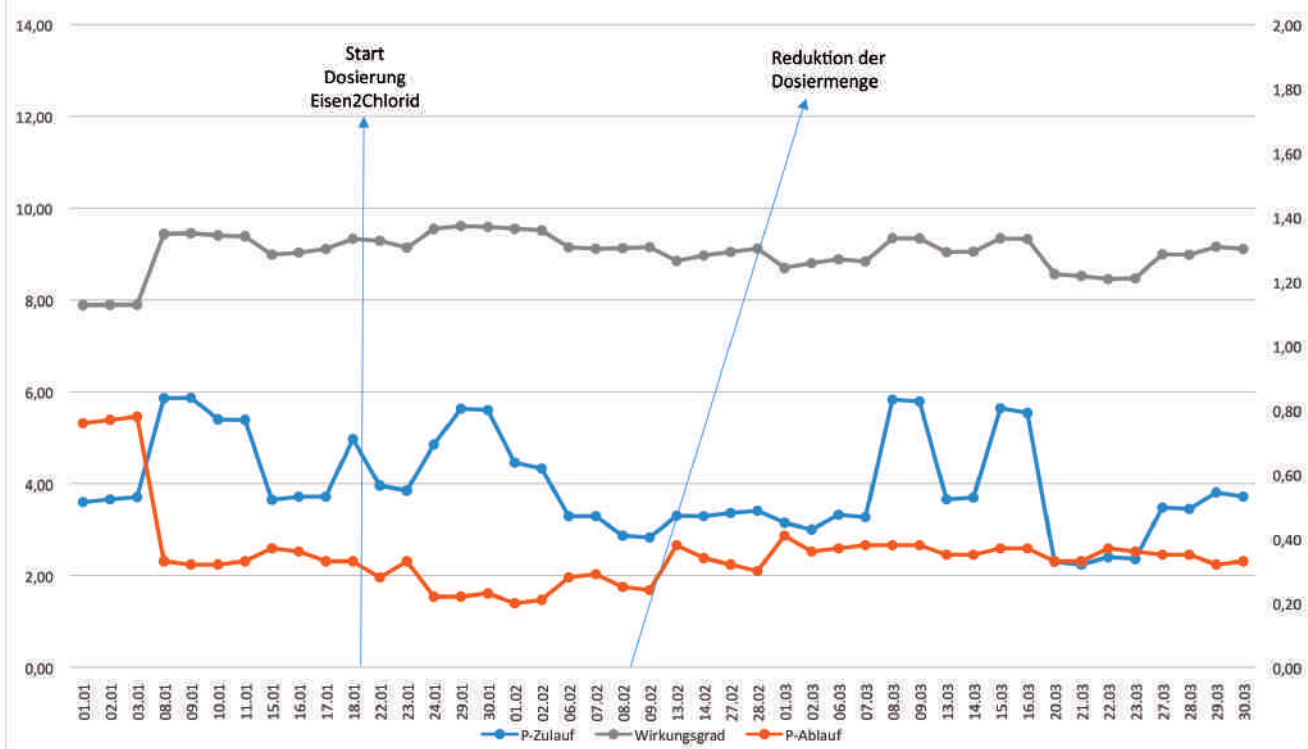


Exact calculations based on the tests carried out will be available in a few months. One thing is already clear: Up to now, no adverse effects have been observed. In no way neither nitrification, denitrification nor sedimentation behaviour were adversely affected.

If you are interested in it and / or if you have any questions, please contact your technical supervisor!



Phosphate values before and after product change



IF THE DIGESTION TANK FOAMS OVER: DefomStar® 300 L



Photos: www.bier-kwik.de (1), Spiola (1)

The foam of a cool beer promises relaxation and enjoyment, however, in sewage treatment plants foam makes the clarifier furious. Our special defoamer for sewage treatment plants DefomStar® 300 L, has a relaxing effect. It is effective, stable and economical.

AUTHOR: ERICH SAILER

A beautiful head belongs to a well pulled draft beer. Workers in sewage treatment plants like foam but only in the beer glass. In their sew-

age treatment plants foam always causes great technical problems. Foam is formed when the surface tension of the water is reduced and air is incorporated by turbulence, when ventilated or when gas-forming reactions occur in the treatment process. Surface foam is easily recognized by foam bubbles. Enclosed air and gas bubbles are usually only

noticed by their disrupting impact on the operational processes. DefomStar® defoamers / deaerators are highly effective products available in various settings adapted to the application purpose. They positively support the wastewater treatment and sludge treatment process by foam prevention or foam control. In this process, the

surface-active defoamer particles destabilize the foam bubbles on their surface and thus make them burst. The deaerator brings gas particles together to form larger bubbles, which easily rise to the surface and escape. Depending on composition each defoamer also has a more or less powerful deaerating effect, which must be taken into account when used in the various areas of waste water treatment plants.

Our special defoamer for wastewater treatment plants DefomStar® 300 L is a very effective defoamer and deaerator. It is very stable in its efficacy, so usually only one dosing point is sufficient to achieve a good defoamer effect throughout the whole system. The dosages are usually 5-50 ppm.

Usually DefomStar® 300 L is used either pure or as a highly diluted

solution, whereby the optimum effect is only achieved at proper resolution and mixing. ACAT offers suitable dissolving and dosing systems for the optimal product preparation.

APPLICATION

The selection of the metering point is extremely important for the optimum effectiveness of the defoamer/ deaerator. In gas-bearing treatment stages (due to technological reasons) defoamers / deaerators are only to be used after preliminary trials. Dosing points can be:

- Biology
- Effluent from the final clarification
- Digestion tank
- Spraying
- Dosing into the circulating line

- Sedimentation tank to vent before sedimentation
- Collecting pond

A distribution of the total metering quantity on several metering points might be advantageous. The most appropriate dosage is to be determined by operating tests. In the case of increased foam attack the dosage should be increased only in small steps. Experience shows that overdosing does not increase the effect, but it can adversely affect the operating process. For carrying out laboratory and operational tests to select the right product for your individual application, our technical service is at your disposal at any time. This also applies to project planning and delivery of suitable manual, semi- and fully automatic dissolving and dosing systems. ●



„WATER KEEP ON FLOWING!“

During the construction of the Albulatunnel in Switzerland



During the construction of the new Albulatunnel in Switzerland there were problems with the water treatment of the tunnel waters of Preda and Spinas. Together with Alwatec AG, ACAT was able to develop solutions. The use of AluStar® and FlocStar® helps to ensure that the values of the influent water are now meeting the requirements.

AUTHOR:

CHRISTIAN SUTER

On August 31, 2015, the official ceremony for the construction of the new Albulatunnel of the Rhätische Bahn (RhB) took place in Preda / Graubünden. The tunnel is located at an altitude of more than 1.800 meters

above sea level. It will be six kilometre long and it is built by conventional core boring from two sides, from Preda and from Spinas.

The new tunnel is to replace the existing tunnel, which is over 100 years old. However, the historic tunnel construction, which is part of the UNESCO World Heritage „Rhaetian Railway in the Albula / Bernina landscape“, has to be preserved. This is why the old tunnel will be

renovated after the completion of the new one and will serve as a safety tunnel. The project will meet the latest safety requirements and in the case of an accident, short escape routes and safety devices will allow evacuation of the scene of the accident in the tunnel through cross-connections to the safety tunnel. The air in the safety tunnel will be under pressure preventing the inflow of smoke in the case of fire. At the end of this year the excavation work of the new tunnel tube should be finished. The new tunnel will go into operation in 2021, one year later the entire project should be completed.

All environmental impact assessments were carried out and a comprehensive package of measures had been developed to avoid undesirable effects for humans, animals, landscape, air and water. Nevertheless, after half a year of construction problems with the water treatment in Preda and Spinass occurred. The Canton of Graubünden insisted that the tunnel water be introduced in accordance to the regulations.

ACAT has often cooperated very well with the compa-

ny Alwatec AG belonging to the Marti Group. Alwatec AG asked ACAT for laboratory tests with precipitants and flocculants to ensure optimum water treatment in order to achieve the required water values. Together we worked out chemical and mechanical solutions for the purification of the tunnel water from Preda and Spinass. Once again the treatment with AluStar® and FlocStar® proved to be an excellent choice. Now the water values are meeting all requirements.

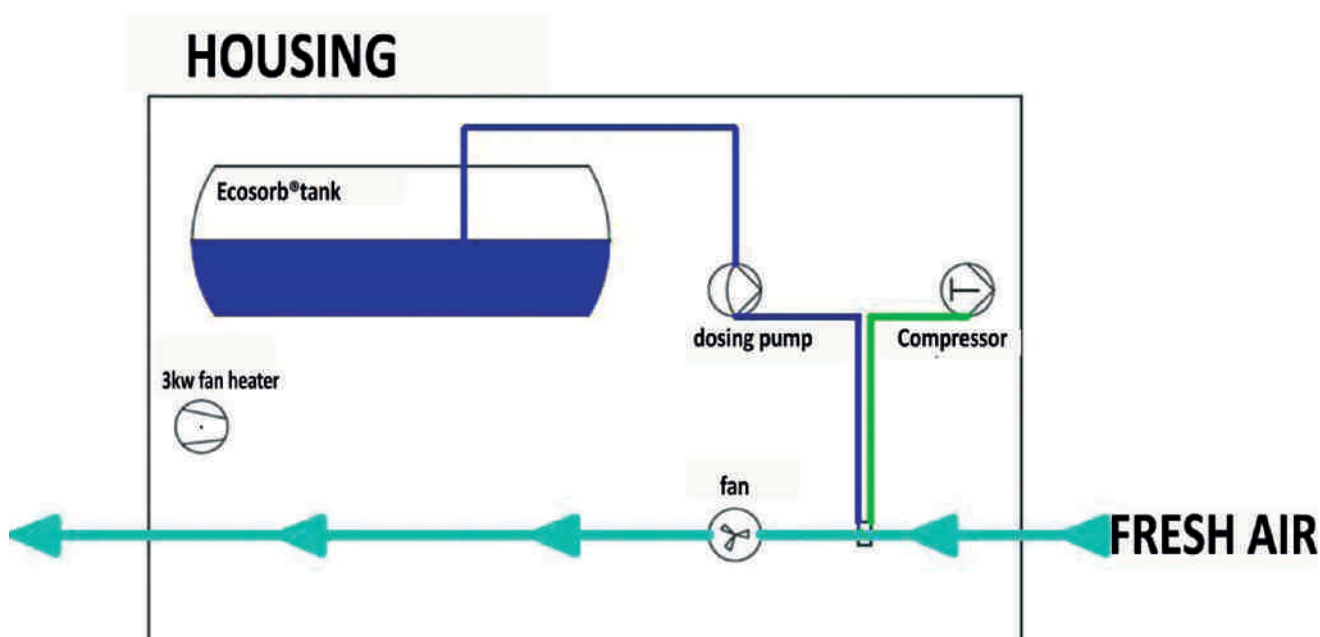
At the construction site in Preda an excavation processing plant is in operation, where our FlocStar® is also successfully used.

