

inside acat

■ Newspaper for customers, friends and employees

EC European Coatings
SHOW 2015
PLUS ADHESIVES, SEALANTS, CONSTRUCTION CHEMICALS

ZUKUNFT.FORUM PAPIER
Die Österreichische Papierfachtagung
mit Fachaustellung für die Zellstoff- und Papierindustrie

CMS Berlin 2015
Cleaning, Management, Services.



International Trade Fair
and Congress
22 – 25 September 2015



*20 Years of ACAT
15 Years Technics Center
BondStar® 289 L for Filler Increase
Increased Research in Environment Technology Sector
Bio-based Sustainable Additives*



*Applied Chemicals International Group
Technical Service is our Success*

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ACAT Technics Center Scheibbs/ NÖ expanded its business area, and is celebrating its 15th anniversary



Now ACAT-watertech has an agent to prevent struvite from developing: FlocStar®



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OUR PRODUCTS:



Specialty Chemicals for the Paint-, Building Supply-, Ceramics-, Polymer-, and various Chemical Industries

Defoamers
Powder Additives
Wetting and Dispersion Agents and Additives
Thickeners and Rheology Additives
Mineral Flame Retardants
Pigments and Fillers
Agricultural Products



Innovative Environmental Technology for Improvement of Soil and Air- many Uses in Industry, Trade and Agriculture

Odour Control Aids and Application Systems for Several Industries and Commercial Applications
Leading-Edge Technology to provide continuous on-site Odour Monitoring and Dispersion Modelling
Biochemical Products and Compost Additives



Complete solutions for mechanical wastewater and sludge treatment

Complete Solutions and System Components for Mechanical Sludge Dewatering
Process Engineering
Solar Drying Systems
Screw Pumps
Components of a Mechanical Sewage Treatment Plant
Machinery Service / Spare Part Sales



Chemicals and Specialties for the Municipal and Industrial Effluent Treatment

Flocculants and Coagulants
Ferric and Aluminium Salts
Odour Control Aids
Defoamers and Deaerators
Make up and Dosing Systems



Chemicals, Minerals & Machinery for all kinds of Paper and Board Production Processes and Effluent Treatment

Retention Aid Systems
Fixing Agents and Coagulants
Bentonites and Flocculants
Dry Strengths Products
Ferric and Aluminium Salts
Defoamers and Deaerators
Odour Control Aids
Machinery and Equipment





Photo: Nestler-Kenzian

Manfred Zabl

Dear readers,
with the 20th issue of „inside acat“ we also celebrate the 20th anniversary of ACAT. It is incredible how quickly time passes, how fast new developments follow one after another and how fast we need to change. One gets the feeling year after year that everything becomes faster and more merciless, but sometimes adaptations and changes are really necessary.
The word change usually is associated with unpleasant things however changes offer huge opportunities. New perspectives have a great potential for

further development. Even Albert Einstein said, "If you change nothing, then nothing will be different and better." Admittedly it is taken out of context and it was meant in a mathematical context. But it is valid also in other areas.

For seven years now the global economic crisis has been going on. It is the inevitable consequence of the banking crisis of 2008. However, the counter-strategies, are different - both in concept and effect. The feeling is beginning to spread that Europe is powerless to manage the crisis. The consequences are obvious: rising unemployment rates due to strong decline in investment in industry and municipalities and too high tax burden on businesses. The resulting loss of consumer purchasing power further exacerbates the situation. To some degree the obscure perspectives of persons responsible and the political interests prevent suitable countermeasures. Extensive changes are needed to bring economy back on track, but there is a great deal of fear to meet the challenges.

Europe has a great intellectual potential. It is unbelievable that, with limited exceptions, no one is able to take the bull by the horns, to press the reset button and to take appropriate additional measures to resolve the ongoing crisis free from any personal and political interest in order to improve future prospects.

The prime focus is on the creation of new jobs and on the strengthening of purchasing power as well as on the creation of the conditions to achieve this. It can only be hoped that soon things take a turn for the better.

We see the future for ACAT as quite optimistic because innovations and custom tailored solutions have a positive impact. With this in mind, I wish readers inspiring reading of our 20 years ACAT anniversary edition and a great summer 2015!

Manfred Zabl

CEO APPLIED CHEMICALS International Group

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WE WERE THERE!

SEMINAR FOR SEWAGE SLUDGE IN WELS

Every two years, shortly before the end of the year the "Seminar for Sewage Sludge" takes place. Once again the event which was held from 20 to 21 November 2014 in Wels, Austria, offered a lot of interesting information on this topic. We were there!

Like in Germany before, now also many other European countries strive to back out of agricultural sewage sludge utilization. In this seminar first the question was raised whether the current sewage treatment and utilisation is still up to date -internationally and specifically in Austria. Then the latest developments were discussed.

The technical lectures included sludge stabilisation, anaerobic and aerobic sewage sludge treatment (also for small plants) and mono-incineration. Finally, the ÖWAV Position Paper on phosphorus recovery from sewage sludge was presented and discussed.

The ACAT team had the opportunity to exchange experiences with experts from Austria and abroad. After the official closing of the seminar, discussions continued in a friendly setting for a long time.

I would like to thank all colleagues and the ÖWAV for the excellent organization and the great commitment.

Erich Sailer



Throughout Europe there is a general tendency to back out of the agricultural sewage sludge utilization

LATEST NEWS

NEW TYPES OF BENTSTAR® BENTONITES: Improved performance, lower dosages

ACAT introduces two new BentStar® bentonite types onto the market. They are characterized by higher performance at lower dosage. This is achieved by modifying specific types of bentonite. The new types are of interest to paper manufacturers, who want to achieve further improvement in retention and drainage. In most cases for the preparation of the product the existing preparation technology can be used.

Nuri Kerman



Photos: Spiola (1) Nürnberger Messe (1), CMS (1), APV (1)

HEADING OFF TO NEW EXHIBITIONS

VISIT US AT ECS!



From 21 to 23 April 2015 the European Coatings Show takes place in Nuremberg. About 1.000 exhibitors and 30.000 visitors are expected this time including the ACAT Industrial Chemicals team. We would be very happy to welcome you there face-to-face.

Our sales team is always available for appointments.

Alex Frank

OFF TO APV!

Again in 2015 we would like to welcome our valued clients to the Austrian Paper Conference "Zukunft. Forum Papier" from 20 to 21 May in Graz. We would be happy to inform and advise you there on our latest developments in dry strength and retention aids. This meeting is characterized by a familiar atmosphere and by the high quality of the lectures. It is exactly what a symposium should be.

Nuri Kerman



FreshWave®IAQ AT CMS IN BERLIN

With an interesting support program and current special shows the CMS covers the entire market sector: Cleaning - Management – Services, therefore it serves as an ideal platform for manufacturers, distributors and service providers.

The CMS Cleaning - Management – Services is the international trade show for cleaning systems, building management and services. It is the only event in Germany that presents the full range of products and services of the international cleaning industry. With an interesting support program and current special shows, the CMS covers the entire market sector: Cleaning - Management – Services and therefore it serves as an ideal platform for manufacturers, distributors and service providers. The trade fair will take place from 22 to 25 September 2015 in Berlin.

The international conference will be held over two days and will deal with current global industry issues. The organizer and their international partners ensure exhibitors and visitors witness a forum of international importance and an ambitious conference program. Germany is the largest European market for commercial cleaning technology. Therefore, the German capi-



tal Berlin, a metropolis of global importance, is the ideal location for the presentation of new products and services in this sector. From here the large markets in Europe and overseas, as well as the emerging markets in Central and Eastern Europe can be served. We are confident to establish new contacts at the fair to introduce FreshWave®IAQ onto new markets. The FreshWave®IAQ team looks forward to meet you at our stand.

Aldo Randisi

20 YEARS OF ACAT:

A very special anniversary

AUTHOR:

MANFRED ZABL

A look into the Commercial Register of the Republic of Austria shows that on Christmas Eve, 1994 - ACAT was born – not in a barn, but at the Commercial Court Vienna! I still remember the chaos of the morning snow paralysing the traffic. Fortunately, later in the morning the sun appeared and now there was nothing standing in the way of our court date. It was the last day of the year when offices were opened and it was the deadline for starting the fiscal year on 1. January 1995. In joyful expectation of the upcoming Christmas holidays, the entry into the Commercial Register was done in a quick and un-bureaucratic manner!

On 2. January 1995 we set up a makeshift office, surrounded by packing cases full with folders. In Autumn 1994 it was decided to hive off the distribution of chemicals of the former CELL group from pulp and paper trading to a separate, independent company. The newly founded company moved to an industrial area in Vienna Auhof, because space was required for a storage area and for a laboratory with a small workplace. Seven employees set out to conquer the world of chemicals for the environmental and paper industry: Alex Frank, Thomas Ensbacher, Uschi Polt-Fischer, Reinhold Frech and my humble self were the pioneers. We had to make considerable efforts to increase the starting sales of 1.5 million EUR and to survive. It was an exciting time with enormous challenges and troubles. The business developed rapidly and very soon we

had to strengthen our team to meet the demands of the constantly growing market.

In 1995 ACAT Hungary and in 1997 ACAT Switzerland were founded. Each branch office was a subsidiary of ACAT International, a non-operating holding and parent company that was still in its infancy.

The demands for dissolving and dosing equipment necessary for the use of our specialty chemicals increased steadily and this resulted in the establishment of the warehouse operation with adjacent workshop in Scheibbs in 2000.

Since then we have been able to offer tailor-made systems to optimize the use of our chemicals. This was unique and a major step ahead in the further development of our company.

In 2001 we started our environmental commitment in Milan and the development of the group took shape.

In 2010 another significant step towards globalization was taken with the further consistent expansion of the

establishments in large parts of Europe, especially in Germany, but also in South Africa and Asia.

We have become a global player with about 100 employees represented by partner companies in many countries around the world. Our company is one of the few remaining family-owned independent companies in this sector. Service and advice are our top priorities.

Meanwhile, we own a number of patents and many recipes adapted to customer's needs. We are convinced that specialty chemicals are only as good as their application technology and the after sales service.

Our experience has taught to us to stay grounded and to always have an open ear



Photo: Christine Nestler-Kenzian

for the needs and requirements of our customers. We consider it our duty to meet these requirements and to cooperate in a spirit of constructive partnership on the development of new solutions.

