20
22
Issue 30

inside acat

Newspaper for customers, friends and employees

Coverstory

TURN OF AN ERA

ACAT FOR FUTURE

CO_2 Neutral Logistics

BETTER SOLUTIONS

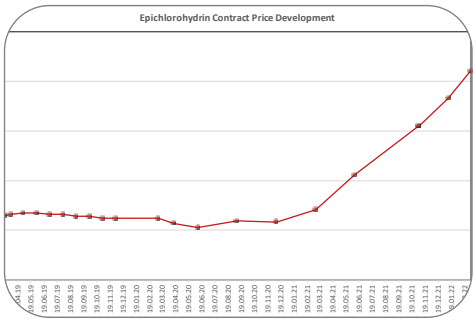
with ACAT Dissolving Technology

Environmental technologies for the future.
May 30 – June 3, 2022
Messe München
Hall A3, Booth 544
Visit us!
IFAT Munich

Applied Chemicals International Group

Technical Service is our Success

CONTENTS



Procuring products is becoming an increasingly difficult and complex challenge with rising costs.

ACAT for Future - the challenge to transport over 50,000 t material in a climate-friendly way

The better solution with ACAT Polymer preparation systems in the focus of the optimisation of the operating materials

NEWS, EVENTS

2 IFAT: May 30 – June 3, 2022 in Munich

3 Paper & Biorefinery: May 18 – 19, 2022 in Graz

TECHNICS

4 Coverstory: Turn of an era

10 CO_2 neutral logistics for keeping the environment clean

12 The better solution with ACAT

18 Natural organic chemicals for wastewater treatment

20 Utilisation of the “wastewater based epidemiology”

24 ACAT technology: „Dosage equipment is our success“

26 Requirements for the preparation water for polymer solutions

28 Odorless asphalt

30 Chemtech keeps on growing

31 Silysiamont, an introduction

COMPANY NEWS

34 ACAT South Africa 10 years of success

36 Anniversaries

43 New at ACAT

45 Our products

IMPRINT:

inside acat issue 30, May 2022
Owner, publisher and ©
Applied Chemicals International Group AG,
CH-4054 Basel, Neubadstrasse 7
T: + 41 61 282 82 82 or T: + 43 1 979 34 73
E-Mail: international@acat.com
Website: www.acat.com Editor: Dr. Gildis Grabner;
Cover: Adobe Stock Photo;
Photos unless indicated otherwise: ACAT;
Printing: Bösmüller, A-2000 Stockerau

PHOTO: CLEMENS G. SCHILDBERGER

Manfred Zabl

Dear friends of our company!

In the 28 years of the ACAT Group's existence, we have now made it to the 30th issue of "Inside ACAT", and I have had the honour of writing the introductory words for each of these magazines. It is therefore high time for a change and with this, my last foreword, I hand over this task to my successor as CEO of the ACAT Group, Mr. Per O. Bjöörn.

42 years in the Group, 28 of them at ACAT, have been a challenging time in which I have had the privilege of accompanying and leading the dynamic and enormous development of this company. I still have a few years ahead of me on the Group's Executive Board, but it's time to step aside and make room for a new generation and for a breath of fresh air in our journal. One or the other article will probably continue to flow from my pen in the future, but for the prominent position of the foreword to „Inside ACAT," I wish the new CEO every success for the many issues to come.

I hope very much that we have succeeded in providing you with an interesting and informative reading, and in bringing you a little closer to the inner workings and actors of ACAT. Anyway, thank you for your interest in our unprofessional publication and I look forward to staying in touch with you!

Manfred Zabl
Senior Executive
Applied Chemicals International Group

PHOTO: MARTIN THALMANN

Per O. Bjöörn

Dear readers!

I am pleased to present you the 30th edition of „Inside ACAT". Of course, the current topics, especially the conflicts in Europe, but also the situation on the raw material procurement markets, do not leave us unaffected. We do not see it as our task to judge the political events in the ACAT company newspaper, but we should very much address the effects of the pandemic and the current conflicts. Therefore, the raw materials, their availability and their price trends are a major topic of this issue. But we also want to think about the near future: In the environmental sector, we will probably finally have the opportunity to participate again in the trade fair, IFAT 2022, in Munich at the end of May. We look forward to meeting and bringing our partners and customers together. We would be pleased to welcome you at our booth.

Manfred Zabl mentioned it above: ACAT is in the midst of a generational change. I would like to take this opportunity to thank him for what has been achieved in decades of intensive work. Our activities have grown tremendously over these three decades and ACAT was able to achieve a great deal under his leadership. I am honoured to now take over the management of the company and to be able to contribute more intensively.

As a family company, we can make a strong commitment to values such as sustainability and longevity. The upcoming generational change at ACAT has already been considered for several years and initiated step by step. It is important for us to maintain the acquired knowledge and to ensure continuity. That's why I'm very pleased to continue to lead the future of the company as a team in the ACAT Executive Board together with Manfred Zabl and my father Staffan O. Bjöörn.
Thank you very much!

Per O. Bjöörn
CEO Applied Chemicals International Group

IFAT 2022 - World's Leading Trade Fair for Water, Sewage, Waste and Raw Materials Management May 30 - June 3, 2022 in Munich

After two-years of standstill due to the Corona pandemic, IFAT will finally take place again in 2022. We will be there again as an exhibitor and look forward to a personal face-to-face contact with you!

PHOTOS: CHRISTINE NESTLER-KENZIAN

We would like to invite you and we look forward to welcoming you personally at our booth. The trade show offers the ideal environment for us as a company to present our products and services to decision-makers like you.
At this year's IFAT, our main focus is on the presentation and exhibition of a Polymer Dissolving Station at our booth.
Usually you will find our booth in hall A3 booth number 544, where we will be happy to inform you about our current solutions and products and the advantages they offer to you. Take advantage of this opportunity for an in-depth personal discussion.
We will be pleased to accept appointment requests by phone +43 1 979 3473 10012.

We look forward to your visit at our booth and to spoiling you again with Carinthian specialties! *Text: S. Durst*

IFAT 2022 Booth-Nr. 544 Hall A3
We are looking forward to your visit at our booth, where we will spoil you again with Carinthian specialties!

The key facts of IFAT 2018 at a glance:
- 3.305 exhibitors from 58 countries and regions
- 142.472 visitors from 162 countries and regions
- 260.000 square meters exhibition space

PAPER & BIOREFINERY MAY 18 - 19, 2022 IN GRAZ

In its focus the topic PAPER FOR FUTURE!

After a two-year break, the pulp/paper and biorefinery sector will gather again in Graz for its traditional industry meeting with around 500 international participants. As usual, the wide range of topics is complemented by an interesting trade exhibition. Once again the highlight will be the conference dinner, which will be given an additional festive touch by the anniversary "150 years of Austropaper". The aim of the initiators is to create a platform for future-oriented impulses. We look forward to further future-oriented talks with you on May 18 /19, 2022 at our stand at this trade exhibition, where the topic PAPER FOR FUTURE will be focused.

Text: Susanne Durst

TURN OF AN ERA
in Product Supply

AUTHORS:
NURI KERMAN
ERICH SAILER
MANFRED ZABL

STORAGE MANAGEMENT

12 years ago, ACAT changed its stock to the intelligent system "ACAT SMART INVENTORY MANAGEMENT SYSTEM". A new warehouse management system was introduced to ensure the best possible delivery capability for our customers. Delivery delays and, in the worst case, delivery failures would have unforeseeable consequences for both, the customer and the company. In most cases, delivery failures, especially for flocculants or retention aids, would result in the shutdown of customer's plants. This would be fatal because, for example, sewage treatment plants would no longer be able to comply with the discharge values or paper mills would have to interrupt their production. A shutdown of one hour means a loss of sales of about EUR 50,000 for a modern paper machine producing corrugated base paper. In addition, delivery problems lead to stress and wasted time on both sides. Today, many companies work with a minimum of staff, and therefore delivery problems should be avoided at all costs. Right from the start, ACAT's credo has been: "We never let a customer run dry". The priority is always to supply the customer. Extra trips due to a minimum stock level should be avoided as far as possible, as they cause costs and thus cost savings are destroyed again. A higher stock level is always in contrast to the costs and must be well thought out.

The correct minimum stock level at ACAT is based on the average consumption of the last weeks, the respective product group and the container type. Based on the experience in recent years, the minimum stock for products in containers is usually 4 weeks of product requirement of the individual customer. With the onset of the COVID 19 outbreak, the inventory was expanded to three months to meet the needs of each customer! For bulk products, the minimum stock is one to three weeks. Minimum stock levels depend also on the storage capacity the customer can provide on-site. Storage is easier and less expensive for products in containers than for products to be delivered loose in tankers. A good co-operation between ACAT and the customer is very important for loose products. In this case the tank size at the customer's site plays an important role. We offer our MeasureStar® remote monitoring system for the level measurement of the tanks (Fig. 1). This system is either managed by the customer or by ACAT to deliver automatically.

The determination of the minimum stock level is influenced by the following expectable problems:
- Production losses (failure of plants, rawmaterial supply, quality)
- Pandemics, strikes, severe weather, etc.
- Logistics
- Sudden increase in demand

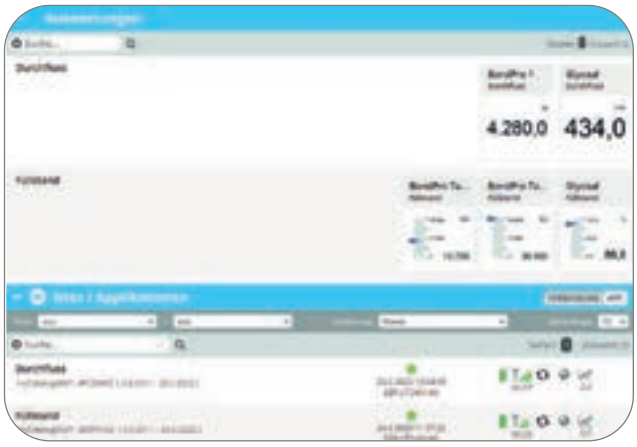


Fig. 1: ACAT's MeasureStar® tank remote monitoring system

Another important parameter is the re-order level. If this level is reached, a new order is placed. It must be chosen in such a way that the minimum stock is maintained. The order level is a dynamic variable and it is continuously adjusted. In this context, the duration for replenishment is of decisive importance. If it is foreseeable that the replenishment time will change, the re-order level must be adjusted immediately. Therefore, good communication between production and the logistics company is absolutely essential.

The maximum stock level is another important parame-

Fig. 2: ACAT Big Bag and IBC Stocks

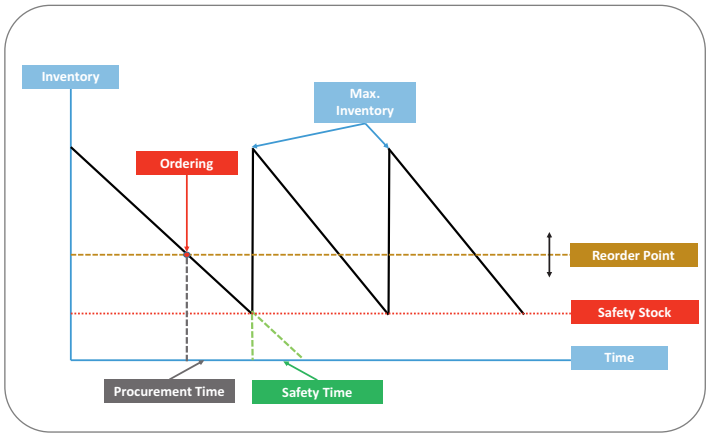


Fig. 3: Graphical representation of stock levels as a function of time

ter. Unnecessarily high stock levels leads to high warehousing costs (especially for very expensive products), ties up capital, may take up space for more important products and can put an unnecessary burden on productivity. ACAT prefers a rather conservative planning to be on the safe side.

Conclusion:

Optimal stock levels and logistics determine ACAT's day-to-day business. The following goals are pursued:

- Delivery reliability for the customer
- Low storage costs
- Cost-optimized procurement (e.g. full utilization of tankers, avoidance of low-quantity surcharges)

The above points make it clear that several factors are in conflict with each other sometimes. It is necessary to find the optimal middle ground. Regardless of the fact that sometimes costs are higher, delivery reliability always has the highest priority for ACAT.

LOGISTICS

In recent years, the demand for logistics services has grown steadily. Bottlenecks in procurement and thus

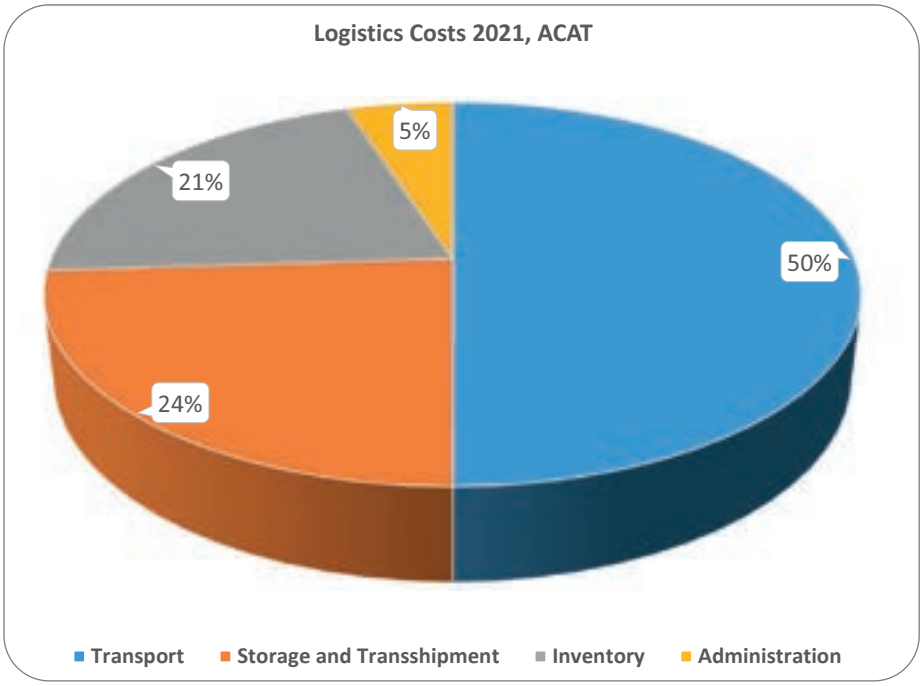


Fig. 4: Distribution of logistics costs 2021 at ACAT

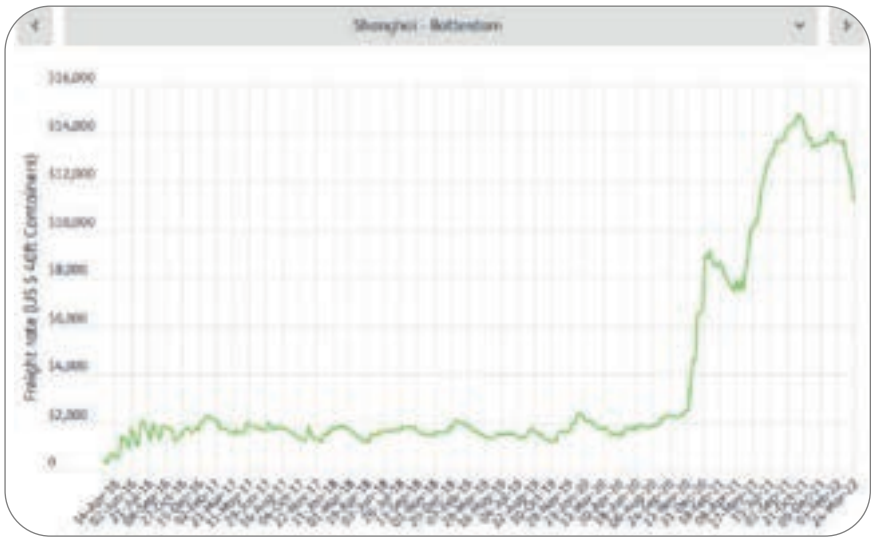
disruptions in the supply and logistics chains are to be expected to continue in the economy this year. This in turn has a negative impact on inventories, which have to be kept at a higher level. The result is a shortage of stock and higher costs. In addition, rising personnel costs, toll costs and fuel costs at logistics companies have meant that ACAT has had to cope with sharp increases of logistics costs, especially in the last five years.

