

**"In the beginning
of every research
stands amazement.
Suddenly something
strikes."**

Wolfgang Wickler

ALTANA Innovation Conference 2008

Our knowledge makes the difference



Once a year, those responsible from the research areas of ALTANA AG meet together for an interdisciplinary exchange of experience. The event, which was introduced for the first time in 2008, is a forum that invites people to think ahead and discuss. With the aid of reputable external and internal experts and topic-based workshops, we have set ourselves the task of finding answers to questions that will preoccupy our customers tomorrow. Because only if you can sense what moves the market and constantly pursue new ideas can you promote the development of innovative products.

Innovation Conference 2008 –
Our knowledge makes the difference

We say thank you.

At this point we would like to thank all the attendees for their contribution and consent to print their statements.

Knowledge is more than power. Knowledge is more than comprehension. Knowledge is the secret we aspire to that helps us to accomplish something great.

That's why ALTANA makes the difference.

Our self-image

Vision

Sometimes it only takes
a little to achieve a lot.

Mission

Our products make our
customers champions.

Values

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enriching

We create and sustain value in a targeted and tenable manner – for our customers, our shareholders and our employees.
Our strength lies in the stringent application of our expertise and our experience in customer networks.

integrative

We bring competencies together and into close contact with our customers.
We treat one another with respect and cultivate open communication.
We achieve sustainable success by working as a team.

agile

We are agile thinkers, and we respond quickly.
We are continuously curious and not content to rest on our success.
We keep thinking – which explains why we are always an idea ahead.

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Dear Readers,

The brochure you are holding in your hands is a product of the ALTANA Innovation Conference, which was held on November 5 and 6, 2008 in the Mercatorhall in Duisburg, Germany. Over the following pages we would like to show you – our customers, business partners, and colleagues – how we live innovation at ALTANA.

At ALTANA, innovation means increasing the competitiveness and innovative power of our customers. We keep an eye on the market and offer a differentiated range of products, solutions, and effects, which are unique in terms of their value to our customers. Product performance and service are important criteria here, which account for our corporate success. Our aim is to strengthen our leading position and to turn the global growth of the niche markets to our advantage. We rely on our innovativeness, know-how, and expertise, because these give us the crucial edge.

An innovation starts life in a network of people who think intensively about things, talk to each other, and collectively arrive at new ideas. With the ALTANA Innovation Conference we have created an ideal basis for our experts to exchange ideas and link up in an interdisciplinary and interdivisional way.

“Radically new things usually emerge in the border zones of the disciplines and through collaboration in teams,” is also the opinion of Professor Bullinger, President of the Fraunhofer-Gesellschaft, whom we were privileged to welcome to our conference as a guest speaker.

With texts and images, we endeavor to guide you in this brochure through the ALTANA Innovation Conference 2008. I hope that, in leafing through and reading it, you will come to recognize a little what our innovation culture is all about.

Enjoy!

Dr. Georg F. L. Wießmeier
Chief Technology Officer, ALTANA AG

Introduction

“As an innovation leader we have positioned ourselves well.”

Dr. Matthias L. Wolfgruber has been the CEO of ALTANA AG since May 2007. In the interview, the post-doctoral chemist talks about the company's capacity for innovation, the significance of the R&D department, and ALTANA's conception of itself as an organization constantly striving to develop.



Is ALTANA well placed in the matter of innovation?

Yes, ALTANA is well placed. We are pursuing a clear strategy: focusing on continually growing and demanding global niche markets where we lay claim to a leading position and can bring our innovative power and problem-solving competence effectively to bear. Last year we created the conditions personnel-wise for expanding this core competence – and, hence, the future business of our company – even further. In every division, a chief technology officer (CTO) now oversees and coordinates the innovation process. In addition, the equivalent position of the CTO has been filled at group level. The CTOs make up the ALTANA Innovation Council. This body ensures that the issue of innovation is always top of the agenda, that the innovation process at ALTANA proceeds effectively and efficiently, that technical and commercial trends beyond the normal course of business are identified, and that knowledge that is available to us in the company and externally is not only accessible but actually deployed in the best possible way across the divisions.

ALTANA is also persevering in the current situation with the same business model of offering customers worldwide practical solutions in the form of sophisticated specialty chemicals products combined with an all-inclusive service. Thanks to our market proximity and innovation leadership, our flexibility and strong capital basis, we believe there is every chance of us emerging from the current situation as winners.

How innovative is ALTANA? How much does the company invest in research and development?

The area of research and development (R&D) is rated extremely highly at ALTANA. At the end of 2008 around 750 of the 4,800 employees worldwide were working in our company in the area of R&D – that's around 16 % of the workforce. We spent over 72 million Euro on R&D in 2008. This corresponds to a share of around 5.5 % of sales. Measured against the sector average, that is a very high value. The chemical industry normally invests three to four percent of its sales in R&D. Among our R&D achievements are new products that offer new functionalities,

new application possibilities, an improved property profile or greater environmental compatibility, all of which allow our customers to stand out from the competition. These products include innovative additives for all kinds of surface finishing or surface protection.

Here's another figure that shows how innovative ALTANA is: In the past financial year, we filed new applications for 27 patent families, whereby one patent family can consist of several patents. What's more, we support our customers worldwide with 46 application and research laboratory sites as the interface between development and customer. These labs enable tests under practical conditions to be made at short notice and in close proximity to the market. We therefore offer distinct advantages over our competitors.

So ALTANA is producing an adequate amount of successful innovations. Will this help to maintain its competitiveness in the future?

Yes, and everyone is playing their part in this. Innovation, after all, is not only the province of R&D, but rather of the entire organization. Top management itself is intensively involved. At the start is the marketing strategy, the question: Where is the company meant to be going? From this we derive the platform strategy: Which technologies do we require to achieve our market objectives? Next to be derived is the innovation strategy: Which projects should we work on? The driving forces that give rise to innovations can basically be triggered by the market, the consumer, or the customer, of course, but also by technological change, scientific principles, or social norms or demands such as sustainability and environmental compatibility.

The challenge is, though, that often unspoken problems have to be translated into product requirements and the customers themselves don't yet know what new capabilities and innovations our knowledge could bring them in five or ten years' time. Our employees are in close contact with the technology drivers, regardless of whether they are to be found in the universities, with the suppliers, or at the customers.

In economically fraught times like these, companies are inclined to cut back on research expenditure...

Yes, the temptation is surely great because the income from research does not usually accrue until years later, whereas the costs are immediate. Since developments extend over a longer period of time, and the know-how and technology need to be built up steadily and with a view to sustainability, you cannot simply turn the money supply off and then on again. In specialty chemicals there is, most clearly, a connection between R&D expenditure on the one hand and commercial success on the other. We hold fast to the belief that research expenditure is an investment in the future. As market leaders in growing and changing markets we also need to be innovation leaders, not imitators. We regard the



optimum target value for R&D expenditure as being in the region of five to six percent of sales.

How long will it be at ALTANA before you can reap the rewards from greater research expenditure?

Whenever we change the properties of specialty chemicals but slightly, it is often only a matter of months from the product idea to the market launch. With very new processes, by contrast, say, with new polymerization technologies or new product platforms, this development can take much longer, in individual cases even five to ten years. Then there is the fact that the consumers of our products, in particular the coatings industry, are for the most part very conservative; formulations involving new additives, for example, need to go through very time-consuming test procedures. To speed up the new product launch, we reproduce the processes and applications of our customers as they are in practice and re-enact their workflows.

What part do so-called “soft factors” play in innovation?

Just as important as the innovation strategy and formal innovation processes, as far as we are concerned, is the innovation culture. This means that we are fast, flexible, and creative, while at the same we also work in a disciplined way. There appears to be a contradiction here: On the one hand, we give our researchers fairly free rein, while, on the other, those involved in the innovation process must work with predefined structures and processes. We are able to reconcile these different objectives, though, because we aren't an inflexible group of companies, but rather an organization with flat hierarchies that promotes communication beyond functional barriers and is extremely open to change. The ALTANA Innovation Conference also helps to ensure that researchers and application specialists within the ALTANA Group are motivated to exchange views and ideas across countries and divisions and to develop their own personal network.

Innovation at ALTANA Is More Than the Sum of Its Parts

Dr. Georg F. L. Wießmeier explains the innovation self-image of ALTANA AG and outlines both the development process of the company and the company's future objectives.

As a focused specialty chemicals company, ALTANA offers its customers highly specialized technological solutions in niche markets. Due to this business model, innovation is an important element of the company's corporate strategy, ensuring that ALTANA will keep growing in the long term and remain a technology and market leader. ALTANA is therefore a research-intensive company, which is reflected by the fact that more than 5 % of its sales is invested in research and development – around twice as much as the industry average.

ALTANA's understanding of innovation

Within the framework of its research and development efforts, ALTANA invests in generating knowledge. This results, for example, in inventions that ALTANA protects with patents as intellectual property. But this does not earn the company money. On the contrary, research initially means spending money to generate knowledge.

Unlike a discovery or an invention, however, an innovation is marked by the fact that the knowledge generated creates value or benefits for our customers and for ALTANA. With the innovation, therefore, knowledge is

innovations are market-driven, subject to so-called market pull. On the other hand, the company has to know which new key technologies are available that it can use to meet these needs as efficiently as possible – technology push.

Market pull: penetrating new markets with new products and increased expertise

In the business world, the share in total sales that new products achieve is often the criteria by which a company's innovativeness is measured. But since views can differ widely about when a product is new, this gauge has to be viewed in a very differentiated way.

It is important to know what is understood by the words "new product." In temporal terms the term refers to a presence on the market of a few years. A product can be regarded as new if the characteristics of an older product are changed. Efforts to generate a new product are therefore very dependent on the kind of product it is. It can be significantly more time-consuming and expensive to develop a new coating additive than, say, to change a coating by adding a new additive. In both cases the result is a new product. To assess the innovative performance of an addi-

So far, a large part of our research projects have been associated with a relatively low risk: The company is concentrating on issues in which it has high competencies and behind which an attractive market is seen. This procedure is sensible and a very essential component of ALTANA's success. But it does not exhaust all the possibilities. For only those who venture boldly into new areas gain sustainable advantages over the competition. Normally, corporate opportunities are connected with risks. Given the increasingly dynamic markets – particularly in Asia – we have to venture into new territories and come up with more innovations. It is not a question of pushing forward into completely new

logies, we deal intensively with new key technologies such as nanotechnology or industrial biotechnology.