Success does not fall out of the sky but you have to work hard for it. This - and nothing else is our daily bread; to attract satisfied partners and customers.

I would like to take this opportunity to express my special thanks to our loyal customers.

Their confidence in our products and services made a decisive contribution to the success of the entire ACAT Group.

Celebrate with us the first 20 years - and let me assure you that in the coming decades our motto will continue to be:

„Technical Service is our Success“



New overall management of paper technology

With effect from 1.1.2015 Nuri Kerman became the overall head of paper technology, of ACAT International. From now on the paper teams of all countries are summarized in this division and centrally managed and supported. After graduating from his studies in papermaking at the University of Darmstadt Nuri gained some experience in supply at Allied Colloids. In the late 90s the company was taken over by the CIBA AG. After several years of experience in the middle management at

CIBA he joined BASF. In 2010 his way led him to ACAT. Initially Nuri started up the paper technology division in Germany, later in other European countries too.

After five years of intensive and extremely successful development work in Europe now he contributes his knowledge and extensive experience to the entire ACAT team and to our partners. We wish him continued success and good luck for this demanding task!

Text: Manfred Zabl



The new overall head of ACAT paper technology Nuri Kerman

ACAT SCHEIBBS: 15 Years Technics Centre

Logistics, production of Ecosorb® and FreshWave® IAQ- products as well as technical support of ACAT departments: the number of employees in Scheibbs/ Lower Austria has increased and the activities reached an unprecedented level. The department is celebrating its 15th anniversary.



Polymer powder system

AUTHOR:

THEO WEINBRENNER

From 1998 to 2000 ACAT was looking for a site to integrate the outsourced logistics into the company. Also technical support for plant stoppages and installations was planned. In 2000, the appropriate site was finally found in Scheibbs, Lower Austria. The former printing plant was adapted and expanded to create office space. Since that time the ACAT team Scheibbs has been supporting several departments of the company internally as well as internationally with expertise and mechanical skills. Numerous external customers are supported by the staff in Scheibbs. The core issues of this location are plant engineering, production of

Ecosorb®- and FreshWave® IAQ products and the technical support of diverse ACAT departments. At the beginning of the year an assembly team was recruited. Currently our team has eleven staff members.

Since July 2009 *Theo Weinbrenner* has been heading the logistics centre and has been member of ACAT since 2003. First he had a contract for work and was entrusted with the project management. In the office he is actively supported by *Sabine Spieler* and *Magdalena Aigelsreiter*. Mrs Aigelsreiter is responsible for all relevant logistics processes, and for the order processing of FreshWave®IAQ and Ecosorb®. Accounting, calculation and ordering system are the core tasks of Mrs Spieler.

Since the start of 2015 *Susanna Weinrother* has been managing the administration for the service from Vienna.

Bernhard Anzenberger is our “clear conscience” concerning quality and plant engineering. Since the early days he has been an employee of the company. During this long period he has gained a lot of experience in this area, so he often is asked for advice.

Josef Praschl is responsible for the technical concepts of systems engineering and he is commissioning systems on site all over the world. The extensive experience of the skilled electrician goes far beyond electrical engineering.

Finally, the team is actively supported by *Mario Plank-Sandhofer*. In addition to his position as project manager he is responsible for the assembly of switch boards and control systems. Since the start of the year the two installation engineers *Willi Schober* and *Goran Bijelic* has been part of the ACAT team Scheibbs. The customer service in sludge dewatering is in the hands of *Josef Söllner*.

Equipment of ACAT Scheibbs:

In the early days polymer and bentonite were the first major pillars of the newly founded company, but soon the question arose, whether it would make strategic sense to combine the vast experience and the broad knowledge of our employees in paper production and environmental technology with the corresponding system engineering to offer overall solutions in application technology. No sooner said than done! Soon the desired success was achieved.



JetWet polymer powder system

Plant engineering reached professional proportions with the establishment of the engineering and logistics centre in Scheibbs in 2000. Today polymer dissolution plants, bentonite systems, pumping stations and metering systems are manufactured there. The associated control systems and switchboards are self-designed and constructed.

In recent years, the main task has been the development of new systems and concepts. We are constantly trying to adapt the existing technology to customer needs, and to keep it updated.

There are two types of polymer systems:

In general polymer systems are distinguished with regard to the dissolving technique used. There are two techniques: the jet-wet and the dispersion technique. The procedure and construction of the systems are

COVERSTORY

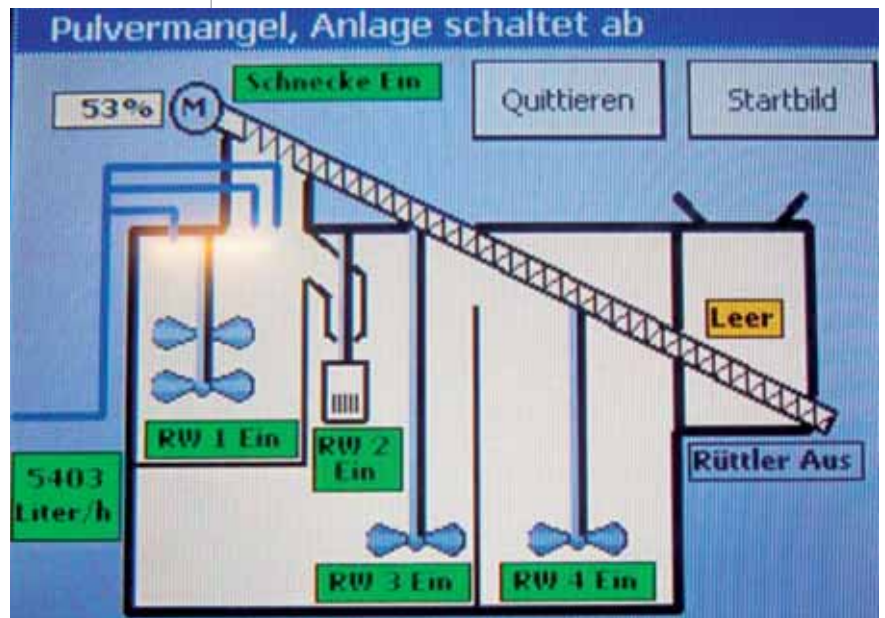
kept as simple as possible to avoid unnecessary sources of error. The control unit used for the latest systems is a Siemens PLC (S7-1200). Of course, for the integration into a PCS system the systems are also available without control units.

The difference between the two polymer powder systems is the method of polymer wetting. In the case of dispersing technique the powder is conveyed via a screw directly into the disperser and wetted with water. Then the powder is dissolved by stirring in the container. This method is often used in municipal wastewater treatment plants.

Polyelectrolyte solutions in paper mills are of a very high standard. So usually the JetWet system is used, the "Mercedes" of the polymer dilution systems. The polymer powder is conveyed with a screw into a venture tube and then it is blown with a fan into the head of the JetWet. The fine dis-

tribution of the powder ensures a better and more effective wetting. The necessary maturing time is achieved in a storage tank. The polyelectrolyte solution is pumped with a transfer pump from the dissolution tank into the storage tank.

VISU Touch Panel



Groundbreaking Solutions from ACAT Technics Centre





PolyJet PPU-1 (Double Tank, Disperser Technology)



Pump skid



Dosing Unit



PolyJet PPU-2

Anlagen-Transportsysteme-Komponenten



A-T-K

Oberflächentechnik

Nirostiegen, Nirogeländer,
Nirogarderoben,
Gartenzäune, Serienteile,....

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A CONGENIAL TEAM:

FreshWave®IAQ and Flotex floor coverings

Even taken individually the ACAT odour neutralizer FreshWave®IAQ and the multi-functional flooring Flotex Forbo are hits, but in combination they are unbeatable in terms of easy cleaning and odour. This is leading to a corresponding demand for hygiene and sanitary facilities suppliers.

AUTHOR:

KENAN ENGERINI

ISSA Interclean in Amsterdam in April 2014 was very successful. Some partners of the GVS were interested in FreshWave®IAQ. So the first contact with one of the numerous partner families of GVS, the Johann A. Meyer GmbH in Berlin, was established.

The GVS - Großverbraucher spezialisten eG regards itself as a large family of predominantly owner-managed, medium-sized member companies distributing hygiene products including healthcare, various sanitary facilities and industrial hygiene.

After our product presentation to CEO Mr. Cürten and Mr. Vetter, Sales and Marketing Director of the John A. Mayer GmbH, they put us in contact with their clients. The result was a huge project.

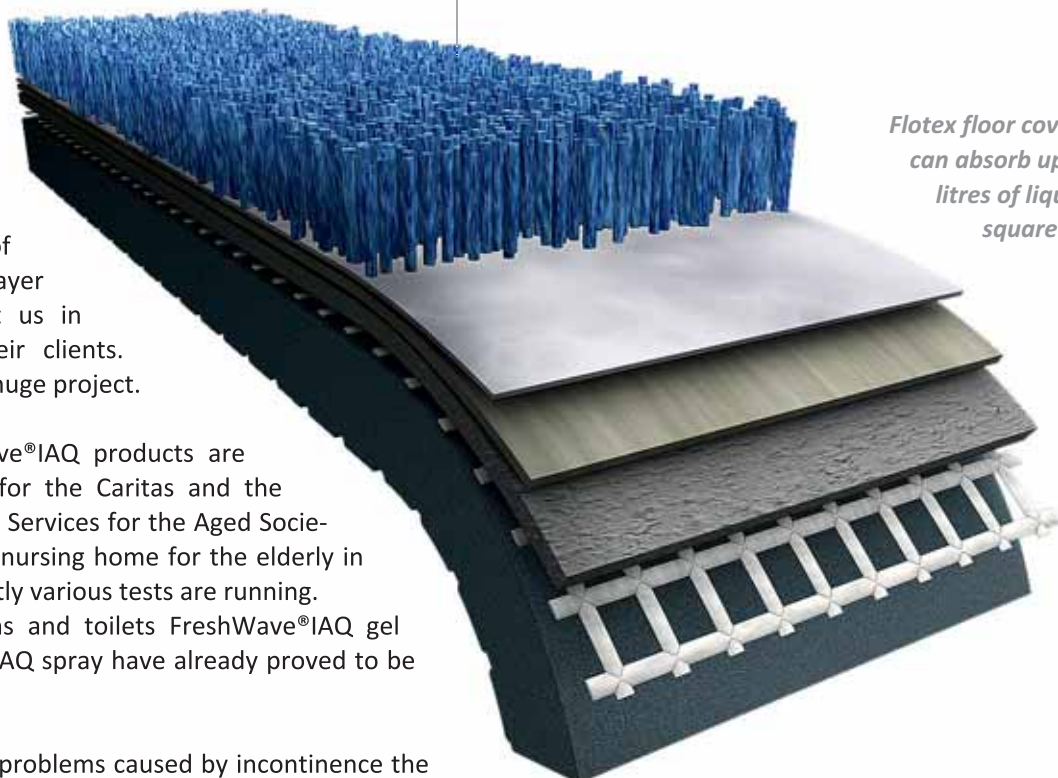
All our FreshWave®IAQ products are very interesting for the Caritas and the associated SSG (= Services for the Aged Society) serving many nursing home for the elderly in Germany. Currently various tests are running. In patients rooms and toilets FreshWave®IAQ gel and FreshWave®IAQ spray have already proved to be effective.