The supply routes for the two construction sites in Preda and Spinass are always a challenge for our back office and for all involved, because of the various restrictions on weight, width, height and of environmental protection requirements. But such challenges are always an incentive for us to find innovative solutions by means of planning and / or improvisation on site, which are satisfactory to all parties.



THANKS TO VPS AND ECOSORB®: Good bye odour nuisance!

At Wollsdorf leather, quality has a long tradition. Brands of distinction swear by Wollsdorf products. Concerning odour control the future has already begun in the tannery in the Styrian Unterfladnitz. Thanks to VPS systems and Ecosorb®, unpleasant odours vanish into thin air!



AUTHOR:

KENAN ENGERINI

Wollsdorf Leder is one of the best-known tanneries in Europe and quality is a top priority of the company. Customers like Audi, BMW, Air Berlin, Deutsche Bahn and many more swear by the professionalism of the Austrian company. Here attention is paid to every detail, not only in the choice of raw materials, but also in dealing with employees and neighbours.

In 2015 immediate neighbours complained about odour nuisance. There was an unpleasant, biting smell in the air. Wollsdorf leather was in the crossroads of criticism first and the company immediately acted sparing neither expense nor effort to get the problem sustainably under control.

With the solution of the odour problems, a company was commissioned believing to be able to be up to the job: Two high-tech HPS plants with UV irradiation were installed, and the areas to be treated were sprayed with about 100 nozzles. The result: Wet soils, clogged nozzles, frozen pipes, leakages at various parts of the machine - but no success in neutralizing the malodours! The frustration of the management was understandably great!

The information on the unsuccessful attempt to neutralize odours also reached the ACAT environmental department and we contacted the company Wollsdorf. Quickly there was a personal meeting, but the scepticism was great.

After three hours of intense discussion and numerous questions and answers, the company site was visited. It quickly became clear that in this case the HPS plant was not an optimal solution. The disadvantages of such

a system were obvious: Enormous water consumption, wet soils, operation in winter not possible, constant service of the nozzles.

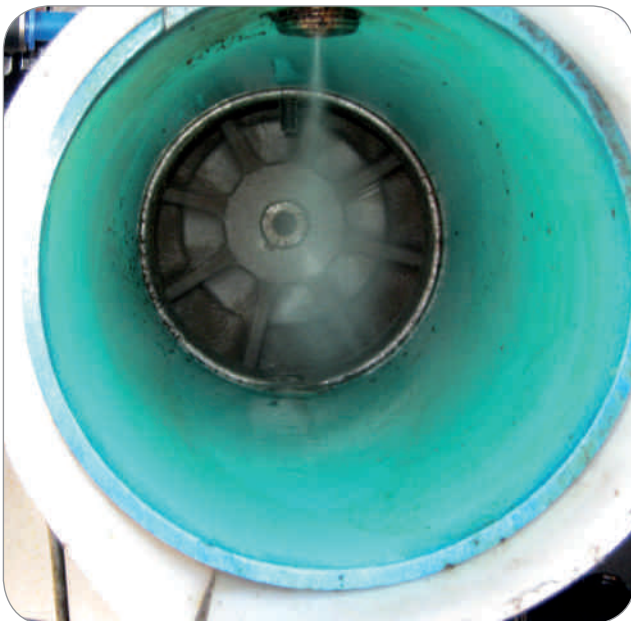
Advantages of the VPS system in combination with Ecosorb®

As an alternative, ACAT offered a VPS system. The offer was approved and the first VPS system was built for testing purposes and leased to the company Wollsdorf. The advantage of this system is that the odour inhibitor Ecosorb® is decomposed into minute particles and then sprayed via a pipeline into the ambient air. The odour molecules are attracted and captured by the electrostatic force of the Ecosorb® molecules. Ecosorb® acts immediately when it comes into contact with the odour molecules and it neutralizes them completely by an acid / base reaction. What remains is the naturally fresh air.

We have succeeded! No more ammonia smell!

The test area was a hall where the ammonia smell was very intense. First, it was tested with a four percent solution (Ecosorb® 606). It quickly became clear that this concentration was too high. A two-percent solution was sufficient, and Wollsdorf could also save money. For ten minutes Ecosorb® was „sprayed“ in a half-hour cycle.

After a six-month test phase, it was clear: IT WORKS! The employees noticed a marked improvement. The neighbours also, but as there are still other problem



areas, the odour problem had not yet been solved completely.

Two other halls are „odour treated“

As the first VPS system has been successfully in operation for one year, at the beginning of 2017 another meeting was held between ACAT and Wollsdorf. Two other halls were selected for the performance of tests: the „Rothauthalle“ and the „Äscherei“. The odour sources and the odour intensity were the same or even more intense than in the first hall treated. We did not hesitate and worked out a plan resulting in the construction of two more VPS systems.

It was only two months later that the two systems went into operation. We are convinced: the result will be satisfactory again. We will report back !

SINCE APRIL SKYVELL HAS BEEN AVAILABLE AT FRESSNAPF IN SWITZERLAND!

Especially for pet owners: Stale air is all in the past. Now our „odour eater“ Skyvell is available in 52 Swiss Fressnapf stores and in online shops. It transforms all bad odours into fresh air!

AUTHOR: LORENZ DYCKE

Since its introduction in early 2015 our Skyvell odour neutralizers have developed very well.

They are so effective that even Fressnapf Switzerland has decided to include Skyvell in their product range. Since the beginning of April the natural odour eliminator has been sold in 52 Fressnapf stores and in online stores.

Demand determines supply, and natural and sustainable products are in keeping with current trends.

Therefore Skyvell is the right product! It offers everything the consumers expects: Skyvell, the effective, safe and natural odour remover, solves the odour problems of thousands of animal lovers. After only two weeks in the product range we received very positive feedback from Fressnapf headquarters in Dietikon: „Your products are received well!“ The Skyvell gel is used for the permanent elimination of bad odours (for example, beside the cat litter tray or the dog blanket). Skyvell spray is used for

the targeted odour control of the air and on all surfaces. Multi Use is used as a washing additive for all kinds of textiles and therefore, it is the perfect package for the solution of the odour problems of animal owners.

THE FRESSNAPF STORY

At the end of the 80s, Torsten Toeller travelled to the USA. Having visited the super pet stores there, he returned home with the simple but ingenious idea of opening a

Skyvell

Natural Air Purifier

Wet dog smell in the apartment?
The litter box smells bad?

Skyvell helps!

Skyvell a highly effective, biodegradable odour eliminator based on natural ingredients. Skyvell products are completely harmless for people, animals and the environment.

www.skyvell.com

Skyvell Spray removes malodours that linger in the air and on any surfaces. Skyvell Gel is applied in every environment where malodours occur all the time.



specialty discounter for pets in Germany. The then 24-year-old took his destiny in his own hands and on 18 January 1990 he opened the first „Fressnapf“ market in Erkelenz, North Rhine-Westphalia. A step that almost ruined him. The customers stayed away, criticising the selection and the prices. Toeller's reaction was very down to earth – he sold his car, doubled the range and halved the prices. A bold move that paid off. A short while later, Toeller had multiplied the turnover, thus laying the foundation stone for Fressnapf Holding SE.

In 1992 the company opened the first franchise stores, with hundreds of subsequent stores opening their doors throughout Germany in the following years. 1997 saw the launch of the first Fressnapf store in Austria, continuing in Switzerland and Luxembourg in 1998 and 1999. In 2009, Fressnapf opened its 1,000th store (in Munich) and established the German online store. In 2012 Poland was welcomed as the newest country to the Fressnapf Group. Fressnapf brands have also steadily grown. Today there are 14 exclusive Fressnapf brands in the different price segments. In 2015 the Fressnapf Group celebrated its 25th anniversary.

FRESSNAPF SWITZERLAND

Fressnapf Switzerland was founded in 1998 (the first store was opened in Bachenbülach) and currently it comprises 52 stores, with a further 30 openings planned in customer-friendly locations. As a company, Fressnapf attaches great importance to a professional and family culture. The goal of Fressnapf Switzerland is to offer all pet holders a wide range of branded products at the best prices in a customer- and animal-friendly environment with expert consulting.





SKYVELL WANTS TO BE A HIGH FLYER IN DUBAI!

In the Middle East and especially in Dubai, luxury class hotels are booming. At any time fresh air and a perfect room climate is guaranteed by Skyvell. We were able to win the renowned local company Sterling as a distributor of our fast and sustainable working „odour-eliminator“.

AUTHOR:

ALDO RANDISI

Dubai is the mecca of fashion hotels. First the Armani Hotel opened in the 830-meter-high Burj Khalifa. Now one „designer hotel“ follows the next. Three years ago the spectacular Kempinski Hotel Mall of The Emirates opened with a little delay. With a Bulgari Resort planned for 2018, the next opening of a luxury brand in the city will follow. For Bulgari, it is the fifth luxury hotel worldwide after Milan, Bali, London and Shanghai. The new high-end resort is being built on Jumeirah Bay Island and will include 100 rooms and suites as well

as 20 beach villas. The project developer is the Meraas Holding. The Italian architects' office Antonio Citterio Patricia Viel and Partners has won the award.

For the hotel market of Dubai, the Bulgari Fashion-Resort will be a huge profit and - especially with a view to the world exhibition Expo 2020 - certainly this is one of the hotel highlights, but certainly it is not the only one! The new fashion resort Palazzo Versace (214 guest rooms and 169 luxury apartments), which has been operating since last year, also fulfils all requirements of the luxury class. It is the second house of this noble Greek-Roman-styled house, with elegant columns and its own lagoon waterfront, marina and pools. Last but not least, the Burj al-Arab, one of the most prestigious hotels in the world, is a landmark symbol of the city,

which, like a gigantic sailboat, is situated on a sea-filled island in front of the city.

No doubt Dubai is booming, but not just in the absolute luxury class! In the previous year the city had 475 hotels with a total of 77,879 rooms and, the Middle East region is on the fast track concerning hotel building. In the coming years more than 640 new hotels will be launched. The cities of Dubai (159 projects), Riyadh (49 projects) and Doha (45 projects) are trying to promote the ever-growing tourism with the construction of new hotel facilities.

THE SCENT OF CLEANLINESS - NO LUXURY, BUT A MATTER OF COURSE!

All these hotels have one thing in common; they have to be cleaned every day. Especially in the luxury category no mistakes are allowed. A foul-smelling hotel room, a musty lounge or stale air in the restaurant does not meet the standards one expects in this price category. Malodours would be disastrous for the image and the reputation of a hotel. Negative reviews on various internet platforms are instantly written - and as a result, a fall in the number of hotel guests.