In the past, ship transports from China to Europe were cheaper than truck transports within Europe. Currently, horrendous sums have to be paid for ship passages from China because of the high demand. The reasons for this are manifold. Above all, however, the availability of empty containers, congested ports (not enough trucks to transport them), the lack of seafarers (travel restrictions due to Corona) and dock workers play a decisive role. In the opposite direction, the cost of ship passage is also at a higher level than before, but very far from those that must be paid for the China - EU route.

Shipping cargo from the EU and China to the USA is currently extremely costly and complex. Delivering the goods to the port is one thing, transporting the goods from there to the recipient by truck is another one. Waiting times of three weeks for onward transport from the port are not uncommon in the USA. In the meantime, a bidding process has become established. The highest bidder is awarded the contract for the shipment. Due to the very good earning potential of up to 120,000 USD per year, truck driving has become so attractive in the USA that many professionals, such as taxi drivers, are retraining. All these factors together have a massive impact on the overall costs.

GRAPHICS: DREWRY SUPPLY CHAIN ADVISORS (2)

Fig. 5 - 6: Freight rates 40‘ container
Shanghai - Rotterdam and Rotterdam - Shanghai



In the future, supply chains will be influenced by climate policy and geopolitical events also. In recent years regulations have increased steadily. CO_2 pricing will have possibly a massive impact on companies. They will be forced to switch to alternative drives such as rail and electrically powered vehicles. Even today, the CO_2 fingerprint and its verification is an important criterion for many companies when purchasing products. ACAT is working tirelessly to reduce its CO_2 emissions, and it offers customers alternative options, such as delivering iron sulphate by rail to the wastewater treatment plant in Vienna.

RAW MATERIAL/ MATERIAL COSTS

As a major distributor of chemicals and plant manufacturers for the preparation and metering of chemicals in Europe, we are also massively affected by the recent development of raw materials and material costs, in addition to the procurement

Fig. 7: Worldwide deliveries of raw materials with Flexibags for our BondStar® dry strengths agents systems

Our Logistics-Team in the service of our customers

Elmarie Pauw, Sabine Spieler, Uschi Polt-Fischer, Nadine Lansucki, Sara Dominguez, Barbara Scaramelli, Gabriele Horak, Lukas Feichtegger and Jozsef Piczek (f.l.t.r.)

Jasmin Thalmann: *„Optimum warehouse management is the be-all and end-all for us“*

Kirsty Austin-Volek: *„The needs of our customers are the focus of our work!“*

Andrea Schilhan-Kainz: *„Delivery on time is the highest priority for us!“*

PHOTOS: CHRISTINE NESTLER-KENZIAN (5), MARTIN THALMANN (4)

problems and the resulting costs. Polyacrylamide and related products are the core business of ACAT.

POLYACRYLAMIDE

One of the most important raw materials for the production of polyacrylamides is acrylonitrile. In the period from January 2019 to March 2022 there was a price increase from 2000 EUR/t to 3000 EUR/t for contracts on acrylonitrile (Fig. 8). Currently, at times even >3500 EUR are paid on the spot market in Europe. The reasons are complex and they are primarily based on the fact that there is a high demand for polyacrylamides with simultaneous reductions in capacity for the raw materials in Europe. In addition, previously less noticed components of the polyacrylamides are now making a significant difference. These are primarily polyDADMACs and catalysts. Increased and volatile energy costs (Fig. 9) are causing further unrest and they are reflected in pricing. Force majeure declarations by some raw material suppliers are commonplace. Imports from China, where raw materials are actually cheaper, do not improve the cost situation, as freight costs are very expensive. Currently imports from China are only used to ensure secure supply. Furthermore, there is a quota system for acrylonitrile imports in the EU, and further expenses such as customs duties are incurred.

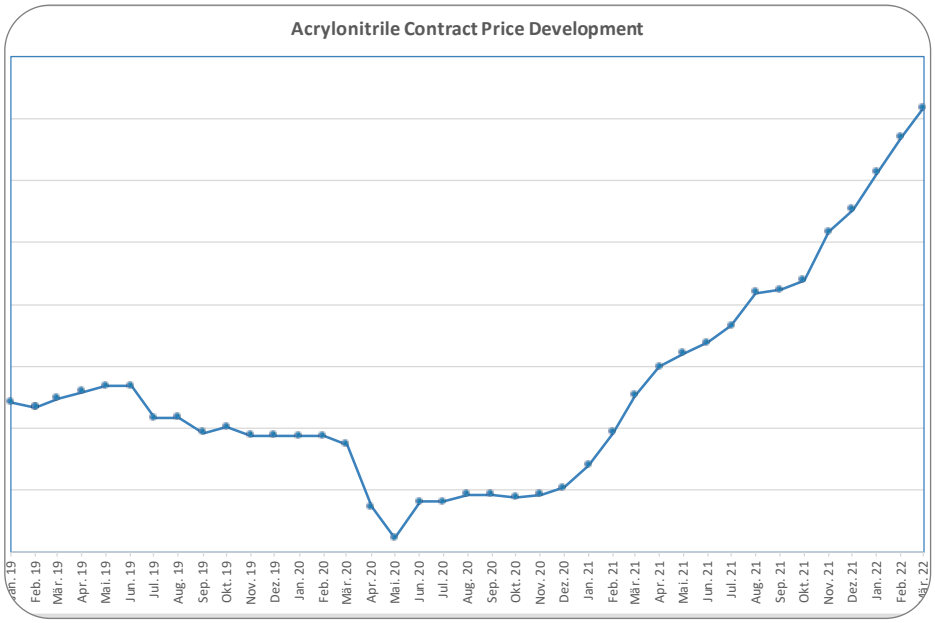
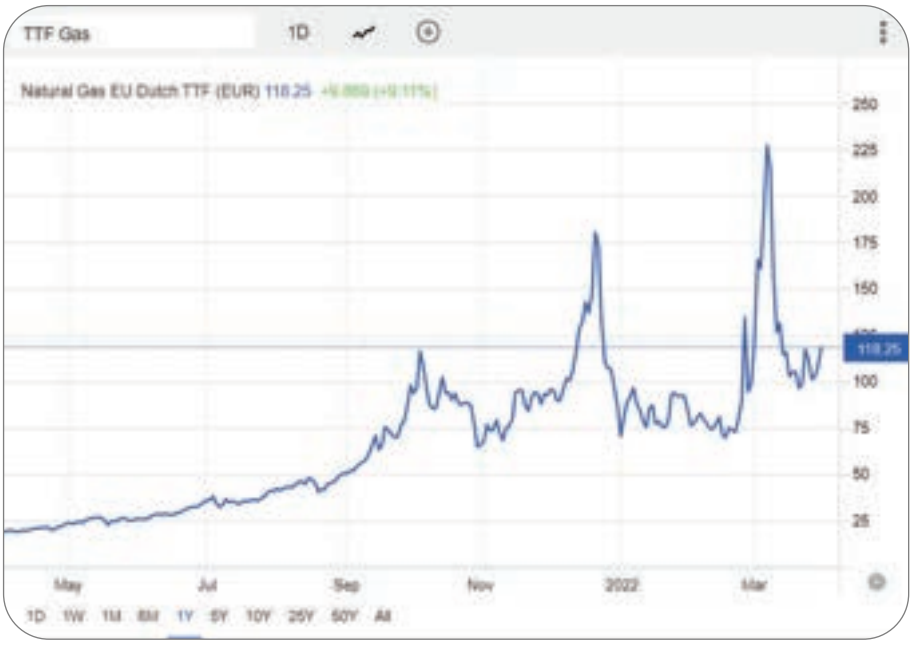


Fig. 8: Trend Acrylonitrile Contract Prices Jan 2019 - March 2022

FIXING AGENTS

Another important material is epichlorohydrin, the basis for our polyamine fixatives used as coagulants and in paper mills additionally for sticky control. After many years of price stability, there was an incredible 64% price increase in the period from March 2021 to



SOURCE TRADINGECONOMICS.COM

Fig. 9: Trend TTF Gas EU Dutch - as of March 30, 2022

February 2022 only, and an end is not in sight! Currently, there is hardly any investment worldwide for the increase of capacities for the production of epichlorohydrin.

INORGANIC PRECIPITANTS

There were also significant raw material price increases for iron/aluminium-based products. The reasons for this were primarily product shortages and energy price increases. The shortages were mainly due to technology developments and new markets for these product groups.

MINERALS, CHEMICAL ADDITIVES AND TECHNICAL EQUIPMENT

Due to the pandemic-related failure of many supply chains for these product groups and the heavily increased production and delivery costs, almost all of these materials did not only become very expensive, but they are also very difficult to procure. However, thanks to our long-standing supplier contacts, we were able to meet almost all delivery obligations, but we had to accept longer delivery times and massively higher procurement costs in return. Unfortunately, electronic parts for the construction of our systems for dissolving and processing our chemicals still arrive with a delay of six to eight months.

CONSEQUENCES OF THIS TURN OF AN ERA

To our regret, we had to and we still have to pass on the ongoing price increases for raw materials, energy and logistics to our customers. Unfortunately, a longer-term pricing, as was customary in the past, is not possible at present and there is no easing in sight for the cost situation. However, we would like to state that we are still striving to be as stable, reliable and predictable as possible. We are in a phase of extreme volatility, dealing with massive changes in the markets every day, and yet we will continue to strive to live up to our credo of continuity in partnership in the support and supply of all our customers. Our logistics team is currently working hard to ensure that your supply remains solidly secured and whatever may come, together we will overcome even the most difficulties. We are and we will remain a loyal partner for you and we will fight together until normal conditions return and peace prevails again.

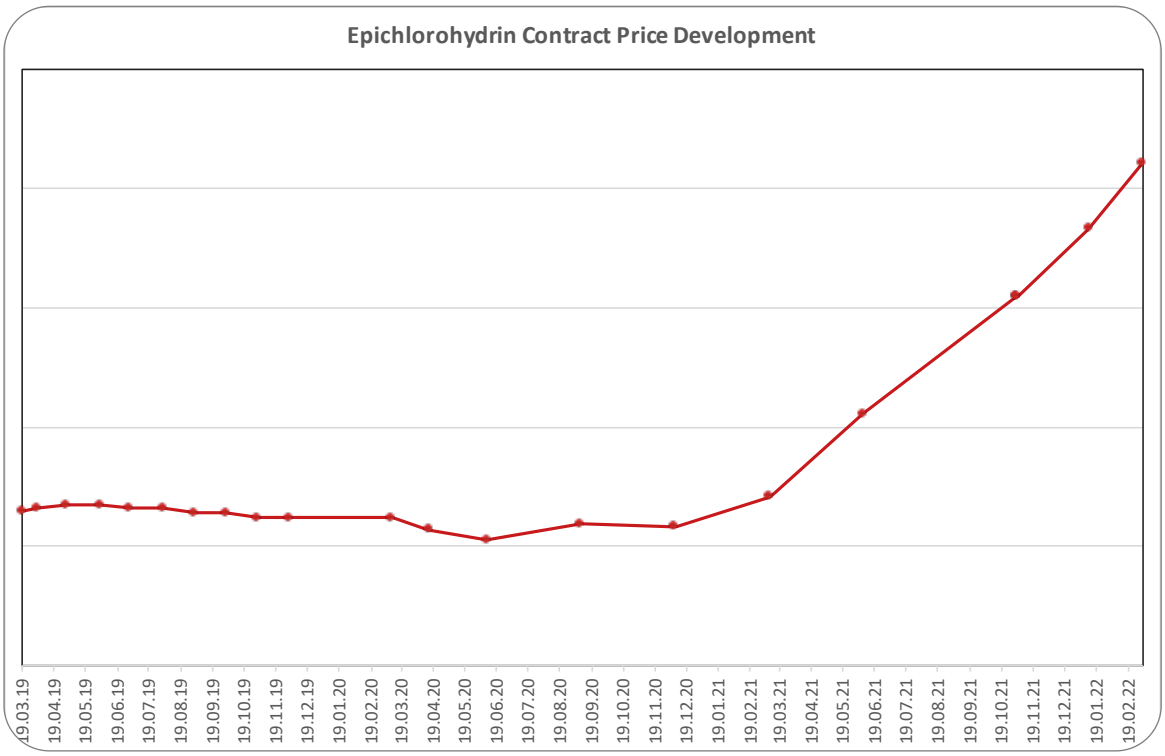
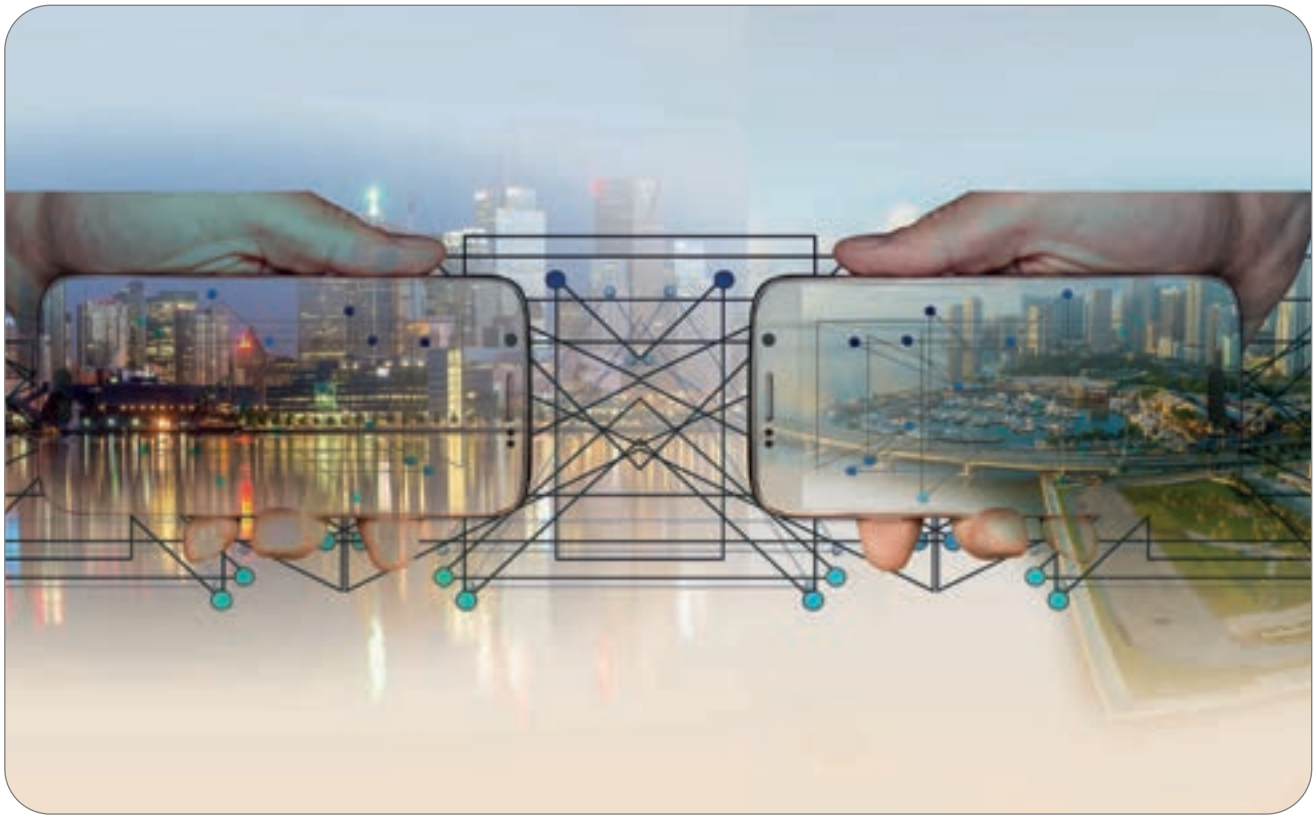


Fig. 10: Price Development for Epichlorohydrin

CO_2 NEUTRAL LOGISTICS

For Keeping our Environment Clean

PHOTO: PIXABAY



AUTHOR: **ERICH SAILER**

For more than 30 years, ACAT has been dealing with one of the most important issues of our time, keeping our water clean.

