

"Knowledge
is a treasure,
but practice
is the key to it."

Thomas Fuller

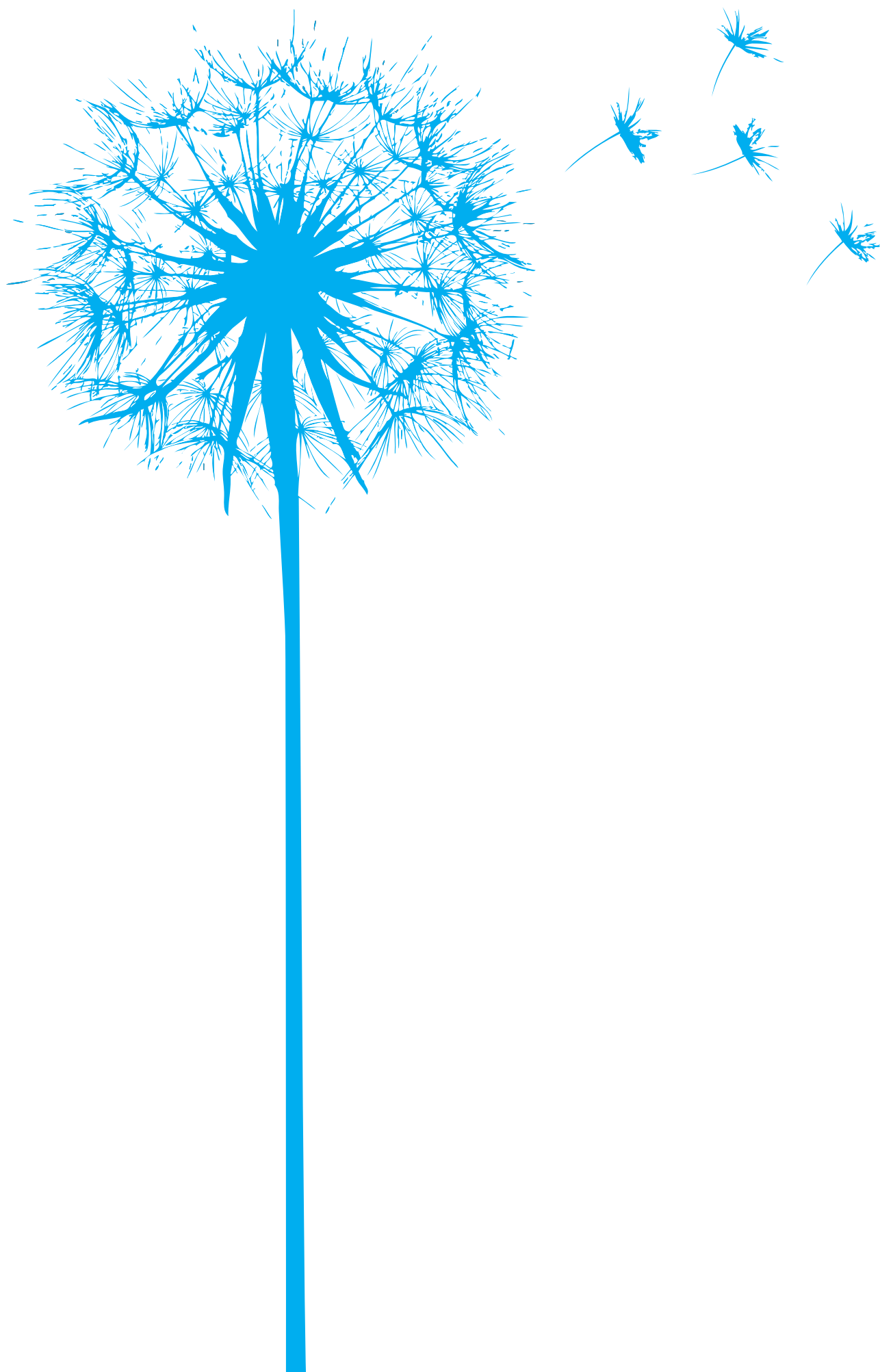
ALTANA Innovation Conference 2010

Our knowledge makes the difference



Our **Knowledge** Makes the Difference.

study expectation
of facts and data" school
attainments cognition
tion **recollection** expertise
ground familiarity grasp intelligence
observation philosophy **recall**
IQ science substance wisdom soul
erudition **technology** notice
specific common sense sanity gift
achievement memories effort
organized **sharing** evolution
experience **smart links**
awareness capable **head**
prudence account
proficiency **brain-**
storming





Knowledge Is the Resource of the Future.
We Pass It on Together.