Nanotechnology itself does not represent a market. Nanotechnology is a key technology that opens up interesting opportunities to all our divisions so that we can meet existing and new customer requirements. It can serve to heighten the thermal stability of coatings as well as their scratch resistance and conductivity. But that is not everything that is of interest to us as a company. We cannot only offer our own products with improved characteristics due to nanotechnology, but can also support our customers in handling their na-

"We collaborate closely on related technology projects and exchange our knowledge across our divisions."

Dr. Jürgen Omeis, CTO BYK, Dr. Stefan Trummer, CTO ECKART

fields of business or striving for completely new business models. ALTANA always acts close to its core competencies. At the same time, however, we have to venture more daringly into new areas. To minimize risks at the same time, we have to invest in expanding ALTANA's core competencies, that is, acquire know-how and gain experience. This can help us open up additional attractive markets and achieve the growth goals we have set ourselves.

Technology push: ALTANA is banking on new key technologies

To remain fit for the future, i.e. to continue to serve the markets in the future and meet the needs of our customers with the most efficient methods and techno-

noproducts. This is also a very interesting business field. For with our know-how regarding surfaces we can help other manufacturers formulate, say, recipes containing nanoparticles so that the nanoparticles remain finely distributed and do not join together, as is their tendency, into agglomerates.

We have also thoroughly evaluated industrial biotechnology as a key technology and are in the process of building a platform for it within the Group. Here, too, we see many interesting possibilities for ALTANA. We will develop our activities in this area in a targeted way.

"Through our innovations knowledge is converted into value and benefits for our customers."

Dr. Georg F. L. Wießmeier, CTO ALTANA AG

converted into value or benefits. Two further aspects are important in this context: future market needs and available key technologies. A company must know what its customers need – now and in the future. Consequently,

tives manufacturer or a coatings manufacturer, one should not therefore think solely in terms of the respective new product's share in sales. With this proviso, at ALTANA a share of 15 % to 25 % is realistic, depending on the division.

“Our intensive exchange of information and the close cooperation guarantee an efficient know-how transfer within and between the divisions.”

Dr. Peter Jenkner, CTO ACTEGA, Dr. Horst Sulzbach, CTO ELANTAS

**More than the sum of the individual parts:
synergies make us stronger**

Sensibly combining and utilizing the existing knowledge in the entire Group is an important factor for ALTANA's future success. We possess synergy potential and want and have to utilize it. A good example is the emerging market for organic electronics. Once there is sufficient business potential, interesting possibilities for collaboration between different divisions can arise. We have taken a number of measures to promote such cooperation. With these moves, we seek to further promote innovation culture and innovative action in the company. A key component of these measures was the founding of the ALTANA Innovation Council in 2008. This committee, to which all of the ALTANA Group's CTOs (the chief technology officers responsible for research and development) belong, ensures that the entire innovation process at ALTANA functions smoothly. For example, we established an R&D fund with which ALTANA purposefully promotes projects across divisions. At least two divisions have to be involved in a project in order to receive Group funding.

Another huge success was the ALTANA Innovation Conference staged by the ALTANA Innovation Council at the beginning of November 2008 in Duisburg. A total of 100 participants from many countries in which ALTANA is active, including the members of the Board of Management and the Executive Management Team, as well as researchers, engineers, and application specialists, attended the conference held at the Mercatorhalle. During the event, we not only engaged in professional exchange, but also expanded our personal network. At the same time, we intensively discussed new applications, technologies, and ideas for new projects. With the ALTANA Innovation Award, which we will present for the first time at the ALTANA Innovation Conference 2009, we will honor outstanding projects.

**Thinking ahead together with partners:
ALTANA is utilizing external networks**

Our own research activities, utilization of joint knowledge of our divisions, and close cooperation with our customers are at the center of ALTANA's innovation activities. However, we intend to cooperate increasingly with external partners, where it is sensible and beneficial to do so, provided that we can protect our know-how. Within the framework of the Open Innovation approach, ALTANA will work together increasingly with universities, research institutes, and other companies. We see the purchase of know-how or technologies as a further option. In addition, the possibility of taking part in publicly sponsored joint projects will be a component of our innovation strategy. The path we choose in each case depends entirely on the requirements and the possibilities. What is certain is that it will become more and more important for us to benefit in an appropriate way from external networks and cooperative ventures and to make an active contribution.

Overall, we believe that with the approach described above ALTANA is in a good position to master the challenges of the markets in the years to come.

Tomorrow's markets

Apart from cultivating and expanding our traditional markets, we are always interested in discovering and moving into new niche markets, because this helps us achieve sustainable, above-average growth. And when we open up a new market for ourselves with a known product (the way BYK did in the paper segment, for example) or penetrate new markets with a new product (as in the case of ECKART's inkjet inks with a metallic effect), this is also an innovation in the sense defined above. We can also achieve sustained growth by entering newly developing markets, the so-called emerging markets. We intend to step up our efforts to do so in the future. The time horizon, however, is five or more years. To be successful

“Only those who venture boldly into new areas gain sustainable advantages over the competition.”

Dr. Georg F. L. Wießmeier, CTO ALTANA AG

in these fields, ALTANA has to start building appropriate internal and external cooperation networks today, and to develop scenarios in which these markets open up to us.

The abovementioned organic electronics or printed electronics, in which electronic switches, components, or entire electronic devices are manufactured in cost-effective printing processes, is a good example of an emerging market. Possible applications in which our technological solutions could be incorporated include flexible displays, sensors, MP3 players integrated in clothing, or RFID chips printed onto packaging. In terms of applications, Japan, Korea, and Taiwan will surely play a pioneering role. Therefore, especially in these countries, our market experts need to discuss such future topics more with our customers beyond the normal course of business.

ALTANA has an excellent starting position for all important future growth fields, including information and communications technologies, consumer goods that improve the quality of life, safety technologies, mobility/transport, energy, influencing the climate, alternative raw material sources, environmental protection, and conserving resources. As a result, we are very confident that, in the future, innovations will continue to make a significant contribution to the growth of our company.

The Miracle of Innovation – Turbulent Times Require Creative Minds

Prof. Hans-Jörg Bullinger talks about the secret of innovations and the need for creative and committed minds – especially in turbulent times. Prof. Bullinger describes his work at the Fraunhofer Institute, how he and his team arrive at new ideas that lead to groundbreaking developments, and what constitutes the essence of a “real innovation.” Prof. Bullinger looks back on the history of innovation and on those contemporaries who were initially laughed at for their ideas, only to be fêted later. Finally, he reports on the research goals that he would still like to achieve.



“Every creation is a risk” – this insight of Christian Morgenstern does not just apply to poets, but also to engineers who create technical works of art and to entrepreneurs who set up companies. It was creative minds that established Germany’s reputation in the world as a land of poets and thinkers. Many of the pioneers of the industrial age – people like Otto, Benz, Siemens, and Bosch – were inventors, researchers, and entrepreneurs in one. With their inventive and entrepreneurial talents, not only did they develop firms with a global reputation, but they also created the “Made in Germany” brand, guarantor of top technical performance and supreme quality.

To do justice to this reputation in the future as well, we will require more innovators to open up new areas of possibility. People who, with perseverance and assertiveness, chase down and consistently make use of new opportunities. Yet failure is part of the process. Just as researchers put their scientific reputation on the line with a new idea, entrepreneurs often put their economic existence at risk with an innovation. Not every moment of inspiration becomes an innovation; most founders of ideas must undergo complex modification processes before the right time arrives. Innovation processes are fraught with tremendous risk, are stubborn, and long-winded. Turning ideas into new products, services, or processes is risky. And the risk gets bigger with every step. Innovation is not a simple linear progression from the invention to the finished product, but rather a complex interplay of scientific, technical, economic, and social forces. And, let us not forget, with every solution to a problem, we also create new problems.

The idea that ignites is no accident, but rather organization

We once studied a medium-sized company at Fraunhofer to examine the course innovation processes take nowadays. Here, out of almost 2,000 ideas, only eleven or so were turned into commercially successful products. This shows we need to create a vast store of variously developed ideas so that we have an adequate pool to draw on if need be. “You need to kiss a lot of frogs to come across a prince,” Arthur Frey, the inventor of the yellow Post-it note, replied to the question of why not all his inventions were as successful.

It is no doubt a primal human instinct to make something better,

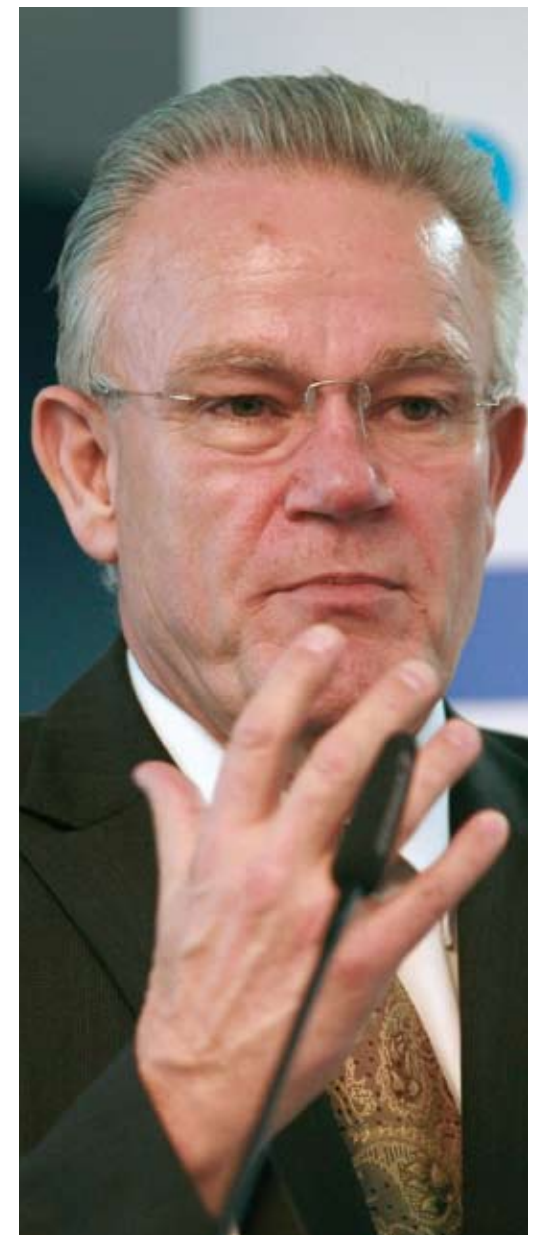
easier, or cheaper. Technology and business follow the same principle: to achieve a certain result with the minimum amount of effort or – conversely – to achieve as high a yield as possible with a given input. The permanent search for new things and the constant overcoming of boundaries is possibly one of the elementary qualities of homo sapiens. The philosopher Peter Sloterdijk talks in terms of the “divine fire of discontentment,” the science theorist Helga Nowotny about “insatiable curiosity.”