To achieve this, nutrients must be removed from our wastewater to prevent them from entering groundwater or surface water in order to prevent over- fertilization (eutrophication).

One of these nutrients we successfully remove in waste water treatment plants is phosphate. This is usually done with iron or aluminium salts, which are used at different stages of the purification process.

The aluminium or iron salts are produced as solutions and these have to be transported to the customer and stored there until using.

As these solutions have an active ingredient of only 9-14 %, large quantities of product have to be transported over long distances. The solutions are mainly highly acidic and corrosive, and therefore classified as dangerous goods requiring special transport and storage.

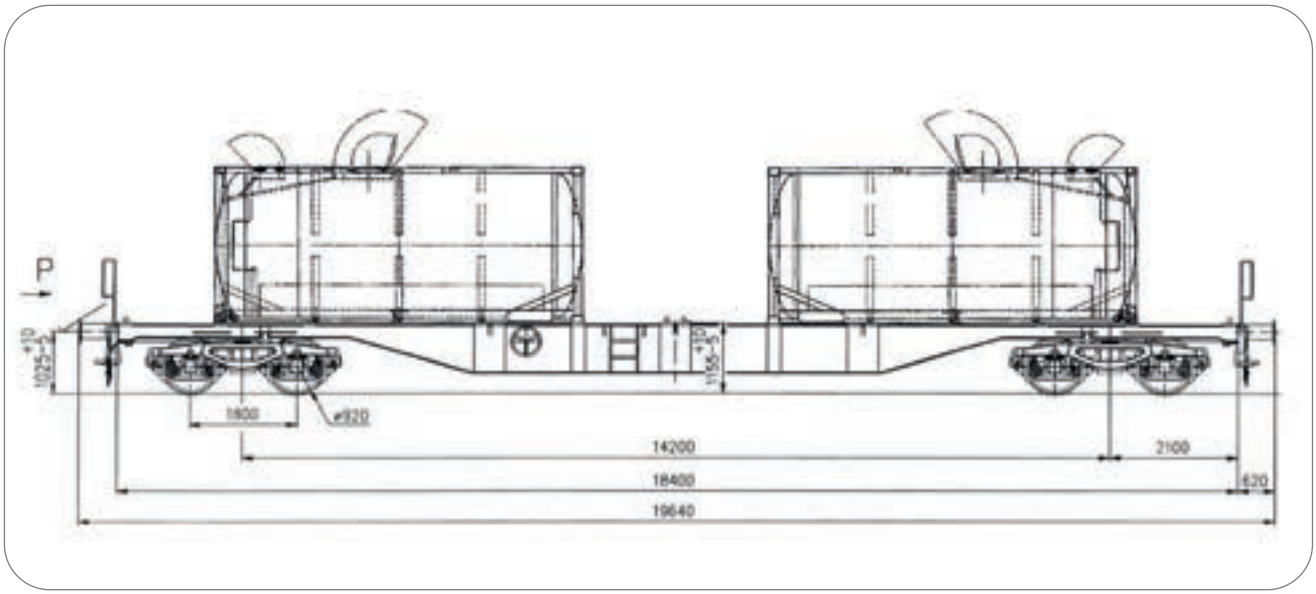
ACAT organises the transport of up to 35,000 t/year within and outside of Austria.

Most of these transports have to be carried out by special tank trucks coated with plastic. In recent years, the focus of our customers and our logistics department has increasingly turned to the topic of CO_2-friendly transport.

One possibility to transport in a more climate-friendly way is to transport by rail.

Per year up to 17,000 tons of ADR goods are transported to our largest customers. In 2021, the possibility of combined rail-truck transport was tested in extensive trials.

In these tests, plastic-coated ISO containers were trans-



GRAPHIC: KEMIFLOC

The solutions are transported in plastic-coated ISO containers by rail to the nearby rail terminal and then taken by truck to the unloading station.

ported by rail to the nearby rail terminal and then taken by truck to the unloading station. The storage tanks were filled with compressed air (which is provided either by the truck or by the customer).

This system suitable for transporting large quantities, is ideal for customers who do not have their own rail sidings. However, if a customer can carry container cars to the unloading point, all deliveries are made by rail only, and currently this is the transport with the best possible CO_2 balance.

In co-operation with carriers, suppliers, the logistics team and customers, the idle time of the containers is minimized by carrying out filling and return transport as fast as possible. Of cause, this places high demands on everyone involved, but for our environment it is worth the effort.

The possibilities of combined rail-truck transports were tested in extensive trials. If deliveries are made only by rail, the best CO_2 balance will be achieved.

PHOTO: PIXABAY

THE BETTER SOLUTION WITH ACAT

Polymer Preparation Systems in the Focus of the Optimisation of Operating Materials

Project Stadtwerke Schwaz – Waste water department

Increasing sewage sludge disposal costs causing wastewater treatment plant operators to focus on the optimisation of their existing sludge dewatering systems.

AUTHOR: **ROLAND AUER**

In the past, the main focus was on optimising the use of liquid flocculants based on dispersions or emulsions. Currently, the use of powdered flocculants is in the foreground.

As a reliable partner in the optimisation of operating equipment on the various sludge dewatering aggregates, ACAT was significantly involved in the development and the application of new powder polymers.

Intensive laboratory tests and subsequently supervised machine tests on the most diverse sludge dewatering aggregates with the most diverse sludge types and their compositions have led to the fact that the sewage treatment plant operators could be convinced to use increasingly powder polymers.

Furthermore, the development of dissolving and dosing technology made a substantial contribution to making the use of powder polymers easy to “handle” for the operator. In the past, the use of 25 kg bags was common, but currently 750 kg Big Bags are used as standard

and, at the customer's request, also 1000 kg Big Bags.
The Big Bags only require a certain amount of "attention" when changing them, but subsequently the operator no longer comes into contact with the "dusty and slippery" material.
Due to the positive feedback of the plant operators and the constant efforts of the ACAT Company to stand out from the competition in accordance with the company's motto "Technical Service is our Success", the entire team of the Technique Centre Scheibbs developed polymer preparation plants for the operation with solid and liquid polymer.

The units from the PPU series allow the following modes of operation::

- 100 % solid polymer or
- 100 % liquid polymer or
- Mixtures of solid and liquid polymer in any mixing ratio

All the above-mentioned operating modes can be run both with and without the addition of a defoamer. This additionally increases the flexibility of the plant operator, if the filtrate/centrate tends to foam - which is particularly the case with high-performance centrifuges.

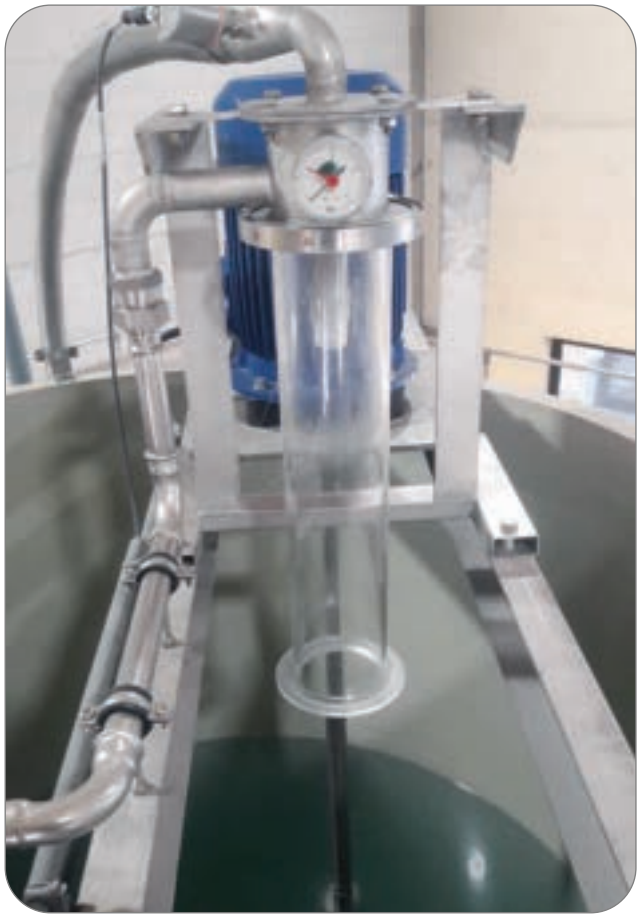
The advantage of the solid and liquid polymer mode of operation is obvious:
- The shear stability of a linear powder polymer can be increased by combining it with a cross-linked liquid polymer.
- The white oil and the emulsifiers of the liquid polymers have a defoaming effect.
- Optimisation of the entire sludge dewatering in the case of fluctuating sludge compositions

In the summer months, the sludge dewatering system can be operated with 100 % solid polymer; in the off-season or winter season, the optimum ratio is a mixed operation of 50 % liquid and 50 % solid polymer. The operating modes are very flexible and can be continuously adapted by the operator in terms of technical and economic aspects.

Due to the close cooperation of ACAT with the plant operators and their operating staff, the needs and procedural requirements as well as the wishes of the customer can be taken into account and individually implemented. These advantages and the flexibility of ACAT's project design have already convinced a number of wastewater associations.

Project
ARA Region Dornbirn-Schwarzach GmbH

Polymer dissolving station PPU 3 for sludge dewatering with 3 belt presses



Detail of the polymer solution station

Since the 1980s, the ARA Region Dornbirn-Schwarzach GmbH has been operating its digested sludge dewatering with three belt filter presses with downstream fluidised bed drying.
Constantly increasing energy costs and polymer prices and the fact that the aging plant did not have any measurement technology for balancing, prompted the management, represented by Mr. qualified industrial engineer MAS Alexander Zerlauth, to take a closer look at the conversion of the sludge dewatering system. For this purpose, a market survey was commissioned of the various suppliers of dissolving and dosing control systems.
The overall technical concept of a polymer processing station including dosing control and the use of synergies between the "old sludge dewatering system" and

Project ARA Region Dornbirn-Schwarzach GmbHbH

the “new system components” were the decisive reasons why ACAT was able to stand out from the competition.
After clarifying the technical details, the concept was also convincing from the commercial point of view.
Thus, ARA Dornbirn-Schwarzach GmbH awarded ACAT the contract for the conversion of the sludge dewatering system.

Old Stock

- SERVO controlled sludge feed pumps without IFM(inductive flow meter)
- Piston diaphragm pumps for polymer dosing without IDM
- post-dilution of the polymer ready-to-use solution necessary
- Polymer dissolving station 3 chamber continuous flow system insufficient maturing time for the powder polymer
- Irregular preparation concentration of the polymer stock solution due to pressure fluctuations in the preparation water

Special features of the new plant

- The polymer plant is supplied with 750 kg Big Bags or IBC containers.
- The desired preparation concentration in x % active polymer is preselected in the PLC by the operator. Current operation with 100 % solid polymer.
- The calibration of the polymer concentrate pump or of the dosing screw of the solid polymer is carried out via the PLC by an operator.
- The water supply of the polymer dissolving station is controlled via an IDM.
- Batch-wise preparation according to the preselected batch-volume. Pressure fluctuations in the network have no influence on the preparation concentration.
- Separate preparation and storage tank
- Due to the total tank volume of approx. 6,000 l, sufficient maturing time for the polymer solution is guaranteed. 3 belt presses can be operated in parallel.
- No post- dilution of the polymer solution is necessary
- The prepared FHM can be emptied down to the minimum level of the preparation tank using the function “Empty”. No new preparation is started. When starting the units in the morning, a fresh polymer solution is always prepared automatically first.
- Stainless steel control cabinet for dosing control and “communication” with the “old stock”.
- Sludge charging with eccentric screws Pumps of the latest generation incl. IFM (inductive flow meter)
- Polymer charging with eccentric screws Pumps of the latest generation incl. IFM (inductive flow meter)
- Online solids measurement type Solitax High Line

- The IDM “Sludge” records the volume of the digested sludge in m³/h, the online density measurement registers the current dry substance content/h.
- The polymer dosage is proportional to the volume and mass of the digested sludge in kg/t dry substance.
- The entire assembly, electrical installation, programming of the dosing control and the integration into the existing control system were carried out by Technique Centre Scheibbs.

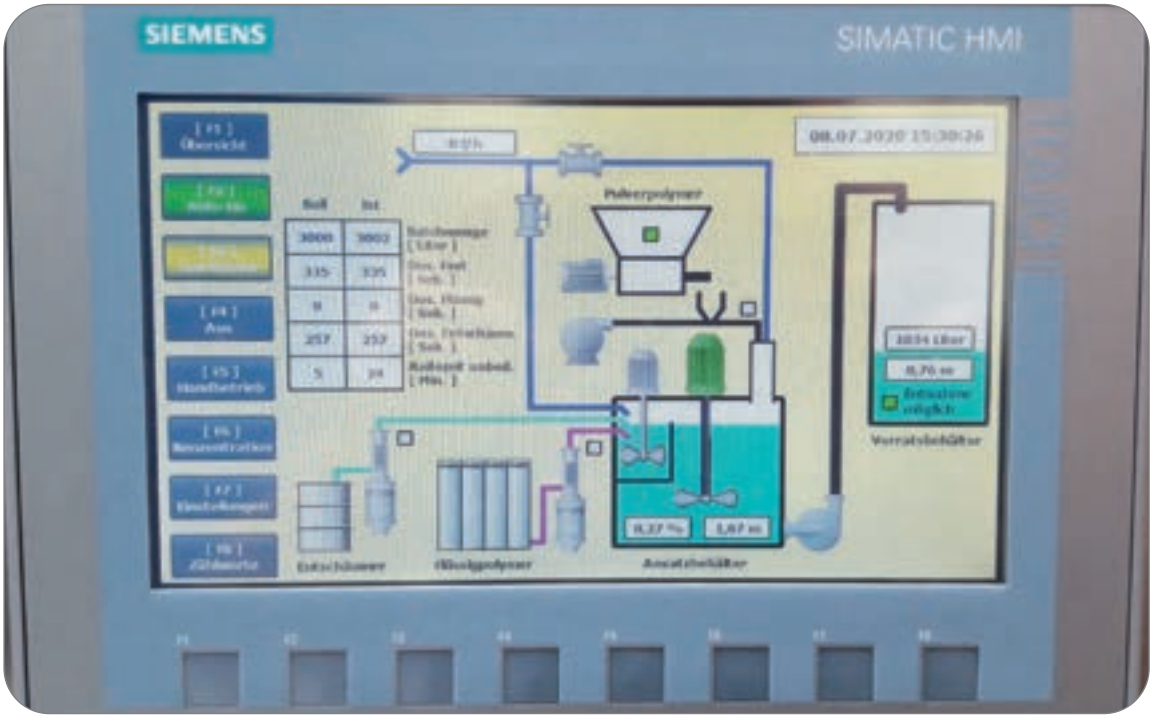
We would like to thank the management, Mr. qualified industrial engineer MAS Alexander Zerlauth and his team for the trust they have placed in us and for the quick and uncomplicated implementation of this very extensive project.
An “almost” trouble-free installation and commissioning would not have been possible in such a short time without the support of the entire team! Many thanks also for the hospitality during the “lock-down”.