000600
 6000

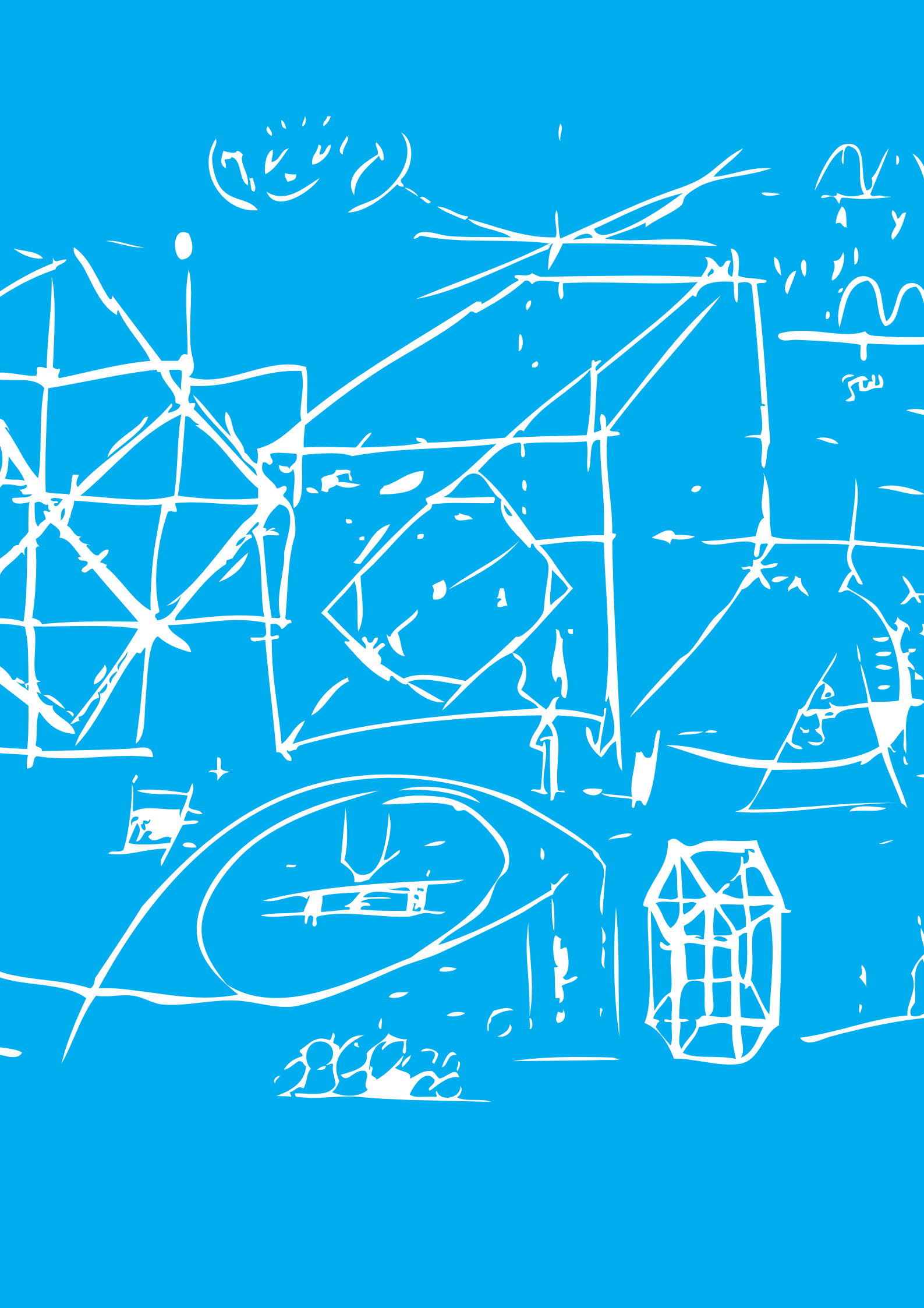
$(1/2, 1)$

$2(\sqrt{2})^2 = \chi_1 = 2$

$H = g_{\beta\beta} \dot{\beta} \dot{\beta} + \frac{1}{2} \dot{\beta}^2$

$g = g_{\mu\nu} \Delta g$

$\frac{1}{2} \dot{\beta}^2$

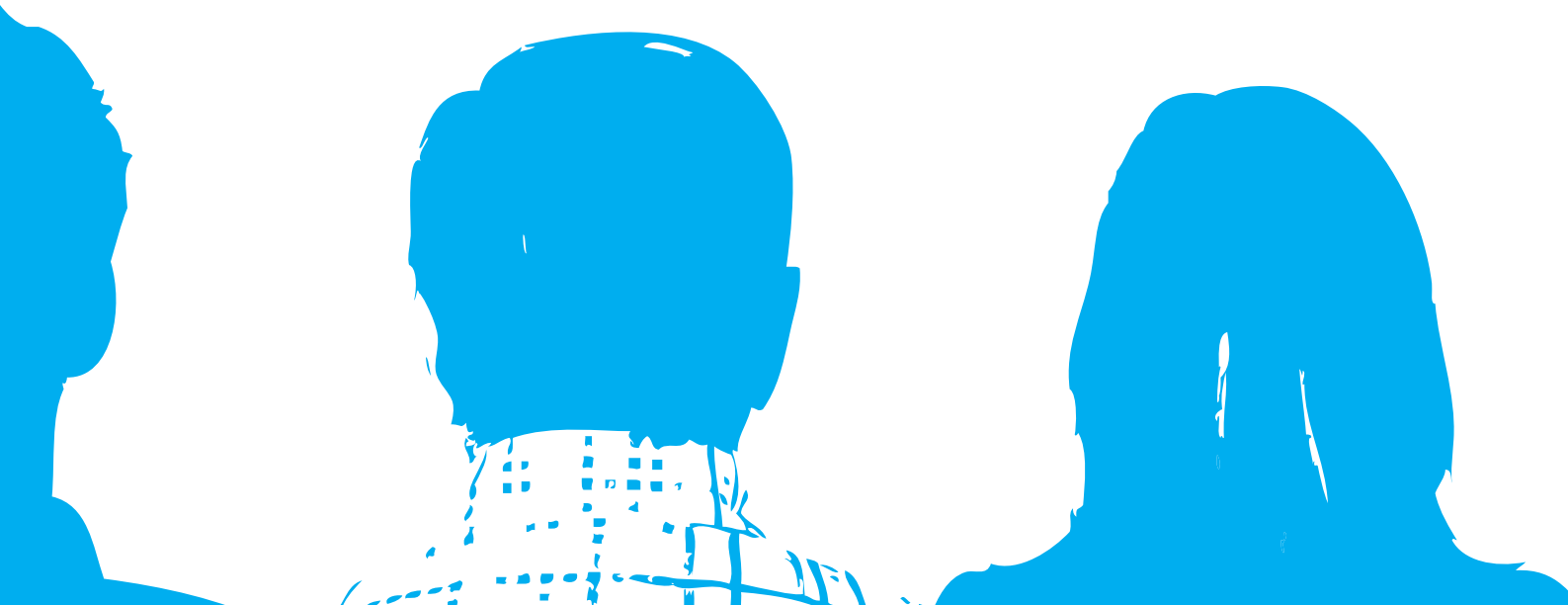


From All Over the World Innovators to Share Their



Come Together

Ideas, Thoughts and Perspectives.



Our Objective: To Know Today



What the World Needs Tomorrow.

Because Knowledge Is the Key to the Future.



Dear Colleagues and Readers,

The third ALTANA Innovation Conference in Wesel epitomized the enormous innovative strength of our company. It was truly exciting to meet the key researchers and scientists of our Group. And what we experienced there was extremely encouraging. The conference took place towards the end of a business year that marked new records in sales revenues as well as in profits. And this only a few months after emerging from the the most severe global economic crisis in recent history. It is true – fortunately – that many other industries and chemical companies have also recovered from the crisis. We at ALTANA, however, have come out of this crisis exceptionally fast and powerful. This is as it should be, because we are focussing on customers and markets with growing demand for our products and services.

This strong showing is, also and in particular, a result of our leading technological position. It has become obvious how powerful differentiation based on innovation really is. In economically challenging times, our customers are particularly in search of technical solutions and services which will give them a competitive advantage and differentiation potential in their markets. Successful innovation is the key driver for our organic growth and helps us to counter commoditization. Consequently, innovation and the related investments cannot be turned on and off depending on the short-term economic situation. This is also why even in the worst economic crisis we did not reduce our investments into the future. We strongly believe that innovation is and will be the key to long-term success and value creation. You, as scientists and researchers, together with your colleagues in technical service, marketing and manufacturing have proven us right with the results of your work. This is evident from the excellent proposals submitted for the ALTANA Innovation Award, but of course also from the success and reputation at our customers, the many new products introduced, patents filed or projects initiated.

Let me emphasize two thoughts in this context:

1. Risk taking: There is no progress, no innovation, without courage and without investment and taking risks. Logically, setbacks – and learning from them – are part of the innovation and corporate culture at ALTANA. Fortune favors the brave: this refers not only to risks connected with research projects but also to the search for new markets and applications. That is the reason why the management of ALTANA expressly encourages thinking ahead and "out of the box", as well as the questioning of boundaries. We expect you to fight for your ideas and to be courageous and creative in the best sense of these words.

2. Accountability: The authority and freedom to act, however, is inseparably tied to the responsibility for this commitment of resources. The risk always has to be weighed against the opportunity and the market potential. It is the right balance between reward i.e. future prospects and possible risks, the responsible balancing of the deployment of financial means and the contribution to the future value of ALTANA, that has to be taken into account. In the end, the most important criterion which defines the success of innovation is its commercial success in the market.

To make the most of what we have, open communication, seamless cooperation and collaboration across functional, organizational and divisional boundaries are imperative. This collaboration, dialogue, and knowledge-sharing throughout the whole ALTANA organization are the key to our future success and we are just beginning to realize the huge potential that is opening up in doing so. As the Group-wide networks get tighter and this cooperation becomes more and more the standard way of operation, we are really living our ALTANA identity and our corporate values.

I want to thank everyone who has helped make the third ALTANA Innovation Conference such a success by contributing your ideas, your presentations, and your commitment. I am already looking forward to welcoming the ALTANA Innovation Community to the next conference in Wesel in November 2011 and learning about the many new and exciting developments.

Yours sincerely,



Dr. Matthias L. Wolfgruber
Chief Executive Officer, ALTANA AG

Dear Colleagues and Readers,

"Taking ALTANA to the next level" was our Mission Statement for the third ALTANA Innovation Conference. It is a high expectation, not just of the ALTANA Innovation Community with its overall R&D budget of more than €80 million in 2010.

Growth through innovation has the highest impact on value generation and therefore enjoys great leverage when it comes to attaining the next level. One of our strengths at ALTANA is that we are a strong and multidisciplinary team with a great wealth of knowledge, know-how and expertise. This is a prerequisite for considering things from different perspectives. Only this view can help us to gain new understanding and facilitate innovation by shifting paradigms. Our network is ALTANA's intelligent and powerful innovation engine. Therefore, the ALTANA Innovation Conference and the ALTANA Innovation Award are essential parts of the ALTANA culture of innovation supporting our network.

Because innovation is more than R&D and is affected by the market pull as well as the technology push, we extended our invitation for the first time to colleagues from key account management and sales. Their contribution with a keynote presentation and two workshops was very well received and generated many interesting insights.

The conference was held for two days as the key event of the ALTANA Innovation Community. More than 140 innovation-minded people met under one roof at the ALTANA Group headquarters in Wesel, Germany, to listen to the presentations on the latest innovation and strategy topics, to exchange technical information in an extended poster session, and to discuss specific topics in workshops. The highpoint of the conference was the announcement and celebration of the winners of the ALTANA Innovation Award 2010.

In this brochure you will find another interesting insight into our open and collaborative innovation culture, which also extends to our customers!

Yours sincerely,



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



Published by
ALTANA AG

Content Responsibility
ALTANA AG
Corporate Innovation
Dr. Georg F. L. Wießmeier

Corporate Communications
Achim Struchholz

Editorial Collaboration
Heike Dimkos

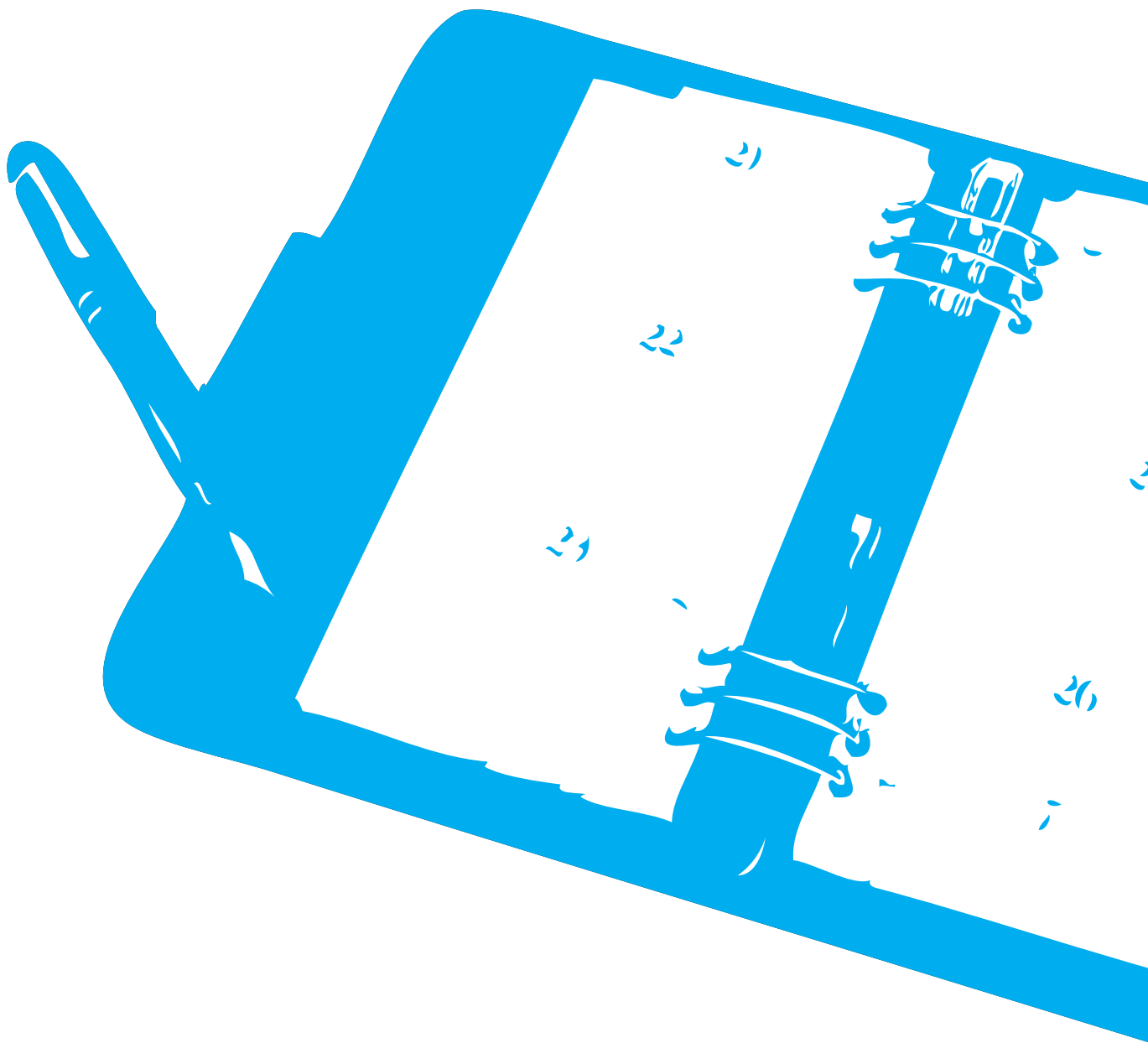
Layout and Design
Engelmann & Kryschak, Düsseldorf