Creativity often manifests itself as something mysterious. Everyone is familiar with the flash of genius – the magic moment when the light dawns and pieces of the puzzle fit together. “Eureka – I have got it!” Yet the idea that ignites is anything but chance. Inventions and discoveries tend to have a long history and are based on broad knowledge. Knowledge itself is not enough, though; you need to organize, combine and – above all – reassemble the knowledge. Radically new things usually emerge in the border zones of the disciplines and through collaboration in teams. Creativity is both the deliberate quest and the spontaneous garnering of ideas – a walkabout in the realm of possibilities.

Every innovation needs a market pioneer

Creative people do not wait until they are kissed by the muse, but rather work long and hard. Thus, every idea is the result of hard work and a stimulating environment. The deciding trait of creative people is that they are not satisfied with what is available, but rise above the familiar. These creative minds are able to help our country to acquire new innovative power and competitive ability.

And the study of creative minds reveals something else. While extensive technical knowledge might be the precondition for the systematic development of innovations, one important element of innovations cannot be captured by even the best method: accident – the perplexing aspect, the sudden insight – is just as much part of the system of discovery and experiment as the abandoning of paths embarked on and the transgressing of rules. “If you have something new, nobody wants to hear about it. Then nobody wants to believe it. You are ridiculed and laughed at. But once it has gained acceptance, it seems trivial to everyone,” Jonathan Swift, the famous English author, wrote some 300 years ago, describing





an important aspect that is frequently overlooked: innovation is not merely a technical process, but rather a social process.

The market for innovations is determined by the wishes and values of society. The key to innovations does not lie in the flash of genius, but rather in the environment that ignites the fire. That is the secret of power centers like Silicon Valley, where the creativity of an entire era seems to be concentrated.

Initially, discoveries only unlock a vast potential. But where anything is possible, someone must make sense of it all and reduce the unlimited possibilities to recognizably useful ones. The inventor of the laser Theodore H. Maiman states the reason: “Whenever anything radically new comes along, it takes a while for the right application to be found.” This is the achievement of great innovators like Edison, Bell, Siemens, Benz, or Bosch. There are the pioneers – often researcher and entrepreneur rolled into one – who open up new markets with innovations. Hence every innovation needs a market pioneer, someone who can communicate the point of the invention in line with market requirements. If it does not succeed in appealing to the users, all the preceding research and development work is in vain. That is why a promoter who makes the innovation popular and provides memorable images to convey the idea to the hearts and minds of the people is important.

From time to time we need pioneers who venture into new territory, recognize opportunities, and consistently make use of them. The secret of success lies in finding and recognizing suitable applications for the market launch and implementation.

Innovations are a risk

Successful innovators are not only better, but also quicker on the market and reaching the customer. For two years, the Fraunhofer-Gesellschaft has done research in a joint interinstitutional project with corporate partners. The goal was to find out how innovative capacity can be increased long-term and how innovations can be permanently stepped up. A survey of 300 companies revealed that almost 70 percent of the firms required more time than scheduled for the development of their last product.

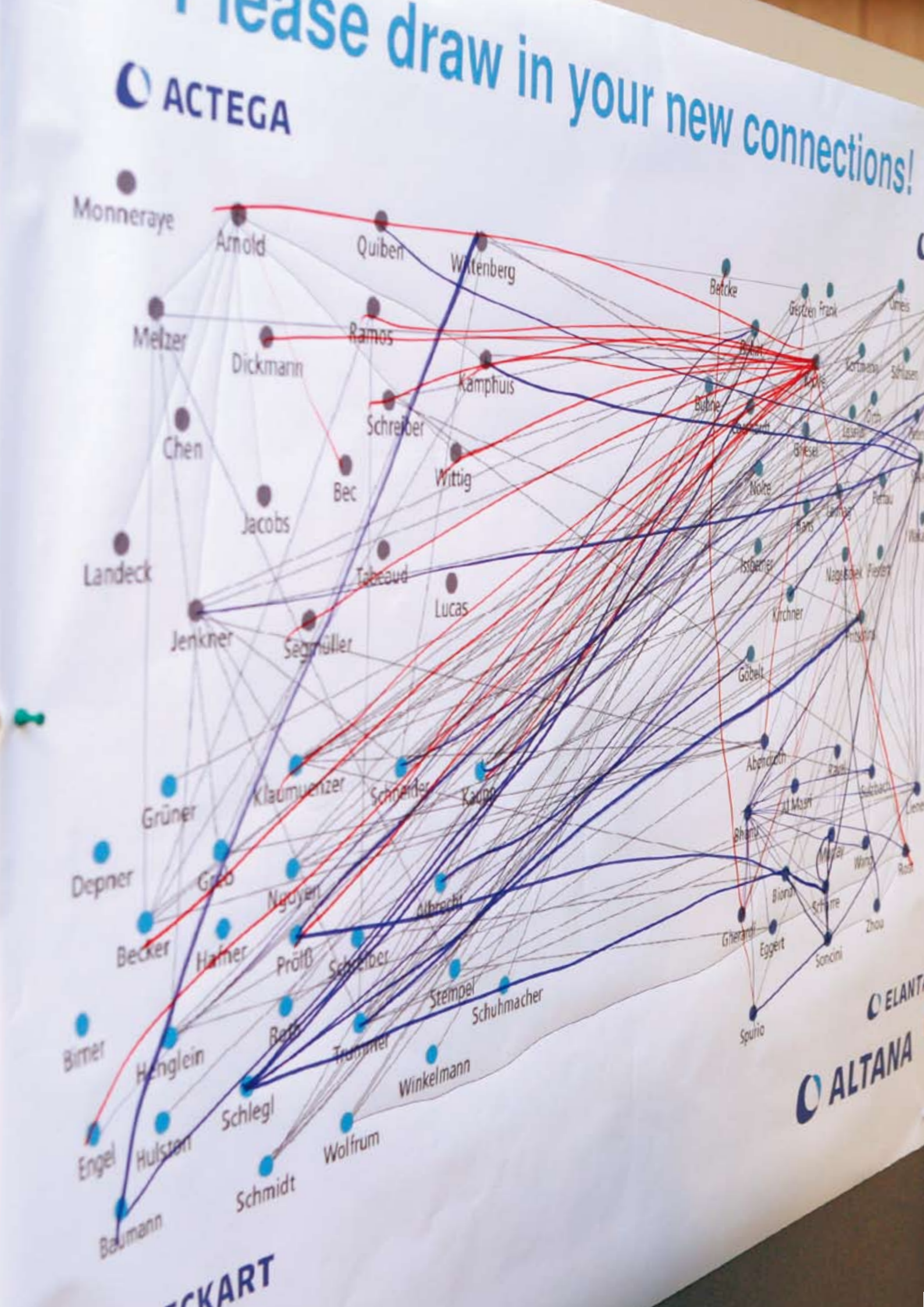
Most of the time is wasted because unclear objectives at the start of the project prolong the duration of the product development. The biggest time-consumers in modification processes are unresolved conflicts of aims between the particular divisions and departments. Problems with the deployment of new technologies, or personnel and expertise problems, fall in the medium range. Difficulties with project partners only rarely occur.

Whenever these occur, they take up an extraordinary amount of time. We have calculated that, ideally, 40 percent of development time could be saved at SMEs and large corporations alike. The good news is the major time-consumers are homemade – and therefore capable of being dealt with by internal measures. At the end of the chain, however, it is the entrepreneur who has to accept the innovation risk. Entrepreneurs who have the ability and determination to put themselves at the forefront of technical development – and to do so on an international scale.

Entrepreneurial types are in demand

How expenditure in the innovation process multiplies is indicated by the rule of thumb: 1 to 10 to 100. From the invention to the development, the costs increase tenfold. But it does not become really expensive until the rollout: an investment a hundred times as high is required for this. The problem here is whether an invention really leads to a marketable product is not often apparent until the end of a long and expensive development phase. Which is why, in the later stages of innovations, aspects such as process safety and cost minimization come to the fore. Despite every effort being made to minimize the risks through careful and long-term innovation and technology management, innovation remains a risk whose outcome is unknown. Therefore we still need more authentic entrepreneur types. Nowadays, in many enterprises, managers focus on short-term cost savings, not on longer-term success. To be enterprising also means to try out new things and create values where there were none before.

An innovation contest is, above all, a management and organization contest as well – a battle for the best personnel. Because it is people alone who can invent, discover, and venture new things. An innovation culture must be borne by all the actors in the enterprise – by the management as well as individual employee. Four factors are required for the success: a clear innovation strategy, the best team, the absolute determination to win, a permanent quality control and the monitoring of results.



The ALTANA Network – Innovations Know No Limits

A good idea is the basis of every innovation. That this alone is not enough to ignite the fire of enthusiasm is the law of the marketplace. It requires a receptive, collegial, and discursive environment to cause a blaze of innovations to develop from the initial spark of an idea. ALTANA ensures with its national and international network of highly skilled personnel that a good idea falls on the fertile soil it needs to grow into a real innovation. Our global network is the guarantor of innovative ideas and groundbreaking projects, our well-trained employees the basis of our success.