Project Stadtwerke Schwaz – Department Waste Water

Polymer dissolving station PPU 3 for sludge dewatering with a high-performance decanter

The existing sludge dewatering system with a centrifuge was upgraded to the latest generation of high-performance decanters. The primary focus of the plant operator was on increasing the dry substance content of the discharge and on the high level of operational safety of the new plant components.
In a second optimisation step, the use of operating resources was examined more closely. The existing polymer dissolving station could only process liquid flocculants. In the course of the ongoing optimisation of the sludge dewatering, our sales representative Roland Auer installed a mobile FHM station for powder admixture, which was tested over several months. Different mixing ratios of solid and liquid polymer were tested and evaluated from a technical and economic point of view. The dry substance content of the sludge cake remained unchanged, but the centrate was more stable with this mixture than in the conventional liquid operation.
Due to the good results, a new plant was planned and an overall concept was worked out. At the customer’s request, the preparation and storage tanks were integrated into a former storage room. The control system of the new polymer dissolving station was integrated into the existing sludge dewatering control system, which further increases the operator’s flexibility. Furthermore, ACAT installed two new polymer dosing pumps on a stainless steel frame and integrated them into the existing control system.

Project Stadtwerke Schwaz - Waste water department



Special features of the system

- The preparation and maturing tanks are located separately. The tanks are located on different floors.
- Due to the large tank volume of approx. 6,000 l, sufficient maturing time for the polymer solution is guaranteed.
- The prepared FHM can be emptied down to the minimum level of the storage tank with the function "Empty". No new preparation is started. The preparation and the storage tank are at the minimum level until the polymer preparation system is restarted. If the decanter is started in the morning, a fresh polymer solution is always prepared automatically first.
- If necessary, a defoamer can be added to the preparation.
- The polymer plant is supplied with 750 kg Big Bag or IBC containers.
- The batch volume is monitored at the water inlet with an IFM (inductive flow meter) made by E&H.
- The ratio of liquid to powder polymer can be adjusted to any mixing ratio.

We would like to thank the Stadtwerke Schwaz for the trust they have placed in us. Special thanks to Mr. Armin Schrottenbaum and Mr. Stefan Patka for their personal commitment and for co-ordinating the individual interfaces.

Project AWV (Waste Water Association) Grazerfeld

Polymer dissolving station PPU 3 for sludge dewatering with two high-performance decanters

The existing digested sludge dewatering with centrifuges was upgraded to the latest generation of high-performance decanters and the polymer processing station

Detail of the polymer solution station AWV Grazerfeld

in the sludge line was redesigned. Years of co-operation and the AWV's confidence in ACAT's competence were decisive that the Managing Director Michael Lechner and the Managing Director Deputy DI Andreas Philadelphy accepted the application of a system change of the already tendered polymer processing station. Therefore, the contractor of the complete sludge dewatering system took over the components for the polymer dissolving station type PPU 3 according to the specifications of ACAT.

Special features of the system

- The polymer plant is supplied with 750 kg Big Bag or IBC containers.
- The dosing of the liquid polymer is carried out via an EMF (electromagnetic inductive flowmeter) from E&H
- The batch volume is monitored at the water inlet with an IFM (inductive flow meter) made by E&H.
- If necessary, a defoamer can be added to the preparation
- Due to the total tank volume of approx. 4,000 l, sufficient maturing time for the polymer solution is guaranteed.

- The prepared FHM can be emptied down to the minimum level of the storage tank with the function “Empty”. No new preparation is started. The preparation and the storage tank are at the minimum level until the polymer preparation system is restarted. If the decanter is started in the morning, a fresh polymer solution is always prepared automatically first.
- The ratio of liquid to powder polymer can be adjusted to any mixing ratio.

We would like to thank the AWV GrazerFeld Managing Director Mr. Michael Lechner, and Managing Director Deputy DI Andreas Philadelphy, , for the trust they have placed in us.
Our special thanks go to Mr. Wolfgang Mayer for his personal commitment and the coordination of the installation companies.

Project AWV (Waste Water Association) Hohe Tauern Süd

Polymer dissolving station FPU for sludge thickening **with disc thickener; Polymer dissolving station FPU** for sludge dewatering **with screw press**

The AWV Hohe Tauern Süd operates a mechanical excess sludge thickening system with a belt thickener. A liquid polymer is used for sludge conditioning. The aging “old plant” was prone to failures and met no longer the necessary technical requirements of the AWV Hohe Tauern Süd.
As a reliable supplier of sludge dewatering systems for many years ACAT was invited to a technical discussion and to submit an offer. Roland Auer, our long-standing sales representative with an extensive experience in the field of sludge dewatering, the ACAT Technique Centre Team Scheibbs and the waste water association worked out a customised offer together. It convinced the plant management and subsequently also the board of directors from both a technical and a business management point of view!

In December 2020, the new polymer dissolving station for the excess sludge thickening with a disk thickener was put into operation. Since then, the system has been running trouble-free.

Almost exactly one year later, in December 2021, the order for a second polymer dissolving station for a sludge dewatering system with a screw press was awarded to ACAT. We will exhibit this reference system at the IFAT 2022 in Munich.

Project
AWV Hohe Tauern Süd

Special features of the system

- The required preparation concentration in x % active polymer is preselected in the PLC by the operator.
- The operator calibrates the polymer concentrate pump via the PLC.
- The water supply is monitored via an IFM (inductive flow meter).
- The polymer concentrate pump is controlled via a f requency converter and regulates itself according to the water supply and the preselected preparation concentration, so that a constant preparation concentration is guaranteed.
- The prepared FHM can be emptied down to the minimum level of the storage tank with the function “Empty”. No new preparation is started. The preparation and the storage tank are at the minimum level until the polymer preparation system is restarted. If the decanter is started in the morning, a fresh polymer solution is always prepared automatically first.

The entire installation, the mechanical piping and the integration into the existing control system was carried out as an in-house service.

We would like to thank the AWV Hohe Tauern Süd for the trust they have placed in us and to Deputy Operations Manager Gernot Ortner and his team!

NATURAL ORGANIC CHEMICALS FOR WASTEWATER TREATMENT

PHOTO: PEXELS / PIXABAY

AUTHORS: MASSIMO BIGHETTI
ERICH SAILER

Most industrial production facilities generate wastewater, which has to be treated and purified.
For many years ACAT has been dealing with the various requirements of these cleaning processes.
Usually, the first step of a purification process is the separation of the solids, which is achieved by adding various chemicals. Precipitation and flocculation cause an increase in the density difference between the particles and the liquid phase making separation possible.

Example of a Typical Flotation Plant

For many decades, precipitants such as iron or aluminium salts have been used very successfully for the pre-flocculation to achieve the desired clarity of the solution. But in some wastewater flows this process could cause undesirable side effects such as a reduction in pH, the introduction of metal ions, or an increase in salinity, etc.
Sometimes the separated solids can be reused, but the application possibilities are limited due to the use of conventional precipitants.

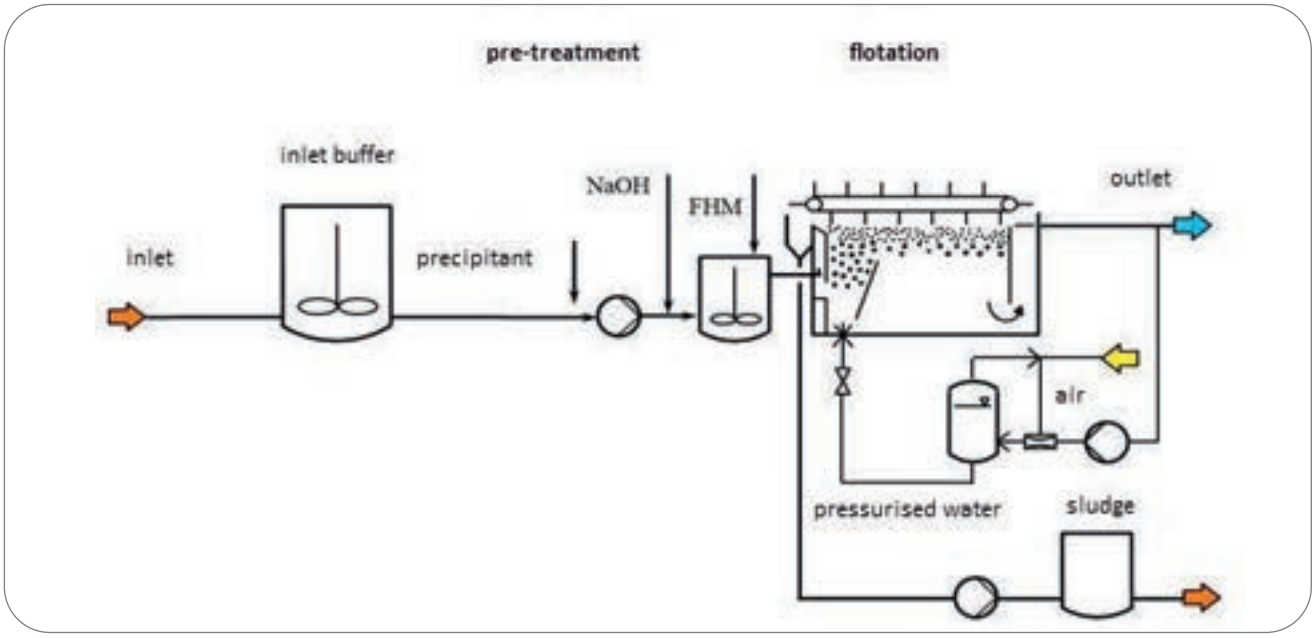
New Organic Polymers of Natural Origin

Currently ACAT is testing new organic polymers of natural origin.
Natural coagulants are present in two forms, first is plant based coagulants (PBC) and second is non-plant based coagulants. Natural coagulants are produced or extracted from different sources such as microorganisms, animals, or plants.

FlocStar® N is a range of coagulants composed of natural extracts from plants, algae or animals.
FlocStar® N is based on polymers of natural origin, mainly polysaccharides, substances soluble in water from materials of vegetable or animal origin that act as coagulation and / or flocculation agents.
The plant based coagulants are broadly utilized for the purification of contaminated water.

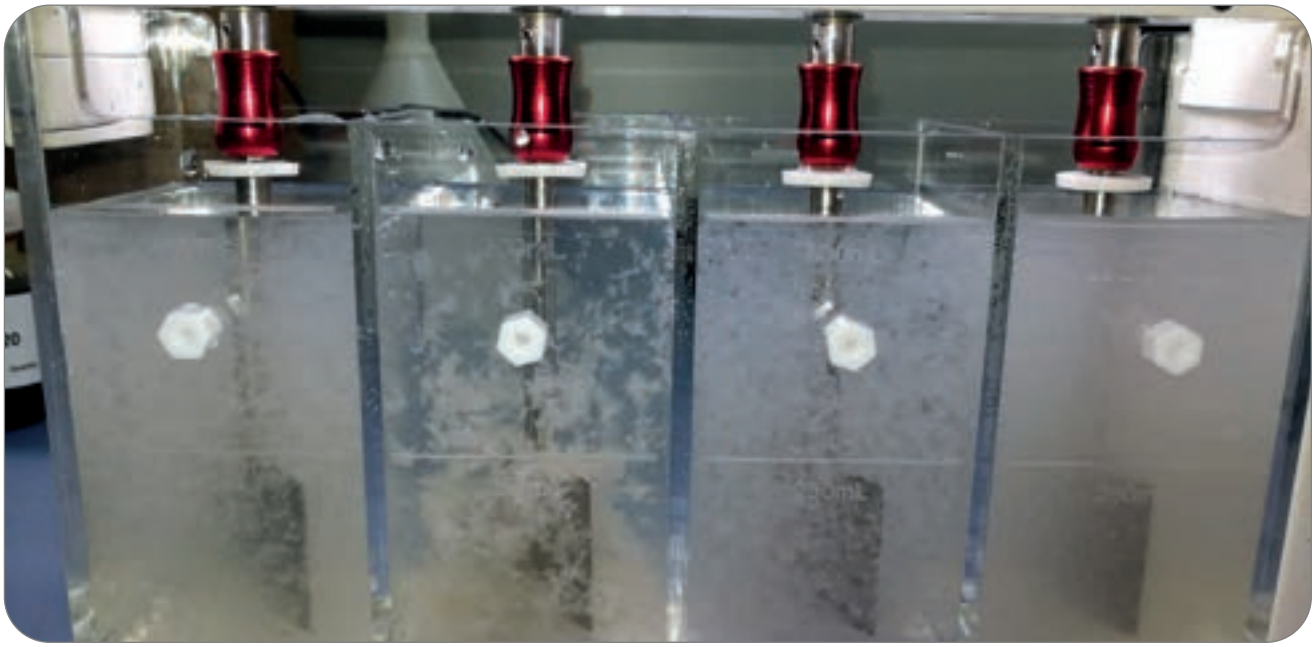
Advantages of Predominantly Plant-derived Products

The predominantly plant-derived products have many advantages compared to traditional inorganic coagulants:
- Higher efficiency
- No introduction of metals or salts



- Full efficiency in the range of pH 4-10
- Reduced sludge generation
- No change in the pH value, therefore neutralization is not necessary
- Improved dewatering properties and much more

A good example of application is the agri-food sector as it is an important consumer of water for different stages of the process.
One of the advantages of the **FlocStar® N** products for these sectors is that they are metal free and, therefore, do not provide metal to the sludge. Due to the organic nature of the products, a valuable sludge is obtained that can be used in agriculture.
Finally, the quality of the sludge produced is maximized, which optimizes also the amount of biogas produced.
With that range of new products ACAT follows the strategy to enlarge the product range with green technology treatment processes for special applications in water and wastewater treatment.



A good example of application is the agri-food sector as it is an important consumer of water for different stages of the process.

UTILISATION OF THE "WASTE WATER BASED EPIDEMIOLOGY"

PHOTO: PIXABAY

SARS-CoV-2 analyses in wastewater as a supplementary source of information for pandemic management.