WITH SKYVELL YOUR ODOUR PROBLEMS ARE UNDER CONTROL

Odour problems are very common and usually they have to be solved quickly and easily. This is especially important in Dubai because the city has a room utilization rate of up to 80 percent. If there are still smells of food residues, cigarette smoke or other olfactory „residues“ from the previous guest in the room, it is bad for business. Usually there is no time for sufficient „airing“. But if the cleaned rooms do not meet the high standards, at the same price an upgrade room must be provided to the customer. This is a cost-intensive solution - and it can be avoided easily: for clean fresh air many hotel groups rely on our Skyvell products! They eliminate unpleasant odours quickly, effectively, pH-neutrally and sustainably on a molecular basis, and they leave a pleasant, discreet fragrance of freshness. One can be sure to give the customer an excellent well-being feeling, even if the rooms are reoccupied immediately after cleaning!

NOW SKYVELL IS STAYING IN THE FAST LANE!

Last autumn, we visited the hotel fair in Dubai and we looked for a competent partner for the distribution of

Skyvell in the Middle East. We have found the Sterling Company from Dubai. For several years Sterling has been a successful and reliable distributor of consumables for the industry, medicine, gastronomy, hotel industry and for the cleaning sector for the entire United Arab Emirates. The company is a big door opener to make Skyvell accessible in this interesting part of the world. We are very pleased that we were able to win the company for immediate cooperation after the first meeting at the fair. We hope that we have paved the way for Skyvell to the fast lane with this cooperation!

More about Skyvell on the Internet

www.skyvell.com



CHEMTECH – now also in Switzerland



From Basel, the ACAT Division Chemtech is starting the distribution of our high-quality product portfolio and the distribution of Imerys china clays in Switzerland. In addition to the china clays of Imerys, we also offer mineral flame retardants, organic and inorganic pigments, pigment preparations, PU binders and much more.

AUTHOR: ALEXANDER FRANK

We are pleased to become active in Switzerland with the Chemtech Division from July 1. With the take-over of the sales of the china clays from Imerys in Switzerland, we are expanding our current range of action. To provide the best possible service, we will serve our new customers from our headquarters in

Basel. With Mrs. Sara Dominguez, our customers will have a well-known contact person who already has experience with the Imerys products we are offering in Switzerland now.

Since 1968, ACAT has been a partner of today's company Imerys and we are distributing their fillers for various applications. Of course, we will contribute our long-term experience also in the marketing of the

new products. Now we can offer our Swiss customers an even broader product portfolio, including mineral flame retardants, organic and inorganic pigments, pigment preparations and PU binders.

The Chemtech Division is looking forward to the new challenge! We will be glad to meet you and present our company and our products.

SOCAL UP -

The structure makes the difference

Effective titanium dioxide substitution with precipitated calcium carbonate

The requirements of a colour formulation determine to a large extent the selection of the raw materials. The focus is not only on optical and mechanical properties, but also on the overall cost of the formulation. The fillers are very important, they are not only simple gap fillers. Calcium carbonates are by far the most frequently used fillers. With a share of three quarters of the total consumption of fillers, calcium carbonates are the most important fillers.

AUTHOR: DR. PETRA FRITZEN
MARKETING MANAGER &
TECHNICAL SERVICE
PAINT&COATINGS
IMERYS MINERALS GMBH

PRECIPITATED CALCIUM CARBONATE, A NEW RAW MATERIAL?

Both natural (GCC) and precipitated (PCC) calcium carbonates are used. The natural calcium carbonates are produced by a grinding process. The precipitated calcium carbonates are prepared by a chemical process. Due to the synthetic manufacturing process, precipitated calcium carbonates are distinguished by their high purity and a finer and defined particle size. (Fig. 1). Precipitated calcium carbonates are a component of the filler package and they contribute to the improvement of the opacity and brightness of dispersion paints. In addition, they reduce the raw material costs of the overall formulation by reducing the titanium dioxide content.

The quantities used are in general

- for interior paints (matt) up to 20 % by weight
- for interior paints (silk matt) up to 10 % by weight
- for façade paints up to 15 % by weight

Compared to natural calcium carbonates and other mineral fillers, such as kaolin or talc, PCC has a high brightness and a neutral colour shade (see Table 1).

DRY HIDING AND EXTENDER EFFECT

Because of its lower refractive index, calcium carbonate is visually less powerful than titanium dioxide (PCC / GCC: 1.68, TiO₂: 2.55 / 2.75)

Nevertheless it contributes to the opacity of the paint. Factors allowing the partial replacement of titanium dioxide by PCC in paints and the resulting low-cost formulation are:

- Dry Hiding
- Fineness of the particles
- Extender Effekt

Dry hiding is observed in paints with a pigment-volume concentration (PVK) above the critical pigment-volume concentration (cPVK). Not only interfaces between pigment / filler and binder but also between pigment / filler and air occur. This is advantageous because the greater the difference in refractive index between particles and surrounding medium, the better

	Brightness	Yellowness Index
PCC	96 – 99	1 – 2
GCC	81 – 98	0 – 10
Kaolin	78 – 94	4 – 10
Talkum	75 - 93	1 - 4

Table 1: Optical properties of various fillers (powder)

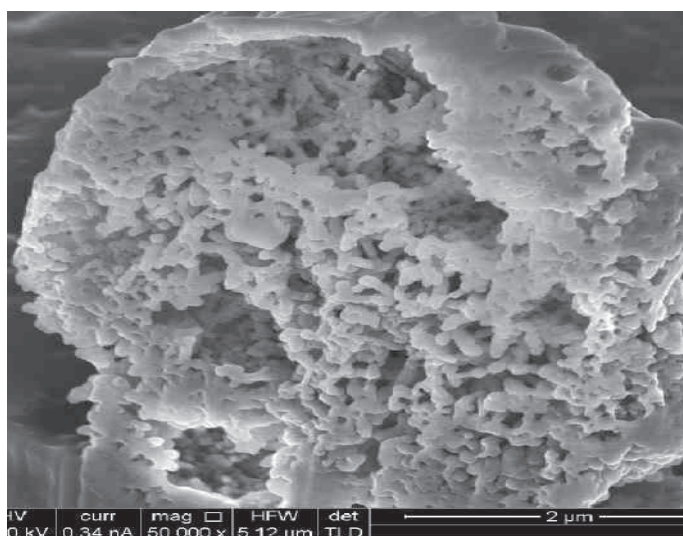
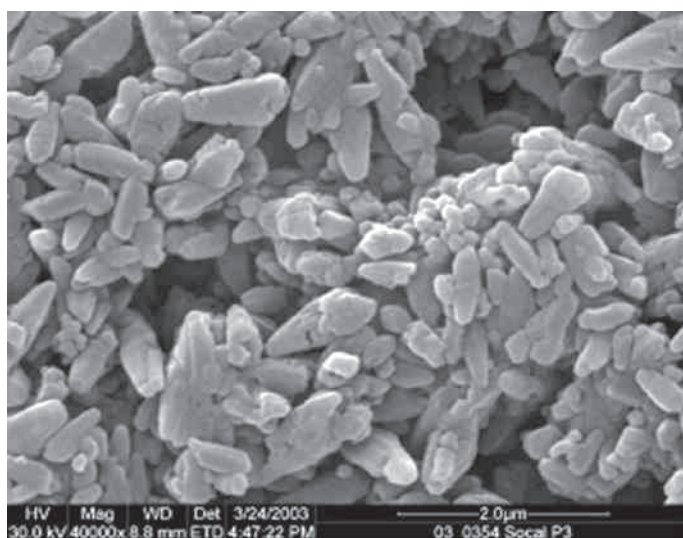
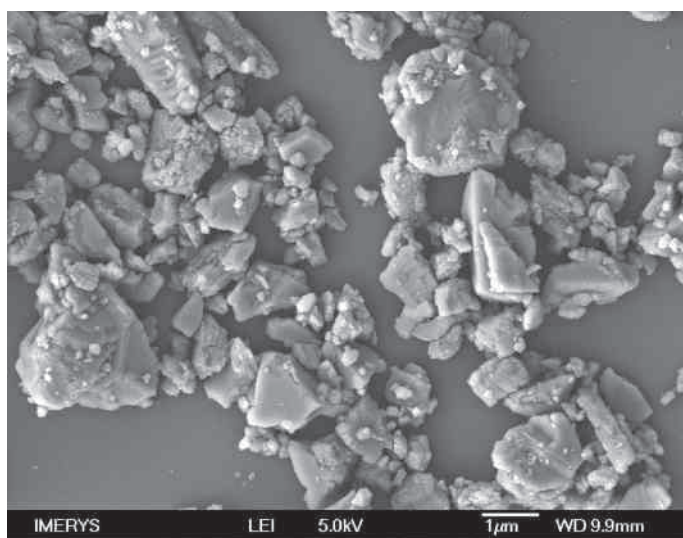


Figure 1:
SEM pictures of natural calcium carbonate, scalenohedral calcite (SOCAL-P2) and rhombohedral calcite (SOCAL UP)

the light scatter. The consequence is an improved covering capacity.

Thanks to the microporous structure of the PCC the surrounding binder is not able to penetrate into the micro pores, which are filled with air. The interface between PCC and air is increased and consequently the covering power of the paint is improved.

In addition, precipitated calcium carbonates offer very good optical performance due to their small particle size. Furthermore, PCC particles can be positioned between the individual pigment particles (titanium dioxide) and separate them. The improved pigment distribution increases pigment efficiency.

THE INFLUENCE OF MORPHOLOGY

In the development of a more efficient precipitated calcium carbonate, the concept of microporous structure was further pursued and optimized. In this case, the formation of agglomerates was exceptionally desired. Micro-shell structures with high porosity were realized by controlled agglomeration of ultrafine calcium carbonate particles with an average particle size of approx. 60 nm, (see Fig. 2). The microporous agglomerates consist of calcite crystals with a pseudo-cubic structure. By comparison, fine PCC grades, e.g. SOCAL P3 used in paints, have a trigonal-scalenohedral calcite structure (see Figure 1). The particles have an average particle diameter d_{50} of about 3 μm .

THE MECHANISM

Due to its optimized structure SOCAL UP offers a larger interface between PCC particles and air compared to fine PCC qualities. The highest optical performance could be achieved in combination with the high number of individual small reflecting particles. As a simple dispersibility test shows, this results in a higher opacity compared to SOCAL P3 (fine PCC) (see Figure 3).