Photos
Kirsten Neumann

Printed by
B&K Offsetdruck, Ottersweier

Coated with TerraWet® gloss coating G9/230
made by ACTEGA Terra/formulated with
additives from BYK

20	Agenda
22	ALTANA Innovation Conference 2010 – 1st Day
24	ALTANA Innovation Conference 2010 – 2nd Day
26	Innovation at ALTANA
28	CEO Message: ALTANA – Back on the Growth Path – Dr. Matthias L. Wolfgruber
32	CTO Message: Innovation at ALTANA – the Approach to Emerging Markets – Dr. Georg F. L. Wießmeier
36	Technical Presentations / Key Innovation Projects
38	UV/EB Curable Binder for Fabrication of Lithium Ion Battery Electrodes – Jim Wittig
39	Conductive Pigments and Printing Inks – Dr. Martina Weidner / Dr. Marco Greb
40	Electromobility – Chances and Risks for ALTANA – Dr. Klaus-Wilhelm Lienert
41	New Polymer Hybrids – Control of Surface Properties – Dr. Marc Hans / Albert Frank
42	Impressions
	Knowledge Is Power. Sharing Innovations Is Fun.
62	Innovation Honored
	Knowledge Is the Source. Innovation Gets Rewarded.
78	Innovation and Idealism
80	Industrial Biotechnology: Universal Fields of Application – Dr. Georg F. L. Wießmeier
82	Industrial Biotechnology: Enzymes, the All-Rounders of the Future – Dr. Birthe Borup
86	Intellectual Property at ALTANA – Dr. Frank Henglein / Dr. Klaus Arlt
88	New Business Approaches – Dr. Wolfgang Kortmann / Dr. Horst M. Sulzbach / Christian Wolfrum / Dr. Peter K. Jenkner
93	Key Account Management & Innovation – Dr. Teresa Ramos
94	Networking for Innovation
96	Photo Gallery
104	Innovation on Site
106	Statements
110	Success in Figures
112	Research and Development
113	Employees
114	Overview of ALTANA Locations





Agenda

Innovation Is the Order of the Day.

1st Day

ALTANA Innovation Conference 2010

Wednesday, November 10th, 2010

8:30 – 08:45h

Welcome Address / Opening Remarks

Dr. Georg F. L. Wießmeier

8:45 – 09:15h

CEO Message: ALTANA – Back on the Growth Path

Dr. Matthias L. Wolfgruber

9:15 – 09:50h

CTO Message: Innovation at ALTANA – the Approach to Emerging Markets

Dr. Georg F. L. Wießmeier

09:50 – 10:20h

Key Innovation Project:

"UV/EB Curable Binder for Fabrication of Lithium Ion Battery Electrodes"

Jim Wittig (Introduction: Dr. Peter K. Jenkner)

10:50 – 11:20h

Key Innovation Project:

"Conductive Pigments and Printing Inks"

Dr. Martina Weidner / Dr. Marco Greb (Introduction: Dr. Mark Stoll)

11:20 – 11:50h

Key Innovation Project:

"Electromobility – Chances and Risks for ALTANA"

Dr. Klaus-Wilhelm Lienert (Introduction: Dr. Horst M. Sulzbach)

14:00 – 14:30h

Key Innovation Project:

"New Polymer Hybrids – Control of Surface Properties"

Dr. Marc Hans / Albert Frank (Introduction: Dr. Jürgen Omeis)

14:30 – 14:45h

Introduction of Poster Session

Dr. Georg F. L. Wießmeier

14:45 – 18:30h

Poster Session

18:30 – 21:30h

ALTANA Innovation Award Ceremony

Dr. Georg F. L. Wießmeier

Moderation: Achim Struchholz

2nd Day

ALTANA Innovation Conference 2010

Thursday, November 11th, 2010

8:45 – 9:00h

Opening Remarks / Introduction

Dr. Georg F. L. Wießmeier

9:00 – 9:30h

Industrial Biotechnology

Dr. Birthe Borup

9:30 – 10:00h

Intellectual Property (Introduction, Strategy and Tools)

Dr. Frank Henglein / Dr. Klaus Arlt

10:30 – 11:30h

New Business Approaches

Dr. Wolfgang Kortmann / Dr. Horst M. Sulzbach / Christian Wolfrum / Dr. Peter K. Jenkner
(Introduction: Dr. Georg F. L. Wießmeier)

11:30 – 12:00h

Key Account Management & Innovation:

Combining the Best of Both Worlds – How R&D and KAM Can Leverage Each Other
Dr. Teresa Ramos

13:00 – 13:15h

Introduction of Workshop Session

Dr. Georg F. L. Wießmeier

13:15 – 16:00h

Workshop Sessions 1 – 10

1 ALTANA Platform Nanotechnology: Network Meeting

Dr. Michael Berkei

2 ALTANA Platform Digital Printing: Network Meeting

Dr. Stefan Engel / Colin P. Appleyard

3 ALTANA KAM & Innovation:

Surfacing the Voice of Our Customers to Shorten Time to Market and Increase Commercial Success

Prof. Christoph Senn / Dr. Axel Thoma (Account Management Center AG),
(Dr. Georg F. L. Wießmeier / Detlev Lindner)

4 ALTANA Competence Map & KAM:

Smart Use of the ALTANA Competence Map to Explore New Value Projects With Our Key Accounts

Prof. Christoph Senn / Dr. Axel Thoma (Account Management Center AG), (Dr. Georg F. L. Wießmeier / Detlev Lindner)

5 ALTANA Innovation Portal:

Developing a New Tool for the ALTANA Innovation Community (Needs & Requirements)

Stephan Probst (Drive), (Dr. Georg F. L. Wießmeier / Andrea Dismer)

6 Green Chemistry

Dr. Gerald Kirchner

7 Backward Integration

Günter Stevens

8 Technology Acquisitions as Part of an Innovation Strategy

Oliver Marx, (Dr. Andreas Jerschensky)

9 Technology Monitoring & Technology Foresight

Dr. Jörg Hinnerwisch / Dr. Marco Greb

10 Thermoplastic Applications: Markets, Requirements and Products

Bärbel Gertzen

16:30 – 18:15 p.m.

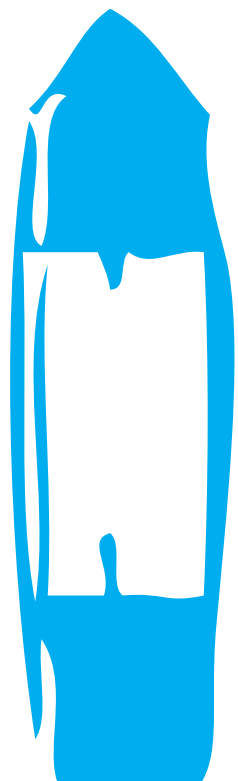
Workshop Gallery:

Results of Workshop Sessions 1 – 10

18:15 – 18:30 p.m.