AUTHOR:

DR. NORBERT KREUZINGER
Institute for Water Quality and Resource Management, TU Vienna

Municipal wastewater does not only consist of contaminated water from residential areas - as is usually assumed - but it also contains a large number of chemicals from process water as well as the diverse components of human excreta. These include excreted medicines, stimulants, drug residues and pathogens. Thus, the wastewater can also be seen as a „mirror of society" in which „lifestyle", diet and health status are reflected. The use of this information from the wastewater is the subject of the „wastewater-based epidemiology", which recently has gained increasing importance in connection with the SARS-CoV-2 pandemic. The term itself was coined by the WHO (World Health Organisation) as part of the „Global Polio Eradication Initiative" initiated in 1988 to eradicate polio and since then it has been used in other areas to monitor the status of public health and deriving protective measures. With the broadly available sensitive and selective chemical and molecular biological analysis methods in combination with model-supported evaluation algorithms, the wastewater epidemiology has now reached a level of maturity that makes it possible to provide meaningful and reliable information as a basis for epidemic management, also

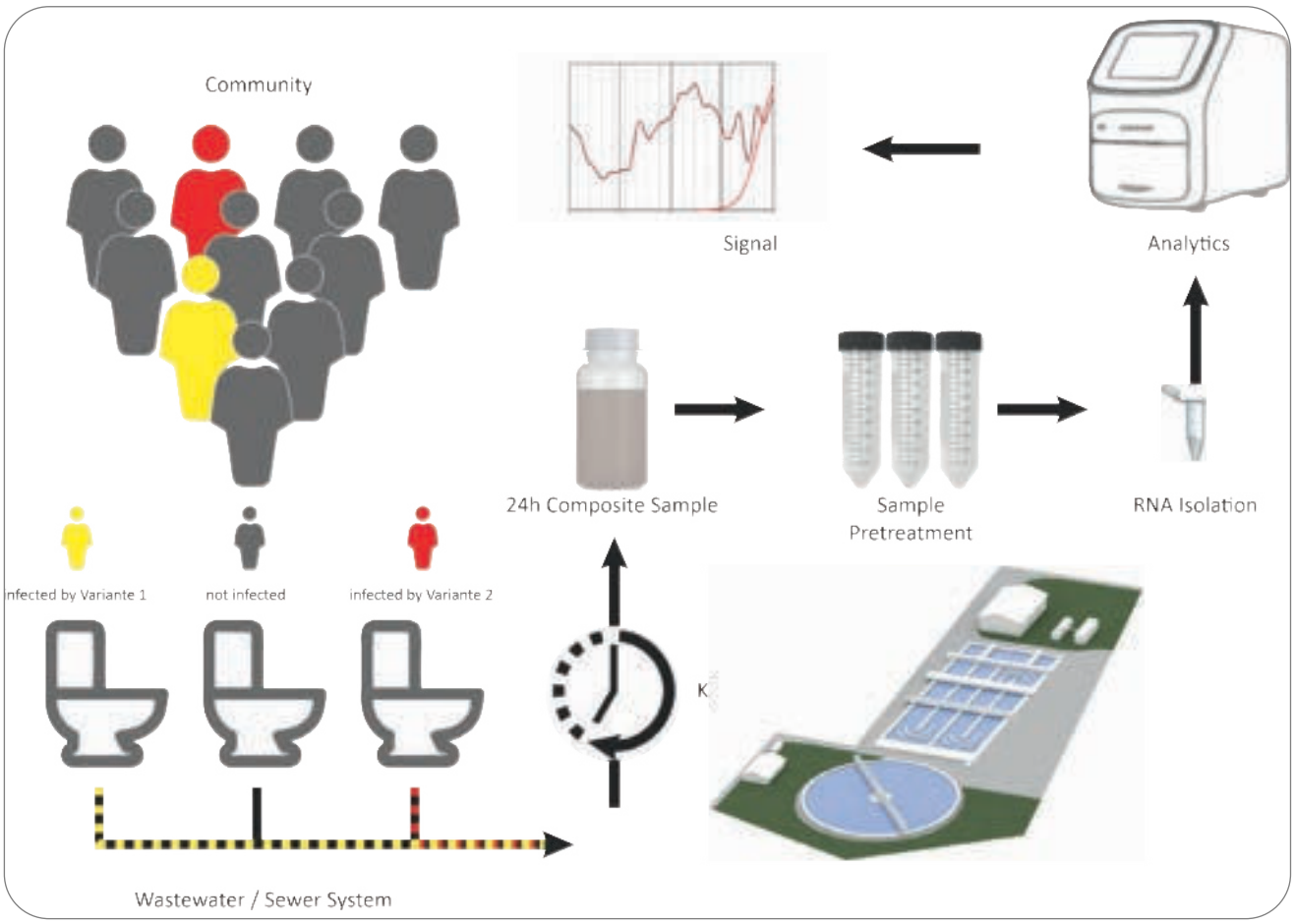
for the SARS-CoV-2 virus.
The information provided with the SARS-CoV-2 tests in wastewater is for example:

- **Presentation of the pandemic course** – The more people are infected in a catchment area, the higher the number of excretors and thus the signal in the inflow of the wastewater treatment plant. The advantage of the wastewater tests is that the measured signal is independent of the number of human tests carried out and therefore there is no „dark figure".- Because after all, everyone has to go to the toilet ...

- **Trend development** – the waste water signal follows the development of the number of infected, excreting persons over a period of time and thus the actual pandemic course. This applies to an increase in infections as well as a decrease. A „trend indicator" can be roughly derived from the data, which is comparable to the epidemiological effective reproduction factor („R-value") allowing statements on trend development.
- **Alarm function** – Especially in times with a low number of infected persons and a possibly associated low number of tests, the wastewater signal can show its greatest strength, since the excretions of one out of 10,000 infected persons (conceptually corresponding to a 7-day incidence of 10) can already be reliably detected analytically. Therefore, this method is very well suited, for example, for the advance warning of a renewed flare-up of the pandemic after a longer „dormant phase".

An illustration of the conceptual wastewater epidemiological approach, as well as the basic work steps, are summarised in **Figure 1**.

The basis for the tests is a representative wastewater sample. Austria has an excellent starting point for this, as wastewater treatment plants routinely take representative 24-hour daily composite samples to



GRAPHIC: INSTITUTE FOR WATER QUALITY AND RESOURCE MANAGEMENT, TU VIENNA

Figure 1: Procedure of the SARS-CoV-2 analysis in wastewater (influent of wastewater treatment plants) as an example for the application of the wastewater epidemiological approach.

check their treatment performance. These samples can also be used for wastewater epidemiological monitoring without any additional effort for the operator. For further molecular biological analysis (for example for quantitative qPCR or genome sequencing), a sample preparation is necessary in which the genomes of all organisms in the wastewater - and thus also of the SARS-CoV-2 viruses - are extracted and purified.

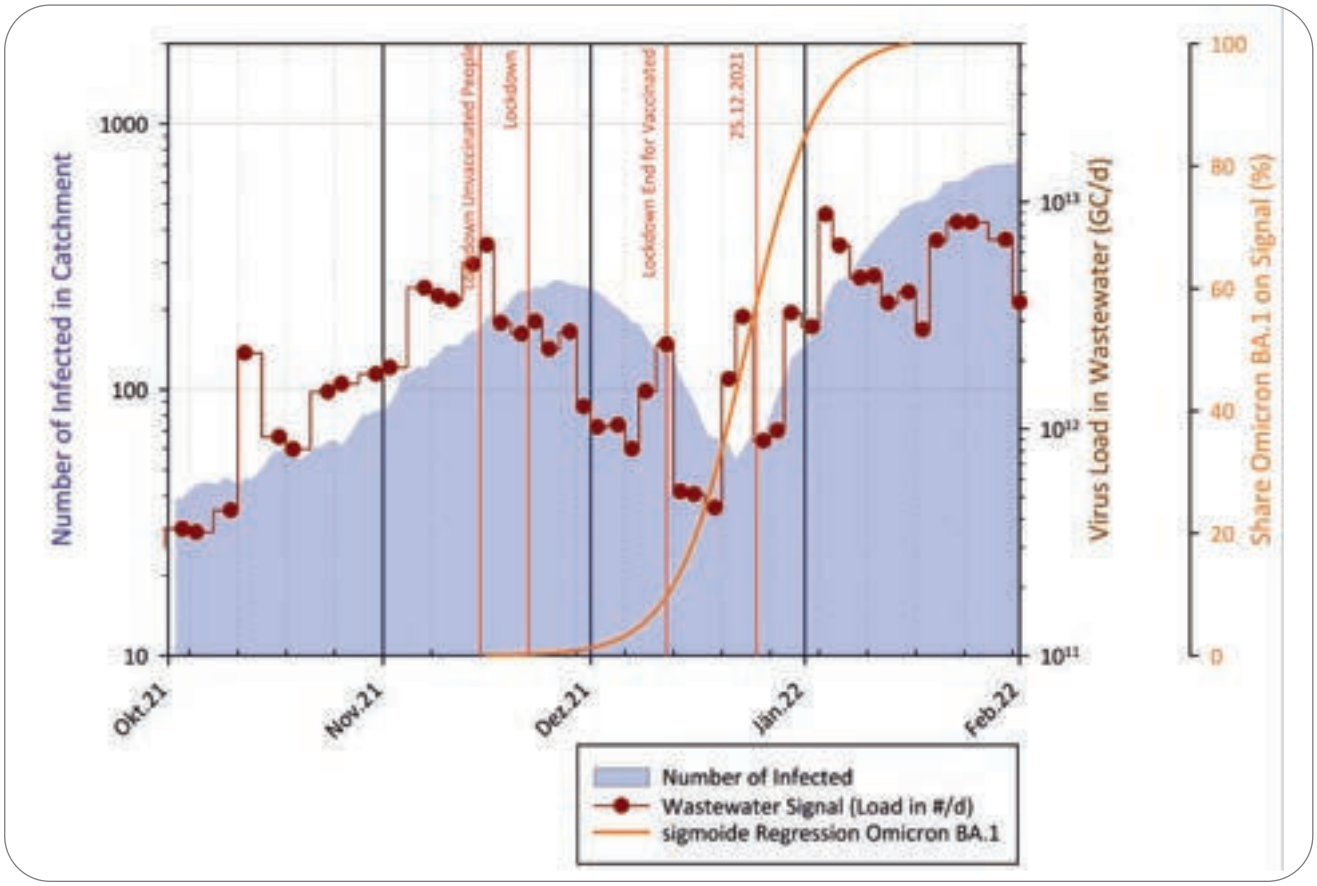
The genome extracts are now used for different analyses:

- **qPCR** – The quantification of the amount of viruses in the wastewater is carried out is similar to the method used in the human sector. The only difference or addition is that the numerical value from qPCR known as the Ct value is converted into an absolute concentration in gene copies per ml via a calibration line with known genome concentrations.

- **Screening of variants** - Special quantification of characteristic key mutations can also provide very rapid and targeted information on the quantity or proportion of virus variants (e.g. alpha, delta, omicron or the WHO-defined VOC: „variant of concern“ or VOI: „variant of interest“).

- **Total genome sequencing** - As the wastewater contains all virus variants occurring in the catchment area, sequencing can provide a very accurate picture of all variants circulating at the time of sampling.

For the temporal development of the signal in the wastewater, the quantitative measurements are usually carried out two or three times a week, but the analysis of the variants only once a week. In order to take into account also the fluctuations in the wastewater volume as well as the dynamics of the excretors, the signals obtained are normalised in different ways. In addition to the determination via the total nitrogen, the calculation of the virus load is often used including the total



GRAPHIC: INSTITUTE FOR WATER QUALITY AND RESOURCE MANAGEMENT, TU VIENNA

Figure 2: Example of the course of the SARS-CoV-2 signal in the influent of a sewage treatment plant based on the wastewater signal, as well as the proportion of the omicron variant.

PHOTO: HERMANN HAMMER / PIXABAY

wastewater volume on the day of the measurement. The result of the normalisation via the total nitrogen is the unit „gene copies per PT11“ (1 PT = 11 g N per day), which makes it easy to compare sewage treatment plants of different sizes. In contrast, the results of the calculation of the virus load are absolute values depending on the wastewater volume and thus on the size of the wastewater treatment plant. Therefore, they do not allow a comparison of the pandemic course in the catchment area of different wastewater treatment plants. On the other hand, the load observation is better suited for tracking the trend in the individual sewage treatment plant. Due to the varying course of infection, different types of infected persons and the resulting variability in the excretion of viral particles, it is not feasible to calculate the number of infected excretors in a sewer catchment area from the wastewater signal.

Figure 2 shows an example of the visualisation of the quantitative effluent signal (qPCR) via the load (gene copies per day) as well as the results of the variant screening (share of omicrons in the total signal). Usually, the wastewater signals are smoothed and can be provided with additional information such as the number of infected persons in the catchment area of the wastewater treatment plant or the date.

However, like every analytical method, the wastewater epidemiological method has its limits also. Therefore, it must always be examined whether the method is suitable for answering pandemic management questions that need to be formulated by the responsible public health authorities, and what answers can be seriously given. In addition to the possibilities listed above (pandemic tracking, trend development, early warning function), a definite strength of effluent-based epidemiology is that information can be provided for an entire catchment area and thus enabling the anonymous monitoring of large populations. Compared to clinical testing of individuals, it is a cost-effective, fast and reliable source of information on the spread of a virus and its variants. The waste water-based epidemiology offers a suitable concept for complementary pandemic surveillance as well as a promising early warning system in future public health crises – not only for SARS-CoV-2.

ACAT TECHNOLOGY

„Dosage Equipment is our Success“

Our operating site in Scheibbs is primarily an internal service centre. Its tasks are the production of Ecosorb and Skyvell, the construction and assembly of dissolving and dosing stations on behalf of the respective divisions, and the servicing of the equipment and machines we are supplying.

PHOTOS: CHRISTINE NESTLER-KENZIAN

AUTHOR: **THEO WEINBRENNER**

In the years 1998 to 2000, ACAT was looking for a location to integrate the existing logistics, into the company, which were completely outsourced. From there service and installations on site should be supported by the technicians. In 2000, the time had come: a former printing plant was acquired in Scheibbs, Lower Austria, and adapted to our requirements. In the past 22 years, an extension followed to create office space and in 2021 the factory premises was extended by a further warehouse and production hall.

Polymer dissolving stations, bentonite make up units, pump stations and various dosing stations are manufactured in the technical and production centre in Scheibbs. Also the associated control systems and switch cabinets are planned, built and programmed in-house. The experience of our field staff in the application of our products flows into the continuous further development.

Powder polymer systems are basically differentiated by the wetting technology used: the jet-wet and the disperser technology. Both types have been optimised to achieve perfect wetting and an optimal dissolving result. The control system currently used for the latest

systems is a Siemens PLC (S7-1200). The units can also be supplied without a control system for the integration into a PCS system.

The difference between the two systems of powder polymer units is the wetting technology of the powder polymer. In the disperser technology, the powder is conveyed directly into the disperser via a screw and wetted with water. The solution is then dissolved in the tank with a stirrer. This technology is often used in municipal wastewater treatment plants. In recent years, however, Jet-Wet technology has taken the lead also in the field of wastewater treatment.

In the Jet-Wet technology, the powder polymer is fed into a venturi with a screw (volumetric quantity measurement) and the powder is blown into the Jet-Wet head with a fan. The fine distribution of the powder and the special arrangement of the nozzles ensure even a better and more effective wetting of the powder with water. The necessary maturation takes place in a storage tank. Then the polyelectrolyte solution is pumped from the solution tank into the storage tank with a transfer pump.

We also offer a system for liquid polymers. It is based on a high-energy mixing unit in which the liquid polymer is activated with water. After overflowing into the storage tank, the solution can be added in the final process by the means of dosing pumps. On request, this system can also be integrated into powder polymer systems and operated as a combination system.

A maximum concentration of the polymer solution of approx. 1.0% must be observed for all systems. The polymer feed can be selected in different variants, with big bags or sacks.

Special dosing systems can also be added to the preparation units to enable the dilution to the desired polymer concentration and a good dosing. Depending on the application, pump stations of all types and designs are available.

Our competent team consists of very experienced technicians, some of whom have been working with these systems for 25 years, and young engineers who bring in new ideas for further innovations. The strength of this team lies in the individual development and adaptation of the units to customer requirements. Our sales and plant engineers are always at your disposal for more detailed information.

Requirements for the Preparation Water FOR THE PREPARATION OF A POLYMER SOLUTION

AUTHOR: ROLAND AUER

Some producers of flocculants recommend certain quality requirements for the preparation water to produce an optimal polymer solution. These are only a recommendation for the operators, as these requirements cannot always be met. Therefore, they only serve as guide values for optimising sludge thickening or dewatering. The quality requirements and their influence on the polymer solution can be summarised as follows:

- **Temperature:**

Warm water accelerates the dissolving process of any polymer solution, the ideal water temperature is 10-30 °C

- **pH Value:**

A high pH value leads to hydrolysis (degradation) of cationic polymers. The ideal pH value for the preparation water is pH 6-8. The ready to use polymer solution should have a pH value between 4-6.