Due to the great problems caused by incontinence the

SSG is particularly interested in the combination of Flotex flooring and ACAT "Multi USE".

FLOTEX: "As comfortable as a textile floor covering, as easy to clean as a resilient floor"

Flotex is a floor covering combining the comfort of a textile floor and the advantages of a resilient floor. Because of the dense, waterproofed carpet back Flotex is the only truly washable textile floor covering. Additionally Flotex meets the highest hygiene requirements necessary, for example, in nursery schools, hospitals and nursing homes.



Flotex floor covering - can absorb up to six litres of liquid per square meter

Photo: Forbo Flooring GmbH



*Added to the carpet cleaner FreshWave®IAQ destroys existing odours. It is active until all molecules are saturated.
As a consequence FreshWave®IAQ gel ensures "24 hours odour control"*

As the nylon fibres capture allergens and fine dust Flo-tex floor coverings are suitable for allergy sufferers.

The floor covering is washable, but it can absorb up to six litres of water or liquid per square meter. If it is not regularly cleaned, wet unpleasant odours can be formed.

This is where FreshWave®IAQ Multi USE comes into play, which is added to the carpet cleaner. There it

does not only destroy existing odours but it is stored in the floor covering until the FreshWave®IAQ molecules are saturated. Combined with FreshWave®IAQ gel a "24 hours odour control" is ensured.

After successful testing the Hamburg Company Keerl GmbH, which is also a member of the GVS family, indicated interest. Currently trials are running in the toilets and washrooms of a football stadium and on Cruise liners.

UPGRADE OF RESEARCH AND PRODUCT DEVELOPMENT in Environmental Technology

Romano Renggli - long-time head of the ACAT environmental technology Switzerland- paves the way for a smooth handover of this key position to his successor Vincenzo Carco. Henceforth he dedicates himself to research and product development in environmental technology.

AUTHOR: PER O. BJÖÖRN

For nearly 20 years Romano Renggli has been head of the Swiss ACAT environmental technology division serving primarily industrial and municipal wastewater treatment plants. He has travelled tirelessly to support and advise ACAT customers.

Romano still feels young and dynamic, but in order to provide a consistent and high-quality technical service and to allow our long-term ACAT family member a smooth exit from this responsible position, it makes sense to settle the succession and the associated career management as soon as possible. For quite some time this process has been running, involving all persons concerned. In January 2015 another milestone was reached:

[Vincenzo Carco -
New head of the ACAT
environmental technology
department, Switzerland](#)

We are pleased to announce that Vincenzo Carco is the new head of the Swiss environmental technolo-



Romano Renggli (above) focuses on product and market development, because Vincenzo Carco (right) has headed the environmental department in Switzerland

gy department. "Enzo", as he is called, started his career in the chemical industry. Then he moved on to become head of one of the largest sewage treatment plants in Switzerland. Since Autumn 2012 he has been member of the ACAT family where he was responsible for the support of our customers in the German-speaking areas of Switzerland and Ticino. Due to his professional activities he has an excellent technical knowledge and lots of leadership experience and he is therefore

well prepared for the new challenges. Of course, Enzo can continue to rely on the existing, excellently trained team. That way the continued support for our Swiss customers is ensured.

The vacant position of a sales representative has been filled by Mr. Jean-Oliver Haug, or „Joe“ for short. He is the perfect person for this job as he has extensive technical expertise and many years of experience with flocculants, especially with metal salts and he spe-

aks French fluently as it is his mother tongue.

Romano Renggli -
Product development
in environmental technology

Since the beginning of this year Romano Renggli has been focusing on product and market development. As a "spearhead" he has a significant influence on the future development of products and of



the strategic direction of the ACAT environmental technology. In addition to his new activities Romano will continue to support our Swiss customers to ensure a consistent transfer of the tasks and responsibilities as customer-friendly as possible.

We are proud to find a "win-win" solution allowing all parties concerned to use all their abilities and to respond to personal needs. ●

FlocStar® - OUR STRUVITE-PREVENTER

Struvite is a greatly feared mineral as it can cause a lot of problems. It causes kidney stones in humans and animals and deposits in wastewater treatment plants driving operators to desperation, possibly bringing machines to a standstill. Against kidney stones we are powerless, but against the deposits recently the ACAT watertech department has an agent which prevents the formation of struvite: FlocStar®

AUTHOR:

ERICH SAILER

Struvite is absolutely unwanted in sewage treatment plants. Back in 2008 I wrote an article on this topic and at that time I dealt with easy and cost-efficient removal of the deposits which were already formed. Meanwhile, we have expanded our research and turned the tables.

First, we went further into the cause of the formation of struvite in sludge dewatering processes causing subsequently huge problems in drainage systems. We focused our development work on searching for chemicals suitable to be used in sludge dewatering which would prevent the formation of struvite.

After numerous trials and extensive testing, we are now able to offer a new flocculant not only capable of preventing struvite deposits but also capable of removing pre-existing deposits: FlocStar®!

What is STRUVITE?

In the most commonly used activated sludge treatments for sewage purification, return solution and recrystallization of mineral compounds (chem. formula) occur in chemical as well as in biological phosphorous precipitation. The insoluble salts formed cause considerable damage to highly stressed plant components such as sludge pumps and pipelines.

Anaerobic sludge digestion is the most commonly used method for the activated sludge treatment. During biological P-elimination in the digesters a resolution of the phosphate already captured by microorganisms takes place. High total hardness as well as high ammonium concentrations in the digested sludge lead to the formation of difficult to dissolve salts, such as:

a) Struvite - (magnesium-ammonium-phosphate or short MAP [$\text{MgNH}_4\text{PO}_4 \cdot 6\text{H}_2\text{O}$])

During decomposition of organic material ammonia NH_3 and CO_2 is formed. Both gases are easily soluble in water and react to ammonium-hydrogen carbona-

te $[\text{NH}_4\text{HCO}_3]$. NH_4HCO_3 is a compound with a pH-buffer action under 7. Under these conditions almost all alkaline earth metal ions such as Ca^{2+} and Mg^{2+} are solved. In addition, in anaerobic digestion there are high concentrations of phosphorus containing anions such as HPO_4^{2-} and PO_4^{3-} . Thus, all conditions for the formation of struvite are given.

b) Brushite $[\text{CaHPO}_4 \cdot \text{H}_2\text{O}]$

is formed already at pH-values 4, 2 and higher, therefore the formation of brushite in digested sludge does not depend on pH-value. A basic requirement is a high excess of phosphate or hydrogen phosphate, which always exists in digested sludge, whether in chemical or in biological P-precipitation. The formation of brushite is facilitated by a high water hardness, which can be achieved for example by the addition of lime to the digester.

In large wastewater treatment plants with more than 700,000 p.e. the sludge is dewatered with four large centrifuges. The discharge pipes of the centrate have to be cleaned regularly as they are quickly clogged by the depositing MAP (magnesium ammonium phosphata-

te). The deposits are very hard and have to be removed with pipe cleaning nozzles or milling.

Case study: FlocStar® prevents deposits of struvite

ACAT has the solution:

Tests showed that after a two month treatment with FlocStar® 9176 P no more significant deposits could be detected in the lines. About 30 t of FlocStar®9176 P were used and due to the great success, is still being used.

In sewage treatment plants using screw presses for sludge dewatering it was demonstrated that FlocStar®9176 was able to clean the screens from incrustations and subsequently keep them clean.

Once again it has been proven to be successful to maintain close contact with our customers, to take their concerns seriously and to search for innovative solutions. FlocStar®9176 P is such a success that is attributed to our chemists. We would be pleased to work out a tailor-made plan for the application of FlocStar®9176 P also for your plant. Contact us, we will gladly advise you! ●



The discharge pipes of the centrate had to be cleaned regularly as they were quickly clogged by the depositing MAP (magnesium ammonium phosphate), (left). After a two month trial with FlocStar® 9176 P no more significant deposits in the lines (right).

Highly effective **ACRYLAMIDE-FREE POLYMER** for sludge dewatering



Acrylamide is considered to be toxic and it is classified as potentially carcinogenic. ACAT offers an acrylamide free flocculent that meets the requirements of the market concerning effectiveness and cost-benefit ratio and has a great future ahead.

AUTHORS:

**PER O. BJÖÖRN
ERICH SAILER**

Briefly and succinctly the slogan „Technical service is our Success!“, expresses the ACAT philosophy. It means that it is our declared aim to serve the market in technical terms always at the forefront. We test innovations ourselves, modify and optimize them as required together with the team and after a positive assessment we make them available to the market.

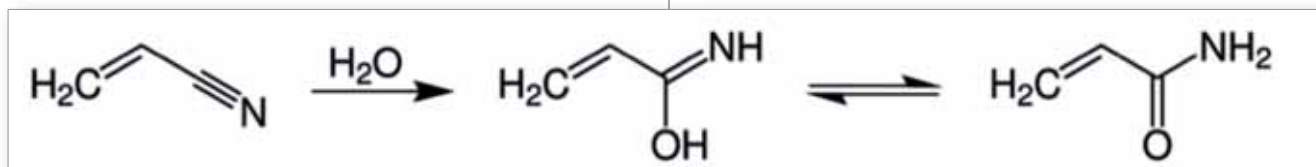
In principle, acrylamide free flocculants have been available for some time, however, these products were only of scientific importance, because they never could achieve the efficiency and the cost-benefit ratio of the usual acrylamide-based flocculants and therefore they were not attractive to the market.