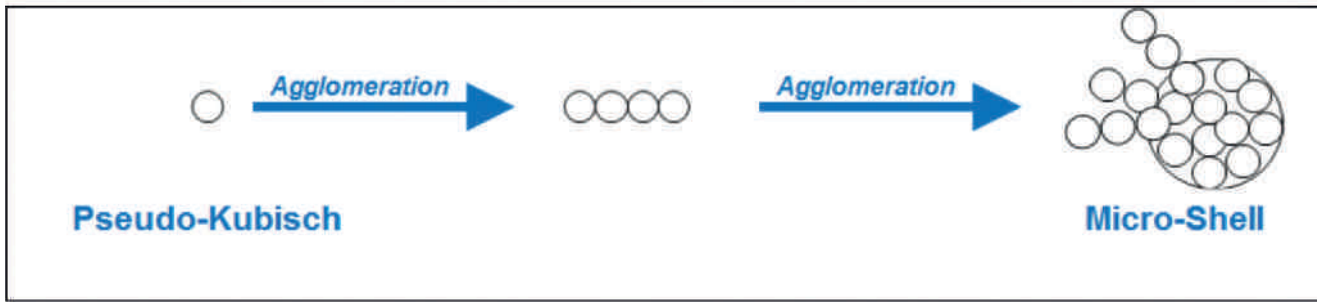


Figure 2: Formation of the micro-shell structure of SOCAL UP

A UNIQUE MORPHOLOGY ALLOWS EFFECTIVE TITANIUM DIOXIDE SUBSTITUTION

SOCAL UP also demonstrates its strength even in more complex formulations. The systematic exchange of titanium dioxide by SOCAL UP in a paint formulation (PVK 76%) with 12.5% titanium dioxide and a fill-

er package consisting of SOCAL P2 and Imercarb 5 L provides opacities lying at the level of the basic formulation. The novel morphology allows an effective titanium dioxide substitution of up to 40% in matt emulsion paints resulting in significant cost savings.

By optimizing the microporous structure of PCC a new product has

been developed, which is characterized by an excellent coverage at low gloss levels. Based on the studies of different paint formulations with pigment volume concentrations of > 50%, different titanium volumes, filler packets and binder systems, now 20 to 40% titanium dioxide can be replaced by SOCAL UP (1: 1 exchange).

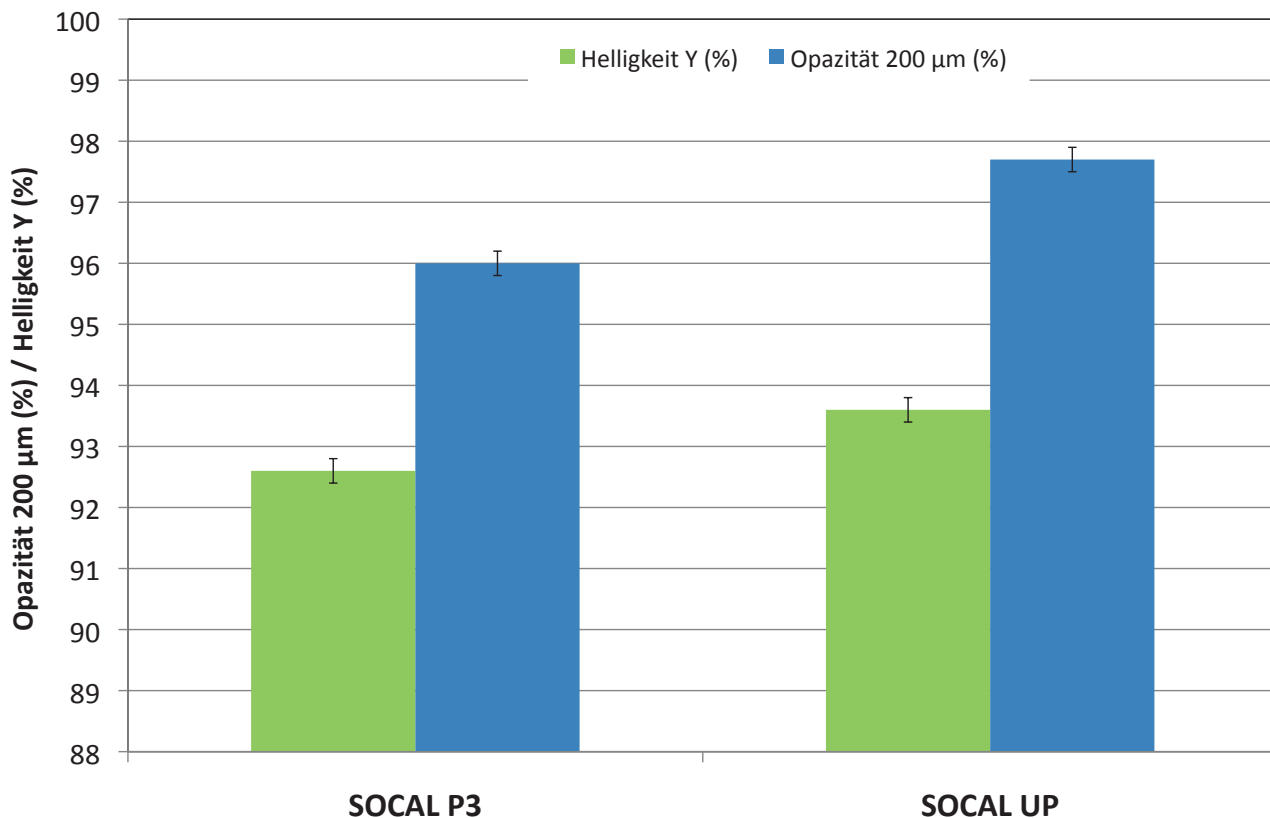


Figure 3: Comparison of SOCAL UP and SOCAL P3 with respect to brightness Y and opacity (recipe: PVK 74%, 40% PCC, binding agent: VAE)

IN FIRM HANDS! Mobile screw press AS250 remains in Weikersfeld

Demonstrated and bought! Our mobile demonstration unit with screw press AS250 for the sludge dewatering of small wastewater treatment plants with a throughput capacity of up to 20kgTS / h „came in firm hands“ in Weikersfeld

AUTHOR: CHRISTIAN KOZANDA

The market community of Weikersfeld in the Waldviertel operates several smaller sewage treatment plants for 215 to 1,300 inhabitants. To date, these plants have drained the sewage sludge on subcontract basis or by mobile bag dewatering units. This resulted in very long storage times, poor drainability of the sludge, insufficient starting DS

and considerable disposal costs for the residual sludge.

The market community always wanted to have their own mobile dewatering system taking advantage of the existing operational staff.

The decisive criteria for the purchase of our mobile screw press were: low power consumption, simple continuous operation, low transport weight, easy assembly and removal, the good cost-benefit ratio and the easy adaptation to the different sludge qualities (municipal sludge, sludge from the slaughterhouse, etc.). It was not the first

plant we have installed in the Waldviertel. We have already installed mobile screw presses in other Waldviertel communities, such as. In Schweiggraben or in Weitra.

In the summer of 2016 we carried out test pressings at the wastewater treatment plant Weikersfeld together with our competent colleague from the ACAT Environmental Engineering Division, Mr. Günter Rauch. As the results were promising, we promptly received the request to create an offer for the mobile screw press installed on a two-axle car trailer including component parts. We gladly fulfilled the order of the WWTP operators. The plant was handed over and put into operation.

We would like to thank Mayor Reinhard Nowak and his team for the pleasant cooperation! ●



NEW ACAT FINE SCREEN for the WWTP Ferndorf, Carinthia 7,000 inhabitants



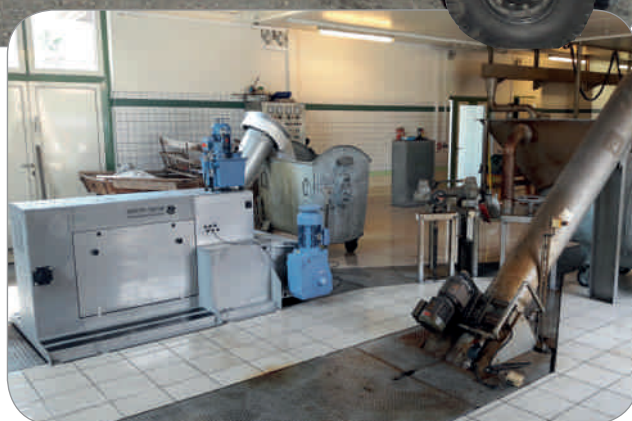
AUTHOR:

CHRISTIAN KOZANDA

In 1995 the sewage treatment plant Ferndorf in the Lower Drautal was built and at that time it was equipped with two screening systems type „Klärmeister“. They had to be replaced for reasons of age and the related susceptibility.

Since 2012 the operation manager Helmut Komar has gathered information about suitable rakes. He heard that since 2005 in the wastewater treatment plant Spital an der Drau two flat fine screens with integrated screening wash press have been operating to the full satisfaction of the operator. The simple construction, the low water consumption, the minimal maintenance and last but not least, the decade-long good support from ACAT were further reasons for him to opt for this system.

At the beginning of September 2016 the delivery, assembly and commissioning of the new flat fine screen



was completed by Roland Auer within one day. Since then the system has been running trouble free. The new flat fine screen is designed for 50 l waste water / s. It has a channel width of 1.020 mm and a gap width of 2.5 mm. Currently, only one channel road is equipped with the flat fine screen type FFR1.5E. The second channel road is still operated with the old system in the stand-by mode.

We wish Mr. Komar and his team many trouble-free years of operation and we would like to thank them for the good cooperation! ●

ACAT AS 505L replaces the centrifuge in the WWTP Wangen an der Aare

After twelve years of operation, the centrifuge of the WWTP Wangen an der Aare in the canton of Berne was replaced by an ACAT AS 505L screw press.