- **Water hardness:**

Too hard preparation water accelerates the hydrolysis (degradation) of a polymer solution. Medium-hard water 8-12 °, German hardness < 300 mg/l $CaCo_3$ is ideal.

- **Conductivity:**

Too high conductivity increases the maturing time and the dissolving process of the polymer solution, as well as its viscosity.
Ideal conductivity < 10,000 µS/cm

- **Solids - process water:**

A solid content in the process water reacts with the polymer solution and causes deposits in the dissolving station and in the pumps.
Ideally no solids or < 5 mg/l

- **Divalent irons such as Fe^2, Cu^2,...:**

Free radicals can cleave the polymer chain and thus have an influence on the effectiveness.
Ideal concentration < 1 mg/l

- **Oxidants such as chlorides:**

A too high chloride concentration can cleave the polymer chain and thus have an influence on the effectiveness.
Ideal concentration < 0.5 mg/l

- **Bacteria/Algae:**

Bacterial growth accelerates the hydrolysis (degradation) of any polymer solution.
Ideal: no biological activity

- **Maturation time:**

A high mixing energy and an appropriate maturation time increase the efficiency of a polymer solution. Ideal maturation: time more than 30 minutes

Analysis of the parameters of the preparation water

Using the example of AWV Völkermarkt Jaunfeld, the parameters of the preparation water for the production of a polymer solution were analysed. AWV Völkermarkt Jaunfeld operates a sludge dewatering system using IEA screw presses. The conditioning of the statically thickened excess sludge is carried out exclusively with liquid polymer. The polymer preparation station is a "tower plant“ with 750 litres batch volume per preparation.
From the preparation tank equipped with an agitator, the polymer solution is transferred to the storage tank by using a transfer valve.
The maturing time is about 10 minutes!
Drinking water from the local network was used for the preparation of the polymer solution. A water analysis was carried out, the exact results can be found in **Table 1**.

Furthermore, a polymer solution with a preparation concentration of 0.25 % commercial product = 0.125 % active polymer was prepared on a laboratory scale. The pH value and conductivity of this polymer solution were recorded over the entire period. Based on the conductivity and its course, a possible conclusion can be drawn about an ideal maturing time of the polymer solution.
In a beaker, 800 ml of preparation water with about 6 °C was added and stirred with a magnetic stirrer.

AWV Völkermarkt-Jaunfeld

Preparation Water Polymer Make up Unit:

Mr. Roland Auer Company ACAT

		Water Sample dtd 13th Sep 21
Appearance		clear
pH		7,68
Conductivity	µS / cm	300
Temperature	Degree°	5,5
m-Value	mml / l	2,88
Total Hardness	° d.H.	11,6
Chloride	mg / l	< 1,0
Iron (Fe)	mg / l	0,060
Copper (Cu)	mg / l	0,014
Sulphate	mg / l	< 1,0
Nitrate	mg / l	< 1,0
Total Bacterial Count	KBE	0

Comment:

All parameters are in a very good field.

The total bacterial count is 0 KBE/ml !! Clearly below the required target value!!

Table 1: Analysis of the preparation water of AWV Völkermarkt

Before adding the polymer, the pH value and the conductivity were noted. In addition, the pH value of the preparation water was adjusted to approximately pH 4 by adding acetic acid (0.6 ml acetic acid per 800 ml preparation water). Subsequently, 2 ml FlocStar® 200L (dispersion) were added under strong stirring and the conductivity and the pH value was recorded over the entire period.

The preparation concentration of the laboratory scale polymer solution was 0.25 % commercial or 0.125 % active polymer.

As can be seen from **Table 2**, the conductivity increases with increasing stirring time. The liquid polymer starts to dissolve in the water and causes an increase in conductivity.

From a stirring time/maturing time of 20 minutes, the maximum possible conductivity is reached, so that one can speak of an ideal dissolution of the liquid polymer.

Therefore, we recommend a maturing time (net stirring time after reaching the maximum level of the preparation tank) of >/= 20 minutes.

The pH value of the polymer solution was about pH 4.

Stirring Time [minutes]	Conductivity [µS/cm]	pH Value
Start	216	7,19
1	486	3,78
2	518	3,76
3	534	3,77
4	550	3,86
5	553	3,76
10	570	3,70
15	583	3,76
20	593	3,74
25	593	3,76
30	615	3,70
35	588	3,96
40	581	3,98

Table 2: Conductivity curve of a 0.25 % HW polymer solution over the entire period

Summary:

An optimisation of sludge dewatering and, associated with this, a possibly higher dry residue in the discharge is particularly important in view of rising disposal costs. Depending on the sludge quality and dewatering unit, the selection of the conditioning agent is the most important factor from a technical and economic point of view.

When using solid polymer, optimum wetting of the solid polymer with the preparation water is crucial.

A sufficiently high mixing energy, a sufficient preparation volume, an optimal maturing time as well as the quality of the preparation water, are only a few parameters to dissolve the flocculant in the preparation water and thus positively influence the dewatering results.

The quality characteristics of the preparation water listed above are recommendations of the polymer manufacturers. How these characteristics affect the respective sludge dewatering can only be determined empirically; it is not possible to make a general statement.

There is a whole range of factors that can positively influence sludge dewatering in terms of process technology and lead to improved dewatering values. However, the main component is always the existing sludge composition and the proportion of „free water“ (water that does not bind to the sludge particles) in the sludge suspension.

The water binding in the sewage sludge is essentially influenced by the organic content of the excess sludge and the phosphate concentration.

ODORLESS ASPHALT

How Annoying is the Smell of Asphalt!

How many times have you exclaimed like that as you pass by an asphalt production site or on a road being resurfaced? This year we're introducing you to asphalt odor neutralizing technology so we can eliminate that exclamation forever.

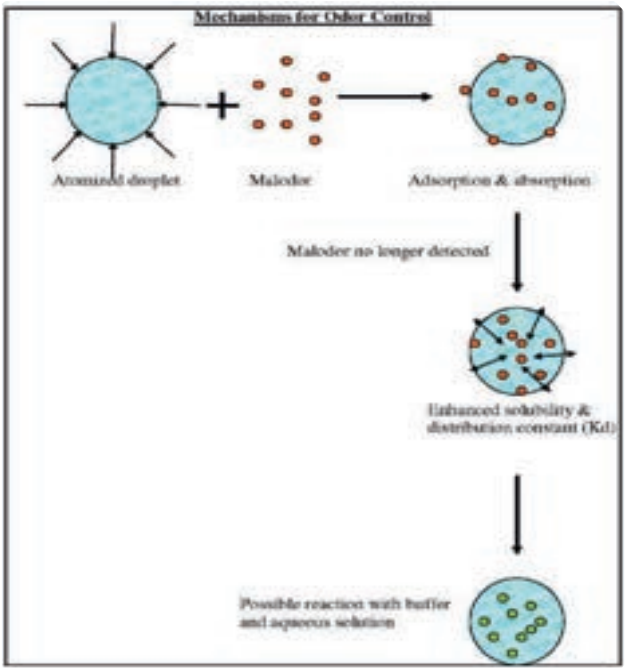
AUTHOR: **LUCA FAGGIONATO**

Ecosorb Technology

Ecosorb products are a blend of essential oils, food grade emulsifiers and water; they are effective, safe to use, biodegradable and harmless to the environment.
There are currently two product lines, oil- based (essential oils + plant-based thinner) and water-based (essential oils + water + surfactant). The former are used as additives in areas such as asphalt, plastics and recycling. The latter, on the other hand, are sprayed into the air to neutralize those odors arising from industries such as WWT, asphalt, plastics, fertilizers, refineries, tanneries and medical cannabis cultivation.

Asphalt vs Ecosorb 606 A

The treatment of asphalt odor both in the atmosphere and directly in the bitumen is ACAT's workhorse. Throughout Europe there are now many companies that rely on our technology and over the years have confirmed this potential.
The main application is in bitumen mixing tanks where our Ecosorb 606 A, after being mixed with 0.03% (300 ppm) of asphalt, through adsorption and absorption reactions captures odor-causing molecules and traps them forever. The result is an asphalt that no longer has that annoying, pungent odor.
To better substantiate our argument, I report an odor concentration test conducted in Japan to quantify the effects of the Ecosorb 606 A additive in a common paving asphalt.
Samples were collected from the vent of a tank receiving fresh untreated bitumen and from the vent of a tank receiving bitumen treated with the Ecosorb additive at a dose rate of 0.01% (100 ppm). A team of six prequalified and certified odor assessors were tasked with quantifying the odor index of bagged samples using a dilution technique and a sensory technique.



From the odor index, its concentration is calculated mathematically.
The six panelists were instructed to smell the collected sample gas at various dilutions with clean air and identify at which dilution they could no longer smell what was in the bag. To vary the dilution ratio for the test, decreasing amounts of sample gas were added to 3 liters (3000 ml) of clean air. For the first 300 ml of sample air was added to 3 liters of clean air presenting a dilution ratio of 10 (3000 ml/300 ml).
The odor concentration of gases from untreated asphalt is 4000!
The odor concentration of gases from treated asphalt is 160! A 96% reduction in perceived odor!

Other applications in asphalt field

Other applications include the neutralization of odor from exhaust stacks and truck loading and unloading areas. In both cases, our technology involves the use

No. of time	1	2	3	4	5	6	7	8	Each panelist's Odor threshold value	exclude highest and lowest value
Test sample Injection quantity	300 ml	100 ml	30 ml	10 ml	3 ml	1 ml	300 µl	100 µl		
Dilution ratio	10	30	10^2	3×10^2	10^3	3×10^3	10^4	3×10^4		
Panelist A	-	-	-	○	X				2.74	*
Panelist B	-	-	-	○	○	○	X		3.74	*
Panelist C	-	-	-	○	○	X			3.24	
Panelist D	-	-	-	○	○	○	X		3.74	
Panelist E	-	-	-	○	○	○	X		3.74	
Panelist F	-	-	-	○	○	○	X		3.74	

Table 1: Untreated Asphalt Binder (bitumen)

of a water-based product from the Ecosorb 606 line, sprayed through a pre- dimensioned high-pressure system (HPS).

The table below shows the results obtained at an asphalt production site. In this case a nozzles ring was installed at the top of the gas exhaust stack.

The efficiency of Ecosorb products is not only certified by a personal perception of an improvement in odor intensity but is also guaranteed by industrial data and therefore real!

No. of time	1	2	3	4	5	6	7	8	Each panelist's Odor threshold value	exclude highest and lowest value
Test sample injection quantity	300 ml	100 ml	30 ml	10 ml	3 ml	1 ml	300 µl	100 µl		
Dilution ratio	10	30	10^2	3×10^2	10^3	3×10^3	10^4	3×10^4		
Panelist A	-	○	X						1.74	*
Panelist B	-	○	○	X					2.24	
Panelist C	-	○	○	X					2.24	
Panelist D	-	○	○	○	X				2.74	*
Panelist E	-	○	○	○	X				2.74	
Panelist F	-	○	X						1.74	

Table 2: Asphalt Binder (bitumen) Treated with Ecosorb Additive

Sample code	*Sample*	*dates*	*time*	*dilution*	*(ou/m_E^3)*
100406ASA01	blank	06/04/2010	14.20	2	**20000**
100406ASA02	With 250 ml/h of ECOSORB 606	06/04/2010	14.25	2	**18000**
100406ASA03	With 500 ml/h of ECOSORB 606	06/04/2010	14.30	2	**10000**
100406ASA04	With 750 ml/h of ECOSORB 606	06/04/2010	14.35	2	**9200**
100406ASA05	With 1000 ml/h of ECOSORB 606	06/04/2010	14.40	2	**6200**
100406ASA06	100 meter from chimney	06/04/2010	15.00	_	**150**

Results obtained at an Asphalt Production Site

CHEMTECH KEEPS ON GROWING!

With the acquisition of Alpha-Alpen GmbH in March 2021, the chemtech division was able to expand its sales territory. In addition, we were able to expand our portfolio to include pyrogenic silica.

PHOTO: CHRISTINE NESTLER-KENZIAN

AUTHOR: **ALEXANDER FRANK**

As Mr Steven Schneider, owner of Alpha-Alpen GmbH, wanted to retire, the opportunity arose for us to acquire his company. For a long time, Mr Schneider as well as Applied Chemicals, had been active as distributors for Münzing products in defined geographical areas. Therefore, the takeover of the business activities of Alpha-Alpen GmbH by our company was a good opportunity for all parties involved to ensure a continuity of Mr Schneider's successful business.

Now the chemtech division can offer the products of the Münzing Company in its entire business area. In Switzerland, this business is handled by Applied Chemicals Schweiz GmbH. The Applied Chemicals Handels GmbH in Austria serves the countries Austria, Czech Republic, Slovakia, Hungary, Slovenia, Croatia, Romania and Moldova with local staff.

The waxes of the company Münzing are newly added, so we can distribute them now also in Austria. Of course, our technical field service will be happy to advise our customers in more detail.

In addition, we were able to expand our portfolio for our entire business area with pyrogenic silicas from the Silysiamont Company. You will find a more detailed presentation of these products and the company in the following article in this issue.

Our field service will be pleased to advise you on all technical questions regarding our products, but also on background information and applications. Please contact us, we look forward to every enquiry.

SILYSIAMONT - AN INTRODUCTION

AUTHOR: **VALTER MUSSO**
PHOTOS AND GRAPHICS: **SILYSIAMONT S.P.A.**

Silysiamont S.p.A. is an Italian based company established in 2002 by the Japanese Company Fuji Silysia Chemical Ltd, specialized in the production of amorphous silica with more than 50 years' experience.
Silysiamont S.p.A. produces micronized amorphous silica with varying degrees of pore volume and particle sizes under the brand name SYLYSIA®, and is active in the EMEA markets both directly and through a network of local distributors like Applied Chemicals.
Silysiamont is certified on Quality, Safety and Environmental by ISO 9001- 45001-14001 accreditation.
The chemical structure of SYLYSIA® is based on Silicon Dioxide (SiO2), The refractive index of SYLYSIA® is 1.46 -a high transparency similar to many polymer materials.

Characteristics of SYLYSIA

Porosity

SYLYSIA® has a sponge-like structure with different degrees of porosity that varies from low (0,4 ml/g) to high (1,8 ml/g) pore volumes.
Low pore volume grades present reduced liquids absorption capacity and therefore limited influence on viscosity. High pore volume grades are characterized by higher matting efficiency thanks to their higher volume (number of particles) per unit weight.

Surface Treatment

SYLYSIA® grades are characterized by high specific surface area (300-700 m2/g).
Surface treatment is applied to the product in order to improve the performance in various applications. In most SYLYSIA® grades an organic treatment, based on

PHOTOS: SILYSIAMONT

different wax types, is applied in order to meet specific needs, as for example: prevention of the formation of a hard sediment and improvement of the mechanical properties of the applied paint film.

Particle Size

Each SYLYSIA® grade has a specific and controlled particle size distribution. The particle size is immediately relevant to the matting efficiency, smoothness and transparency of the applied paint film.In most applications, the selection of a suitable SYLYSIA® grade with a specific particle size is governed by the thickness of the applied film.

Versatility

The wide range of pore and particle sizes available make SYLYSIA® grades suitable for a wide variety of applications.

Quality and mechanical properties of the applied film

SYLYSIA® grades provide smooth paint film surfaces with a high degree of transparency and consistency. SYLYSIA® organic surface treatment silica improves surface slip and also benefits mechanical properties of the film.