Driven by politics and by possible threatened restrictions for the use of conventionally dewatered sludge, currently there are new attempts to support the development of acrylamide free flocculants.

On the one hand it cannot be ruled out that the surplus

of the acrylic-based flocculants remaining in the sludge poses a risk and on the other hand, the acrylamide-based flocculants still contain small amounts of the acrylamide monomer, which is suspected to cause cancer.

The production of acrylamide is carried out either by the hydrolysis of acrylonitrile with copper catalysts or by enzymatic hydrolysis:



The monomer acrylamide is used to synthesize the water-soluble polyacrylamides mainly used in sludge dewatering.

Acrylamide is also formed in the event of overheating starch, especially in baking, roasting frying, grilling and deep-frying. The primary source of acrylamide in food is the amino acid asparagine mainly found in potatoes and grain. The effect of acrylamide on human metabolism is far away from being researched in depth. We know from animal experiment two modes of action: acrylamide damages the DNA and liver enzymes converts acrylamide into glycidamide. This reactive substance is attributed to a strong genotoxic effect. Acrylamide and glycidamide form compounds with amino acids and nucleic bases and this can lead to a modification of the structure and function of the DNA and of the haemoglobin. In animal experiments the transmission of the mutagenic effect was also observed at filial generations.

Despite many years of research there are no clear epidemiological results showing an increased cancer risk for humans. On the contrary: The classification as a carcinogenic substance is based only on studies carried out with high dosages of acrylamide on rats and mice. According to the Medical School Hannover, recent studies could not prove an increased risk of cancer ("no measurable impact"); the risk of colorectal cancer even decreased with an increasing amount of acrylamide in food. It should also be noted that only the acrylamide entering the bloodstream is relevant.

Recent studies show that the intake of acrylamide

through food hardly leads to an increased blood level. Nevertheless acrylamide is considered to be toxic and it is classified as potentially carcinogenic.

In general, acrylamide gets into drinking water only by using acrylamide based flocculants in waste water treatment. They had to be completely removed at the end of the process. In the European Union the limit is 0.10 µg per litres.

ACAT used these discussions as an opportunity to evaluate the existing developments and to test an acrylamide-free flocculent that meets the market requirements concerning efficiency and cost-benefit ratio. We think it has a great future ahead of it.

The product is produced from entirely different raw materials and it achieves equivalent, even some better results than standard polyacrylamides.

ACAT is pleased to offer our customers these acrylamide-free products as an option. Of course, we will continue doing our very best to keep you updated with the latest technical developments.



Photo: de.academic.ru

UP IN THE AIR - International Distribution

ACAT is focusing on its core competencies and expanding the international network of distributors



AUTHOR:

PETER LAUSCHA

At the ACAT mechanical engineering department the year 2014 was chiefly marked by restructuring. The head of department was reorganized and the sale was divided into project and component sale. In the home markets of Austria and Switzerland there is still an experienced team of project managers and systems managers ready to meet the particular needs of the operators of wastewater treatment plants and to handle complex projects.

In international sales now the focus is on the distribution of components of the proven "ACAT screw press." It is the task of the newly created position of an "International Sales Representative" to establish promising new customer relations and to find new strategic, professional partners firmly anchored in their local markets with a well-functioning network.

However, ACAT does not want to handle international projects itself, but wants to rely on stable partnerships

and it is therefore necessary to build stable trusted partnerships with local distributors serving their local markets, determining the demand, introducing our systems to potential customers and supplying the appropriate system. They have to implement the system and they are responsible for service and maintenance.

We have already presented the proof-of-concept for this strategy to our long-term partner, who had already delivered components successfully to several municipal and industrial dewatering plants. They have been installed with the help of the ACAT technician team. Our customers are more than satisfied with our service and our support and therefore these successes are reason enough to continue along the path we have chosen. In 2014 all our efforts were ultimately directed towards this goal.

Extensive trips in order to establish direct and personalized contacts, site visits, numerous meetings as well as trade fair participation for example at IFAT or

Dimensions, weights and throughput rates of ACAT - screw presses

Type	Dimensions (mm / inch)			weight(t)	throughput rate(TR/h) *
	A...length	B...width	C...hight		
AS 250	1910 / 75.2"	620 / 24.4"	680 / 26.8"	0.4	20 kg (44 lbs)
AS 450	3100 / 122"	1000 / 39.4"	1180 / 46.5"	1.3	100 kg (220 lbs)
AS 505 M	4150 / 163.4"	1400 / 55.1"	1300 / 51.2"	2.0	156 kg (344 lbs)
AS 705 M	5370 / 211.4"	1750 / 68.9"	2000 / 78.7"	3.8	306 kg (675 lbs)
AS 505 I	4150 / 163.4"	1300 / 51.2"	1530 / 60.2"	2.6	156 kg (344 lbs)
AS 705 I	5370 / 211.4"	1550 / 61.0"	2080 / 81.9"	5.2	306 kg (675 lbs)
AS 905 I	6970 / 274.4"	1850 / 72.8"	2150 / 84.6"	9.6	506 kg (1116 lbs)
AS 1105 I	8490 / 334.2"	2200 / 86.6"	2580 / 101.6"	18.0	756 kg (1667 lbs)

Subject to modification!

* Average throughput of digested sludge with 4% input DS content

WEFTEC aimed at the expansion of our network both in northern (Scandinavian countries) and in southern Europe.

In addition, we have created lucrative start-up packages for our mobile test units. Our partners are now able to offer and perform quickly and flexibly test pressings in the new markets. Thus, the customer receives very soon concrete results. The standardized "trial units" are based on the screw presses of type AS 250 and AS 450. Our distributors have the following possibilities: rent, hire purchase plan or a particularly lucrative purchase option.

In addition, 2014 was clearly marked by the further development of our technology portfolio. On the one hand we were able to position the entry-level models of the screw presses type AS 250 and AS 450 better in the market, on the other hand we succeeded in anchoring the two top models AS 905 und AS 1105 in their markets.

We made great progress in the particularly high-volume market segment of the medium-sized type series. We were able to offer two new screw presses model series: the very robust and stable AS 505 I / AS 705 I screw presses suitable for industrial plants, and the

highly competitive and powerful AS 505 M / AS 705 M screw presses suitable for price-sensitive municipal applications.

Product development and marketing & sales have paved the way to continue our ambitious expansion program and to push ahead further internationalization. We look forward to capture new markets for ACAT screw presses together with our local partners.

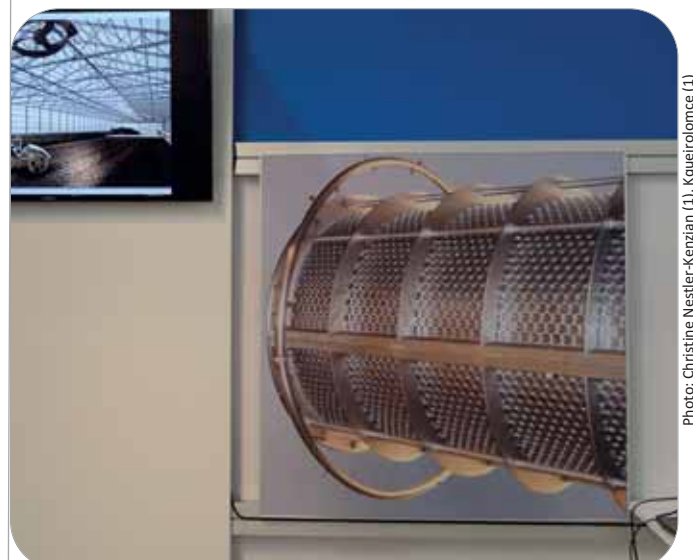


Photo: Christine Nestler-Kenzian (1), Kqueirolmce (1)

AMERICAN SUCCESS

Successful landfill drainage

ACAT screw presses in St. Louis



AUTHOR:

PETER LAUSCHA

St Louis, United States, is situated in the very eastern part of the US state of Missouri, in one of the largest US metropolitan areas with a population of nearly three million people. The city is characterized by its colourful past, but also by the industrial decline of the region in the late 20th century.

The city was founded in the 18th century as a French trading base. It later fell into Spanish hands and in the late 19th century it became part of the United States and was the starting point of many expeditions to the West of the newly formed states.

Despite turbulent times in the course of its history the city looks back on a long tradition of industrial production. Until the 1950s especially the steel industry was well represented. For decades the gas for the steel works has been produced in coking plants. As a result enormous quantities of by-products such as phenol were produced that were stored at a landfill in



The industrial decline led to the demolition of the plants and the areas released were re-cultivated. Today St. Louis is proud of its several thousand parks.

Bridgeton near St. Louis. The industrial decline led to the demolition of the plants and the areas released were re-cultivated. Today St. Louis is proud of its several thousand parks. Over the decades the waste products of the plants stored at the landfill in Bridgeton have been falling into oblivion.

So far, the leachate of this landfill was fed into the municipal sewage treatment plant and was treated together with the waste water. However, due to the progressive degradation process of the site deposits the content of polycyclic aromatic hydrocarbons became so high that the municipal system was no longer able to treat the waste water. Therefore a biological pre-treatment had to be implemented for the leachate.

Our US partner KUSTERS WATER awarded the contract for the drainage of sewage sludge, which was part of the project. In collaboration with the ACAT technicians the ACAT screw presses AS 905 and AS 1105 were implemented on the first floor of the plant.

First of all, the leachate sludge is thickened with two high-performance centrifuges. Then the sludge is dewatered by of the two screw presses. A particular challenge was the drainage of the highly toxic sludge. Therefore KUSTERS WATER decided for the heavy-duty versions of ACAT screw presses.

The results were convincing and ACAT can count on another important reference in the US. ●

BondStar® 289 L:

Increase of Fillers in Fine Paper

In recent years, the cost pressure on fine paper has resulted in constant search for a suitable replacement of the expensive fibres.