Local, global, multinational

In our globalized world characterized by technological progress, the mutual exchange of know-how and experience, international collaboration, and knowledge of the global markets is becoming of crucial importance. For ALTANA as an internationally active group of companies, the principle is: Act globally with awareness of the local conditions. Through our presence in all the target markets, coupled with our knowledge of the local situation, we are in the position to grow with our customers and respond to shifts in the market in a timely manner. Competently, individually, and consistently.

Well networked for unlimited knowledge transfer

ALTANA has a large national and international network at its disposal. Communication and collaboration at ALTANA is characterized by openness, reflection, exchange, and willingness to cooperate. Our staff the world over are combined in intercultural teams that assist each other to develop their ideas still further. Self-questioning and challenging one's personal decisions creates a unique communication culture. The transfer of knowledge beyond national borders and time zones gives us a particular distinction: problem-solving competence. To maintain the commitment and professional expertise of our experts at a continually high level, we create an environment with our tailored in-service training and education facilities that emulates the ideal of life-long learning. Our aim is to promote the global networks of our experts, strengthening their motivation and dedication.

Working together, profiting from each other

Global business speaks its own language. Using special employee development programs, we prepare our employees for the challenges of international business. Here, the advancement of communicative and intercultural competence is becoming increasingly important. The aim of the support program is for colleagues from different countries and divisions to swap experiences and create personal networks. We would like our employees to initiate and cultivate contacts. The best way for this to succeed is by visiting an affiliated company. In accordance with the saying "travel educates,"

these advanced training programs extend the horizons of both knowledge and experience. This reinforces the communication and collaboration between the divisions and brings people from different countries and companies together. The realization that they are all part of ALTANA greatly promotes identification and strengthens cohesion.

Network formation through employee development

Internationalism is a key feature of the Management Development Program (MDP), which has been successfully established for the last six years. This is clear from the use of English on the one hand and from the international composition of the participants on the other. We want to prepare our employees for additional activities and managerial roles. Besides acquiring elementary management tools, each participant signs up to a project. The program lasts one-and-a-half years and is divided into six one-week modules. In addition to professional expertise, the human component in particular plays an important role.

In 2005, moreover, we introduced the Regional Development Program (Regional DP) for the areas of Asia, the USA, Italy, and Germany. Here, talented and motivated personnel are given the opportunity to prepare to meet the challenges of the future through 18 months of intensive training. Besides improving proficiency in the fields of management, finance, and presentation, conflict and change management are also on the agenda.

With our employee development programs we create a sensitive, receptive, and constructive environment that is prepared to live ideas, promote curiosity, and remain innovative.

Agenda

ALTANA Innovation Conference 2008

Agenda / Mercatorhall Duisburg

Wednesday, November 5th, 2008

09:00 – 09:15 h

Welcome address / opening remarks

Dr. G. Wießmeier

09:15 – 09:40 h

CEO Message

Dr. M. Wolfgruber

09:40 – 10:40 h

“The Miracle of Innovation -

Turbulent Times require Creative Minds”

Prof. H.-J. Bullinger (President of the Fraunhofer-Gesellschaft)

11:10 – 12:00 h

Innovation at ALTANA

Dr. G. Wießmeier

ALTANA Innovation Council

Announcement of the ALTANA Innovation Award

Dr. P. Jenkner / Dr. J. Omeis / Dr. H. Sulzbach / Dr. S. Trummer / Dr. G. Wießmeier

12:00 – 13:15 h

Business lunch

Walk and talk

13:15 – 14:15 h

Innovation Projects: Presentations I

ELANTAS, Organic Electronics – The MaDriX Project

M. Abendroth

ACTEGA, “Pure Taste” – B&B Can Sealants:

Green Chemistry Meets Success

Dr. J. Quiben

14:45 – 15:45 h

Innovation Projects: Presentations II

BYK, Nano Amphiphilic Structures, Chemistry and Application

Dr. G. Jaunky

ECKART, Inorganic Encapsulation of Effect Pigments

Dr. P. Q. Nguyen / Dr. P. Winkelmann

15:45 – 16:00 h

Wrap-up

Dr. G. Wießmeier

16:15 – 17:00 h

Bus transfer to “Zeche Zollverein” in Essen

17:00 – 19:00 h

Guided tour World Heritage “Zeche Zollverein”

19:00 – 21:00 h

Dinner event with the ALTANA Executive Management Team

ALTANA Innovation Conference 2008

Agenda / Mercatorhall Duisburg

Thursday, November 6th, 2008

09:00 – 09:15 h
Opening remarks / Introduction
Dr. G. Wießmeier

09:15 – 10:30 h
“Nano Meets Bio: Future Trends in Macromolecular Science and Technologies”
Prof. R. Mülhaupt (Managing Director of the Freiburg Materials Research Center - University Of Freiburg)

11:00 – 11:15 h
Introduction poster session
Dr. J. Omeis

11:15 – 14:00 h
Poster session
Walk and talk / Business lunch
Dr. J. Omeis/ Dr. S. Trummer

14:00 – 14:15 h
Introduction workshop sessions
Dr. P. Jenkner

14:15 – 16.30 h
Workshop sessions 1 – 8:
Dr. P. Jenkner

1 Intellectual Property & Information Sourcing
Dr. F. Henglein

2 Polymer Synthesis
Dr. R. Nagelsdiek

3 Surface & Interface Technologies
A. Bubat

4 New Printing-, Curing and Labelling Technologies (UV, laser & others)
Dr. J. Arnold

5 Nanotechnology
Dr. T. Sawitowski

6 Industrial Biotechnology
Dr. J. Hinnerwisch

7 New R&D Methods and Tools
Dr. S. Rost

8 Printed Electronics on Polymer and Paper Substrates
A. Krolle

17:00 – 18:00 h
Workshop Gallery: Results of workshop sessions 1 – 8
Dr. P. Jenkner / Moderators

18:00 – 18:30 h
Wrap-up / next steps / follow-up
Dr. G. Wießmeier

19:30 – 21:30 h
Farewell Dinner at Restaurant ART in Wesel

Technical Presentations

Nano Meets Bio – Future Trends in Macromolecular Science and Technologies.

Prof. Rolf Mülhaupt presents prospects, trends, and challenges in modern polymer research and additive development. His view of polymer history and modern developments, illustrated by his own research at the Freiburg Materials Research Center, reveals how polymers are tailored to meet the demands of modern technologies and the sustainable economy. Inspired by nature, the precise control of molecular architectures is combined with nanostructure and microstructure formation in order to create novel multiphase polymers and hybrid materials with a high density of functionality. New generations of adaptive polymeric materials will be able to continuously adjust their properties to changes in their environment.

The road to success: versatility and sustainability

The discovery of small molecules as drugs and agrochemicals has prolonged human life. The progress in the development of very large molecules (macromolecules, polymers) as modern materials and additives signifies a high quality of life, a clean environment, and a sustainable economy. Modern polymers and additives meet the demands of the human need for clothing, shelter, health, food, communication, mobility, and energy. The prime research mission in macromolecular science is to create enabling technologies and make high-tech products affordable for everybody.

It was Nobel Prize Laureate Hermann Staudinger who discovered in 1920 that both biopolymers and industrial plastics, including rubbers, are composed of high-molecular-weight polymer chains obtained by linking together a very large number of low-molecular-weight monomer molecules. During the pioneering days at the beginning of the 20th century, research was aimed at replacing natural polymers such as rubber, silk, and ivory. At that time, most synthetic polymer products were rather poor duplicates of natural materials.

During the second half of the 20th century, an avalanche of innovations in polymer synthesis, polymer reaction engineering, polymer processing, materials design, and polymer additives development paved the way for the extraordinarily rapid growth of polymer production, which exceeded 260 million tons by 2008. Novel synthetic polymers are now tailored with unusual property profiles unparalleled in nature. In all modern technologies, polymers and polymer additives play a very prominent role.

The road to success in the marketplace is straightforward: corrosion-resistant and low-weight polymers with tuned properties offer an attractive cost/performance ratio combined with easy processing (injection molding, extrusion, spinning, blow molding, casting, coating, bonding) and unparalleled versatility with respect to properties, applications, and recycling.

Research trends and challenges

At the beginning of the 21st century, polymer materials are well recognized for their high socio-eco-efficiency. They consume small amounts of resources and energy, enabling products to be manufactured that are tailored to the needs of modern society and effective energy management. Inspired by biomaterials and bio systems, important goals in polymer and additives research include (1) synthesizing high-precision polymers using new, highly active, and highly selective catalysts and initiator systems, (2) exploiting renewable feed stocks including carbon dioxide, (3) exploring biotechnology routes to functional polymers, novel synthetic/natural hybrid materials, and bio-based additives, (4) developing organic/inorganic hybrid materials and nanocomposites, and (5) producing nanomolecules and nanomaterials.

New generations of nanoadditives will bring performance and add value to well-known polymers, with applications ranging from matrix reinforcement, scratch resistance, and abrasion resistance to electrical and thermal conductivity, advanced optics, electronics, corrosion resistance, halogen-free fire retardancy, barrier resistance, biocompatibility, non-toxic antimicrobial protection, and adhesion.

Smart materials respond to environmental stimuli

New generations of adaptive polymers and polymer systems (also referred to as “smart materials”) are interactive and capable of responding with property changes to variations in their environment. Such interactive materials and embedded micro systems exhibit features of living organisms: sensing, responding, learning, self-regulating, self-assembling, communicating, self-healing, and even exhibiting energy autonomy due to effective energy harvesting, conversion and storage technology. Molecular bionics and bio-inspired development represent very attractive routes to new polymers and polymer additives, with very high potential for industry, sustainable development, resource effectiveness, communication, human mobility, biomedicine, and energy technologies.