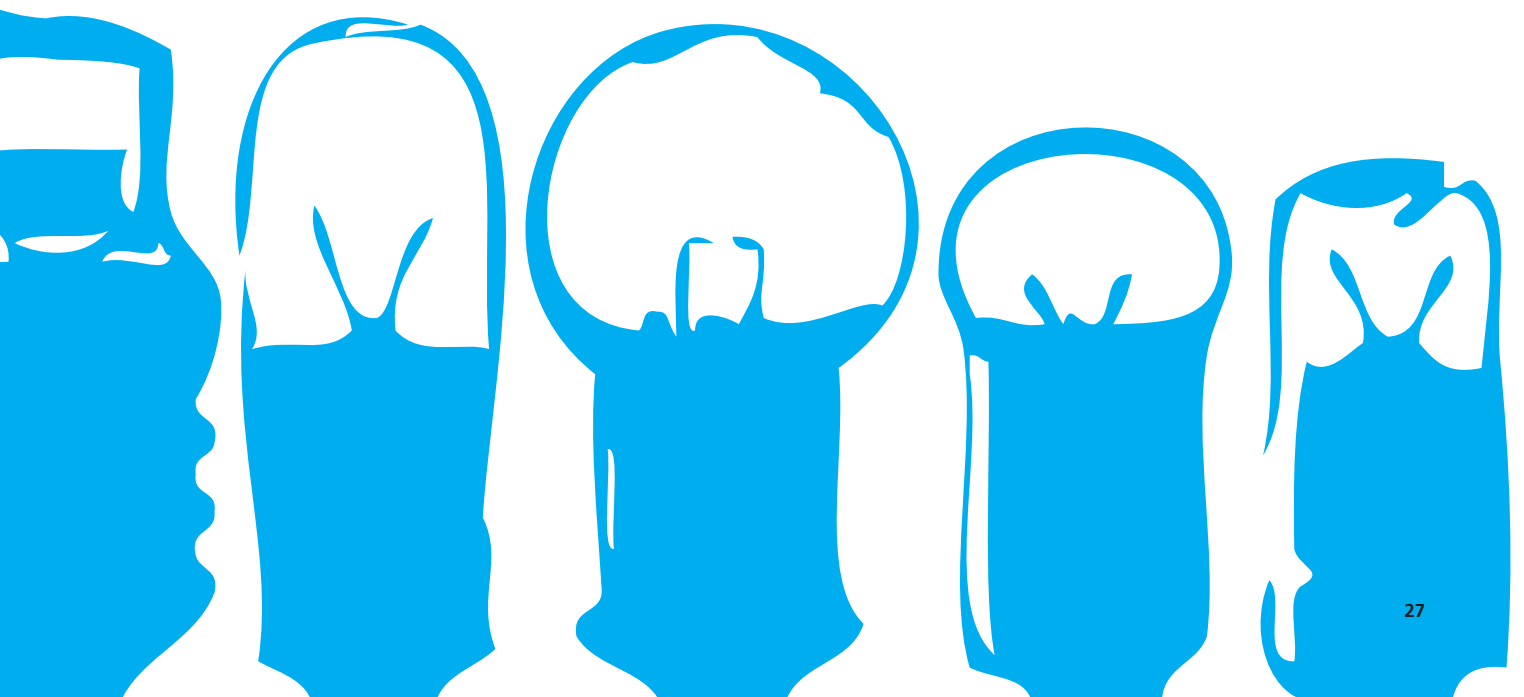
Closing Remarks

Dr. Georg F. L. Wießmeier



Innovation at ALTANA

Crossing and Protecting Frontiers



CEO Message: ALTANA – Back on the Growth Path

For ALTANA it's very important to attain new heights – that's our charter. We all want to accomplish this together because it secures the future of our company. I'm very happy that we are in fact back on a steep growth path and have left the crisis behind us. Last year we certainly went through a crisis that we never had expected; yet we mastered it much better and faster than any of us could have imagined. Consequently, we're stronger today than we were even before the crisis. Not only have we recovered from the crisis; we are back on the original steep course that we plotted in the best of times.

Dr. Matthias L. Wolfgruber



The crisis was in a way even healthy for us in the long term. Of course, in the short term it was tough. But it made us concentrate again on what we should be doing. It also refocused our minds on greater cost-consciousness and on our investment in the future. Now, we have to shift gears and concentrate on growth. Growth is the most challenging task any business can accomplish.

Investing and being cost conscious simultaneously is the challenge. I think the crisis really helped us to consolidate our strengths and to focus on what we are good at. This is paying off now because we have not sacrificed what makes us strong. We have not reduced R&D spending, or stopped hiring new apprentices, or cut down on our service capabilities. This is paying off now. The kind of growth we are experiencing is definitely not the result of short-term measures. It's a long-term development where many things have to come together. The ALTANA Innovation Conference is a very important element of paving the road to growth. But there are a lot of elements that flow into this, and some are more technical and some less, but they all need to fit together like a puzzle.

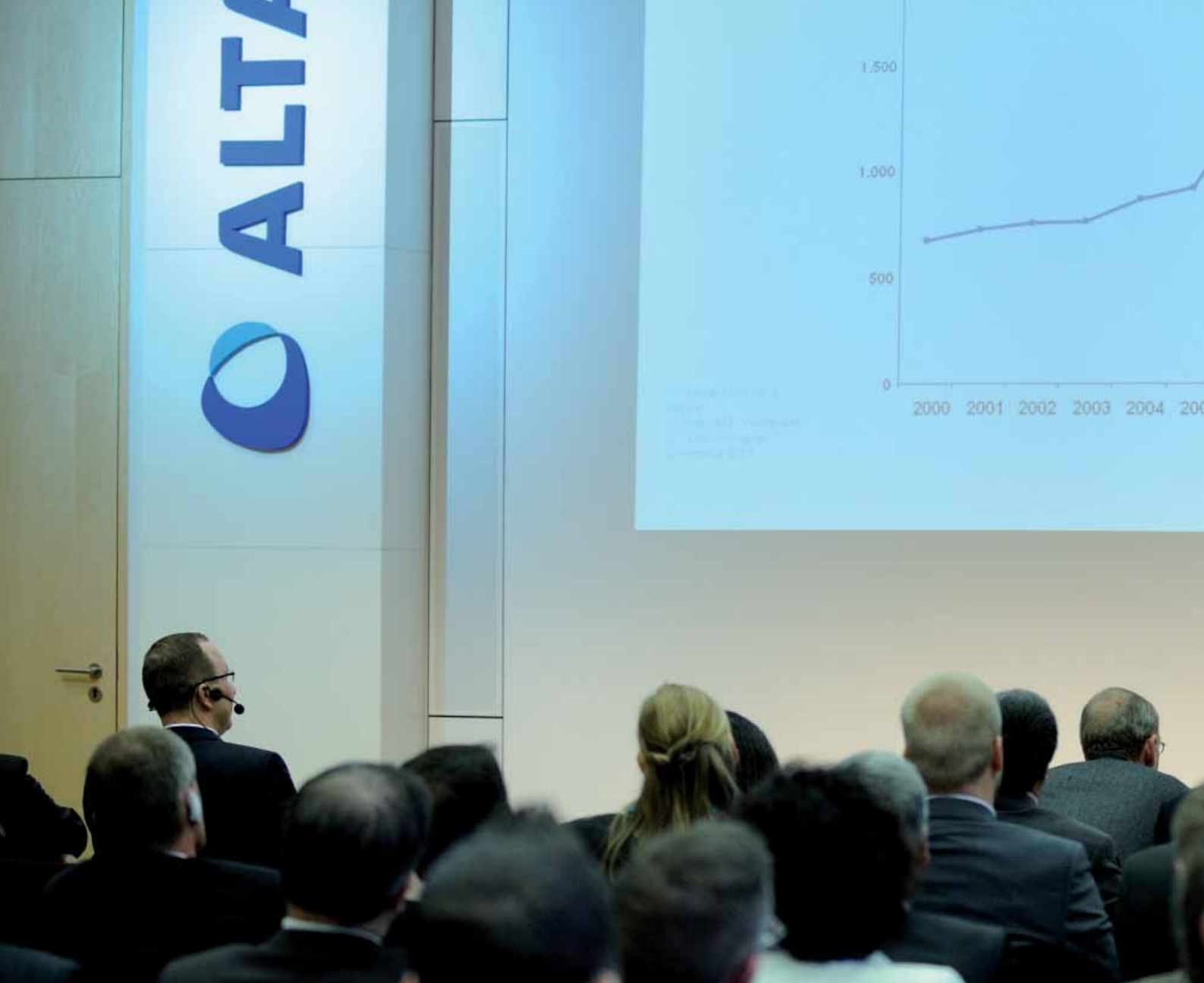
We have filed a lot of patents to protect our intellectual property. We have made acquisitions that include new technologies. ALTANA has improved its market position in many areas. We have invested heavily and consistently in our people, and we want you to continue to do so. At the end of this year we will count about 5,000 employees, a plus of 4 percent. Investing in people is so important to us

because our specialty business is a people business. It is not so much asset driven, it is much more knowledge driven. We have developed a key account program and we carry out a high share of our innovation projects with and for our key accounts. All this together puts us on track for growth.

This leads me to another important point: in order to create value, we have to generate a return on our investment which exceeds the cost of the capital that we employ. If we put capital in a business, we need to achieve a return on the capital which is higher than the cost of this capital. If we don't accomplish this in the long run we destroy value because we pay more for the capital than we receive in return. Once we generate a return higher than the cost, the best way to create more value is to maximize growth.

One key aspect to keep in mind is: opportunity for growth does not come for free; without willingness to invest, we will not be able to generate opportunity. But investment of course means risk taking. There is no such thing as a risk-free investment. Of course, we want to take a measured risk; we certainly do not bet the company. However, I can only encourage you to take a risk, to invest in ideas and fight for your projects. When you have a great idea, you have to fight for it, and you have to fight for the money. If you really make a convincing case, you will get the support and the money. ALTANA's way is not to take our cash to the bank for a one-percent return. We want to apply the money to generate growth and secure the long-term viability of our company.





Our strategy does of course not change every year. It stands for the core of our beliefs. Our strategy has a lot to do with innovation. The key elements are specialization, technology leadership and the generation and application of knowledge. We are focusing on technology because only if we are successful in our innovation efforts will we be able to fight commoditization and remain capable of defending and expanding our positions in the specialty chemicals markets. This is the type of business we are in. Without success in technology, without success in innovation, we cannot maintain this kind of high-quality business. We are all encouraged to invest in our future but this endeavor is linked inseparably to our accountability. I can truly say that we want more investment in the future. Because we want to accelerate growth, we are willing to put more into R&D, increase our investment in people, hire and develop good people, invest in technology, invest in capital equipment, and invest in acquisitions.

Innovation is the strongest driver for organic growth.

And organic growth is the strongest driver for value creation. In order to be successful in innovation, we have to focus on knowledge and to develop, protect and share knowledge.