Foto: Spiola

AUTHOR: NURI KERMAN

In order not to affect adversely the optical properties and the printability of papers, primarily less costly fillers are used as fibre substitutes. Nowadays the quantities of fillers used are largely exhausted, because the paper industry has been particularly active in this area. Now a further increase of the quantities is attempted by using chemicals. Despite higher filler contents

some strength parameters partially can be kept constant by using dry strength agents such as the ACAT BondStar® 289 L. However, the increase of fillers often causes loss of bending stiffness that is of great importance for printing machines and copiers.

ACAT has expanded its portfolio to BondStar® 201 L, which has the ability to compensate the loss of stiffness. Test runs were carried out on a fine paper machine producing mainly copying paper with 60 and 90 g / m². The retention aid system was a typical two-component system using polymer and bentonite.

The test run was carried out as follows:

- copying paper 80 g/m²
- PM-speed: 850 m/min

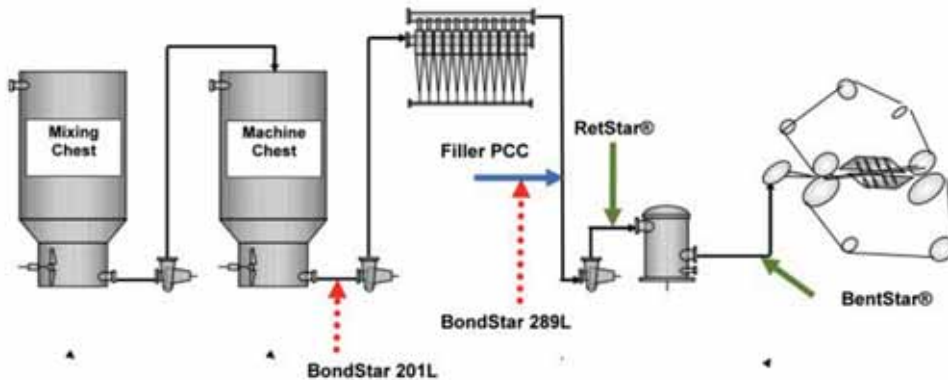
First BondStar® 289 L was introduced into the filler pipe with a quantity of 3 kg / t. In a further step BondStar® 201 L was added at the output of the machine chest with 1.5 kg / t (see fig. page 22)

With the addition of BondStar® 289 L the filler content (GCC) increased from 22% up to 26%. This led to a 5% loss of stiffness. To compensate the loss BondStar® 201 L was added and stiffness increased up to 5% above the initi-

Setup



1. Introduction of 3 kg/t BondStar 289L into filler
2. Introduction of 1,5 kg/t BondStar 201L outlet Machine Chest



al value. To get to the bottom of the potential of this system, the filler content was increased again by a further 2% up to 28%. As a result the stiffness reached the initial value (see fig. below)

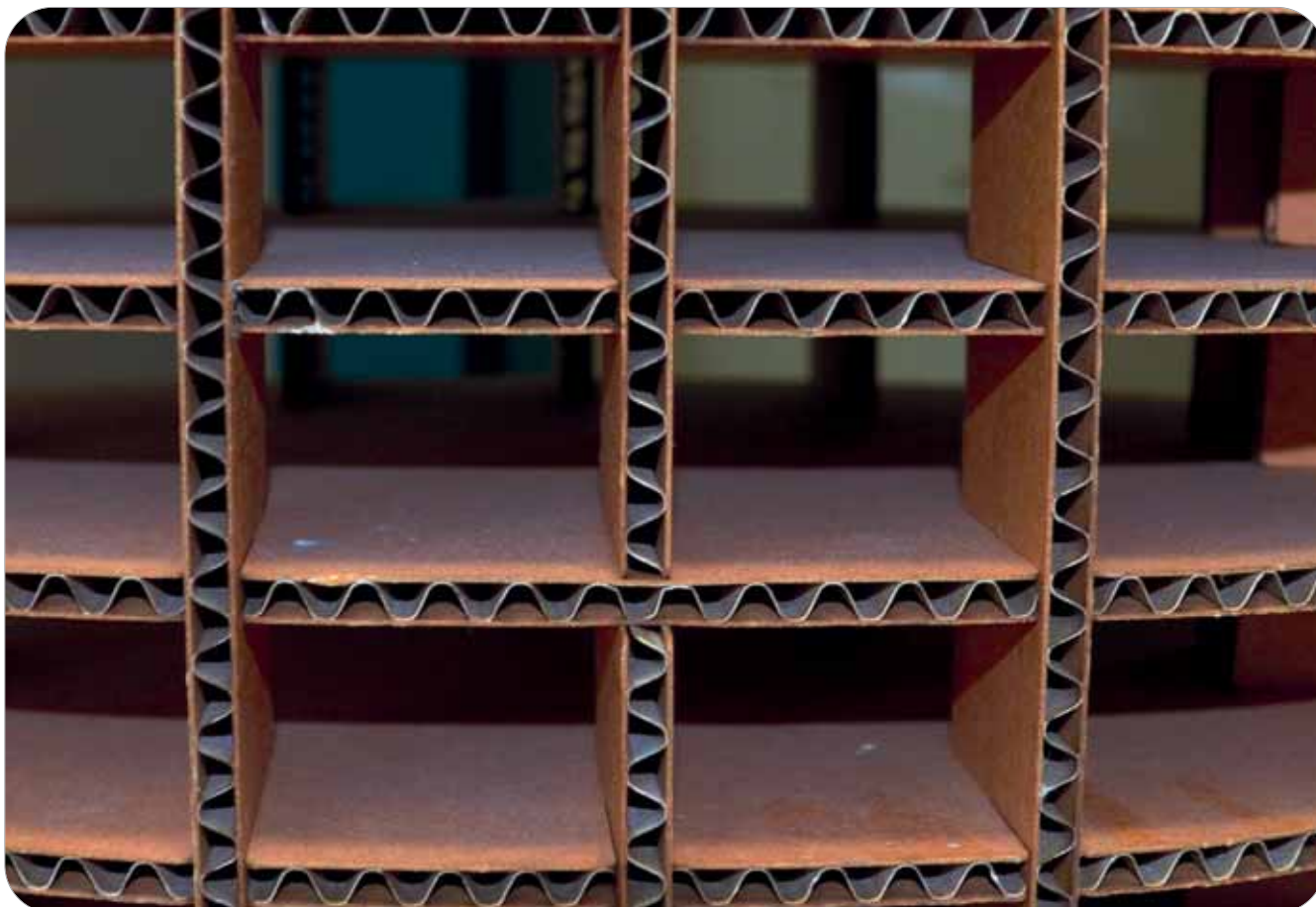
Conclusion:

With the addition of 3 kg / t BondStar® 289 L and 1.5 kg / t BondStar® 201 L it is possible to increase filler content by 6% without losing bending stiffness.

Results



SUCCESSFUL DYE TRIALS IN SOUTH AFRICA



AUTHOR:

BRADLEY BALLANTYNE

Stock dyeing, or internal dyeing in packaging grades is one of the biggest challenges that face papermakers today. Paper machines differ in the chemistry of the wet end. There are no two paper machines with identical chemistry. Because of that, the use of chemicals must be optimized individually for each paper machine. This is also true in conjunction with the application of dyes.

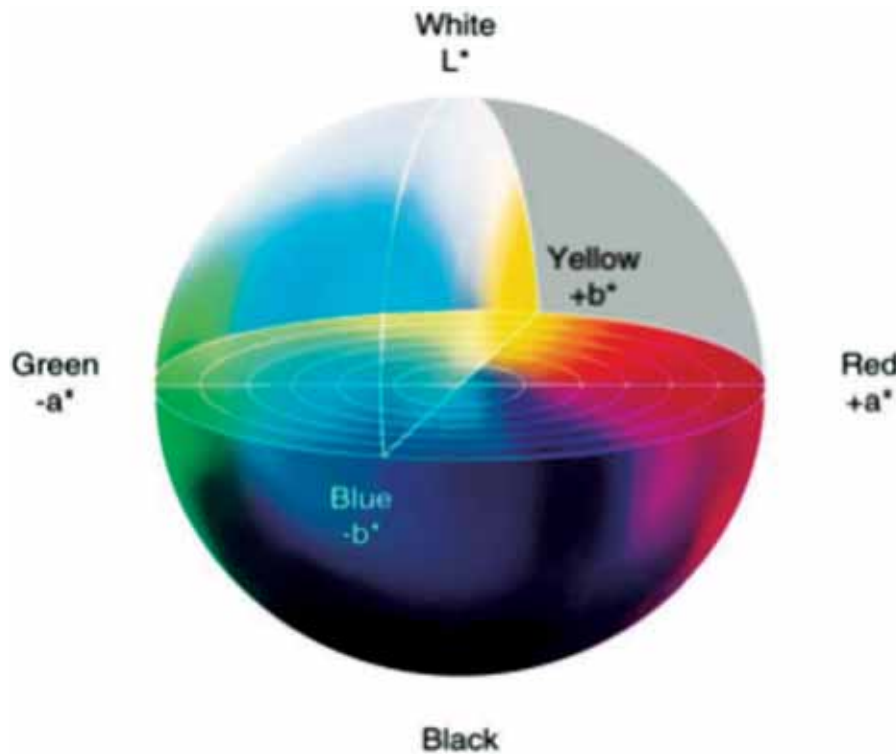
In order to get a uniform shade from reel to reel there are many factors that need to be taken into consideration, namely:

- Paper machine furnish (waste quality and variations)
- Dyeing conditions
- Correct choice of dye-stuffs and Technology partner

ROBAMA – ACAT Technology partner, dyestuffs

ROBAMA is a European manufacturer of dyes, optical brighteners and auxiliaries, mainly for paper, textile and leather industries with a range of over 150 brown liquid dyes (direct and basic) which covers the most demands of the market.

Although ROBAMA has a wide extended range of over 150 brown liquid dyes (direct and basic) which covers the most demands of the market, their technical department developed new colors to meet with our customers specific requirements.



Correct selection of dye-stuffs for successful trials is critical and particularly complicated.

The three coordinates of CIELAB represents the lightness of the color ($L^* = 0$ yields black and $L^* = 100$ indicates diffuse white; specular white may be higher), its

internal dyeing of the sheet requires the addition of large amounts of brown and black dye.

Mpact management awarded ACAT a 7-day on-machine trial based on color matching and on-site laboratory analysis done using Robama Trupocor brown and black dye specifically blended to mill specification.