Prof. Dr. Rolf Mülhaupt
Freiburg Materials Research Center and Institute of Macromolecular Chemistry,
Albert Ludwig University, Freiburg / Germany

ELANTAS

Organic Electronics – The MaDriX Project

Organic electronics is but one of the names for these new products and this new market. They are also referred to as polymer electronics, plastic electronics, printed electronics, or polytronics. It is typical of organic electronics that organic materials – consisting of organic conductors, organic semiconductors, organic insulations, organic encapsulations, and organic substrates – are used for the key components of electronic modules and complete circuits. But not all organic electronic products are 100% organic – some contain metals, silicon, or other inorganic materials. The demands made on organic electronics are that they should be simple and cheap to produce, thin and flexible, and capable of being printed on and manufactured by a mass production process – such as an economical printing process – in a matter of minutes.

The companies that deal with the development of organic electronic products are, for example, standard electronics firms like Osram, Philips, Siemens, or Sony and start-up companies like Novalde, PolyIC or Printed Systems. And the companies that develop the materials for organic electronics are, for example, BASF, Evonik Degussa, Merck, and ELANTAS Beck.

The projections for the market potential and market growth of the end products describe an exponential rise until 2025 to sales totaling \$250 billion. The estimated sales performance for insulators likewise anticipates an exponential rise from \$2 million today to over \$500 million by 2025.

MaDriX is the integrated development of materials, element analyses, and printing processes for the use of printed electronics in information technology. The aim is to develop the next generation of printed electronics. The German Federal Ministry of Education and Research is sponsoring this project to the tune of €15 million. The project runs from October 2007 to September 2010. The objectives for all partners involved in the project are to develop new materials and new circuits with greater output and to set up a quality control system to evaluate the quality of the printed organic electronics. The main project partners for new materials are BASF, ELANTAS Beck, and Evonik Degussa; for printing and functionality, PolyIC; and for printing control, Siemens. However, several subcontractors of the main project partners are also involved in the project, with the result that a total of 17 companies and universities are collaborating on this project.



Mark Abendroth

Born in 1971 in Hamburg, Germany. In 1992 qualified as a chemical laboratory assistant. In 2002 graduated in chemical engineering at the Hamburg University of Applied Sciences. From 2002 to 2007 worked as a project engineer on an application project for new monomer-free resins and as a laboratory administrator in the R&D department at ELANTAS Beck in Hamburg. In 2007 graduated in industrial engineering at the University of Applied Sciences, Magdeburg. Since 2007 project and technology manager for the organic electronics project at ELANTAS Beck. Specializes in organic electronics, the chemistry of printable organic insulations and encapsulations, spin coating and printing processes, and the electrical measurement and analysis of organic condensers and organic field-effect transistors.

ACTEGA

“Pure Taste” – B&B Can Sealants: Green Chemistry Meets Success

Beverage cans are seen as one of the most convenient and safest forms of packaging in our world today. Sealing compounds that guarantee the integrity of the can and the drink have a lot to do with this.

At the end of the 1990s, the traditional monopoly existing in the beverage compound market started to open up due to the interest of both brand owners and can makers in exploring other sources and technologies in order to satisfy highly demanding requirements. ACTEGA Artística, having vast experience with food contact and water-based technologies, was well prepared to develop a product to cover all the technical needs and, at the same time, meet the emerging environmental trends.

Although the design was able to fulfill the initial requirements in 2001, three additional years were needed to solve different issues linked to application, regulatory frame, and migration that arose in the course of the development. Intensive research work in the field of several crucial raw materials – reinforced natural latex, antioxidants, and OPP (Ortho-phenylphenol) – led to the development of the product ARTISTICA RB1006 Z2, the sole biocide-free water-based compound made of natural and renewable materials.

Finally, brand owners and can makers approved the new compound in 2004.

The outstanding features of the new design allowed it to be gradually introduced into the beverage market. The new sealant captured 50 percent of the European market share in only three years, and significantly helped to increase the company EBITDA.



Dr. José Quibén

Head of ACTEGA Artística Porrino / Spain technical department. He first joined the company back in 1995, and now has direct responsibility over all R&D activities. His expertise and background is closely linked to the field of colloidal dispersions. His professional career as a chemist began at the University of Santiago de Compostela, where he obtained his PhD in 1991. His present expertise lies in the area of can sealing compounds in particular and water-based dispersions in general. He is married with 2 children.

ECKART

Inorganic Encapsulation of Effect Pigments

Metal pigments are incorporated into different medias, such as coatings, inks, and plastics, for many applications. A surface modification is mandatory to ensure compatibility in these different matrices and to keep the product chemically and mechanically stable. To achieve these objectives, inorganic encapsulations with chrome, silicon or phosphorus-containing compounds are well-known techniques, and are well adapted at ECKART. Common to all of these techniques – and most important – is the transparency of the encapsulating layer for maintaining the optical properties.

However, different applications and regional markets require different technologies to satisfy the various stabilities, compatibilities, and increased optical appearance demands. Therefore, innovative modifications and further improvements to encapsulation technologies are needed to fulfill the market requirements.

One method currently used to encapsulate aluminum pigments is to form a three-dimensional network on the surface by hydrolyzing silicon alcoxides using a catalyst (sol-gel synthesis). From the literature it is well known that varying the reaction conditions by changing the ratio between catalyst, silane, alcohol, water, temperature, etc. leads to different qualities of sol-gel coatings (Brinker, Scherer, Sol-Gel Science, 1990). Using “design of experiments” methods it was possible to find parameters that lead to a sol-gel encapsulation while retaining excellent stability of the pigment and optical properties such as metallic appearance and hiding.



Dr. Phu Qui Nguyen

Born in 1972, studied chemistry at the University of Münster. After a post-doc stay at the University of Pittsburgh (USA) he worked as a technology manager for powder coatings at DuPont Performance Coatings. Since 2006 he has been the Global Head of R&D, Surface Treatment Metal Pigments at ECKART GmbH.



Dr. Pär Winkelmann

Born in 1974, studied chemistry at the University of Münster. After a post-doc stay at the CEA Saclay (France) he worked as a project manager in strategic R&D at DuPont Performance Coatings. Since 2008 he has been the Head of R&D, Inorganic Surface Treatment Metal Pigments at ECKART GmbH.

BYK

Nano-sized Amphiphilic Structures, Chemistry and Application

Introduction

For environmental reasons (for example, to reduce the emission of VOCs), it has become highly desirable to switch from solvent-based to water-borne formulations. Hence, new developed additives should be compatible in water-borne formulations, and substrates should also be pre-treated to be able to receive water-borne formulations.

Easy-to-clean water-borne coatings

Easy-to-clean and self-cleaning surfaces are emerging in many coating applications, ranging from paints through glass and tiles to textiles, representing large market opportunities.

We present here surface additives for water-borne formulations that can be used for Lotus-Effect® coatings, a superhydrophobic self-cleaning concept inspired by a principle of nature. In order to apply this principle to coatings, we used coating additives to achieve surfaces with easy-to-clean properties – surfaces much easier to clean than conventional coating surfaces. Representative chemical structures of the additives are polyether-modified polysiloxanes in which the polyether possesses a hyperbranched structure with a large number of hydroxyl groups at its periphery. The polar hydroxyl groups provide the initial compatibilization in water-borne formulations and permanent effects in hydroxyl-crosslinking binders in the ultimate curing stage, whereas the polysiloxane chain accounts for the hydrophobic properties. Advantageous surface properties such as high gloss, oil repellency, dirt/dust release, anti-graffiti, mar resistance (that is, the resistance of a material to abrasive action), and scratch resistance can be combined by using only one additive.

Coating thermoplastic substrates with water-borne formulations

In order to receive printing inks or coating formulations, the low energy surfaces of the thermoplastic substrates must be modified and made more polar.

The current practice in the industry for making the surfaces of these materials more polar is to oxidize their surfaces by selective pre-treatment through corona discharge.

We present an alternative strategy consisting of the use of surface-modifying additives, such as polysiloxanes modified with highly hydrophilic hyperbranched polyethers, to increase the surface energy of thermoplastic materials. The thermoplastic substrates thus obtained have improved adhesion and can be coated with water-borne formulations.

Conclusion

In conclusion, the proper design of polyether-modified polysiloxanes can assist surface modifying additives that can render surfaces hydrophobic/oleophobic or hydrophilic.



Dr. Guillaume Jaunky

Education:
Studied chemistry at the Université Louis Pasteur in Strasbourg and Ecole Nationale Supérieure de Chimie in Mulhouse, and received a PhD in supramolecular chemistry (2001) and a master's degree in formulation chemistry (2003).

Career:
Joined AGFA-GEVAERT N.V. (Antwerp, Belgium) in 2004, where he has been developing polymeric dispersing agents for inkjet inks. Moved to BYK-Chemie GmbH (Wesel, Germany) in 2006.

Function:
R&D project leader for surface modifying additives

Workshops – Impressions







This is what the participants say:

At the ALTANA Innovation Conference 2008, researchers from all over the globe spent two informative and eventful days in Duisburg. We wanted to know from our guests what impressions, experiences, and insights they took home with them.

Bärbel Gertzen
BYK-Chemie GmbH, Germany

On balance, I personally found this event very good. To put a face to a contact and to intensify the whole thing in a conversation was no doubt appreciated by all the participants.



For the next conference, a meeting and/or exchange with the relevant working groups would definitely be a topic of interest. The guest speakers too, like Prof. Mühlhaupt, no doubt fascinated everyone.

Giancarlo Soncini Júnior
ELANTAS Isolantes Elétricos do Brasil Ltda., Brasil

Contents: The amount of science and the knowledge presented was very interesting.

Workshops: Exchange of information on any topic was more than fantastic.

Expectations: Was the conference too heavy? This is equivalent to saying it contains too much knowledge about our



business. I would be very happy if I could participate in the next conference.

René Nagelsdiek
BYK-Chemie GmbH, Germany

The conference was two days filled to the brim with information and scientific exchange. Considering the short



time we had in the workshop with people who did not know each other before, it was exciting to see how fast some ideas were generated. It will be

even more exciting to see what can be transformed into reality.

Dr. V. Bhanu
ELANTAS Beck India Ltd., India

The ALTANA Innovation Conference offered me the chance to think deeply about aspects of the innovation process as well as about the needs of the researchers in a global company and customer environment. The ALTANA



Innovation Council, i.e. the corporate team of Chief Technology Officers, can certainly make a valuable contribution in future to ensuring there's an efficient innovation process.