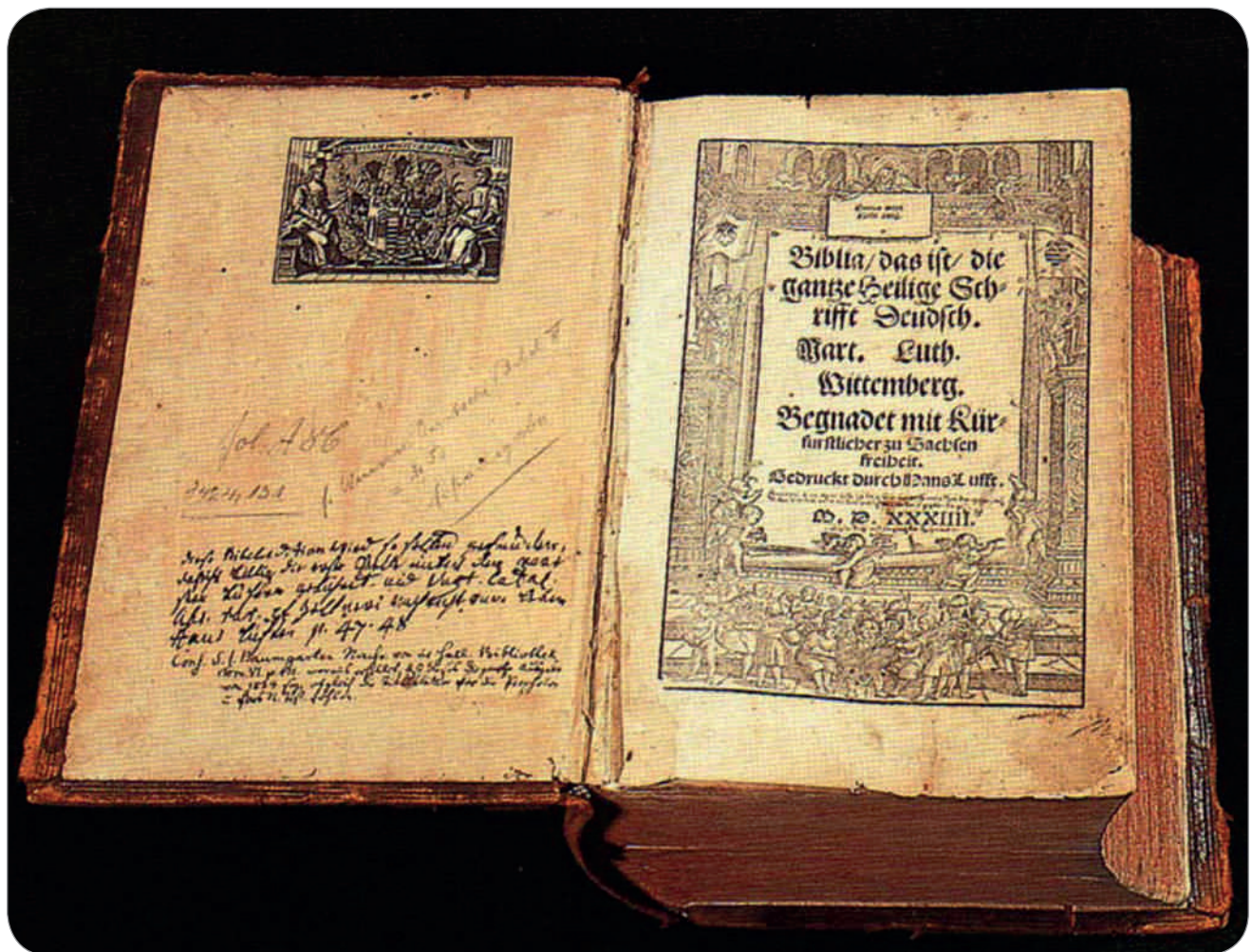
AUTHOR: CHRISTIAN SUTER

For more than 20 years, Christian Suter, employee of ACAT Switzerland, has been providing service and maintenance to the centrifuge of the WWTP Wangen. He was also responsible for the application of the flocculants and therefore, the operators decided on a brand new ACAT screw press of type AS 505L. One year ago the decision had been made that the next sludge watering system should be an ACAT screw press. In Switzerland too, the trend is towards energy-saving and wear-resistant dewatering units like screw presses.

In cooperation with WWTP Wangen, Lumont GmbH, the screw press AS 505L was installed before Christmas 2016. It was put into operation in February 2017. During the first months the ACAT staff supervised the WWTP Wangen weekly to optimize operating parameters and to answer questions. In the meantime, this intensive support is no longer necessary.

ACAT wishes the WWTP Wangen an der Aare a smooth operation with the ACAT AS 505L for many years, and we look forward to many more years of good cooperation. ●





BLACK ON WHITE: The History of Papermaking (Part 1)

A world without paper? Even in the age of digital media that is a thing of impossibility. With our short history of this probably most important writing media and material of mankind, we would like to recall interesting facts from the past and put the spotlight on those devoting themselves to the art of papermaking today.

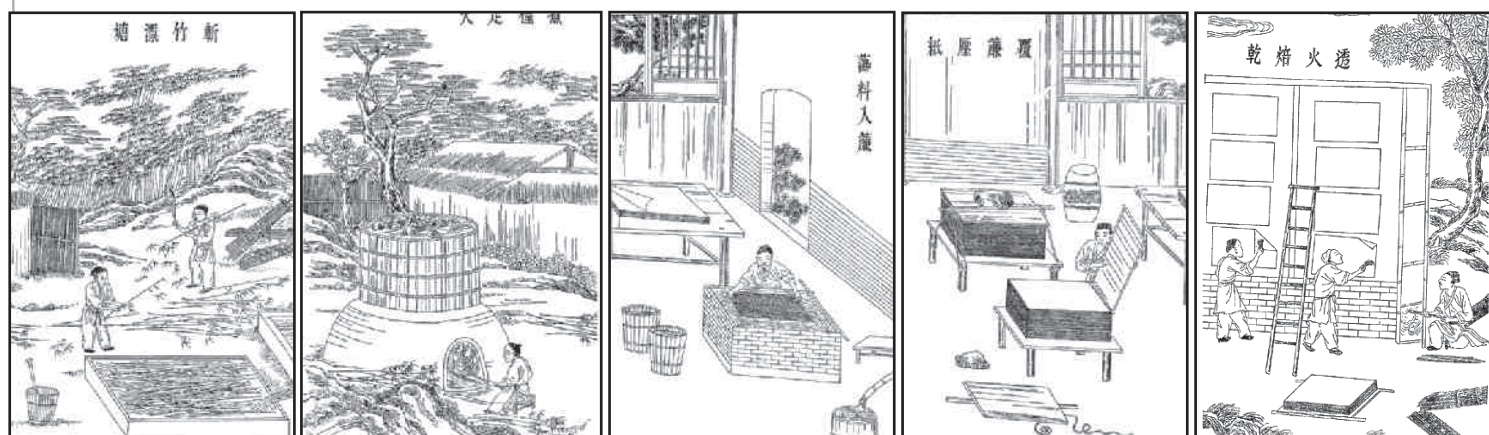
AUTHOR:

GILDIS GRABNER

500 years ago, Martin Luther started a revolution with the posting of his theses on the Wittenberg church door. This was not only a religious, but also an educational revolution. With his translation of the Bible into German, the monopoly of the clergy on education crumbled, especially since around 50 years before the

printing press had been invented making the distribution of the bible possible on a grand scale.

Even before the “invention of the paper”, it was possible for man in Europe to write down culturally relevant, religious and everyday things. Each high culture developed its own writing and its own writing surfaces, however, the basis for our present global information society was laid by the invention of the paper via papyrus & co and parchment.



Paper production in China during the Ming Dynasty: Harvesting of the raw material, cooking of fibres, paper moulding, squeezing out the water, drying in the sun.

Paper was invented in China 2000 years ago, but other writing surfaces had been used there before: first, they used tablets of bone, clay, and metal, and later they used silk cloths and bamboo strips. In the long run the former were too expensive to produce, the latter too difficult to handle. Necessity is the mother of invention! The invention of paper is credited to a high official at the imperial court looking for a cost effective and easy-to-handle alternative for the imperial administrative archives.

“So Tsai Lun worked out a plan to make paper from bark or bast fibres, hemp, old rags and fish nets. In 105 AD he reported it to the emperor, and the emperor praised his abilities. Since then paper has been widely used. Throughout the Empire it was called “the paper of the gracious Tsai,” the Chinese historian Fan Yeh (398 to 445 AD) wrote in his “History of the later Han Dynasty”. Therefore, Tsai Lun was considered to be the inventor of paper.

THE FIRST HEYDAY OF THE ART OF PAPER MAKING IN CHINA

However, today this is doubted. Numerous researchers have shown that in the first Han dynasty (206 BC to 24 AD) a material composed of individual plant fibres called “the thin and the shining” was already used- well, paper in today’s sense! There are paper samples from hemp fibres, which were found with excavations. They could be dated from 140 to 87 BC and that was

long before Tsai Lun lived. Therefore, Tsai Lun may have resorted to an already known invention. Perhaps he improved it, but in any case he made it “presentable” - and thus he gave the initial impulse to the widespread use of paper

In China, paper was soon the hit. But it has not “only” been used for writing, especially not at the imperial court. Already in the second century AD tissues, and even toilet paper was made for the imperial family. In 363 AD for the first time the Beijing Newspaper appeared still existing today. Moreover, we know from Marco Polo that in China a world-wide novelty has been in use since 1300: the first paper money!

But also writing paper boomed: Since 124 AD, the first universities have been established as training centres for the high nobility in China. The

Paper money in Hongwu-Ära



highly developed education system in China caused a high demand for paper. In the 8th century even block printings with wooden plates were made.

Already in the early days, the Chinese paper production was quite significant: in 1173 more than 1000 workers worked at the Hangchow paper factory. In the Ming period, there were 30 paper factories with 2000 to 3000 employees in one single city.

In view of these figures, it is fully clear, how far away from us the Far East was, and how extraordinary were its cultural achievements already at that time. The journey of paper to Europe was still far - and long!

SUCCESSFUL PRECURSORS OF PAPER

To date, we judge high cultures by the written documents they left. We admire the imposing rock drawings in the caves of Lascaux and Altamira and we can hardly believe that the moving, colourful images are dated back to the last ice age, and that they are testimonials of the Cro Magnon people living 15,000 years ago.

In early human history animal drawings and hunting scenes were meant for eternity. The oldest preserved written document originating from the high culture of the Sumerians dates from about 3300 BC. It is a land-lord's right, engraved with a pen, on a clay tablet, a record of the administration.

500 years later a syllabary had already been developed in this region and from it the cuneiform writing developed later. But it was still written on clay tablets.

PAPYRUS - SURFACE OF THE PHARAOHS WRITING

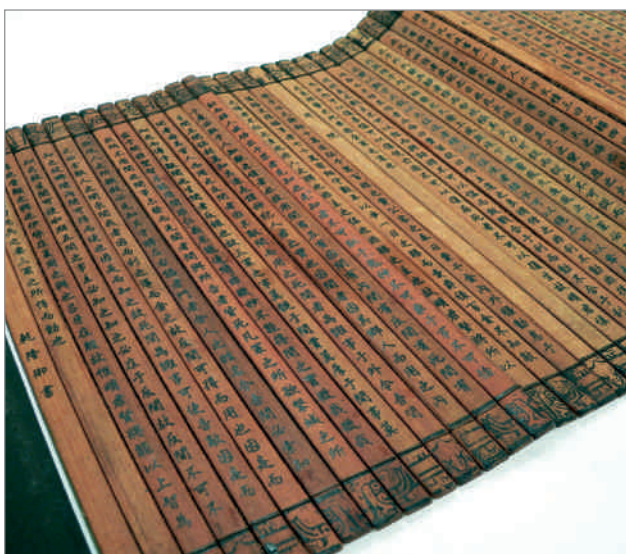
In Rome they wrote wax tablets first. The advantage was: you could make "tabula rasa", which means that if needed, the writing could be deleted and so the tablets could be reused. Important written notes, however, were entrusted to the material giving paper its name: Papyrus.

The Romans had adopted it from the Egyptians, where it had been in use since the fourth millenium BC.

Linguists derive the word Papyrus from the Coptic "papurro", which means "the royal". Sculptures of royal

writers with papyrus scrolls on their knees show that in Egypt the art of writing and the hieroglyphs were reserved to the Pharaoh and his highest officials. On the contrary to the name, Papyrus differs considerably from paper, although both materials are of vegetable origin.