MPact paper mill – Industrial trial

MPact Paper Mills manufacture recycled-based packaging and industrial paper grades. Fibre used in this process is a combination of recycled industrial waste and sugarcane bagasse.

One of the biggest costs of producing quality packaging grades at any waste-based operation is the shading requirements of their customers. This particular machine is a single ply fourdrinier without a size press, hence

Trial results:

	Target	Pre-Trial	Trial
Brown dye addition – kg/ton	1,5	1,7	1,2
Black Dye addition – kg/ton	1,0	1,7	1,12
L^* Value (average)	54 – 57	56	55,8
a^* Value (average)	5,8 – 6,5	6,2	6,0

position between red/magenta and green (a^* , negative values indicate green while positive values indicate magenta) and its position between yellow and blue (b^* , negative values indicate blue and positive values indicate yellow.) Robama were able to blend a brown dye to achieve the L^* , a^* and b^* values to meet our specific customer's requirements.

Summary:

- A significant overall reduction in brown dye consumption
- Very stable L^* and a^* values despite challenging changing conditions during the trial.
- Guaranteed future business and a first for supply of dye-stuff into the paper industry.

BIO-BASED SUSTAINABLE ADDITIVES

Our supplier Münzing Chemie and Applied Chemicals feel the responsibility of contributing towards environmental protection and sustainable development. With the bio-based additives of Münzing Chemie a variety of additives is available to meet these criteria.

AUTHORS: DR. NICHOLAS BÜTHE
ALEX FRANK

Sustainable development is development that serves the needs of the present generation without compromising the ability of future generations. The paint and coatings industry is increasingly aware of the need to produce in a sustainable manner. The marketed products must not only be economically but also socially and ecologically sustainable. Sustainability is originally a forestry principle according to which no more wood must be cut down as can regrow respectively. Raw materials for paints based on regenerative raw materials help to achieve this overall goal of sustainability.

Both Münzing Chemie, as a producer, and Applied Chemicals as a supplier have already been certified according to Responsible Care. This program is a global initiative of the chemical industry to continuously improve the environmental, health, safety and security knowledge and performance of our technologies, processes and products over their life cycles so as to avoid harm to people and the environment. In addition, both companies meet a number of other certifications such as ISO 9000, 14001, 50001.



Photo: Münzing Chemie GmbH

The bio-based additives of Münzing Chemie also meet a variety of bio-labels (see fig. page 26).

The available additives cover a wide spectrum of services. In the table below the main product groups are listed:

- AGITAN / DEE FO / FOAM BAN
- TAFIGEL

- METOLAT
wetting / dispersing agent
- EDAPLAN
wetting / dispersing agent
- AGITAN P powder defoamer
- METOLAT P powder shrinkage reducing additive
- METOLAT P
powder wetting agent

Depending on product, the addi-



tives consist of a significant different high organic content. Some examples with their respective share of the raw materials that are not based on fossil origin are listed below.

➤ AGITAN 109	(ca. 70%)
➤ AGITAN 271	(ca. 50%)
➤ AGITAN 301	(ca. 85%)
➤ AGITAN 361	(ca. 95%)
➤ AGITAN 373	(ca. 95%)
➤ EDAPLAN 397	(ca. 30%)
➤ LEUKONÖL LBA2	(ca. 85%)
➤ METOLAT 250	(ca. 85%)

➤ METOLAT 367	(ca. 33%)
➤ METOLAT 368	(ca. 99%)
➤ METOLAT 388	(ca. 50%)
➤ METOLAT 390	(ca. 70%)
➤ METOLAT P 588	(ca. 65%)
➤ METOLAT TH 75	(ca. 87%)
➤ OMBRELUB 533	(ca. 97%)
➤ OMBRELUB 730	(ca. 85%)

With the additives of Münzing Chemie, Applied Chemicals can cover a variety of applications with bio-based additives. Our representatives will gladly advise you to find the most suitable product for your application. ●



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GRUNDFOS
GRUNDFOS VERTRAGS PARTNER

THE POWER OF COLOURS

There are countless colours and the world of colours is really exciting. The current ACAT art calendar deals with this subject presenting itself as a real firework of colours: twelve sensitively composed artworks by Erwin Kastner and twelve comments providing insight on the power of colours and their meaning for our lives.



AUTHOR:

GERTRUDE MITTERBÖCK

Do you like colours? Why are we attracted by some colours and why do we perceive some colours as being repugnant? Probably each of us has a favourite colour. Then presumably we favour this for our clothes and our surroundings. The world is full of colours. Life and colours are inseparably linked.

Is my RED also your RED?

Colours prompt different feelings, they influence our mood and vice versa we can create moods with colours. Colours affect us without our noticing: at the

supermarket, at the fashion house, when doing sports. Everywhere our feelings can be manipulated by colours and deliberately selected moods can be created by them. We are powerless against it. However, the way we perceive a colour depends also on surroundings and on current emotional life.

Colours have great power

They have a strong effect on our senses, body, mind and soul. A specific colour may influence our decisions and induce a variety of reactions, feelings and associations in humans. Colours affect our gestures and facial expressions, our lives and our behaviour. Colours help us to better cope with stress, to strengthen our resilience and to become more active and optimistic.

Colours have a meaning

Depending on culture and traditions colours are interpreted differently. In our culture area the following applies:

red = love,
yellow = envy,
blue = loyalty,
green = hope,
white = innocence

Ancient cultures had a comprehensive knowledge of the meaning of the colours for human beings and they knew a lot about the energetic influence of colours. Colours send out signals, they emphasize our personality and contribute to our well-being. However, before we make use of the energy of colours for a harmonious and happy life, we should know a few things about the symbolic meaning of the colours.

The symbolic meaning of colours

- RED stands for life, energy, power and passion, invigorates, awakens inner forces, increases self-esteem, makes vital and dynamic.
- GREEN increases peace, endurance, helpfulness, tolerance and satisfaction, calms the nerves, improves concentration, helps to equilibrate body and soul.
- WHITE provides clarity, symbolizes light and purity, modesty, innocence, neutrality, the beginning, the new, the ideal.
- ORANGE gives strength and energy, increases pleasure, lightness, creativity, helps to reduce stress and drives negative emotions away
- BLUE symbolises peace, harmony, loyalty, calms excitability and nervousness, encourages communication and objectivity, brings on a dreamy mood and helps with sleep problems.



- YELLOW stimulates the spirit, enhances concentration and learning ability, brings sunshine to the soul and removes dark moods, has a protective effect.
- BLACK is the colour of individuality, extravagance, elegance, dignity, but black also stands for death and mourning.
- LIGHT BLUE is the colour of relaxation, helps to settle disputes and invites you to dream.
- BROWN gives us safety, security, peace and composure, helps with lack of grounding, preserves your own naturalness.
- GREY stands for neutrality and caution, helps to sharpen judgments and criticism, helps to appease and repress
- VIOLET encourages inner balance, peace, dignity and compassion. It awakens meditative powers and is said to possess painkilling properties. It also encourages healthy sleep.
- GOLD increases self-awareness, self-esteem, vitality and well-being. It is the colour of beauty, wisdom and wealth.

AID FOR FLOOD VICTIMS

In August 2014 a devastating flood destroyed large parts of the Balkan Peninsula. The tragedy claimed many victims and from one moment to the next the survivors were left with nothing, with the hometown of ACAT employee Goran Bijelic being severely affected. Spontaneously the ACAT family were able to help make things easier and made the best of a bad job - perhaps even human lives were saved.



The flood catastrophe occurring in August of last year flooded large parts of the Balkan Peninsula and it also has hit hard my native country. Particularly bad were the first four days of the disaster, when people had neither food nor water and electricity. It was a matter of pure survival.

To get an idea of the scope of the disaster I sent some photos to the mobile phones of my colleagues: The dam was broken and within only six minutes the water level in the city of Doboj climbed up to two meters. Two days later it reached the unimaginable height of seven meters! The house of my parents as well as our

homes were totally destroyed by the floods, my pets did not survive.

During the first days and weeks after the flood I tried as best I could to help with relief consignments from Austria to Bosnia. Thanks to the help of the great ACAT family the venture was successful until international aid had arrived.

On behalf of my fellow men, friends and family in Bosnia I would like to take this opportunity to thank you once again for your support in these difficult days and weeks. It was a great help and it means a lot to us.

Goran Bijelic

In a Far Away Country at a New Age:

AN ADVENTURE CALLED BAIKAL (Part 2)

From the point of view of HANS HERTEL the “Adventure Baikal” was the craziest trip “the papermaker” ever made. Nevertheless, in retrospect it was an unforgettably beautiful trip. Read more in the second part of his entertaining report!

Author Hans Hertel



AUTHOR:

HANS HERTEL

From the point of view of HANS HERTEL the “Adventure Baikal” was the craziest trip “the papermaker” has ever made. Nevertheless, in retrospect it was a very nice trip. Continue reading the second part of the entertaining report! The journey from Frankfurt via St. Petersburg to Irkutsk at the beginning of the 90s, was the subject of the first part of this story. Before I continue, a general comment: many employees of Russian institutes are very clever people who are able to solve also tricky problems. “. During my trips to Russia I had got to know some of these very crafty persons and I have kept them in good memory. Usually you are in good hands with them. Certainly, the man who picked us up from the airport in Irkutsk, was not one of them. For me he was “the shining light from the Lake Baikal”. Since two weeks he has known my travel data and he only was responsible for the procurement of the railway and the flight tickets. But he did not get any ticket at all. However, he told me, that the earliest date for my return flight would be in 10 or 14 days – but he did not know yet the exact travel dates. It was an unacceptable situation for me. Expressly and unambiguously I explained my Russian assistants, that I would not leave Irkutsk without a confirmation for a return flight in one

week. The airport staff told me that this matter needs to be dealt with at the Aeroflot Head Office in Irkutsk. So we left for the office. After arriving I was taken to the commander. He was a small, wiry and very kind man and he asked me in perfect German, “Gospodin Hertl what can I do for you?” I explained my situation. After some calls my return ticket was booked. When I asked him why he speaks German fluently he told me that he has been head of the Aeroflot office in Frankfurt for ten years.