Robert Hulston
ECKART America Corporation, USA

The opportunity to network with other divisions from around the world was a great example of the vision ALTANA has for innovation.

The presentations made were very informative and again showed how the

four divisions of ALTANA strive to look for innovative products. Discussions during and after the meetings allowed synergistic ideas to flow – i.e. possible raw material evaluation, equipment used throughout the companies that could be



used by the other sister companies. The workshops always work well – ideas and discussion points were captured and action plans now need to be put in place: how do we follow up with the ideas, what are the timeframes, how do we capture the successes, how can we present these to the board?

Haiwen Chen
ACTEGA Foshan, China

It was a great experience for me when I participated in the ALTANA Innovation Conference, which was very well organized. You showed us excellent teamwork. The innovation presentation provided us with a lot of useful information in a short period of time across the whole organization. Most importantly, through the

workshop, we were able to build up the networks with our colleagues from the other divisions.



Günter Stevens
BYK-Chemie GmbH, Germany

The ALTANA Innovation Conference revealed a great deal of potential within the company. To present R&D issues as a



poster session was a brilliant idea. There were a variety of interesting discussions with familiar and not so familiar col-

leagues. For me, the networking was the key benefit of this event. Only by swapping ideas and discussing things can we keep up with the pace of global know-how development and play a dominant role as an innovation leader in our core businesses.

Dr. Sascha Stempel
ECKART GmbH, Germany

The content was interesting and very comprehensive. The conference first and foremost helped us to also understand



the main fields of activity of the other divisions. My biggest gain was the personal contact and the option for easier approach in future.

Thomas Klaumünzer
ECKART GmbH, Germany

It was most important to enter into close personal contact with all those colleagues with responsibility in either R&D or analytics. With that in mind, we are now in a position to start networking. That

means providing our equipment and knowledge within the entire ALTANA



quick projects and needs were met at the meeting. Some of the projects are ongoing and we are actively working on them. The workshop would be better with smaller groups and more focused topics.

Arne Krolle
BYK-Chemie GmbH, Germany

The poster session was very impressive, I had a lot of opportunities to meet and discuss with people, to enable synergies to develop. We were already able

Group and, conversely, asking for help from the other divisions. We obtained a good overview of selected R&D activities at ALTANA.

John Arnold
ACTEGA Radcure, Inc., USA



Networking was outstanding. This was my first chance to meet and network with the non-ACTEGA groups. Many



to derive some benefit from these through the exchange of know-how. The clear message is that innovation is the lifeblood of the company. Somebody has to take personal charge of an idea, and follow it up over the years in spite of the administrative rules. The benefit comes after more than five years. Innovation is fun – because this is a chance to create ideas according to our own design.

Christian Wolfrum
ECKART GmbH, Germany

The Conference was a great opportunity to meet colleagues from other divisions. I had many good and helpful



discussions and was impressed by the enormous variety of projects and scientific topics the ALTANA community is working on. Due to the perfect organization and the spirit of collaboration, which increased from day to day, the ALTANA Innovation Conference 2008 was also a lot of fun.

Dr. Jörg Issberger
BYK-Chemie GmbH, Germany

The convening of the researchers from all the ALTANA subsidiaries was an asset, as far as I'm concerned. I made new contacts, learned something new again, and was able to lead lively and interesting discussions. At the next ALTANA Innovation Conference the focus should be on the workshops. The group with the best project could be

awarded a prize and be actively backed and encouraged by a sponsor.



Dr. Thomas Sawitowski
BYK-Chemie GmbH, Germany

Innovation is important to ensure growth and a prosperous future for ALTANA and thus for all of us. To identify and



strengthen synergies in R&D between divisions are one way to accelerate the innovation process and to create unique opportunities throughout ALTANA.

A simple sentence says it all "Three Ideas A Day Keeps the Competitor Away."

Alfred Bubat
BYK-Chemie GmbH, Germany

Besides the good contacts that already exist, I made a lot of new contacts with colleagues around the world. In my opinion the best part of the Innovation Conference 2008 was the



poster session. It gave a very good overview of the worldwide activities of ALTANA. When we are able to intensify the contacts at next year's conference, the slogan "Knowledge makes the difference" will carry a lot of force.

Dr. Jörg Hinnerwisch
ALTANA AG, Germany

A successful start was made with the meeting in Duisburg, marking the inception of a hopefully long tradition of Innovation Conferences. So rich in content, where else can you gain such

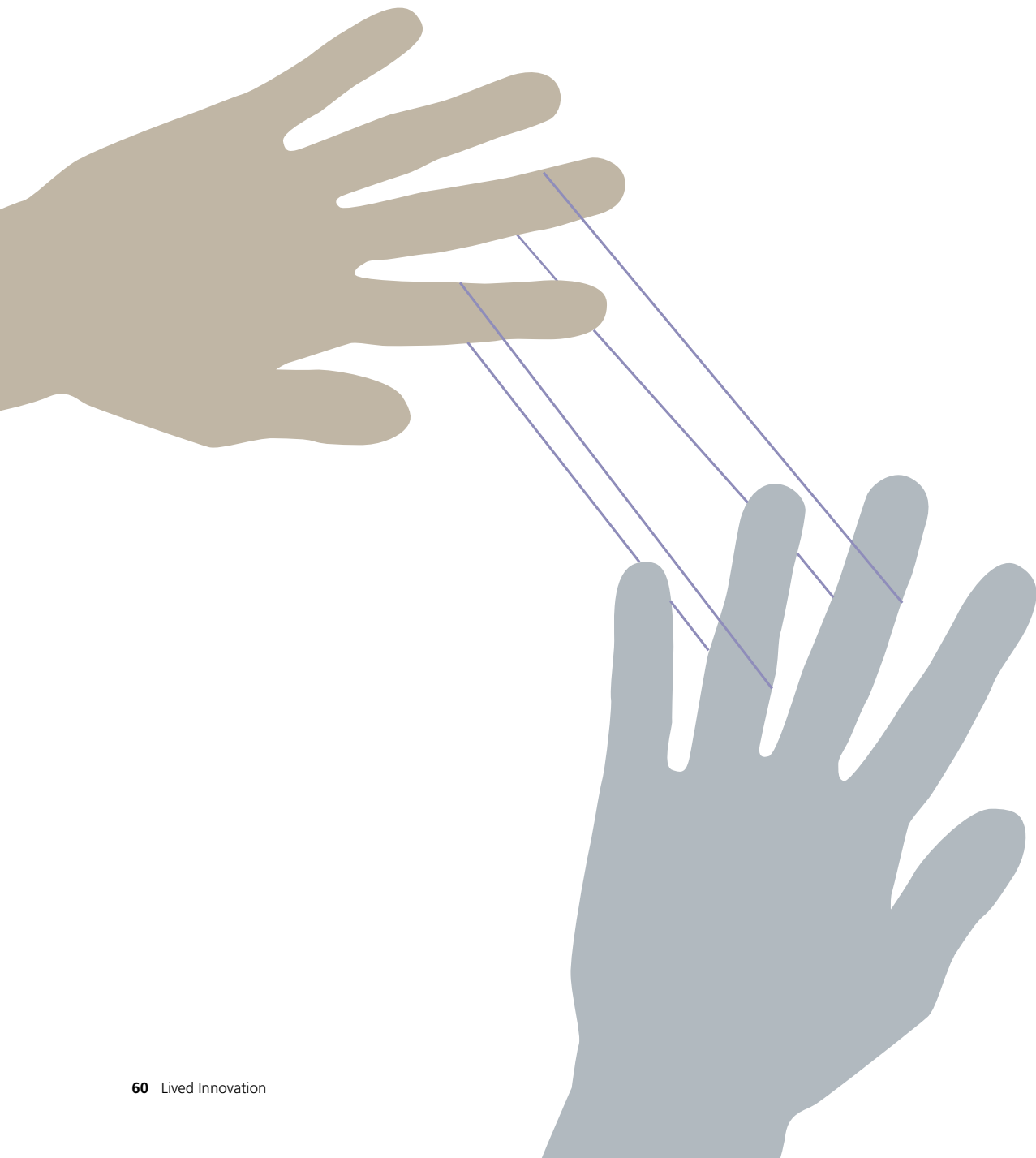
a complete overview and appreciation of the entire research achievement of ALTANA? The special character of this first meeting, however, was the way it encouraged colleagues to get acquainted and exchange ideas beyond all national boundaries and project affiliations. The conversation and contacts represented the biggest personal gain and faces are now associated with names. A global meeting, which in its organization and implementation has done the innovation and team spirit of the ALTANA family a lot of good. One has every right to be curious and look forward to the next meeting.



Lived Innovation

Innovative Corporate Culture – Work Thrives on Cooperation

Our employees are the heart and soul of ALTANA. They give our company a particular character with their personality, their ideas, their dedication, and their idealism. Deputizing for the 4,791 people who work for ALTANA across the Group, six of them take up the dialog at this point. The topics of their statements are as varied and diverse as ALTANA itself.



„With the MDP you can prepare to take on managerial roles, while at the same time forging international relationships.“

The Management Development Program (MDP) is an employee development program within the ALTANA Group. The aim of MDP is to prepare participants for more advanced activities and roles.

Participants come from across the ALTANA Group and across disciplines, providing a rich cultural experience and functional diversity. Formal one week sessions are delivered by international trainers, possessing expertise in targeted areas. There are six modules which occur over 18 month period, with all sessions conducted in English.

Sessions include: project management techniques, negotiation and management skills; effective work-life balance practices, etc. In addition to the formal sessions, the ALTANA Management Board agrees several projects to be developed and delivered by sub-groups of the participants. Project work is performed outside of the formal sessions, with project teams supported by and interacting with executive sponsors. The completed project work is then presented to the full Management Board.

Formal module sessions are held globally, offering participants direct expose to other cultures, practices and site specific ALTANA operations. A Key benefit of MDP is the team building which occurs among participants, through the formal sessions, leisure activities, sightseeing and site visits.