We have to use our knowledge throughout our company and outside of the company. We have to use the knowledge that we can acquire or license as well as the knowledge we can hire from external sources. But let's start with the internal knowledge – in the divisions and across the divisions – and then we are already way ahead of where we were in the past. We have some outstanding cross-functional projects and we are beginning to realize that we have seen only the tip of the iceberg. Then, of course, there is another key element of innovation: access to our costumers. If we don't work closely with our customers, we will not be able to commercialize our innovations effectively. And if we don't understand the needs of the market, we cannot be effective innovators.



So that's why sales, marketing, product management and manufacturing have to work together from the beginning. I just want to describe a very simple picture. For our shareholder and for the company as a whole, it's not important to suboptimize one department, one company or one division.

Only the best possible value of the total is what counts in the end. We should never forget: we are one company and we have only one shareholder; our objective is to maximize the total. This is not a choice – it is our obligation! It's not a selfish interest; it's what makes us really strong. If all of us together present ourselves as one ALTANA, the benefits increase. We can accomplish much more in this way. We have to put our heads together and identify and exploit more synergies. I am convinced that by 2016 we can double our EBITDA, and that's definitely not a vision, it is a very realistic expectation.

But it will only happen if everything comes together: success in our current markets, success in innovation, additional value from synergies and acquisitions.

One thing is very clear: innovation is fundamentally impacting all aspects of our pillars of growth. If we are able to make the most of what we have here, then I really have no doubt at all that we will reach this kind of new level or even go beyond it.

CTO Message: Innovation at ALTANA – the Approach to Emerging Markets

For a company to successfully exploit emerging markets, significant innovations are required in most cases. An essential condition for the realization of significant innovations is to view the problems arising from the underlying market requirements from very different perspectives that might lead to a paradigm shift.

Dr. Georg F. L. Wießmeier

Significant innovations require a paradigm shift

As an item representing a product in an existing market, let us take the example of the knife. It was invented hundreds of thousands of years ago and used by our ancestors, the Neanderthals, to cut up game among other things. Today, a knife still consists of a handle and a blade. There are lots of incremental variations on the knife. The invention of scissors more than 4,000 years ago represents, as it was, a highpoint in the developmental history of the knife: no less than two knives rotating relative to one another around a fixed point. Certainly, the materials used for the handles and blades have changed significantly. Instead of wood and flint, nowadays we use various plastics for the handle and stainless steel or ceramics for the blade or, in the case of the cutters for machine tools, diamonds as well. Yet even the highly functional Swiss army knife only represents an incremental improvement on the original knife. A knife is still a knife, and as such it still sells very well today, being a very useful tool for us human beings.

Why, however, has the knife been chosen here as an example? Let us change the perspective: the task is "cutting to size" or "separating" material. Is this task only possible by means of a blade? A Neanderthal could certainly not imagine cutting up an item without a blade any more than we can imagine driving a car without wheels.



But this is the point: in the majority of cases significant innovations require a paradigm shift, such as cutting without a blade. Nowadays all kinds of materials are cut without recourse to cutting or bladed tools, but rather by means of water jets or laser beams. In industry in particular there is increasingly a great demand for the precise and complex cutting of even large pieces of material. A new, lucrative market for highly innovative precision-cutting equipment has arisen. Significant innovations need a paradigm shift! We have to look at things in a very different way – from multiple angles. This multi-angle view can only be achieved within a strong network of co-operating people.

This is what we want to support with the ALTANA Innovation Conference and with the ALTANA Innovation Award. The growing innovation community network is a multi-disciplinary team with a wealth of knowledge, know-how and expertise. It is ALTANA's intelligent innovation engine, generating additional growth through the use of synergies. With this powerful innovation engine we can turn present and future customer needs into substantial new products serving existing, new and emerging markets.

Bottom-up:

Knowing what ALTANA knows (competence push)

For a company to exploit new or emerging markets, it is important initially to identify the competencies within the company that can be associated with them and made use of. There must at least be points of contact that are capable of development – to undertake something totally different will bring about lasting success only in the rarest of cases. To determine the relevant competencies and relevant activities requires an initiative that can proceed, for example, from Corporate Innovation, as well as the dedicated assistance of experts from the divisions. In the recent case of a strategic project, a cross-divisional team of experts was assembled in a short space of time.

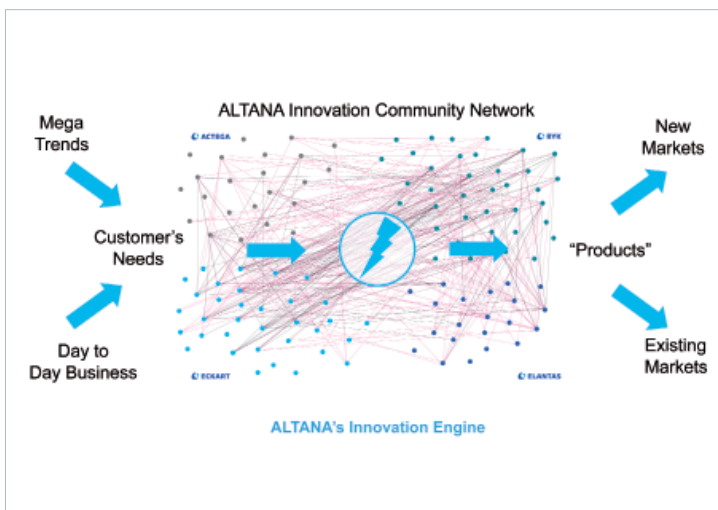


Recently, the newly created ALTANA Competence Map was used to identify the skill base. The ALTANA Competence Map records all the technological competencies that exist at the company, their evaluation and the appropriate experts.

The networking of the experts has quickly provided knowledge of the activities already existing in the field and being pursued separately in the particular divisions, as well as initial market experience. This kind of networking enables a new field of knowledge to be developed more rapidly and the synergies between the individual divisions to be

realized more speedily. Here, too, our principle which states "Innovation at ALTANA is more than the sum of its parts" quickly proved to be true – purely through the networking of the current activities and existing know-how. This collaboration was also revealed to the customers when the experts appeared en bloc as an ALTANA team at different international conferences and trade fairs, not only to present the existing competencies and products to potential customers but also to sound out additional customer and market needs through individual conversations with them. This laid the foundation for further action. In the next stage, the aim was to systematically identify possible business models in the stated field, taking into account the synergies.

To do this, it was necessary to alter the perspective and leave the comfort zone, the boundaries of the company and, hence, individual competencies. In the next phase of the project, we therefore broke loose from the competencies found in the company and systematically examined – almost from a helicopter perspective – the potential growth area and the customer needs taking shape in this emerging market.





Top-down:

Knowing what the market requires (market pull)

In the next stage, we were focused on the synergies and therefore tried to find potentially attractive business models, using cross-divisional and possibly absent competencies. In this phase, Corporate Innovation, Corporate Development and external consultants were involved. The task of the external experts was to use their professional network to explore unmet needs in the specific industry. Because we do not as yet have appropriate contacts in the relevant part of that industry, we had to employ professional outside support. After conducting interviews in the market, reviewing market research reports, and engaging in intensive discussion and evaluation, we developed three different business models in a process involving teamwork between Corporate Development, Corporate Innovation and external experts.

By involving Corporate Innovation and Corporate Development, we ensured that the potential needs identified in the market could be translated into business models, where we as a specialty chemicals company might draw on our existing competencies. Our intention now is to evaluate these business models.

The pivotal question:

What is the most attractive business model enabling ALTANA to approach an emerging market using synergies?

With the knowledge of our own competencies provided by a bottom-up company view and the knowledge about attractive business models provided by a top-down market view, the crucial part of the next project phase was to elaborate the most attractive business model for ALTANA. To ensure that the identified business model would fit into our technical and business environments, this phase was conducted by an extended cross-divisional team with dedicated resources from all the divisions under the project management of Corporate Development. This team very critically assessed and realigned the proposed business models to find and develop the most attractive business model for ALTANA. During this phase, Corporate Innovation and Corporate Development were merely in the role of facilitators and sparring partners. In the end, one business model turned out to be very attractive for ALTANA. Interestingly, the chosen business model is a variation of the proposed business models supplemented by a change in the existing value chain utilizing ALTANA's combined knowledge of our existing markets. It is this change that might make all the difference and that might be the unique selling point for ALTANA. This business model has been reassessed by all project partners and finally brought to the attention of the ALTANA Executive Management Team to decide upon the next project phase.

Getting started:

Generating an appropriate organizational framework to approach emerging markets.

In the currently ongoing project phase the project team is concerned with the elaboration of appropriate organizational structures. Furthermore, by using a gap analysis the team will identify missing competencies and processes which will be needed to realize the proposed business model. Besides personnel and fixed asset investments, this plan also includes any technology acquisitions needed to extend our existing technology platforms.

One possible approach could be to set up a new ALTANA technology platform. Because the ALTANA platforms of Nanotechnology and Industrial Biotechnology are in place, this concept is already well established at ALTANA. Because ALTANA does not maintain central laboratories, the respective platform will be hosted by one or two divisions which are closest to the field and to the potential end markets.