Ease of dispersion

SYLYSIA® is very easily dispersible even under critical conditions and can be added in any phase during the production cycle. However, high speed stirring equipment with suitable peripheral speed of 5 to 10 m/s and dispersion time of at least 15 to 20 minutes are recommended to get the best performance from the chosen silica grade.

Rheology

SYLYSIA's special production process lead to silica with a minimal, highly controllable rheological impact allowing higher matting efficiency with optimum rheological behaviour.
Synthetic micronized silica gel can be used in a wide variety of applications including matting agents in paint and coatings, anti-blocking in polymer films,

carrier in catalyst, food and cosmetics and many others.

Matting agent for coatings

Silica is available in a variety of different pore volume, particle size, oil absorption and surface treatment making SYLYSIA the ideal matting agent for the following applications:

- Water and solvent based paint and varnish
- Leather coating
- Wood coating
- Do-It-Yourself (DIY)
- Coil coating
- UV systems
- Can coating

Ink

Sylysia in OPV offers an excellent matting efficiency combined with high transparency and enhanced blocking resistance.

Inkjet paper coatings

The wide spectrum of particle size, pore volume and oil absorption make SYLYSIA capable of meeting all the requirements of the coating formulators. The use of SYLYSIA speeds the ink drying rates, leading to excellent optical density and color gamut, enhancing high print definition and minimal color to color bleed.

Anti-Blocking

Adding SYLYSIA into the resin, the adhesive effects experienced during rolling and lamination of plastic films can be prevented. Thanks to it refractory index of 1.46 it can be used in most plastic resins without deteriorating film transparency.

Food & Cosmetics

SYLYSIA FCP is an amorphous silica-gel characterized by high purity and high porosity and it is produced to meet the US Pharmacopeia requirements. In the EU it is approved as E551 additive.
It is used as anti-caking agent, flow and viscosity controller.

Special Fields

SYLYSIA® is a synthetic silica characterized by large internal surface area and high porosity. Controlling these properties, the silica can be used in a variety of other of application such Adhesives, Catalysts supports, Ceramics, etc.

Laboratory

Control Room

ACAT ZA – 10 YEARS OF SUCCESS

ACAT South Africa will be celebrating its 10 year anniversary in July 2022.

AUTHOR: **ARTHUR AUSTIN**

ACAT South Africa was founded in July 2012 with three staff members, Arthur Austin, Danie Pauw and Kirsty Volek. All the legal and administrative entities were set-up by Kirsty Volek with the support and training in ACAT Vienna and ACAT Basel.

Our first successful major account was the introduction of the patented 3 component MicroStar ® retention aid program at Mondi Business Papers, Durban. The trials were run in December 2012 and the business was awarded to ACAT South Africa early in 2013. This first account was very important for ACAT South Africa as it would help us financially to make the new company sustainable.

We had several successful applications at Mondi South Africa and Mondi Shanduka including de-linting and retention aid programs. Sadly both the newsprint machines and the smaller business paper machine have shut.

Wesley Volek joined the coastal ACAT team and is supported at Mpact Felixton by Zwelihle Mkhwanazi, managing the paper machine retention aid program, the shading dyes and the paper machine defoamers.
Elmarie Pauw joined the team as International Sales Support to ACM (Sweden, France and Belgium) as well as local support to the South African paper sales and administrative team.

Peter Joseph joined the team and is responsible for Inland, Gauteng area and is supported at the paper mill by Jeremiah Mbuyisa. Peter has more than fifteen years' account management experience in the chemical/manufacturing industry, and has spent the bulk of these years in the paper industry.

Significant growth has been achieved within the Mpact Group and includes shading dyes, retention aids, defoamers, strength aids, oxidizing biocides and waste water management of two large clarifiers. We also

PHOTO: ZVG

have some business in the mining and environmental sector and hope to expand on this in the future. The Mpact retention aid trial was by far the most challenging that we have experienced to-date. We ran for virtually one year on a trial basis before we were awarded this business. Since then we have been working closely with the mill and gained some additional biocide and defoamer business.

At present these are the main mills that we are operating in. There is still a lot of scope to grow in the South African paper market and we look forward to all the challenges that lies ahead.

We would like to take this opportunity to thank our shareholders Dr. Staffan O. Björn, Per O. Björn and Manfred Zabl for their support and encouragement over the years.

A special word of thanks to Alexander Frank, Nuri Kerman and Edith Haas for all their assistance over the past 10 years as it is much appreciated.

We hope to continue to grow from strength to strength over the next 10 years and beyond.

ANNIVERSARIES

Thomas Ensbacher - 30 Years of ACAT Environmental Technology

It seems like it was yesterday… We visited a young basic military servant during his service at the border, because he had applied for a job at our company. Would he have ever believed at that time that this would be the job of his life?
For 30 years now, Tom has been the best technical support to our team. His colleagues can always call on his outstanding experience in the field of environmental technology, and he is also always ready to offer his help and be on hand with advice and assistance.

Only little time remains for Thomas for his adventurous travels to distant countries, whether by train, plane or motorhome.
Dear Tom, thank you very much for your efforts, together we have achieved great things! *ES*

Roland Auer - „Silver Wedding Anniversary“ with ACAT

Now there are already colleagues to whom we can send quarter-century congratulations! We congratulate Roland on his „silver wedding anniversary“ with ACAT.
As in a real love relationship, there have been good times and sometimes not so good times in our cooperation - and there have been many challenges. But together we have always managed to achieve great things, despite the fact that Roland was not only challenged professionally, but also increasingly privately.
As his daughters grow up, their needs change as well. It is the same with his customers. But he is flexible, open-minded and hard-working, so he can handle all these challenges very well.

Dear Roland, once again many thanks from ACAT and especially from me for the enriching 25 years together! *ES*

Edith Haas - 25 Years of Initiative and Consequence

Edith Haas has been working for the ACAT Group for 25 years! Day in, day out, she provides valuable services for all of us going far beyond her original job description in controlling. As a small and medium-sized company, we always strive to keep the „structures“ as simple and lean as possible to focus our resources on supporting and advising our customers. Therefore, not all functions and processes can be perfectly defined. This „courage to fill gaps“ forces us to introduce efficient innovations again and again. Edith succeeds extraordinarily well in closing the right gaps with her own initiative and her consistency, and thus meaningfully expanding our structure without having an „idle time“. As Managing Director of the subsidiary in Basel, Edith always gets to the heart of the matter with her pragmatic approach and she always works out good and practicable solutions. Over the years, she has acquired an indispensable position and she is held in high esteem by everyone.
We would like to express our sincere thanks and also our respect to her. Many thanks.
POB

PHOTOS: CHRISTINE NESTLER-KENZIAN (4) , MARTIN THALMANN (2)

ANNIVERSARIES

Harald Reis - 25 Years Head of ACAT-Austria Accounting

Harald Reis has been the head of our accounting department in Austria for 25 years now. Additionally he also does the management and accounting for our Hungarian subsidiary. Every receipt and every balance sheet passes through his expert hands.

Unfortunately, Harald has already had to delegate some tasks, as he is already in semi-retirement. But everyone still appreciates his cheerful nature and his expertise in complicated accounting questions, whereby he always knows how to conjure up pragmatic solutions out of a hat.
Harald now uses his spare time being no longer so limited, for travelling and sports. I personally always look forward to our lunch breaks together and to his travel reports, and I hope that Harald will continue to support us for many years to come.

FR

Andreas Nikel - For more than 20 Years, the ACAT-EDV has been in his Hands

Unfortunately, due to the pandemic, the honour comes one year too late, but 21 years with the company are even more reason to celebrate. Since 2001 Andreas Nikel has been in charge of our IT. In fact, he has been working for us much longer, because he has been a temporary worker for our company for years. He keeps our hardware and software running, often unnoticed at late hours, on weekends and holidays. Our operating errors do not upset him, but he is very strict about security. Personally, I also look forward to having lunch with him because I share his passion for good burgers. When Andreas is not solving our IT problems, he likes to go horse riding or play squash, and he likes to ride his motorbike even in the most adverse weather conditions.
Thank you Andreas for keeping our computer systems under control.

FR

Ranja Branting - 20 Years Early Bird

Ranja Branting started working for our company in Basel as an employee of the Swedish consulate because of her knowledge of the Swedish language. In the meantime, the consulate is no longer located on our premises, but we were able to persuade Ranja to stay.
After the very broad job profile at the consulate, Ranja acquired the knowledge for accounting with a good portion of openness and over the years she even has become a specialist. In addition, her tasks also include the reception of guests at our house in Basel. Ranja is our early bird, who for years went to the post office early in the morning and she lets the fresh morning air into our house.
Thank you very much for your flexibility and your openness to everything new. It is very valuable to have a staff member like you on board. Please keep it up...

POB

ANNIVERSARIES

Andrea Schilhan-Kainz - 20 Years for the ACAT-Team

On her „15-year“ anniversary, I wrote that I was looking forward to the next laudation. Now the time has come: The last five years have flown by and of these, the last two years were (and they still are) particularly challenging for all of us, but especially for our team (boss) assistant.

Just when she had finally succeeded in educating „her field staff“ to the point to forward information and orders at least a little more accurately, and to quote products and prices, the pandemic confronted her with further additional extreme challenges. But home offices, shortages of raw materials, strikes and the resulting delivery problems could hardly upset her. Even in these complicated times, she maintained the supply to our customers despite all adversities. Thank you, Andrea, for your exemplary commitment and outstanding performance over the past 20 years! *ES*

Rudolf Kafka - 20 Years ACAT- “the Speedy Screwdriver”

Rudi started working for us 20 years ago! With the best tools, neatly arranged in a tool box, our “screwdriver” is racing from Vorarlberg to southern Burgenland to repair and service centrifuges, screw presses and other equipment.

In recent years, this task has become even more extensive, because our colleague Josef Söllner has retired. Therefore, he had only little time left to take care of the most important tasks in his life, namely looking after his grandson and being the sportiest grandpa in the world.

But at the end of May, the time will finally come: Rudi will also retire and then finally he can drive carefree in the mud of the Carpathians on his motorbike or conquer the highest mountains in Tyrol and Italy on his skis - perhaps soon accompanied by his grandson.

Dear Rudi, thank you for your commitment over the last 20 years and I wish you good health and fun in your retirement.

ES

Josef Praschl - 20 Years ACAT Technic Centre Scheibbs

In 2001 Mr. Praschl started working at our company and was therefore significantly involved in the establishment of the Technic Centre Scheibbs. Josef, as his friends call him, completed an apprenticeship as an electrician and then he has been working for his apprenticeship company for a few more years. At ACAT, he has developed into a highly qualified technician with his high level of initiative and courses for measurement and control technology, and now he is one of those employees who are very difficult to replace. Today he is responsible for the supervision of all electrical engineering plant concepts as well as for the development of control systems for our entire plant technology, the preparation of circuit diagrams and the planning of control cabinets. With his competent appearance and his technical knowledge, he has significantly contributed to the good reputation of our company among our customers. There is almost no technical problem he could not solve with his knowledge and perseverance.

Sequel on page 33

PHOTOS: CHRISTINE NESTLER-KENZAN (4) MARTIN THALMANN (1)

ANNIVERSARIES

Sequel from page 39

We only can hope that Josef will stay with our company for a long time and that he will continue to contribute his extensive technical know-how to the entire ACAT Group.
Josef Praschl spends his sparse free time on the maintenance and upkeep of his agricultural farm. Although this was closed down in 2015, there is of course still plenty to do.
Dear Josef, the entire ACAT team thanks you for your support in all technical matters and wishes you many more successful years at ACAT and, above all, good health and continued enjoyment of your work. *TW*

Steffen Kleeb - 20 Years of Accounting with increasing Challenges

For 20 years Steffen Kleeb has been managing the various accounts of our company in Basel. Due to the progressive internationalisation of our activities, this area has become increasingly more complex and the rules and laws to be followed are becoming more and more difficult. Likewise, the demands regarding internal co-ordination, synchronisation and the time requirements of the accounting departments of our various ACAT locations are constantly increasing. But you always manage to reconcile all these things - “Chapeau”.
I would like to take this opportunity to thank you for the good co-operation and your above-average commitment.
The entire management team is looking forward to working with you in the future. Your work enables us to see the results of our work in black and white. This is an essential piece of the puzzle for setting the course for future activities in the best possible way. Thank you very much, and keep it up ... *POB*

Bernadette (Betty) Olear - 15 Years our Lady in Budapest

15 years ago, we were looking to strengthen our team in our Budapest office. I was very pleased that a pleasant working atmosphere, nice colleagues and a (hopefully) friendly boss were the decisive factors for Betty to join our small company. They were exciting years with many highs but also some lows.

Productions were bought and sold again, products and processes came and went, but Betty always remained a true support. Nevertheless, she still found enough free time to start a family and look after two children (and a husband). Betty finds relaxation in Pilates and hiking. But afterwards she’s back to the office or to her customers at full throttle.

Thank you Betty and hopefully you will continue to support ACAT as successfully as you have done so far for many years to come. *ES*

ANNIVERSARIES

Nadine Lansucki - Ten Years "Sales Assistant"

Nadine Lansucki has now been working for ACAT for ten (actually twelve) years. As a „Sales Assistant", Nadine has always succeeded in recognising the needs of the customers and the sales team and jointly implementing sensible, often very creative and quick solutions. Nadine, we very much appreciate your independence and your work discipline, but also your gentle yet goal-oriented way of drawing our attention to problems.
Who is Nadine in private life? In her free time, she is very involved in the social / charitable sector of her local community. She loves to travel and she has already planted her flag on all five continents :-). She is a very ambitious cook and bakes with heart and soul. I have already been able to admire some of Nadine's cake artworks, for example the Ice Princess Castle and the Minions.

Dear Nadine, the ACAT team would like to thank you from the bottom of our hearts. We hope that you will continue to enjoy your work so much and that you will not lose your smile despite the increasing work pressure. *VC*

David Nowakowski - Ten years of successful Commitment to ACAT

David, congratulations on your tenth anniversary with our company. David was still very young when he joined us. Initially, he was head of technical sales for Northern Germany. Thanks to his sound training as an engineer and several years of professional experience with a well-known paper manufacturer, we soon achieved our first successes and decided to expand rapidly into Poland. David, who was also responsible for the sales of the dry strengtheners, contributed significantly to our international success. He is a very dedicated, innovative and high performing colleague. With his positive energy, his above-average personal commitment and his passion for new ideas, he played a decisive role in making our company synonymous with highly innovative solutions for paper chemicals and plant technology. His activities were and they are characterised by many trips at home and abroad. Without the support of his wonderful wife and his charming children, working at this pace would not be possible. We would like to take this opportunity to say a big thank you! *NK*

Vincenzo Carco - Ten Years Jubilee

For ten years Vincenzo Carco has been working at our ACAT family.
Reliability and trust are still values that make a company successful and Vincenzo as Sales Manager Switzerland is the personification of these values.
His knowledge in wastewater treatment is well recognized and customers appreciate the serious and competent approach and advice in particular in complicate situations. Vincenzo is really a bright example of our motto: Technical Service is our Success!
Vincenzo lives in Basel and privately is a motorcyclist and of course a fan of Valentino Rossi.

On behalf of our customers and colleagues I would like to thank you for the past 10 years and we look forward to many more years of cooperation.