Throughout the program members of the Management Board visit the formal sessions, while at the same offering individual mentoring to participants. With each new MDP group, there is a reunion of the prior session participants with those actively participating in the current session. This coming together offers a sharing of experiences and a broadening of networking within ALTANA.

Last but not least, because of the informal framework, our group has developed over a short period into a real team. We have a lot of fun, are able to learn a lot (even from each other), and look forward to meeting up again every time a module ends. The training sessions are very interesting and, besides the technical knowledge, improve language skills enormously. The contacts made will endure beyond the end of the program, and improve and simplify the intercommunication and work within the ALTANA Group.

Holger Wiebelhaus
Corporate Controlling ALTANA AG

“The dialog between executive and employee is an important basis for continued personal and professional development.”

The employee development opportunities at ALTANA are as varied as the company itself.

The annual progress dialog between executives and employees is an important instrument for determining the current level of personal development. Here, among other things, the skill requirements of the employee are assessed against future needs. Various measures can result from this. Employees can participate in training sessions on local and external facilities, as well in trainings that exist across sites. In addition, ALTANA offers exceptionally talented and performance-oriented junior employees the chance to prepare intensively for more advanced and complex tasks through its various employee development programs.

The total of 5 Regional DPs (development programs) in Asia, China, the USA, Italy, and Germany are largely carried out in the local language. The international MDP (Management Development Program) requires both a very good command of English and mobility.

Alongside the personal development aspect, the programs offer excellent opportunities to network not only with colleagues from other divisions but also with upper management.

The tour of different ALTANA sites provides an insight into the different activities within the Group. Our employees profit from the networking within the company when it comes to achieving their aims and managing their daily tasks. Employee development is seen as an investment in qualified and motivated employees – because our employees are the bedrock of our success.

The consequence is that, on the one hand, we have a duty to suit-ably qualify our employees for current and future needs. At the same time, we also want to create a positive working atmosphere and a stimulating corporate culture.

Annette Lampe
Head of Personnel Development ALTANA AG

“Innovation needs values.”

Respect, trust, responsibility, openness, and togetherness are values that we at ALTANA have defined as the cornerstone of our collaboration. For the employees’ representatives too, these values are the basis for their daily work. The times when employees’ representatives and employers stubbornly defended their corner are long gone.

For years, our industry has epitomized the principle that innovative solutions are crucial for the future. Hence, the collective bargaining rounds between the German chemicals industry employers’ association, the BAVC, and the mining, chemical, and energy industrial union, the IGBCE, are not merely concerned with pay increases, but also with such aspects as age-appropriate work design or continuous professional development.

We have adopted a similar approach at ALTANA – already working out various issues jointly with employee and company representatives at the development stage. We hold eye-level discussions, and the collectively developed results are not tolerated compromises, but rather innovative outcomes that can be accepted and supported by all sides. In addition, the intensive collaboration with the ALTANA Innovation Council should be stressed because only by retaining our leading technological role will we secure jobs over the long term.

We must continue to ensure in future that – through trustful collaboration with all sectors, borne by mutual respect – we will (still) be successful together. Lateral thinking is in essence required; you need to get away occasionally from the well-trodden path.

“It was always thus” does not necessarily hold good today. Ideas sometimes arise on their own. Results are almost always arrived at by a number of people, and then in a much more innovative way if the basic rules of trustful, transparent cooperation are respected. Innovation can be like a puzzle: many people possess individual pieces, but everyone must be willing to make their piece of the puzzle available. In itself this piece is worthless; only in the complete picture does it come into effect.

Ulrich Gajewiak
Chairman of the Group Works Council of ALTANA AG

“Helping other people is part of our corporate philosophy.”

We bear a responsibility for the society in which we live and work. Yet social commitment for us is by no means a civic duty, but rather a matter close to our heart. ALTANA supports a variety of social projects the world over. We would like to present three of them to you.

Manoel da Silva from São Luis owes the fact that he can study agronomics today to the Passo Fundo academic support scheme. This award grants to talented, yet financially disadvantaged Brazilians so that they might attain the best possible qualification by completing a degree course, and sensitizes them to the social problems of the country.

ALTANA supports the Passo Fundo organization with a total of three scholarships. Manoel is one of our stipendiaries. Besides scholarships, the students engage in social projects, like the Beija-Flor project, in which poor and disadvantaged young people are tutored for the university entrance examination. Without the free tuition, they would find passing the exam difficult.

Besides the academic support scheme in Brazil, ALTANA assists another organization in South India financially with the building and equipping of a vocational school. Here, young people are trained in three occupations that offer good prospects on the region’s employment market.

In Tibet, ALTANA supports an organization that involves itself with blind and partially sighted children, young people, and adults. The Braille printer and the Braille computers that have been donated allow schoolbooks to be produced for blind children so that they can be schooled in their villages.

These three selected initiatives show that, with our commitment, help is going to disadvantaged children, young people, and adults, that they are being provided with a good education and are being offered new prospects.

Heike Dimkos
Corporate Communications ALTANA AG

“Learning is fun if you have great colleagues.”

From the campus to the laboratory. Marc Hans is a graduate chemist and has been working for the past six months at BYK-Chemie as a development chemist. For the “rookie”, everything came in one fell swoop at the end of his studies – but regardless of what happens, he can always rely on the support of his colleagues.

“I submitted my dissertation, spent a weekend at home, followed by the first day of work at BYK-Chemie, and two days later I’m taking part in the ALTANA Innovation Conference. Everything at the time seemed to move in fast-forward mode. Naturally I was not sure at this point whether BYK-Chemie and the related move to Wesel was the right decision to have made. During the conference, though, all doubts were quickly dispersed.

It was the perfect opportunity for me as a ‘rookie’ to gain a complete overview of ‘my new firm’ and to meet lots of colleagues at a stroke. The strong focus on innovation and the good atmosphere among the employees impressed me immediately.

Now, three months later, I sit in my lab in the research department and think about how I can improve my additive structures. I have arrived in my new work environment. Of course, there’s still a lot to learn, but thanks to the great support of all my colleagues, whose doors are always open, the learning’s fun and I look forward to new responsibilities.”

Marc Hans
BYK Chemie GmbH

“Environmental protection is of special importance for us.”

Environmental protection, sustainability, and improving the quality of life are an inseparable entity. This is where the best opportunities arise for ALTANA to further develop the innovative capacity of the company so it is optimally equipped for the future. For sustainability to succeed, environmental protection must be integrated in the development, manufacture, and marketing of our products.

Sustainability means meeting the needs of today’s generations without depriving future generations of the chance to secure their needs. We must make sure that we use our energies efficiently, reduce emissions, and, in particular, protect natural resources so that we bequeath to our children a world worth living in. We can only meet our obligations if this thought is already guiding us in the innovation process. At the same time, environmental aspects are not only important for our product manufacture; they also matter for the application of the products at our customers. The new legal requirements present us with good opportunities to be successful on the market by developing our own systems, such as waterborne or UV-curing systems.

In addition, by developing additives or pigments for aqueous, high solid, or powder coatings, we can also support our customers in developing similar systems of their own. Another important issue is resource efficiency. We consume far too many natural resources today, and demand is rising dramatically. This issue, too, offers plenty of new opportunities. Thus we can make our own production processes more energy-efficient by means of biotechnology and accelerate the energy-intensive grinding of pigments by using wetting and dispersing agents. Wire enamels that increase the current yield of wind turbines make a very direct contribution here. Anything that makes coatings longer lasting helps to protect resources. One case in point is the increase in the scratch resistance of coatings or the improvement of their UV resistance. Our latest example: NANOBYK®-3651 and NANOBYK®-3652 with “reflow effect.” Another approach consists in replacing fossil resources with renewable ones. At ACTEGA Terra there is a new family of aqueous overprint varnishes based on renewable raw materials.

Dr. Andreas Diez
Head Corporate EH&S, ALTANA AG

Inspiration through Initiative – with Responsibility and Commitment to New Ideas.

Understanding society, looking for dialog, grappling with global issues – only those who understand what moves the world can profit from it and develop new ideas. That is why it is important to come into contact with a range of different people, to understand their needs, and to take their suggestions seriously. ALTANA looks for dialog because, sometimes, good ideas will evolve during a conversation that can take place far away from everyday business concerns.



Most people will be astonished to learn how many objects of daily use are improved by our products.

A key motivation for the new products and new markets that are at the center of our corporate activity is to improve the quality of life. This can affect areas such as health, consumer goods, safety, or mobility.

Responsible corporate action is enduring and presupposes that the rise in the quality of life is not accompanied by an adverse effect on the environment, which constitutes the basis of our life. On the contrary, we develop solutions with a view to positively affecting the climate, finding alternative resources or alternative energies, protecting the environment, or preserving resources.

If these areas are taken into account as part of our innovation activity when we develop new products or technical solutions, we can create a lasting use for our customers and ourselves.

Only if we become active and concern ourselves with our social environment will we know what needs exist.

At the heart of our innovation activity is, first and foremost, our direct customer. It is essential for our business that we know and understand exactly – even anticipate to some extent – our customers’ needs. This presumes an intensive dialog with our customers, which must be proactively driven from our side. It is a question of raising issues which our customer, quite possibly, is not even thinking about.

We concentrate on not simply letting the future happen, but rather on seizing the initiative and actively helping to shape it. We must understand the global environment of our customers and acquaint ourselves with the fields previously referred to. This requires thinking outside the box. The introverted, ivory tower researcher has long been a thing of the past.

The outward-looking work with different future scenarios describing likely developments and the analysis of technology and product roadmaps that lead to such scenarios has been part of the researcher’s working environment for some time now. This is what allows us today to initiate new developments in



a more target-oriented manner, so that we can come up with the correct products at the right time.

A thought becomes an idea.

Besides the direct dialog with our customers, this approach also demands a dialog with our customers’ customers and with companies from outside industries such as fashion, construction, logistics, interior design, etc. That means that we need to be very much involved as a company in so-called “open innovation communities,” since our internal point of view by itself will not take us much further in this respect. An innovation starts out in an extraordinary network of people who think in depth about things, talk to each other, and together arrive at new ideas.

An idea becomes a project with partners.

A network in industry alone is not enough, however: To be able to drive developments forward, we require strong development partners due to the increasing complexity of the products and the dynamics of the markets.