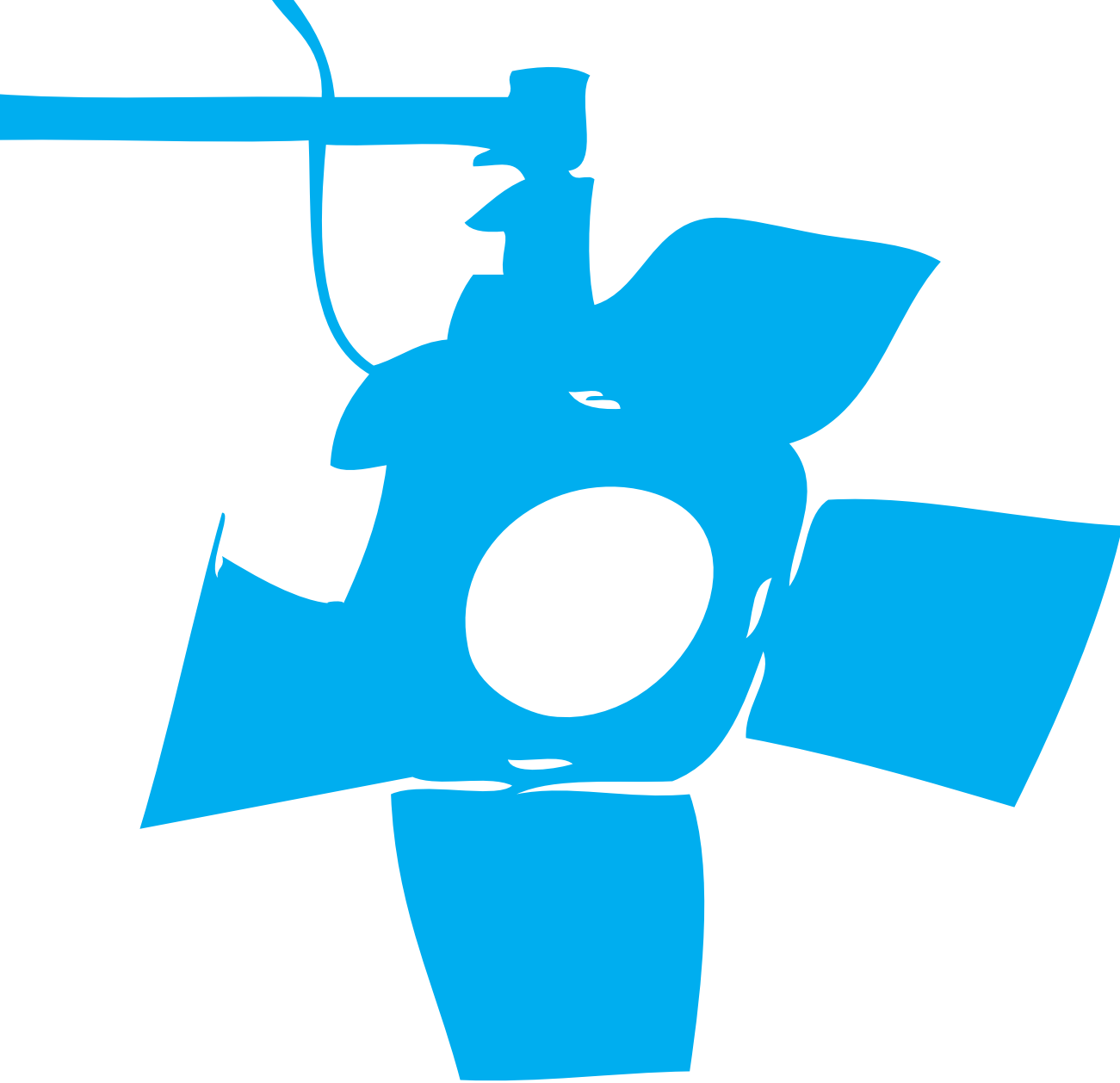
The challenge:

If we have done our homework well, we can take the risk!

Besides huge opportunities, emerging markets always imply risks. The approach shown here is one possible way ALTANA could capture new business opportunities in the future growth areas of emerging markets while taking the risks into account. When will the respective market take off? What will be the killer application? To approach these questions, we have to look at things from different perspectives – bottom-up and top-down. To answer these questions, we have to do things differently – shift the paradigm, even if this means changing the value chains.

However, the risk will remain and cannot be avoided; however, it can be located and confined. One very important fact is that the chosen business model fits in well with our specialty of knowhow-driven business, i.e. it matches our business DNA. Nobody but the ALTANA Innovation Community can better evaluate new opportunities, even though it may at times have to rely on an external perspective.

Our knowledge makes the difference.



Technical Presentations / Key Innovation Projects:

A Spot on Our Innovations
and the Future.

UV/EB Curable Binder for Fabrication of Lithium Ion Battery Electrodes

Electrochemical batteries have found great usefulness in power supplies, including power supplies for portable devices and auxiliary power supplies for automobiles. The present invention is in the technical field of the type of electrodes utilized in alkali-ion secondary (rechargeable) batteries, and particularly in the technical field of lithium ion secondary batteries, and in electric double-layer capacitors and in their manufacture.

Jim Wittig (Introduction: Dr. Peter K. Jenkner)

A new UV or electron beam curable binder system for manufacturing lithium ion battery electrodes based on a (meth) acrylated butadiene rubber polymer system has been developed. The UV/EB curing process offers significantly faster product speeds compared with the solvent-based binders now in use. A background on the components comprising a lithium ion battery and the current processes used to make the cathode are given, along with the chemical properties required for the polymer binder system.

The screening test results that were used to develop potential cathode material UV/EB cure polymer binders are provided. Compounding and application techniques used for dispersing the cathode material in the binder system included 3-roll milling, high-speed dispersion and magnetic impact coating.

Techniques for lab and production coating application to the positive electrode collector foil included the use of a drawdown bar on a vacuum drawdown table followed by calendaring. Initial battery cell test results are shown using a cathode fabricated with an UV-cured polymer binder. Market growth projections for Li-ion batteries and possible next steps are discussed.



Conductive Pigments and Printing Inks

Printed Electronics will open new markets and possibilities for digital information flow by printing electronic components in line. The fields of application for conductive pigments range from electromagnetic interference coatings, glues and sealants for the electrical contact between two assemblies to thick film pastes and inks that act as conductors, for example, in solar cells or Printed Electronics.

Dr. Martina Weidner / Dr. Marco Greb (Introduction: Dr. Mark Stoll)

Conductive applications such as conductive coatings, adhesives, inks or thick film pastes utilize metal particles as conductive fillers. Since the market size for these applications is > €2 bn/year, it is an attractive market for conductive filler materials. It is worth noting that silver is used as the conductive material in most of the applications. Because silver is the main cost driver, much effort has been devoted to reducing the total amount of silver in these applications.

As a manufacturer of metal particles, ECKART has developed a variety of silver-coated pigments, e.g. silver-coated copper. The idea here is to substitute silver by using such silver-coated particles to maintain electrical conductivity. These pigments are bearing a pigment core that is covered by a layer of pure silver. This type of pigment might be applied for conductive coatings, conductive adhesives or conductive inks. Since ECKART is also a leading manufacturer of metallic printing inks, conductive inks using conductive metal particles have attracted particular interest. This interest is due to the emerging market of "Printed Electronics."



Electromobility – Chances and Risks for ALTANA

In 1885 Gottlieb Daimler (1834-1900) and his partner Wilhelm Maybach (1846-1929) converted a horse-drawn carriage into a car by installing a combustion engine. We see the same approach today! The combustion engine has been replaced by an electrical motor, e.g. of 27 kW (36 hp, approx. 20 kg). For ALTANA and its divisions hybrid and electrical cars create new, huge and profitable markets. Let's evaluate and grow this business!

Dr. Klaus-Wilhelm Lienert (Introduction: Dr. Horst M. Sulzbach)



The two main streams in the technical development of electrical vehicles, hybrid cars and electrical cars were reviewed. In the near future hybrid units will probably be part of every new car, as an air conditioner is today.

For electrical cars the battery is the real challenge. As no dramatic breakthrough is expected here in the next few years, the electrical cars must be lightweight to have acceptable cruising ranges. This means that electrical cars must be redesigned. The consequence is that new markets will appear for existing ALTANA products, e.g. electrical insulating materials, additives and pigments.

The redesign of the cars also creates new and interesting markets ALTANA has not yet entered, such as carbon fibers, carbon-fiber-reinforced polymers, recycling of carbon-fiber-reinforced polymers and high-temperature-resistant thermoplastic resins. The predicted shift from the combustion engine to the electrical motor in the automotive industry will have a deep impact on the structure of the suppliers to the car manufacturers. These trends need to be monitored and used to create new business for ALTANA.

New Polymer Hybrids – Control of Surface Properties

True demand for the self-cleaning coating technology will most probably be driven by its low cost, its simple production and its long-lasting performance across a wide range of substrates. The use of surface additives offers a flexible and economic solution satisfying many requirements. Moreover, a plurality of additional properties can be combined with cleanability.

Dr. Marc Hans / Albert Frank (Introduction: Dr. Jürgen Omeis)



In recent years there has been an increased demand for easy-to-clean and self-cleaning surfaces that are now emerging in broad areas of possible coating applications, ranging from paints through glass and tiles to textiles, representing large market opportunities.

These market needs lead to the development of easy-to-clean additives. For solvent-based coating systems, easy-to-clean effects have been obtained by the use of polysiloxane-polyacrylate hybrids, polymers which consist of a polyacrylate backbone and polysiloxane side chains or grafts. Compared to conventional silicone additives, the polysiloxane-polyacrylate hybrids present a different surface orientation.

Polysiloxane-polyacrylate hybrids are produced by various radical copolymerization methods using basic (meth)acrylate monomers combined with polysiloxane macromonomers. The method, also known as the macromonomer method, leads to comb or graft copolymers. The polysiloxane macromonomers consist of a long chain of polydimethylsiloxane terminated by a single polymerizable (meth)acryl group.

Polysiloxane macromonomers are prepared in two steps. The first step consists of a living anionic ring-opening polymerization of hexamethylcyclotrisiloxane. The second step is the functional termination with a silane to afford monofunctional polydimethylsiloxane oligomers with a polymerizable (meth)acryl end group.