The first problem was solved. The next hurdle to be mastered was to get tickets for the train to Selenginsk, 400 km away from Irkutsk. Where do you get them? As everybody knows, at the railway station! After endless discussions with the responsible official we got three forth class tickets for the night train. Today I write down the term “forth class ticket” as if it is the most natural thing in the world. At that time, however, I couldn't stop gazing in amazement when I saw the fourth class railway carriage. Only few people still remember the German passenger trains in the immediate post-WW2 period. Along the longitudinal axis of the carriages there were two benches where passengers sat back to back. Additional there were benches along the sidewalls. To transport as many passengers as possible the remaining large free floor space was for standing places. In Irkutsk we boarded such a railway carrier together with a lot of Roma people. Like us, obviously those people did not have enough money for a really comfortable Russian sleeping carriage - made in the GDR. On time at 22:30 the train departed. As there was only little light the fellow passengers were only shadowy recognisable. It was warm and there was a variety of smell in the air and, let's say, something you do not get used to.

As a precaution we took our well known “sleeping pill” and laid down on the hard wooden benches to sleep. The last thing I remember that night was an upright sitting, pretty round Roma grandma who eyed us suspiciously for a while. Apparently she wanted to check us, to find out whether she could trust us or not. As this question was answered obviously in the affirmative, she plumped down with a loud noise. Let us assume that the noise was caused by a loose board.

By and by the sun rose in the east. Suddenly the train stopped – in my opinion we were between stations. It took me a while to realise that we have arrived at the “Central



Photo: Kristen Buerger/ru.wikipedia.org

The Lake Baikal has gigantic dimensions, it is the largest freshwater resource of the world

Station" Irkutsk. Our reception committee was already waiting beside the station building: three freezing people in the dawn. The welcome was very friendly, nearly warm, especially for me. But the next sentences – addressed to my companions- were less friendly," It was high to arrive. We spent three nights waiting for you!" Long live the efficient planning and organisation,- and with a mobile phone this would not have happened. But it seemed that people in Siberia were unfamiliar with both methods. I couldn't stop gazing in amazement although I had made already about a dozen trouble-free trips to Russia.

Concerning the technological part of my visit I would like to be brief. Only three of the announced nine paper machines were in operation. Supposedly three paper machines were in reconstruction and the remaining three had been taken out of operation a long time ago. I realized quickly that even the best retention agents would have hardly effect sustained improvements in paper production. Certainly, we would have been able to reduce the pollution load of the waste water significantly with the appropriate chemistry, but it was clearly visible that the paper machines were not in such good conditions to carry out long-term chemical trials. The risk to fail was too high.

To my knowledge, in the meantime this paper mill as well as

a big pulp mill in Baikalsk were decommissioned. At least those two mills do not pollute the Lake Baikal any more. This is very important, because the Lake Baikal or just Baikal – as the Russians simply call him- is the largest freshwater reservoir of the world. Here are some figures - the comparative figures for the Lake Constance are given in parentheses - to illustrate how large it is: length 670 (63) km, width 85 (14) km. With a depth of 1.637 (254) m it is the world's deepest lake. The unimaginable volume is 23600 (48) m³, the surface area is 31 700 (536) km² and the length of the seashore is more than 2.100 (273) km, which corresponds to the distance from Gothenburg to Rom. It might be thought that the waste water of one paper mill is negligible, but there are a lot of industrial polluters along the shore. Each decommissioned plant helps to improve water quality and protect the environment for present and future generations.

Back to the paper mill: After four days of more or rather less productive laboratory work a report was prepared and discussed with many technologist. Then the inevitable happened: Before returning to Irkutsk in the evening my hosts wanted to give me an insight into the beauty of the Russian landscape. So at noon the technologists, my two companions and I went by bus to the Lake Baikal, about 30 km away. It took us one hour to get there. We stopped in front of a gen-

erously dimensioned wooden house, which obviously was part of the paper mill and used as a guest house. For the first time on this trip I was impressed by the organizational skills of my hosts. The general manager had sent ahead his cook with a limousine. So when we arrived, a perfect barbecue was already prepared for us. But there was one problem: it was realised that the "good" vodka had been used up. They did not want to offer to us the usual fusel, so "Strohrum" was served, a terrible alcoholic beverage, made in Austria. Usually it is used only for mixed drinks (three parts water, one part alcohol), but the Russians drank it almost undiluted. After eating the manager invited me to go for a walk along the lake shore. He filled a beaker with lake water and asked me to drink to convince me of the high water quality. I'm still not sure whether I drank something special. However, the fact is, that I was not very impressed. Suddenly the manager spoke to me in good German with Swabian accent. He told me that his ancestors were German, but that he would never speak this language in the presence of his Russian compatriots.

The train left at 22:30 clock, so it was time to go to the station in Selenginsk. Meanwhile, the alcohol took full effect. The bus ride was very funny. Alternately, the manager and the chorus of the technologists sang melancholic Russian songs. Wildly gesticulating they asked me to sing also. So I sang some sad, moody songs by Friedrich Silcher, such as "Loreley" and "Ännchen von Tharau"...thank God, it wasn't long before we arrived at the railway station.

At this point I would like to insert an episode. To carry out laboratory tests, on my business trips I usually had a small case with polymer samples with me. This suitcase I have given to my "Adjutant Boris", to take care of it and ensure that it would be always with us. When we said goodbye to our hosts at the railway platform - or what was called platform - I noticed that the sample case was missing. "Boris, where are our samples?" Everyone was upset! The sample case had obviously been left in the hotel. I told them that this would not be so bad. But the technologists disagreed. Although the train was already within earshot two of them left immediately for the hotel. It was clear that they could not come back again before train departure. And so it was. Without the sample case we boarded the train to Irkutsk. The employees of collective combine looked embarrassed after the train. But in this case the jury was not still out.

This time I had a 2 bed sleeping compartment. I was really tired and wanted to take advantage of the ten hour journey to recover and to sleep. First, however, there were problems with our tickets. The conductor shouted furiously at us that we would have the wrong tickets and, moreover, foreigners had to pay at least three times the rate of the locals. I succeeded to persuade Boris to leave the compartment. As usual, the men in uniform and I solved the problem in a quick and un-bureaucratic manner. I must confess that in

the past I often had spent a 20-mark bank-note less profitable, and the half a pack of cigarettes was to get over. Finally, day was over, work was done, and I was on my way back home, sleeping in a rolling bed ..

But people living in the region around the Lake Baikal do not surrender so quickly! After about two hours travelling, the train stopped at a station. Suddenly someone knocked loudly and vigorously on the window of our train compartment: The "Heroes of Selenginsk" had followed the train by car and in fact, they had outrun it. Beaming with joy, they handed over to me the case with the samples. Visibly they were happy to give back this "valuable" piece to me. I thanked them and expressed my respect.

Unfortunately, for me the trip was still far from being over. In Irkutsk an employee of the institute received us and took us to a small hotel.

We had to get through the whole day because the scheduled time of departure was at 6:30 pm. Unfortunately, I did not see much on the customary city tour. The efforts of the last days had left their mark -and additional I had caught a cold. Far too early a taxi took us to the airport. The departure hall was crowded and that should have given us food for thought. Hour by hour passed, but not only one single airplane took off or landed. Finally, at nine clock in the evening we were informed that our flight was postponed to the late morning next day. It was of course a great disappointment. I sent my friend Boris back to town to find a room for the night. After two hours Boris came back and told me that all hotels were fully booked. Of course, for a lot of money, I went to town by taxi. I left the driver waiting outside the first hotel that came along and asked at the reception for two beds for one night. The receptionist confirmed the statement of Boris: the hotel was fully booked - but only for the next day because a few hundred delegates would arrive for a congress. Therefore, it was not possible to book rooms for today. I made it clear to the lady that we would have left the hotel long before the delegates will arrive. Finally, we have agreed, and I just had to pick up Boris from the airport - of, course with the expensive taxi. If mobile phones had existed at that time, it would have been much easier. Tired to death we went to bed. A few weeks later I got to know from our office in Moscow the reason why all flights have had been cancelled that day in Irkutsk: even after several reminders Aeroflot failed to pay the costs for the aviation fuel, so the supplier stopped deliveries.

Unfortunately, I had noticed that my foreign exchange reserves ran short. However, the lady at the reception desk told me that I could pay the room with my plastic card next morning. At that time this mode of payment was only possible without problem in Moscow and St. Petersburg, in other parts of the Soviet Union, it was practiced only rarely. The next morning I was told that the only person who knew how to use the plastic money machine did not come for work. So

I had to pay with my last cash the room and the taxi to the airport.

As expected the remaining travelling time also was not trouble-free: the flight to St. Petersburg was delayed by more than one day – and moreover the plane started not as planned in the morning but in the early evening. When I finally landed at St. Petersburg, all connecting flights to Germany had taken off and I had to survive another night at a Russian hotel. Fortunately, next day at noon there was a flight to Berlin. One took a pity on me and I got a ticket for it. As usual, at the passport control at St. Petersburg the officer looked at me searchingly, and then he asked brusquely: "Goose Gertel?" I answered his question in the affirmative and got the redemptive stamp into my passport. Once again, I was graciously dismissed from the Great Russian Empire.

Certainly it will come as no surprise to anyone that the aircraft landed at Berlin-Schönefeld instead of Berlin-Tegel. To get my connecting flight to Frankfurt I went by taxi to Berlin Tegel, about 30 km away. I did not have enough cash to pay for the trip, so I asked the taxi driver to stop at an ATM. He sympathised with me and without further comment he met my request.

The flight to Frankfurt was the end of this adventurous journey. My answer to the question "thumbs up or thumbs down" is: "Despite all adversities the trip to Lake Baikal was beautiful and funny!"

For a long time I've been pushing off writing a report about it.

Since that time many years have passed and I still like to think of this extraordinary journey! ●

CONGRATULATIONS!

Dr. Staffan O. Björn celebrated 70 years adventure of life!

Late last summer the founder and principal shareholder of the ACAT group, Dr. Staffan O. Björn celebrated a milestone birthday - 70 years ago he was born in Sweden, moving to Basel, Switzerland at an early age, with his parents. In 1947 immediately after the 2nd World War, his father Erland O. Björn founded Cell AG, which initially put the focus on the rebuilding of the pulp trade from Sweden to Switzerland which had come to a standstill during the war. From an early age he became familiar with all ups and downs of entrepreneurship. In the 1970s after graduation in economics, he joined the Cell group, which was already represented in many European countries.