This is why, for instance we are seeking at ALTANA to gain access to university networks, from where we can let fresh

knowledge from the different disciplines flow into our work. At the same time, this need not inevitably involve communities of convenience that are purely technically based. The collaboration with creative designer teams at universities can also provide us with vital stimulus for successful innovation.

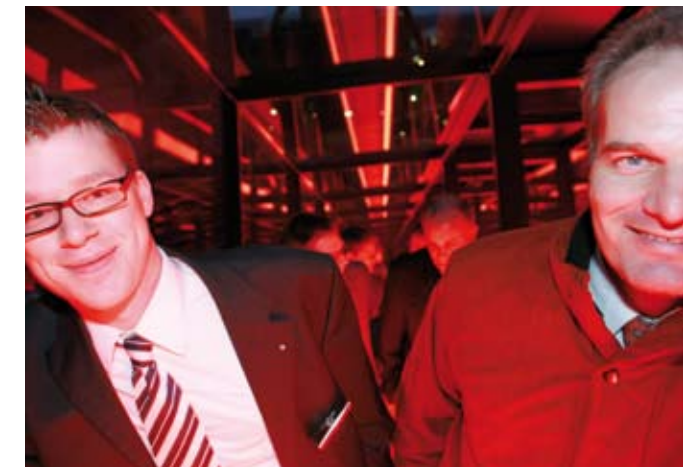
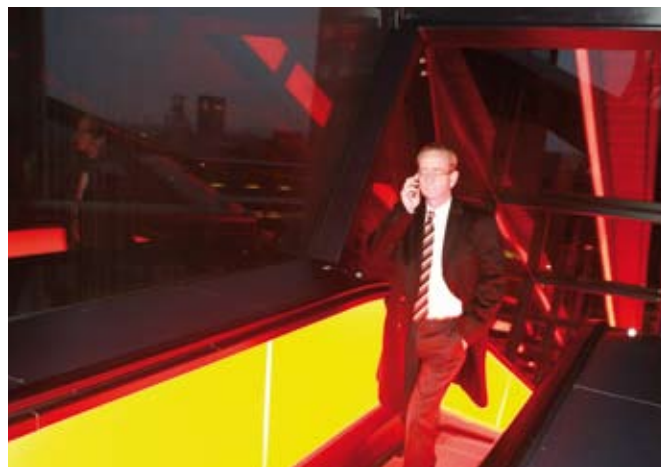
At the end of all our efforts is the innovation.

Needless to say, we profit in the main from the know-how, dedication, and creativity of our employees, and from our own, internal networks. Our employees are the basis of our innovation culture and the driving force for advancing all the activities referred to, for building up the networks, and, ultimately, for establishing the new products successfully on the market. Each one may be innovative in their field of activity. Innovation is human.

Dr. Georg F. L. Wießmeier, CTO ALTANA AG

Networking for Innovation







Facts and Figures

Research and Development

Being an innovation leader is part of ALTANA’s corporate strategy. That is the reason why our expenditure in the area of R&D is above the average.

In our research and development activities we have focused on the steady advancement of technologies and products. Because only if you invest in the area of R&D will you secure an innovative advantage.

- Group-wide, research expenditure in 2008 was 5.4 % of sales
- Sector-wide the average is 2–3 %
- In 2008, 72.1 million euro were spent on R&D
- In 2008, 750 ALTANA employees worldwide worked in the area of R&D
- 27 new patent families were applied for in the past financial year

R&D locations and employees

	Research and service locations	R&D employees
Additives & Instruments	19	281
Effect Pigments	9	231
Electrical Insulation	10	129
Coatings & Sealants	8	107
Holding	–	2

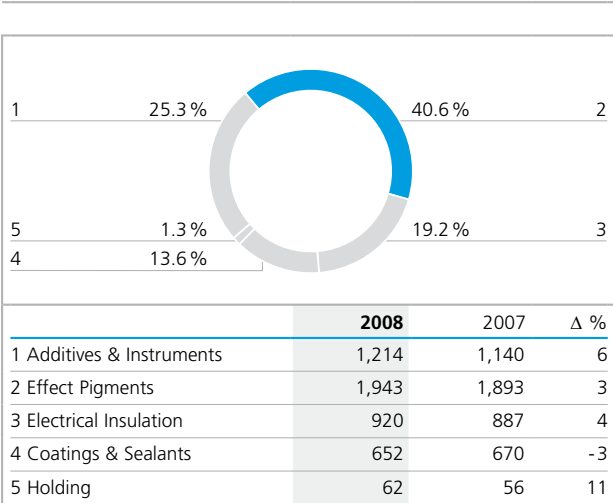
R&D expenses (in € million)

2008		72.1
2007		67.4
2006		67.7
2005		46.5
2004		37.8

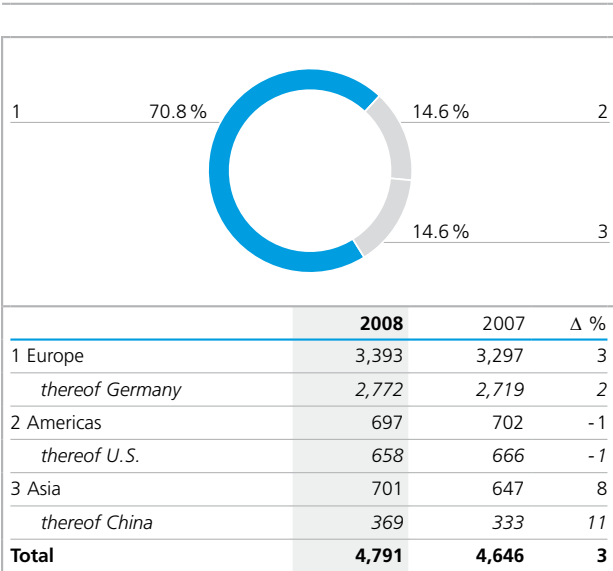
Employees

The success of a company is borne by its employees. The employees of ALTANA are distinguished by a high level of commitment and skill. With their knowledge they constitute the real capital of our company. At the end of 2008, 4,791 staff were employed at ALTANA throughout the Group. This makes an increase of 145 employees (3 %) on the previous year. In the Additives & Instruments division, the number of employees grew by 6 %.

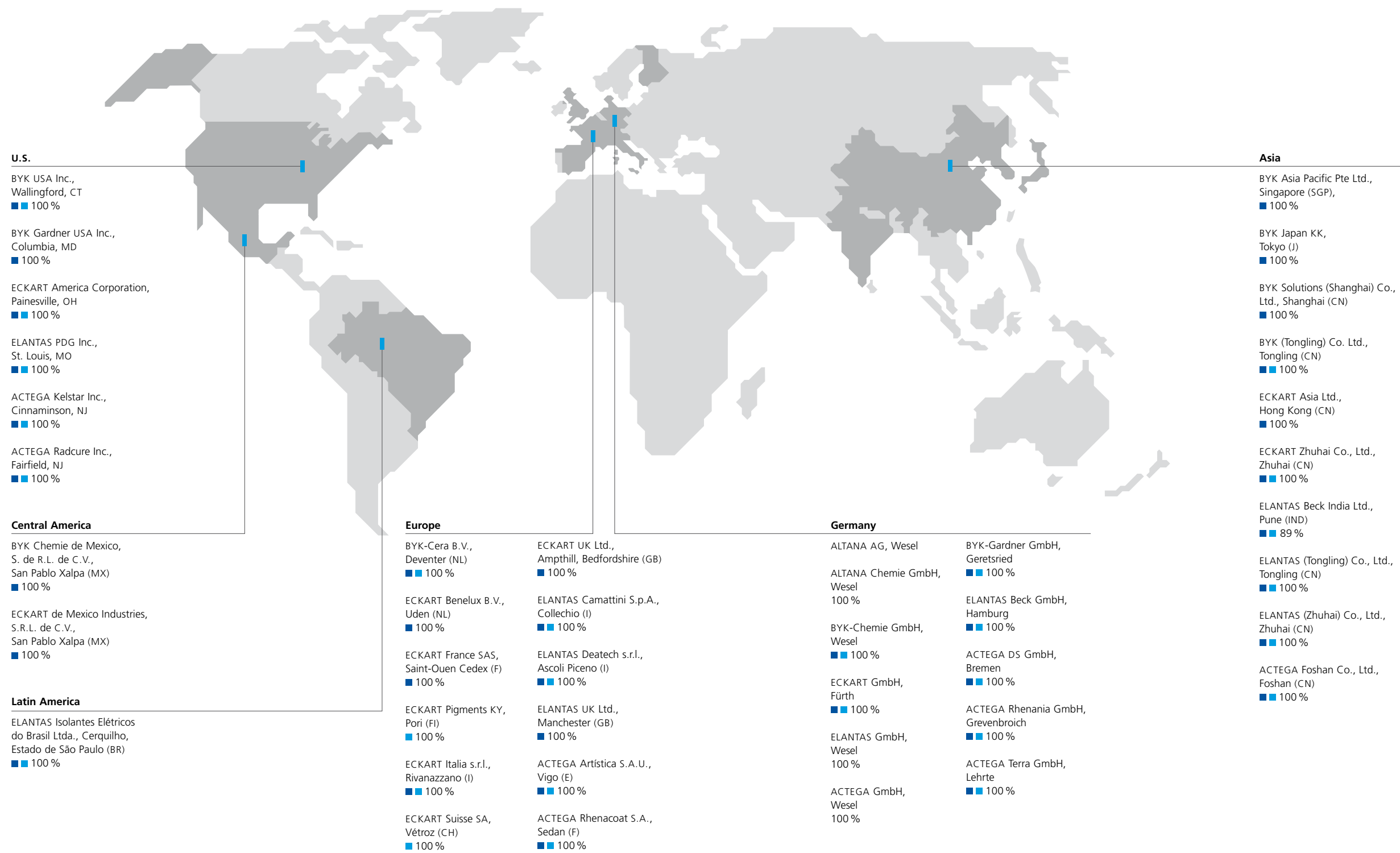
Employees by division



Employees by region



Overview of ALTANA locations



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