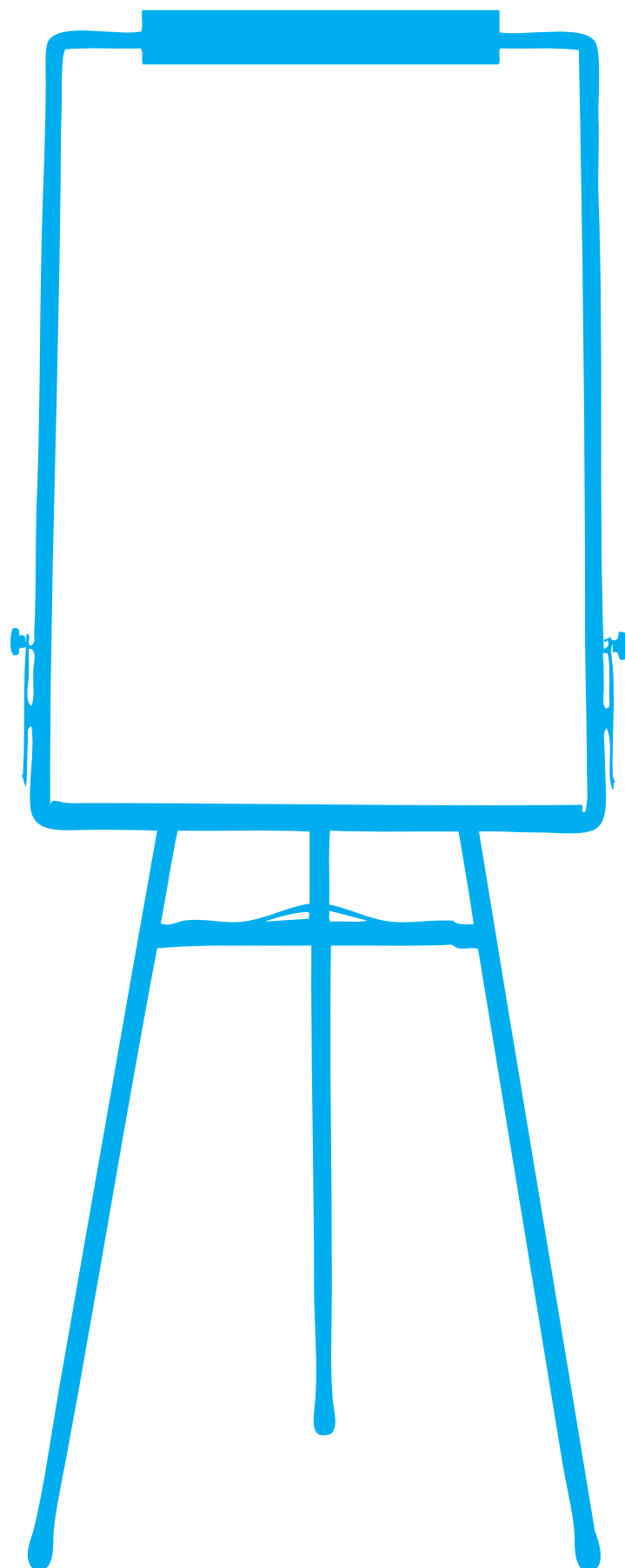
BYK-SILCLEAN 3700 was BYK's first commercial product based on this technology. BYK-SILCLEAN 3700 not only improves the leveling, but also provides strong water and oil repellency and permanent anti-graffiti effects.

BYK-3550, a new polysiloxane-polyacrylate hybrid, has just been introduced into the market. BYK-3550 offers good substrate wetting properties due to a strong reduction of the surface tension. Moreover, in contrast to standard silicone additives, the slip property of the final coating containing BYK-3550 is comparatively much lower. As a consequence, the recoatability and adhesion of protective foils and adhesives to the paint film are remarkably improved.

Our current research is expanding this technology for the design of additives of well-defined structures to achieve targeted properties. One example is the combination of Si-H-functional monofunctional polysiloxanes and allyl-polyethers or allyl-polyesters to obtain AB-structures. These structures provide strong surface orientation of the additives resulting in higher slip increase accompanied by an improved scratch resistance of the coatings.

Impressions

Knowledge Is Power.
Sharing Innovations Is Fun.