In 1980 he followed in the footsteps of his father and took over control of the company and since then the joys and burdens of entrepreneurship have been his daily bread. As CEO he further developed the group steadily and consistently soon recognizing the need for diversification into other business areas. But trading with pulp still was his core business. Furthermore he was the Swedish consul general in Basle, Switzerland.

He broadened the product portfolio of the CELL group by gaining important suppliers for minerals and chemical additives for the paper industry, which were hardly available at that time. That was very farsighted. In contrast to the current situation, specialty chemicals were hardly used in paper industry, they were even frowned upon. The market for environmental technology was almost non-existent because



sewage treatment plants had to be built first.

In the first half of the 80s after a long start-up period, the sales of chemicals increased to acceptable levels and for the first time the courageous decision started to bear fruit. This business segment recorded strong and sustainable growth. In 1994 Staffan Björn decided to spin off this business area into a separate company. This was the hour of birth of the Applied Chemicals Group. Today the company operates worldwide and generates sales of EUR 50 million with about 100 employees.

It takes a lot of courage and a good deal of entrepreneurial spirit to build something

like that up from nothing and to make the right decisions for the future. The Applied Chemicals Group is one of the few remaining family-owned companies of this size.

It is a service and customer oriented supplier of specialty chemicals with focus on application technology and it is completely independent. The name the ACAT is closely linked with the Björn family, providing sustainability and continuity.

Staffan Björn is a proud father and an even prouder grandfather. With his descendants he has laid the foundation for a long-term future of the ACAT as an independent family-owned company, for the benefit of employees and customers.

The entire staff look forward to many more years of cooperative work and congratulates on your 70th birthday!

ANNIVERSARIES

Erich Sailer: A veteran is 30!

In summer when it is getting louder and louder in front of the Viennese office, it can be assumed that once again our Easy Rider has unwrapped his sparkling motorcycle and rides to work. When the impressive sound fades away, a youthful-looking figure gets off the noble vehicle and takes off his helmet. One can quickly realise that the first youthful impression was not right, but in any case it is really a dynamic appearance.



It is hard to believe, but our Erich Sailer is celebrating his 30th company anniversary! As a member from the very start he has built up painstakingly the ACAT environmental technology in Austria and Central Europe. For decades he has been head of "HIS" environmental technology department in Austria and Hungary with high competence and he is held in great esteem.

Erich has built up a highly competent team of employees that is without equal in this sector. Wherever he appears he receives appreciation.

It is really a great feeling looking back on such a great career. In view of the many upcoming projects also the future is promising. Erich we thank you for your loyalty and your valuable work in our business development and we look forward to many, many years together - and to your 40th anniversary!

MZ

Susi Durst: 15 years advertising

and marketing for ACAT



It takes a great deal of enthusiasm and commitment to swear our technical staff on a uniform line in advertising and marketing. In the daily work routine of an application engineer the positioning of logos and glossy brochures do not have not top priority. But for a company the

external appearance is of great importance. For the past 15 years our Susi Durst has been the custodian of our corporate identity and she has mastered this task with a great deal of skill and care.

Trade fairs or our new Internet web sites, brochures, working clothes, printed forms, calendars, giveaways and much, much more - with a lot of experience and passion she maintains our optical image!

Susi, we thank you for your great commitment and for the excellent care of our promotional and marketing activities and for your patience with us inveterate and sometimes uncomprehending technicians! Congratulations on the 15 year anniversary and we look forward to the next 15 years together!

MZ

Josef Söllner: 15 Years ACAT-Mechanical Engineering

For 15 years, Josef Söllner has been an employee of ACAT. Due to the development of the spare parts and service business, he provides a certain degree of stability in the crisis-ridden project business within the mechanical engineering department. He needs to be flexible to adapt to the changes and trends of the market and to reorient again and again.



His responsibilities include a wide spectrum, but just to name a few: chamber filter presses with alternate clothes, screw presses as well as the high-performance new Spaans Babcock screw pumps. Josef, we appreciate your flexibility and your loyalty to your colleagues and to our company. We hope that we will continue to successfully master the challenges in the future.

POB

Christian Kozanda: 10 Years dedicated efforts

Photos: Christine Nestler-Kenzian



Since 10 years Christian Kozanda has been member of the ACAT family. Initially he was responsible for the mechanical pre-clari-fication and he succeeded in establishing the Grimmel screen systems in Austria. In the course of internal changes he was entrusted with the mechanical

sludge dewatering and helped to further optimize the ACAT screw press.

Christian serves our customers efficiently and in superior style. He always finds solutions and he does not mind to get up very early in the morning and to have long working days. We particularly appreciate his entrepreneurial spirit corresponding to the ACAT philosophy. Christian, thank you for your dedicated efforts. We look forward to further joint "adventures"!

POB

NEWCOMERS

Heiko Zien: Joined the German paper team

On 1 September 2014 Heiko Zien took up his duties as a member of our German paper sales team. Already in the third generation working in paper industry, Heiko is an expert in the field of paper chemicals. He acquired many years of experience working at Woellner, Ciba and BASF. He predominantly serves our customers in East Germany. As he is a passionate skier Heiko Zien likes to ski in his spare time and sometimes he "kicks" as a hobby footballer.



Peter Lauscha: In the service of ACAT screw presses!



For the further development of new international markets for the ACAT screw press we hired a new employee. Since May 2014 Peter Lauscha has been working for our company and is responsible for the expansion of our international distributor network. In addition, he supports existing partners and presents the ACAT screw presses at international trade fairs. Peter Lauscha is an enthusiastic amateur athlete. Especially enjoying outdoor pursuits such as mountain climbing, hiking and mountain biking. Peter, we welcome you at the ACAT team!

Jean-Oliver Haug: On the road in Switzerland

Since 1 November 2014 Jean Olivier Haug has been with the Swiss ACAT water-tech team. After eight years working in the field service of various companies operating in the wastewater sector, he joined our company, full of experience. Jean Olivier mainly operates in French-speaking Switzerland and his main task is the distribution of metal salts.

Jean Olivier dedicates his free time to his young family. His greatest passion is collecting anything that has to do with beer. We warmly welcome our new team member!



Franz Schneider: New member of ACAT



paper technology

Already in April 2014 Franz Schneider joined ACAT. Due to his technical knowledge in electrical engineering and programming, he changed to paper department in November 2014. His area of responsibility includes the support of the entire mechanical engineering including programming. Planning, implementation and commissioning of the projects take Franz to various countries. Fortunately, he likes travelling and various sports. Franz, we welcome you at the team!

Gerhard Heigl: For Fresh Wave at ACAT Scheibbs

Gerhard Heigl is a skilled machine fitter, engineering draftsman and part-time farmer. At ACAT Scheibbs he is responsible for the expanding production of Fresh Wave products and for the raw materials warehouse. It is planned to further expand his position to a production manager. In addition, he will play a part in diverse projects as an engineering draftsman. Gerhard likes to spend his free time with his two daughters and his life partner. Dear Gerhard, We wish you a lot of success at our company!



Bradley Ballantyne: New in Team South Africa



Bradley Ballantyne (Brad), born in Zambia, moved to South Africa in 1981. He has been in the paper industry since finishing school in 1988 and has been a chemical sales representative since 1996. He started off as a junior sales representative and worked himself up to become a Regional Sales Manager before joining ACAT. He completed a Diploma in Sales and Marketing and thereafter completed a 5year Management Development Programme. He is a fitness fanatic, loves various sports and is passionate about the outdoors.

NEWCOMERS

Lorenz Dycke: New at ACAT-Basel

For the expansion of our business sector of natural odour neutralizers we were looking for a sales and marketing assistant for the support of our European customers - and we found Lorenz Dycke. Certainly, his training as a wholesaler and export merchant will be beneficial to both him and us.

His favourite leisure activities are paragliding, biking and playing saxophone. Good luck and welcome to the team!

AR

**Josef Fallnhauser: New in paper division Vienna**

Since 1st January 2015 Josef Fallnhauser has been supporting our proven paper technology team in Vienna in technical service, because we plan further expansion in this sector. Josef is a trained car and motorcycle mechanic. From 1989 to 1991 he completed training as a paper maker. After two decades of working in the paper production, he changed sides and became a supplier to better use his rich experience in application technology. Josef

lives in Bad Vigaun near Salzburg, is married with two children. If time permits, he will pursue his hobbies including motorcycles, motor sports and swimming. In papermaking a continuous, trouble-free dosing of additives is essential. We are very pleased to win with Josef an expert in this field and wish a good start! MZ

Roman Eichbauer: Managing Paper Technology

On 1st January 2015 Roman Eichbauer took over the management of ACAT paper technology department for Central and Eastern Europe. After graduating from his studies in Paper Production at the University of Munich, Roman gained occupational experience in production and management at the former paper mill "Hallein Papier". By joining Nalco in 2005 Roman changed from producer to supplier and deepened his expertise in chemical application technology and commercial matters. Roman lives in St. Koloman near Hallein, and he is married with three children and one grandchild. We are very pleased with this experienced, competent and energetic strengthening of our paper technology team. We wish Roman every success in his new challenging duties!



BE WELCOME BABY

Ronny Schulz has become Daddy!

Little Helena was born on 12 January 2015. She was 54 cm tall and weighed 3570 g. From the very first moment she has been a real bundle of joy. The ACAT team wishes the proud parents a lot of pleasure with their little girl.

MARRIAGES: FOUR HAD THE COURAGE!

Doris Fischer: If angels marry...

...then the weather is nice and all guests and the bridal couple are happy.

On 27 June 2014, the civil wedding of our dear Doris formerly Rücker with Stephan Fischer took place in the picturesque rose garden of Schloss Weikersdorf in Baden. The festive atmosphere of the Renaissance Schlosshotel, the bright blue sky that was not common in the summer of 2014, the live music and many other things made not only the ceremony but the whole day so unique and memorable for the newlyweds that even some tears of happiness were shed. We wish Doris & Stephan only the very best for their future together!

HR

David Nowakowski has married!

Just before the end of the year, on 30 December 2014 David Nowakowski and his bride went to the registry office in Hünfeld (Germany) where they got married in a civil ceremony. Following this the event was celebrated together with

their families.

We wish David and his dear wife many decades together in pure harmony, in short, only the very best!

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