MMB

ANNIVERSARIES

Bernadette Kerman - Ten Years Anniversary

„Whoever wants to create has to be happy! “ This quote by Theodor Fontane is the working motto of Bernadette Kerman, who has now been successfully working as a Business Assistant Germany in our papertech team for more than ten years. In her central interface function, she plans and organises the processes in the office, as well as the co-ordination with the departments and external contacts in a forward-looking, prudent and secure manner. In addition, she regularly trains herself in modern office management. The focus of her duties is the administrative organisation and the support of the division management and the entire sales team. She is a very dedicated and conscientious employee who strongly identifies with her tasks and the company. In her free time, Bernadette devotes herself to dancing and she is passionate about English and Spanish literature. On behalf of the entire team, we would like to express our sincere thanks for her above-average commitment and co-operation. *NK*

Anabela Tujkic - Ten Years in the Office - her Voice is known to all

Unfortunately, Anabela did not celebrate her long service anniversary with her ACAT family, but perhaps with her relatives, as she has been on maternity leave since August 2020. So at the moment her main task is to prepare little Leo for the challenges of life and to support him in doing so.
She carries out her professional activities always with enthusiasm ranging from answering the phone to distributing incoming post, which has to be scanned entirely to run in the company’s own workflow, up to the dispatch of all documents, sample goods and small materials. In between, she also does office work, supports the facility management and sales (printing of brochures and leaflets), she orders office materials and, in the event of a replacement, she helps with the processing of payment transactions.
Dear Anabela, we ALL appreciate your reliable work, your patience in dealing with the most diverse complex enquiries, which usually arrive at your desk at the beginning and which you forward precisely to the various departments in the house.
We congratulate you on your tenth anniversary and look forward to many years together. *HR*

Doris Fischer - Ten Years Anniversary in Absence

Since mid-March 2012, Doris Fischer has been strengthening the accounting department with interruptions due to baby leaves. Unfortunately, since summer 2021 we have to replace her again because of the birth of her son Daniel at the end of September. Together with his big sister Sonja, he will now certainly keep Doris pretty busy, so that her own hobbies such as “Italian cooking” will probably come up short at the moment.
We, but first and foremost Nicole, are looking forward to welcoming you back to our ACAT family in autumn 2023, albeit probably with a small hourly commitment, and to the fact that once again the payment processing and various tax returns and evaluations will be in your trustworthy hands. *HR*

PHOTOS: CHRISTINE NESTLER-KENZAN (3), MARTIN THALMANN (2), PRIV. (1)

ANNIVERSARIES

Ronny Schulz - Ten Years Area Manager from the West to the East

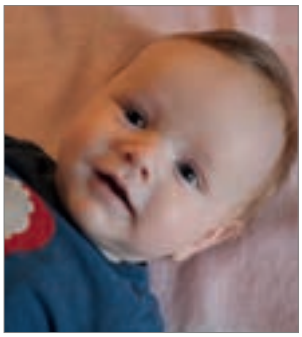
Dear Ronny, the ten years of working together have flown by. Congratulations on your anniversary! You joined us and from the start you have been responsible for a huge territory – including Switzerland, parts of Austria and Southern Germany. Ronny formed a respectable team and a solid business with his leadership qualities and his strong communication skills. Due to his quick successes, a little later he was also given the responsibility of managing the markets in Austria and Eastern Europe. Ronny is an excellent papermaker and before joining us he proved his skills in leading positions at well-known paper mills. Due to his analytical thinking, his high level of comprehension and his structured approach, Ronny is a master in developing creative solutions to problems. In addition, from time to time he supports our international projects, for which we are very grateful. Ronny finds relaxation at home with his family in the beautiful Tyrol. Many thanks for your tireless efforts and the successful last years! *NK*

Nicole Lebersorger - Ten Years of ACAT Accounting in her trusting Hands

Almost ten years ago, Nicole started working in our company in the secretariat of the environmental department supporting Andrea Schilhan. But her real career aspiration was to work in accounting, and so five years later Nicole switched to accounting. To bring her knowledge up to date, she attended evening courses and for over one year now she has been allowed to call herself a certified WIFI accountant.
Actually, Nicole manages almost single-handedly (when there is no baby break, she is supported by Doris Fischer) all agendas from fixed assets to accounts receivable to accounts payable, as well as various declarations for the tax office and other public authorities. Checking travel expense claims and assisting with audits also have to be included in her workload.
We can see that you enjoy your work in accounting and that you are enthusiastic about your work..
Stay cheerful and above all healthy as a valued colleague in the years to come! We would like to congratulate you on your ten years of service to the company.
HR

WELCOME BABY!

Daniel Fischer, son of Doris Fischer



Daniel was born on 26 September 2021 in Hietzing, Vienna. He was a respectable 54 cm tall and weighed 3718 g - and he is and remains the pride and joy of his dad and his mum Doris.

Leo Miskovic, son of Anabela Tujkic

Little Leo was born on 1 November 2020, he weighed 3470 g and was 51 cm tall. In the meantime, the young man has grown quite a bit and he is already very mobile and keeping his mum on her toes.

NEW AT ACAT

Fabian Walter - Welcome to Team Germany!

It was a great pleasure to welcome Fabian Walter as a new team member of the papertech department and as a service technician for our processing and dosing technology systems on 1 October 2021. Thanks to his solid expertise, which he has used very successfully right from the start, his reliability, flexibility and ambition, Fabian has become a very valuable colleague in a very short time. He has a degree as a plant technician for sanitary, heating and air conditioning technology and he attended the master school for plumbers and heating engineers in Heidelberg. He completed his apprenticeship at Stadtwerke Weinheim GmbH, where he gained professional experience in the gas and water department.

In his free time, Fabian enjoys mountain biking, motorcycling and photography.

Welcome to the team, dear Fabian! We wish you a lot of joy in your job and we hope for a good co-operation in the diverse tasks and projects we will have to master together, true to the old musketeer motto „One for all, all for one“. *NK*

Jonas Raus – Welcome to Team Germany!

We are very pleased that since 1 October 2021 Jonas Raus has been supporting our papertech Team Germany in the service in such a motivated, innovative and solution-oriented way. Due to his creativity and quick perception, he is a great enrichment to our paper department. Jonas has a degree as an electronics technician for industrial engineering and as a PLC technician in the field of automation technology. For several years he has been able to gain professional experience at the company BOS Best of Steel GmbH, Emsdetten.

His passion is motorcycling, and on his extensive tours he wants to get to know new countries and cultures.

Dear Jonas, how nice that you have become part of our team! We wish you much success and joy for all the challenges lying ahead of us and we hope to master them together. *NK*

Ulrich Balzert - Welcome to Team Germany!

We are happy to win Ulrich Balzert as Head of North/West Germany. He started working for us on 1 April 2022. After his apprenticeship as a papermaker at the Kabel Premium Pulp & Paper mill, Ulrich studied paper production process engineering in Munich and finished his studies as a paper engineer at the TH Darmstadt. He started his professional career in a paper mill in Northern Germany and after an intermediate period he changed to the technical sales department of the Imerys Company. With his previous professional experience, Ulrich will certainly be a great support to us in our growing business activities. Ulrich is a very sporty guy and in his free time he is often on the road with his family. We wish him a successful start!

NK

PHOTOS: CHRISTINE NESTLER-KENZAN (5) ZVG (2)

NEW AT ACAT

Szymon Mieczkowski: On the Road for ACAT in Poland

As of 1 January 2022, we were able to win Szymon as a service technician to support our activities in Poland.
Previously, for several years Szymon has been working in managerial positions at a converter for paper packaging in the UK. Later he moved to the Stora Enso Ostroleka paper mill and worked on various paper machine positions. Parallel to his job at ACAT, he is still studying Paper & Printing at the University in Lodz. We wish him every success for his degree! *NK*

Carmen Agg - New in the Vienna Team, for the Time as a Maternity Leave Replacement

Since 3 January 2022, Carmen Agg has been strengthening our ACAT team on a half-time basis. Without a longer training period, she had to take over Anabela's tasks. The pre-requisite for this is a quick grasp of the organisational structures in order to handle the workflow correctly. Carmen, you have done an excellent job. It is not surprising to learn that Carmen has already completed two Bachelor's degrees in Prehistory and Historical Archaeology and in Nutritional Sciences with a focus on Quality Management, and that she is currently completing the last semester for a Master's degree in Egyptology. We assume that a trip to Egypt will follow the completion of this degree, especially since travelling is one of Carmen's hobbies, along with swimming, reading and cooking. Anyone with such versatile interests and trainings will certainly find a job for further employment in our group!

HR

Philip Binder - Welcome to the Team Scheibbs!

Since 4 October 2021, the Scheibbs technical department has a new, young, committed employee.
Philip Binder is 21 years young and lives in Mauer near Amstetten in Lower Austria. He completed his education at the HTL-Waidhofen in automation technology. His leisure activities mainly include basketball, skiing and when there is time he also plays golf.
Philip Binder will support our team internally in the area of project management, planning and documentation in plant construction.
He is very talented with his hands and has therefore already successfully worked on a wide variety of projects in order to gain an insight into the cross-departmental activities for plant construction at the Scheibbs Technology and Production Centre. *TW*

Zwelihle Sizwe Mkhwanazi welcome to Team ACAT South Africa

Zwelihle Sizwe Mkhwanazi has joined the Paper Division of ACAT (ZA) as a Service Technician and replaced Vincent Ntshakala who sadly passed away on the 26 April 2020.
Zwelihle is responsible for all the stock handling of products supplied to Mpact Felixton mill, and includes the housekeeping of the retention aid, shading dye's and defoamer equipment.
We welcome Zwelihle to the ACAT team, and wish him continued success and good luck for the future.

AA

PHOTOS: CHRISTINE NESTLER-KENZAN (2)

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
- Binders
- Waxes

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
- Odour Control Equipment
- Biochemical Products and Compost Additives

Chemicals and Specialties for the Municipal and Industrial Effluent Treatment

- Flocculants and Coagulants
- Ferric and Aluminium Salts
- Odour Control Aids
- Defoamers and Deaerators
- Polymer Conditioning & Dosing Systems
- Machinery Service and Spare Part Sales

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

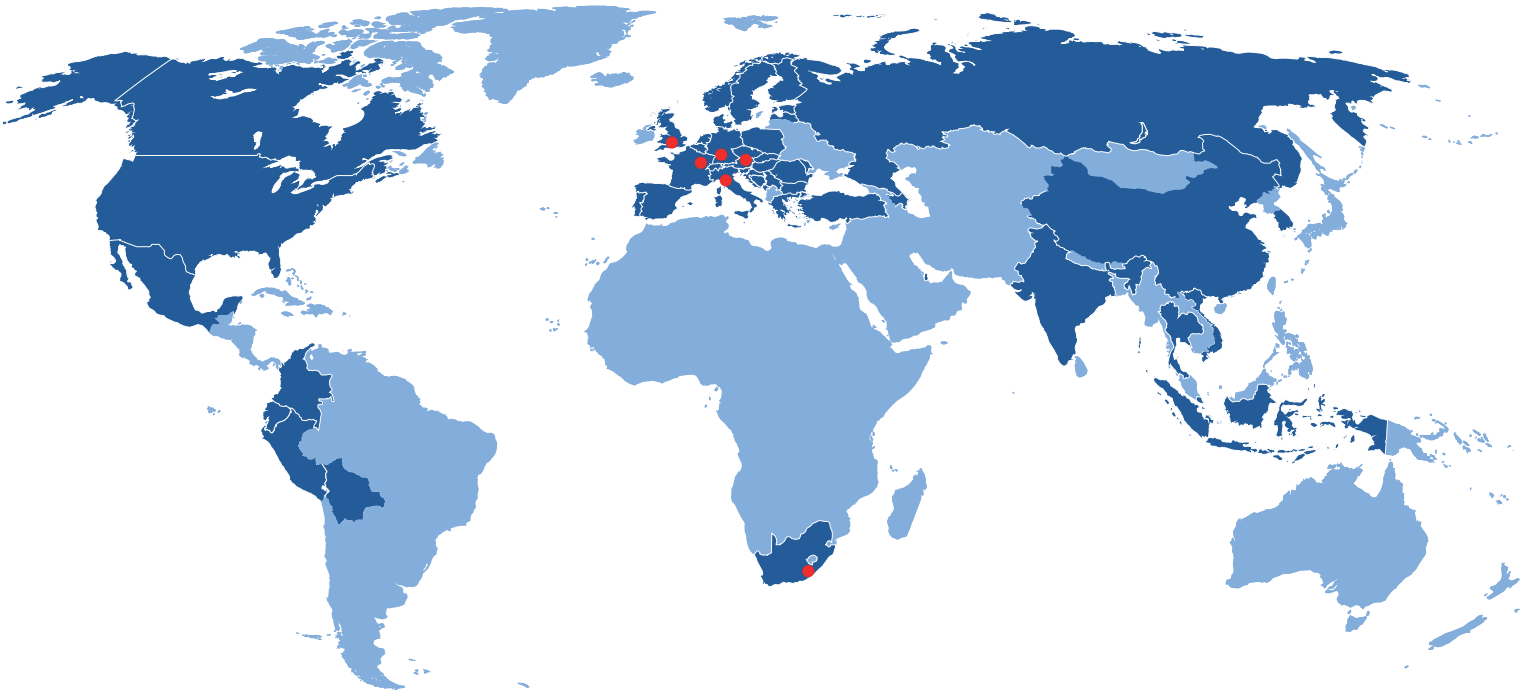
- Retention Aid Systems
- Fixing Agents and Coagulants
- Bentonites and Flocculants
- Dry Strengths Products
- Ferric and Aluminium Salts
- Defoamers and Deaerators
- Odour Control Aids
- Machinery and Equipment

acat.com

your global partner for better solutions

ACAT International Group
Neubadstrasse 7
CH - 4054 Basle
Switzerland
T +41 61 282 82 82

international@acat.com



● our office destinations

Europe, Middle East & Africa

Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estland, Finnland, France, Germany, Greece, Hungary, Ireland, Italy, Lettland, Liechtenstein, Luxembourg, Malta, Moldavia, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, UK

Asia, Pacific

China, Hong Kong, India, Indonesia, Qatar, Russia, South Korea, Thailand, United Arab Emirates, Vietnam

Americas

USA, Bolivia, Canada, Columbia, Ecuador, Mexico, Peru

Applied Chemicals International Group
Applied Chemicals International Group AG
Neubadstrasse 7
CH-4054 Basle
Switzerland

T +41 61 282 82 82
international@acat.com

Applied Chemicals International AG
Neubadstrasse 7
CH-4054 Basle
Switzerland

T +41 61 282 82 82
international@acat.com

Applied Chemicals Switzerland
Applied Chemicals Schweiz GmbH
Neubadstrasse 7
CH-4054 Basle
Switzerland

T +41 61 282 82 80
office-basel@acat.com

Applied Chemicals Austria
Applied Chemicals Handels-GmbH
Wolfgang Pauli-Gasse 3
A-1147 Vienna
Austria

T +43 1 979 3473 0
office-wien@acat.com

Technic & Production Center
Wertheimgasse 1
A-3270 Scheibbs
Austria

T +43 1 979 3473 14063
office-scheibbs@acat.com

Applied Chemicals Germany
Applied Chemicals Anwendungstechnik (Deutschland) GmbH
Wallbrunnstraße 24
DE-79539 Lörrach
Germany

T +49 7621 1543 70098
office-loerrach@acat.com

Applied Chemicals Hungary
ACAT Alkalmazástechnika Kft
Budaörsi út 165. II/1.
HU–1112 Budapest
Hungary

T +36 1 224 0322
office-budapest@acat.com

Applied Chemicals Italy
Applied Chemicals International AG, Milan Branch
Viale A. Doria 42
I-20124 Milan
Italy

T +39 02 870430 12
office-milano@acat.com

Applied Chemicals South Africa
Applied Chemicals Application Technology ZA (PTY) Ltd
207 Plantations, 47 Shongweni Rd
ZA-3610 Hillcrest
South Africa

T +27 31 765 5096
office-durban@acat.com