Paper consists of vegetable fibres, but for the papyrus production the mark of the papyrus plant *Cyperus papyrus* growing in the Nile delta was used. The stalks of the marsh plant growing up to four meters in height were cut into very thin strips and arranged at right angles to one another in a thin layer. The material was hammered until the emergent plant juice glued the stems. After drying under pressure, thin sheets were obtained. However, they were writable only on the machined side. Individual sheets were glued to each other to rolls of any desired length. According to Pliny, the "standard roll" consisted of 20 sheets. However, the longest known papyrus roll is 40.5 meters long. It was written with a kind of ink consisting of carbon black and gum arabic, which was applied with a rush stylus. A completely described papyrus roll was called Byblos and it was provided with a protective sheet, the so called protocollon. We still meet the two terms today: When we speak of libraries (in german "Bibliotheken"), or of the Bible, the book of books, and when we keep important processes in writing, we still create a protocol today... The contents of the Papyri were mostly of religious, scientific, medical or historical nature. But also many reports from the personal sphere are preserved that is why we are well informed about how the



Labelling had to be vertical following the direction of the stems

Photos: vlasta2_wikipedia (1), wikimedia.org (1)



Papyrus with medical content from 1650 to 1550 BC.

people lived more than 2000 years ago. One does not need to travel to Egypt to study interesting and artistic papyri. The well-known papyrus collection of Archduke Rainer (1827 to 1913) is in the Viennese Albertina.

PARCHMENT - WHAT'S ON A COW'S SKIN ...

Parchment is an ancient writing material already known in 1500 BC. The Roman scholar Pliny reported that the reason for the dissemination of a writing surface on an animal basis was a contest of the libraries of Alexandria and Pergamon around 200 BC. At that time Ptolemy II of Egypt is said to have issued an export ban for Papyrus to cut off the library of the Eumenes in Pergamon from the supply of this writing surface. So Eumenes promoted the production of parchment so intensely that finally one believed that the parchment had been invented in Pergamon.

Parchment is made of the skins of cattle, sheep, lambs and goats. After soaking in an ash solution, the skin is cleaned in a mechanical process, stretched on a wooden frame and dried.

Compared to papyrus parchment has numerous benefits: it is both sides writable, it can be folded, which was essential for the code- and the later book production, and last but not least it is recyclable. With a pumice stone or a razor, the writing can be easily scraped off. However, this early form of "recycling" did not only provide benefits in the long term. The so-called palimpsests were a cost-effective alternative to the parchment, but many precious documents, diplomas and sources of ancient times were lost.

Sometimes rewritten pages were bound to books. Therefore, sometimes one can experience surprises, when scrutinizing the ancient tomes with modern techniques. For example, an early copy of the Nibelungenlied was discovered in



Photo: wikipedia

Parchment-makers, Nuremberg house-books around 1425

the Bavarian State Archives of Munich in the cover of an urbarium of the Rosenheim High Court of Justice from the middle of the 17th century ...

In any case, parchment still was the preferred writing surface for the high-artistic book-illumination of the Books of the Hour and the Gospel books written in the medieval scriptoria. Even when the paper had found its way from China via the Arabian cultural circle to Spain and Italy, and finally to Central Europe in the High Middle Ages, parchment was the preferred material for noble and valuable things. It took a long time till paper gained ground as a writing surface.

Read in the next issue:

The triumph of the paper in Central Europe

More about this topic: Prof. DI. Mag. Dr. Gottfried Schweizer -
"Paper history - the white art"

EVEN FURTHER, EVEN WIDER: The Papertech Division is expanding in Central and Eastern Europe

Ronny Schulz and Heiko Zien, two experts of our Papertech division, are expanding their area of application to the benefit of our customers.

AUTHOR:

NURI KERMAN



**RONNY SCHULZ: NOW ALSO ACTIVE IN AUSTRIA
AND PARTLY IN EASTERN EUROPE**

As a result of our rapidly growing global engagement in the paper industry, we have made structural adjustments in Central and Eastern Europe.

For several years, Mr. Ronny Schulz has been successfully working in our company. He was responsible for the Swiss and Southern Germany market. On 1 May 2017 he also took over the responsibilities for Austria and parts of Eastern Europe. Ronny Schulz has many years of experience in the field of paper production and paper chemicals. His comprehensive experience is greatly appreciated by our customers both nationally and internationally.

We are sure that we have set a further successful step towards the expanding of our services and we look forward to a continued good and close cooperation!

HEIKO ZIEN SERVES ALSO CUSTOMERS IN RUSSIA

On 1 May 2017 Mr. Heiko Zien took over the responsibility for Russia in addition to his position as Head of East Germany. He has 30 years of experience in paper production and paper chemistry. We decided to entrust him with the support of another important area in order to ensure sustained and best quality service for our customers in Russia.

Moreover, Heiko Zien has a good basic knowledge of the Russian language. This knowledge will certainly facilitate communication with customers. We wish Mr. Zien a lot of success.



Erich Sailer: JU-JITSU FOR ENVIRONMENTAL TECHNOLOGY

With 30 years of company affiliation Erich Sailer is considered to be a veteran in the ACAT family. He has already witnessed many things and he has played a decisive role in shaping them. But where does he get strength and endurance and the everyday motivation to apply his full energy to his demanding job? A possible answer maybe found by looking at his leisure activities – leading us to an impressive journey into the world of Japanese martial arts.



AUTHOR:

ERICH SAILER

1. DAN KAWAISHI RYU JUJITSU
SHOBUKAI AUSTRIA

The European Ju-Jitsu Union (EJJU) is a major international Ju-Jitsu organization within Europe. Almost all styles of the Ju-Jitsu practiced in Europe are represented, but the Japanese original styles, such as TENJIN-SHINYO-RYU, KAWAISHI-RYU, HAKKO-RYU, KIRO-RYU or GOSHIN-JITSU are predominant. Currently, the EJJU consists of 21 member states, which are represented by their vice presidents. Annually each member country holds an international course inviting the masters of the other countries.

WHAT IS JU-JITSU?

Ju-Jitsu is a Japanese weaponless martial art characterized by the basic principle of “winning by retreating”. This means that the defender will not stand up the attacker with force, but will deflect the attack, by using the force of the attacker against him- or herself. Originally, the aim of Ju was to immobilise the opponent, possibly even to kill him, but in contrast to the sword fight without bloodshed, and indeed often without any visible injury. Already during the stable period of the Tokugawa shogunate (1600-1867), but at the latest since the beginning of the “New Era” of the Meiji dynasty from 1868 onwards, with Ju it has been largely abandoned to apply force according to the principle of “winning by retreating”.

柔

*"JU"
means flexible and
gentle*

術

*"JITSU"
means art and
technique*

In fact, "Ju-Jitsu" is a collective name for a variety of styles and schools. Overall, there were 725 documented schools, but only twelve of them survived. The KAWAISHI RYU (Kawaishi School), a variant of the Tenjin Shinyo Ryu, is taught in SHOBUKAI AUSTRIA, or by its representatives at the University of Vienna which is characterised by round, evasiveness and indirect movements.

PRINCIPLES OF JU-JITSU

"Winning by retreating" is the characteristic principle of Ju-Jitsu. On the physical level, it means that the

defender will not stand up the attacker with force, but will deflect the attack, by using the force of the attacker against him- or herself. On the psychological level, compliancy or flexibility means that the defender does not have the pretended intention to apply a particular technique but always adapts to the movement and the goals of his opponent in order to use his power effectively against himself.

The implementation of this principle requires, on the one hand, a profound knowledge of a multitude of techniques, fast placements and a good sense of distance (ma-ai) and timing, and on the other hand a men-





tal state of emptiness, of non-thinking (munen) whereby no thought is wasted on a specific technique, the opponent or the outcome of the fight, but the correct action follows the attack quite naturally “like the spark jumps from the flint once it strikes steel”.

Another characteristic principle of Ju-Jitsu is the **use of the leverage** to multiply the own insignificant force. The lever action is mainly used against joints. A distinction is made between hand, finger, arm, leg, foot and neck levers.

Also the **circumventing of the opponent's force** is an important principle. This means on the one hand, that the overcoming of the force of the opponent is not done directly, but by using the “weak directions” running laterally to the force of the opponent. On the other hand, this means that one's own attacks are directed against the regions the opponent does not pay any attention and power to achieve a greater effect.

The principle of **adherence to the opponent and the permanent control** is also of great importance. As soon as the contact, the adhesion to the opponent, is estab-

lished, it must not be lost, because the contact makes it possible to control the opponent. This is particularly important in the transition from one camp technique to another to avoid gaps.

Distraction, deception and surprise are used to minimize the own forces needed for carrying out the combat technique, for example in the case of calculating the balance for the initiation of a throw with Kiai (short yell or shout), or Atemi (blows or strikes to the body).

Finally, the utilization of the **pressure, impact and shock sensitive points** (kyusho) and of the reflexes of the human body is characteristic for the Ju-Jitsu of the Kawaishi Ryu.

Anyone reading carefully the explanation of the Ju-Jitsu technique, Erich Sailer has been training for years, can understand: Problems without solution approaches do not exist, especially not in his professional life! He converts opposing energy to his advantage!

This is why our ACAT veteran is greatly appreciated by colleagues and customers. ●

We are very pleased to announce the opening of a new section on health and wellbeing. The renowned occupational physician, Mag.Dr. Herbert Untner, will report interesting, informative and exciting topics on health and he will give valuable tips for better well-being in everyday life!

OUR SKIN – a real all-rounder

Our skin is only between 0.5 and 4 millimetres thin, however, with an area of about two square meters it is our largest organ. The skin of an adult weighs about ten to 14 kilograms, and it consists of approximately 70 percent of water. The skin adapts to every movement, it is stretchy and tear-resistant, it heals itself, breathes, filters harmful sun rays and reflects our well-being. The individual skin layers have different functions: the upper skin serves as a protective cover, the underlying cutis keeps the organ stable and elastic, and the sub cutis protects from pressure and cold with the adipose tissue.

AUTHOR:
MAG. DR. HERBERT UNTNER
OCCUPATIONAL HEALTH

WHAT OUR SKIN CAN DO

Alarm system and protection:

The skin warns via sensors (feelers) from pressure and pain, excessive cold and excessive heat. It protects us from injury, from drying out and from UV rays.

Guardian of the immune system:

The skin is the most important barrier against unwanted intruders such as pathogens or harmful substances.

Water-storage:

Our skin stores about a third of the water of the body. Therefore, it is the largest water deposit of the body.

Air conditioner:

If the body wants to get rid of excess water, the blood vessels dilate. The sweat pressed from the

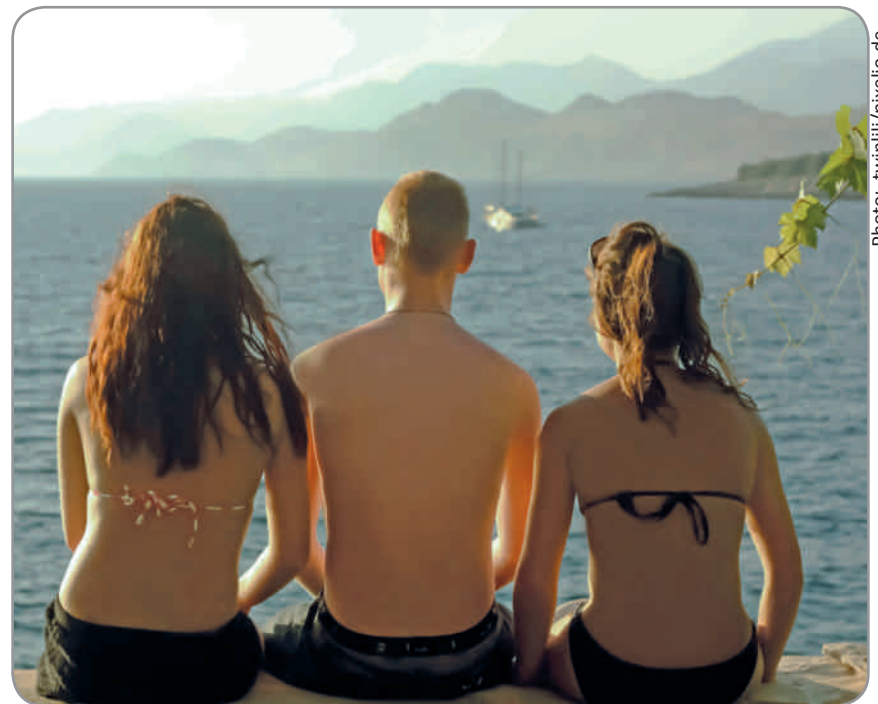


Photo: twinitii/pixelio.de

sweat glands evaporates on the skin surface and removes heat from the body. When it is cold, the blood vessels constrict themselves to prevent heat loss.

Vitamin producer:

If the skin gets enough light, it can produce 80 to 90 percent of vitamin D, which is important for the vitality of the body. Vitamin D is needed for the regulation of sever-

al hundreds of genes. 20 minutes of light exposure in the open air (from May to September) are enough to cover the daily requirement.

Communication organ and soul mirror:

Via the skin we express emotions and well-being. Tired people often look pale, excitement can cause "redness". We express affection through touch.

Representative:

The skin shapes our appearance. An attractive skin corresponds to the common ideal of beauty

SKIN HEALTH**Spring:**

Give your skin time to get used to the sun! This protects you against sun allergies and against the itchy redness on those parts of the body not accustomed to the sun. Look through the right glasses! They protect against keratitis and conjunctivitis. The CE symbol on the inside of the eyeglass strap guarantees EU safety requirements. Attention: Dark glasses without UV protection dilate the pupils, which means that even more harmful radiation gets into the eye.

Summer:

Protect the skin especially between eleven and three o'clock with clothing, head protection and sun cream! If possible, shade your workspace

Eat sun protection:

Carrots, tomatoes, yellow and red peppers and apricots contain carotenoids increasing the protective capacity of the skin.

Water keeps the skin elastic:

Drink at least 1.5 litres liquid per day. The following applies to the workshop: take a few short breaks, clean hands well and drink only afterwards so that no working materials can enter the body.

Autumn:

Stay active outdoors - especially when the days are getting shorter and the light is getting less. This ensures well-being from head to toe and vitamin D can be produced by the skin.



Photo: tUta Herbert/pixelio.de

Skin protection against wind and weather:

A fat-containing face cream prevents from drying out and from skin tension. Chapped lips are smooth again with honey: Leave honey on for ten minutes, then wipe off.

Winter:

In heated rooms, the air is dry and the skin releases additional humidity. Dry skin is more vulnerable and dry mucous membranes defend poorly against viruses and bacteria. If possible, ventilate your workspaces. Moisten the air at home with clothes to be dried or put damp cloths over the heater. Brief and intensive airing out for five minutes several times a day helps!

The correct care:

Pamper dry facial skin and stressed hands with a rich cream.

SKIN PROTECTION AT WORK

In order to keep workplace affected skin healthy (by dust, lubricants, chemicals, water, etc.), in each company there should be a so-called skin protection plan, based on three pillars (please con-

tact your occupational physician or safety officer):

Correct skin protection:

- Apply skin protection before starting work and after each hand washing.
- If necessary, wear protective gloves.
- Eat, drink and smoke - never with dirty hands!

Gentle skin cleansing:

Remove skin protectors and dirt before breaks and after work, but never with aggressive cleaning agents!

Thorough skin care:

After work with regenerating agents.

GO TO THE DOCTOR AT AN EARLY STAGE

To prevent skin cancer, an annual dermatological medical check-up is recommended. Observe your skin for changes (e.g., asymmetry, blurred edges, uneven staining or enlargement).

More information:

Institute of Information Medicine

Website:

www.infomed-wien.at

For health and well-being: COOKING ACCORDING TO THE FIVE ELEMENTS

Traditional Chinese Medicine (TCM) is one of the oldest natural health and healing systems of mankind. It looks back on more than 5,000 years of experience and, together with Ayurveda and Tibetan healing, it is an important foundation for what we call the alternative and complementary medicine.

AUTHOR:

SUSANNE DURST

In addition to acupuncture, herbalism, Tuina and Qi Gong, the Chinese nutritional teaching - known as "five-element diet" - is one of the five main pillars on which TCM's holistic health teaching is based. It is oriented towards the five transformation phases (or five elements) and divides the world into wood, fire, earth, metal and water; everything that exists is assigned to one of these elements (for example body organs, taste, seasons, colours, emotions).

The five-element diet is particularly suitable for the prevention of civilization and nutritional related diseases, and it mainly uses seasonal and regional food. In the five-element kitchen the emphasis is on wholesome, satiating meals. Healthy eating with pleasure! This is achieved by eating predominantly cooked meals. As they are more easily digestible, they deliver significantly more qi (energy) than raw food, muesli or bread meals.



Photo: Christine Nestler-Kenzian

The element fire the summer season is assigned. In summer we protect our body from heat and dehydration with the five-element diet. Refreshing and body fluid donating food is particularly well-suited for this purpose. The sour taste - for example of tomatoes - nourishes blood and body fluids and protects against dehydration. A TCM recipe for hot summer days:

Black Lentil Salad

Ingredients:

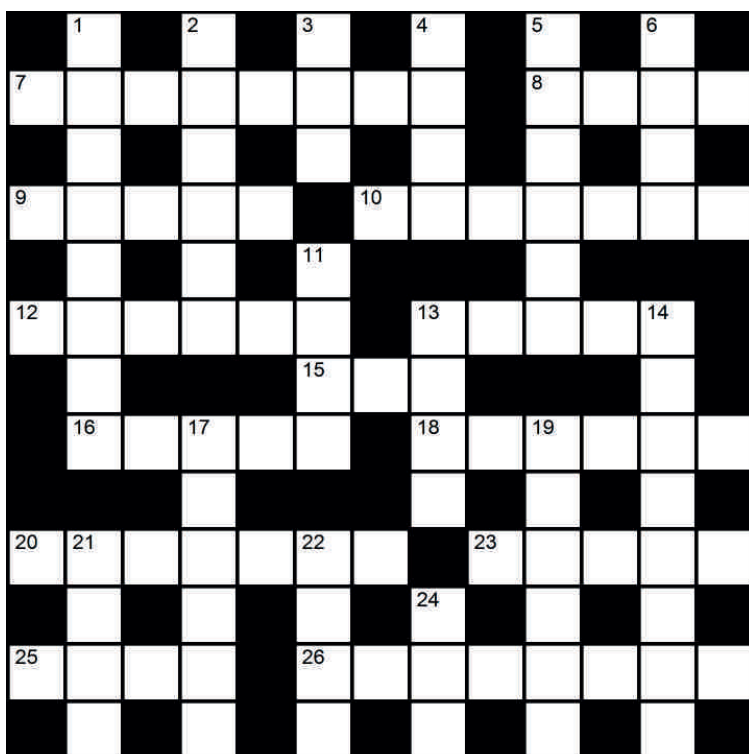
Wood: tomatoes, unpasteurized vinegar or lemon juice
Fire: turmeric, arugula, basil
Earth: zucchini, olive oil
Metal: dried herbs from the Provence
Water: salt (best coarse salt from the mill), Beluga lentils, cooked

Preparation:

Cut Tomatoes into eighth segments and remove the white stalk in the middle. Cut the zucchini into 3 mm thin slices and sauté them together with the tomatoes in a pan with some olive oil for five minutes. Season with salt, herbs of Provence and curcuma. Add the boiled Beluga lentils and steam for another 3 minutes.

Put a handful of arugula salad on a plate and spread the vegetable-lentil mixture on it.
 Season with some vinegar or lemon juice and sprinkle fresh basil over it.
 Enjoy your meal and have a relaxing summer!

BRAIN WORK AND MENTAL EXERCISE



Across

7 Provided with protective covering (8); 8 Speck (4); 9 Gather (5); 10 Boat race (7); 12 Type of variable electrical control (6); 13 Embarrass (5); 15 Stimulus (3); 16 Expiry (5); 18 Yield post (6); 20 Wool fat (7); 23 Crowbar (5); 25 Hardens (4); 26 Pertaining to a school (8).

Down

1 Quivered (8); 2 Israeli intelligence agency (6); 3 Illustrative craft (3); 4 Verge (4); 5 Largest desert (6); 6 Wood (4); 11 Mischievous (4); 13 Relating to aircraft (4); Sanitary (8); 17 Excite (6); 19 Scandinavian kingdom (6); 21 Second son of Adam and Eve (4); 22 Formerly Mesopotamia (4); 24 Grass (3).

Find the solution on page 40

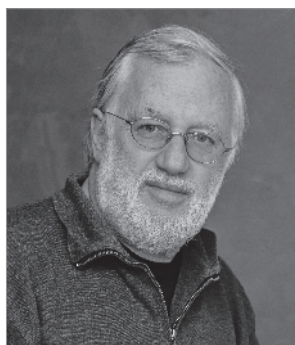
ANNIVERSARIES

Theo Weinbrenner senior – A founding member celebrates 30 years with ACAT!

Time really flies! It seems to me as if it was only yesterday when a man in the prime of his thirties entered my office. With a strong voice, he said that he could immediately take up the advertised job for the application technology of new chemicals in the paper industry !

That was in 1987: no internet, only land-line phones - most of them in the quarter timeshare operation. Polyacrylamides had a dubious reputation in industry because they were brand new and difficult to apply due to their lack of solubility. With much enthusiasm and passion Theo managed to achieve what seemed to be impossible and he opened the door to the use of polymers! With tireless dedication, he has built up our sustainable and solid department of paper technology and he and his constantly growing team have achieved remarkable successes!

But that's not all! The successful application of these chemicals required special machine technology and it was not available in the general machine market, there-



fore, Theo started to build polymer and bentonite systems of our own, resulting in the establishment and later in the expansion of our technology centre in Scheibbs. In the meantime, this pioneering work developed to a broad global commitment in the paper industry ranging from Europe to USA, South Africa and most of Asia!

Theo, I think you can be really proud of what you've done over all these years!

Your life's work is a solid basis for further innovative developments your successor can build on.

We thank you for your tireless commitment, the enthusiasm you have spread and the loyalty to our company. We hope that you will remain active for us from time to time, in spite of the start of your well-earned retirement! Especially when the scream goes through the ranks again - "Theo, we need your help! Only you can do it...!"

Congratulations on 30 years ACAT! Enjoy retirement and life to the full!

MZ

ANNIVERSARIES

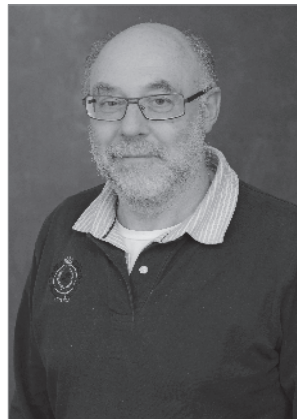
Roland Auer: 20 Years ACAT

As the saying goes "In his life a man shall plant a tree, conceive a child, and build a house." Roland was involved in planting the ACAT oak, and he is father of two children - only the house construction is pending. But he has become a specialist in rebuilding. Meticulous, almost pedantic and with immeasurable diligence and dedication he plans and builds the addition to his house, just as well as he does in his professional life. Unfortunately, for reasons unknown some walls have to be broken down and straightened. Sometimes this can also happen in the job, but in both cases, the result is phenomenal and intoxicatingly beautiful, stable and resistant! We all congratulate Roland on his 20 years of service in the ACAT Environmental Engineering Division.

ES



Romano Renggli - 20 Years ACAT



Since 1997 Romano has been working at ACAT. At that time he was a chemical engineer and he had already experience in the field of sewage treatment and synthesis of polymers and he enriched the sales department with his knowledge. As head of department, he has been shaping the image and the success of ACAT Switzerland for

many years. His open and accessible nature often made possible pragmatic and simple problem solutions appreciated very much by our customers.

Currently, ACAT benefits from his theoretical knowledge he gained during many years of product development activities and his extensive knowledge is enough to shape the ACAT Environment Department significantly also over the next 20 years. We are really curious to see how things will develop.

POB

Andrea Schilhan-Kainz – 15 Years ACAT

"Behind each successful man (team) stands a strong (capable) woman" - is a well-known proverb. Andrea Schilhan-Kainz is such a strong woman. For 15 years she has been managing to organize our wild gang. With a strong hand and meticulous preciseness she corrects our mistakes and sloppiness. Nevertheless, usually she is in a good mood and she never bears grudges. We rarely hear complaints about our bad behaviour so maybe we are not that bad, because after 15 years, Andrea is still looking as young and as fresh as on her first day as a team (boss) assistant.

I wish you all the best on behalf of the ACAT employees! My (our) next laudation will be held on your 20th anniversary. We are looking forward to it!

ES



Rudolf Kafka 15 Years ACAT



For 15 years Rudi Kafka has been supporting the ACAT Environmental Engineering Department as an assembly and service manager. With his skillful hands and his experience he often has saves us from serious problems. Of course, such an activity is frustrating sometimes. But this is not a problem for Rudi, because on week-

ends and in his free time he can let off steam up to the point of exhaustion by riding his Enduro in hard terrain and on single trails in Hungary, Croatia, Romania and Bulgaria. If he does not hurt himself, he will gladly pack his lab or mechanic suitcases again and offer his customers a full-service.

Rudi, thank you for the past 15 years and continue to put the pedal to the metal, both professionally and privately!

ES

NEWCOMERS

Sara Dominguez

From July 1st, Sara Dominguez will strengthen the Swiss ACAT Industrial Chemicals team. Ms. Dominguez is a trained businesswoman and initially she will take over the back office. Her main tasks will be the support of customers in the field of fillers and the expansion of the industrial chemicals division together with our new representatives.

In her free time, Mrs. Dominguez enjoys playing social games and she is an enthusiastic cook. Currently, she is training as a playground leader for children up to 4 years.

I am already looking forward to the strengthening of our team and I warmly welcome Sara Dominguez to our department.

FR



Alexandra Mehring



Changes in the Department of Industrial Chemicals made it necessary that Alexandra Mehring will change to the administration team on July 1. Until now she has been responsible for the order processing of Industrial chemicals.

She is happy to meet the challenge.

SK

Mauro Massimo Bighetti



Since May 1st the Envirotech Division has been headed by Mauro Bighetti.

He is 55 years old and he has worked at SNF, Cytec and Kemira. Therefore he has excellent market and professional knowledge in both sales and production. His previous responsibilities for sales in Europe, Middle East and Africa enabled him to build a good relationship network we need for our planned expansion in Envirotech.

We intend to expand our position in the currently strong markets of Austria and Switzerland and to conquer also industrial markets there. In addition, we would like to use our high expertise to expand territorially in the areas of Envirotech, Airtech, Machinetech and Watertech. First signs have to be set and a pioneering basis has to be created.

We wish Massimo and his team every success and the strength to reach the defined goals quickly.

POB

Krisztina Fenyvesi

We would like to welcome Krisztina Fenyvesi as our new member in the Hungarian Team. She will be mainly responsible for raw material service and logistics, as well as trading for coagulants.

Krisztina likes sports, but unfortunately has not much time for it. She likes playing table tennis or badminton, hiking and cycling in the country-side. She is very proud of her son, Attila, who turns 12 this year. Whenever possible, she joins her partner for shorter or longer motorcycle tours in Hungary.

We wish Krisztina all the best, good luck and a lot of success in her new position.

ES



NEWCOMERS

Sabrina Sparvieri

Due to the steadily growing administrative tasks in Basel, the team was glad to welcome a new colleague in January. With Sabrina Sparvieri we have a competent, young, new employee. Her responsibilities include the support accounting headed by Stefan Kleeb, and the support of controlling of the whole ACAT group.

Sabrina Sparvieri has already settled very well and she has brought fresh air into the department. Therefore, we look forward to many years of good cooperation.

SK



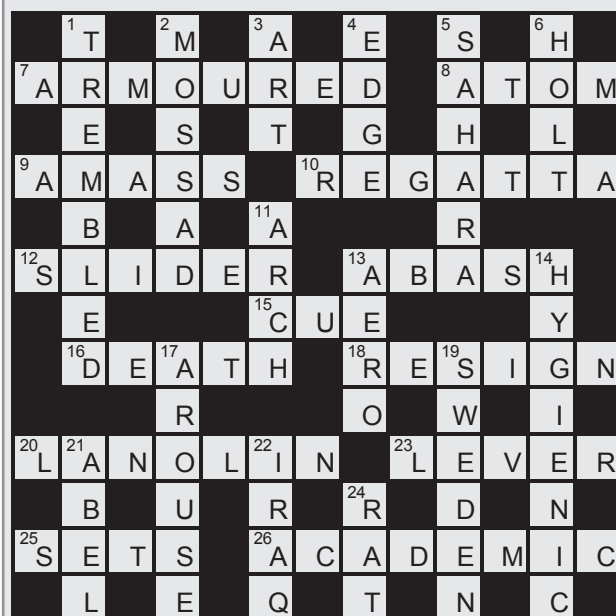
Peter Joseph

Peter Joseph will join the Paper Division of ACAT (ZA) on 1 May 2017. Peter obtained his National Diploma in Chemical Engineering from the Cape Peninsula University of Technology. Peter has more than ten years' account management experience in the chemical/manufacturing industry, and has spent the bulk of these years in the paper industry. With his sales experience together with his technical background this afforded Peter the opportunity to build further sales experience outside the paper industry having worked for DuPont de Nemours as a Business Development Manager for Kevlar® primarily dealing with the Security-, Police- & Military markets. The latter experience then opened the door for a role as a Security Risk Advisor in the Power Delivery Projects division of Eskom.

This was a non-sales role and Peter soon realized that his technical sales skills and relationship building is his passion and returned to the paper industry in 2016, joining Ecolab (specifically Nalco Water).

We welcome Peter to the ACAT team, and wish Peter continued success and good luck for the future. AA

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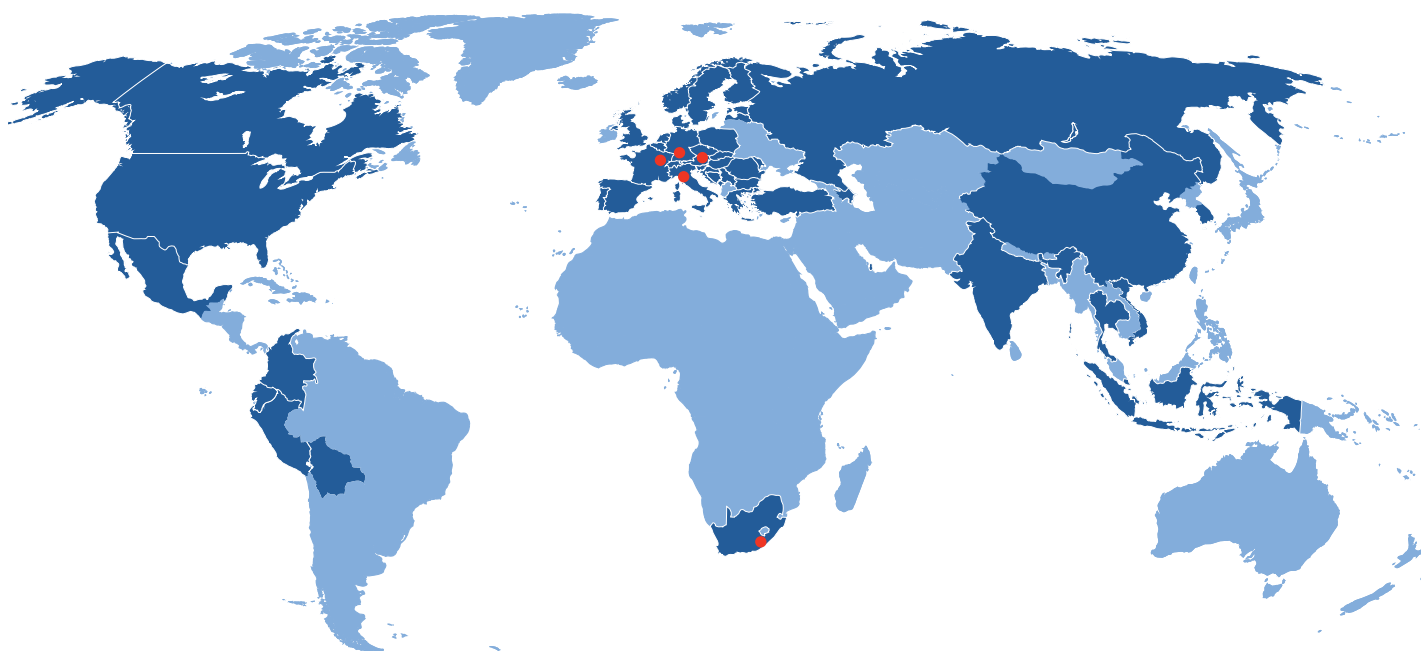
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