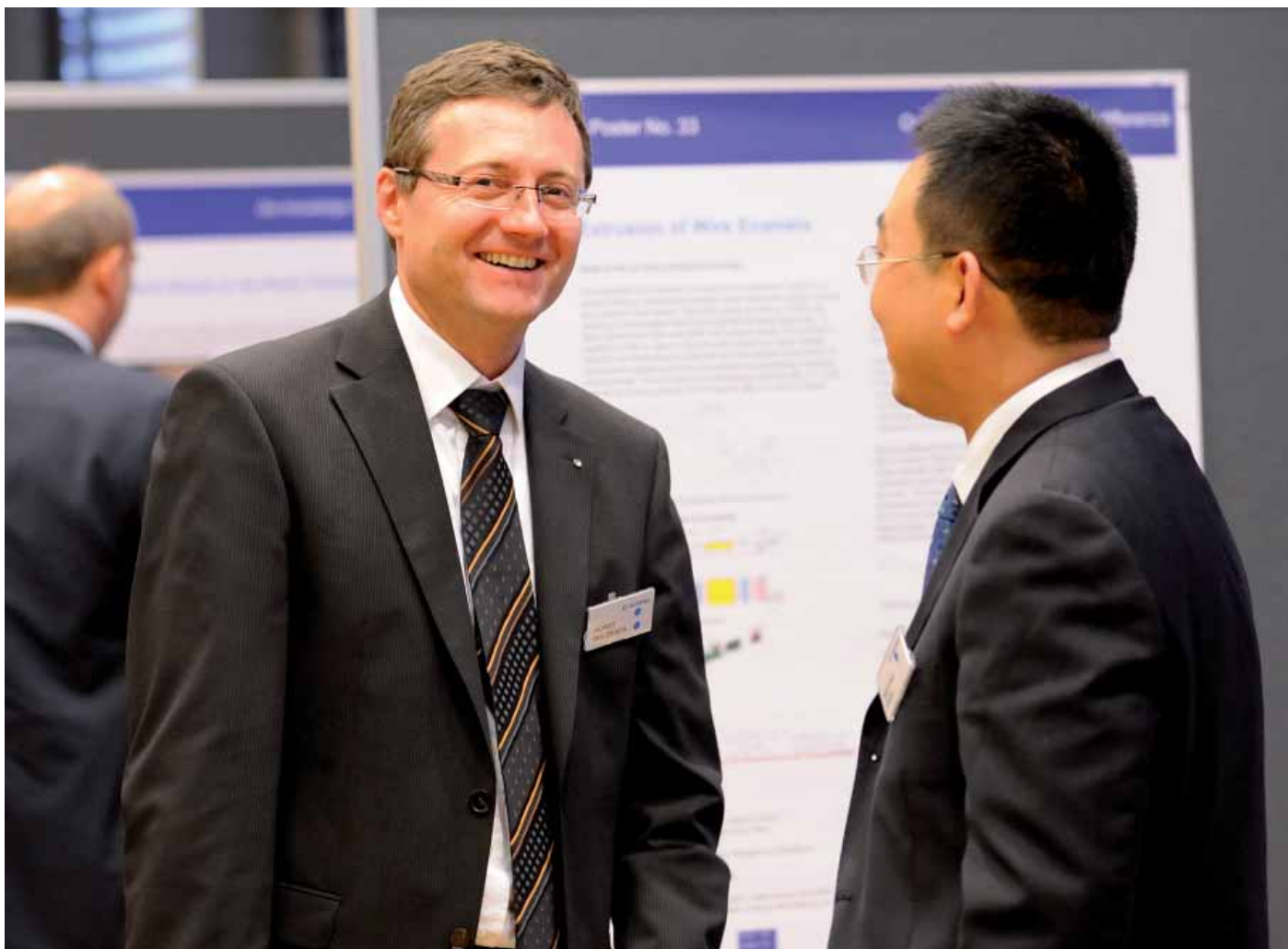




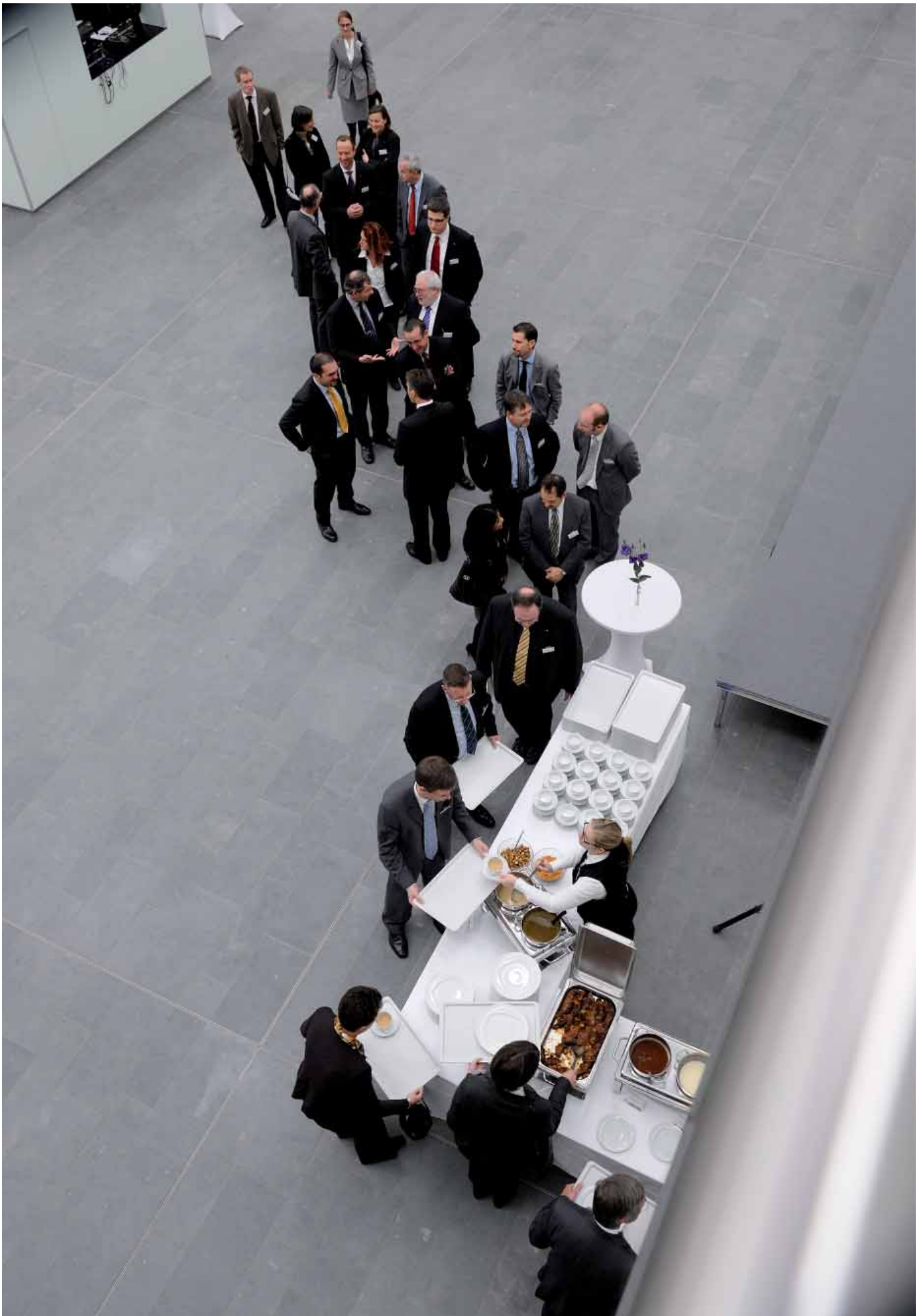








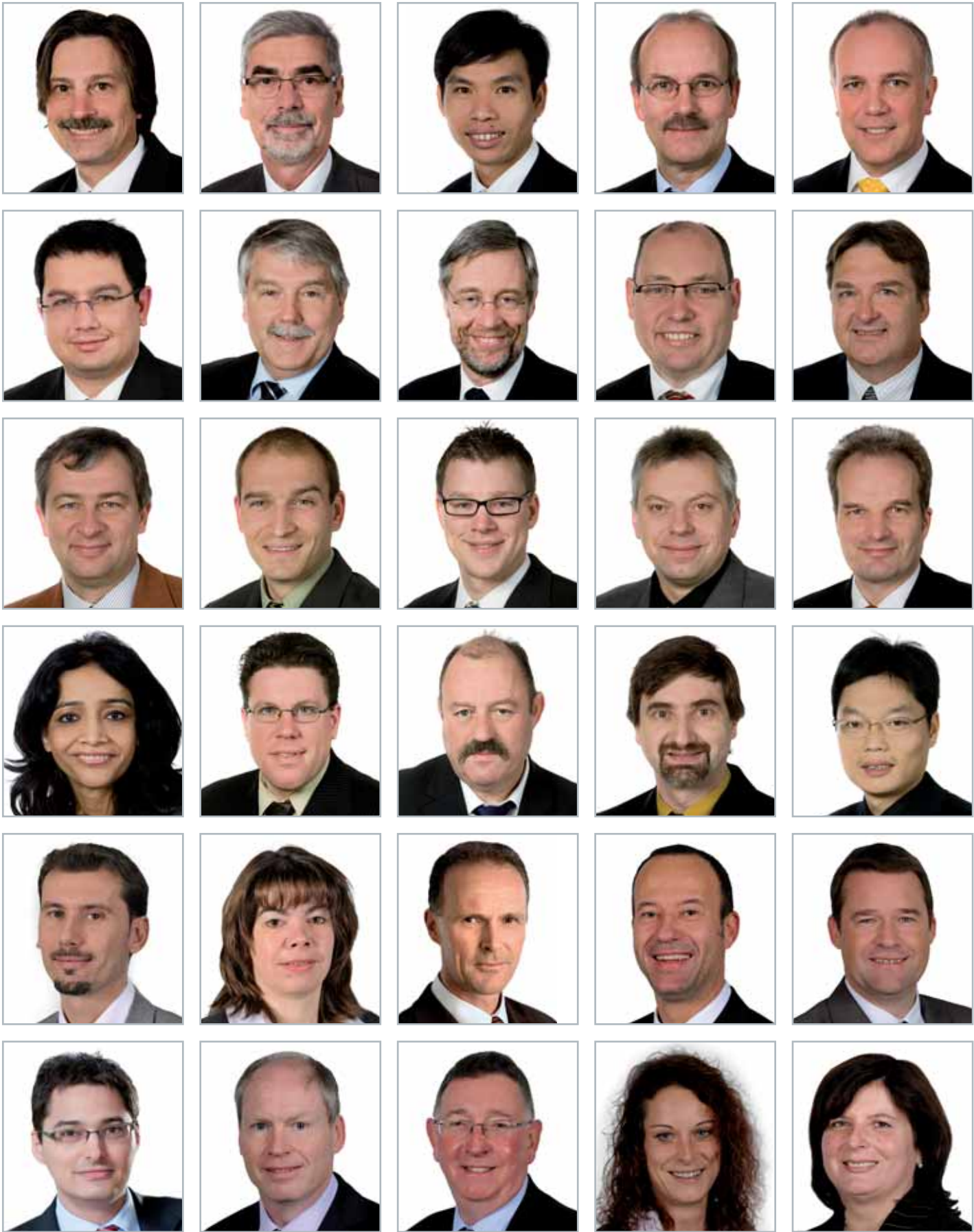


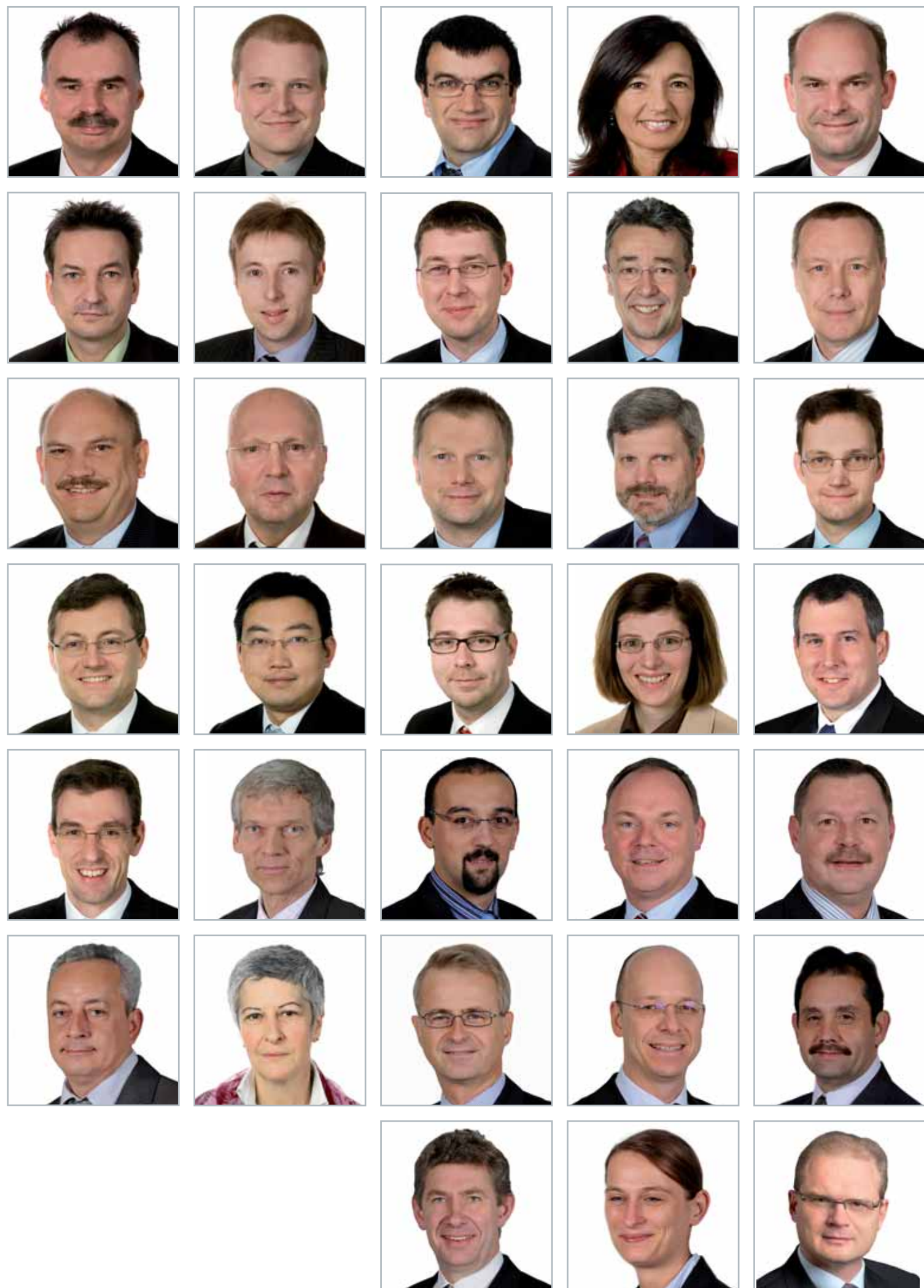




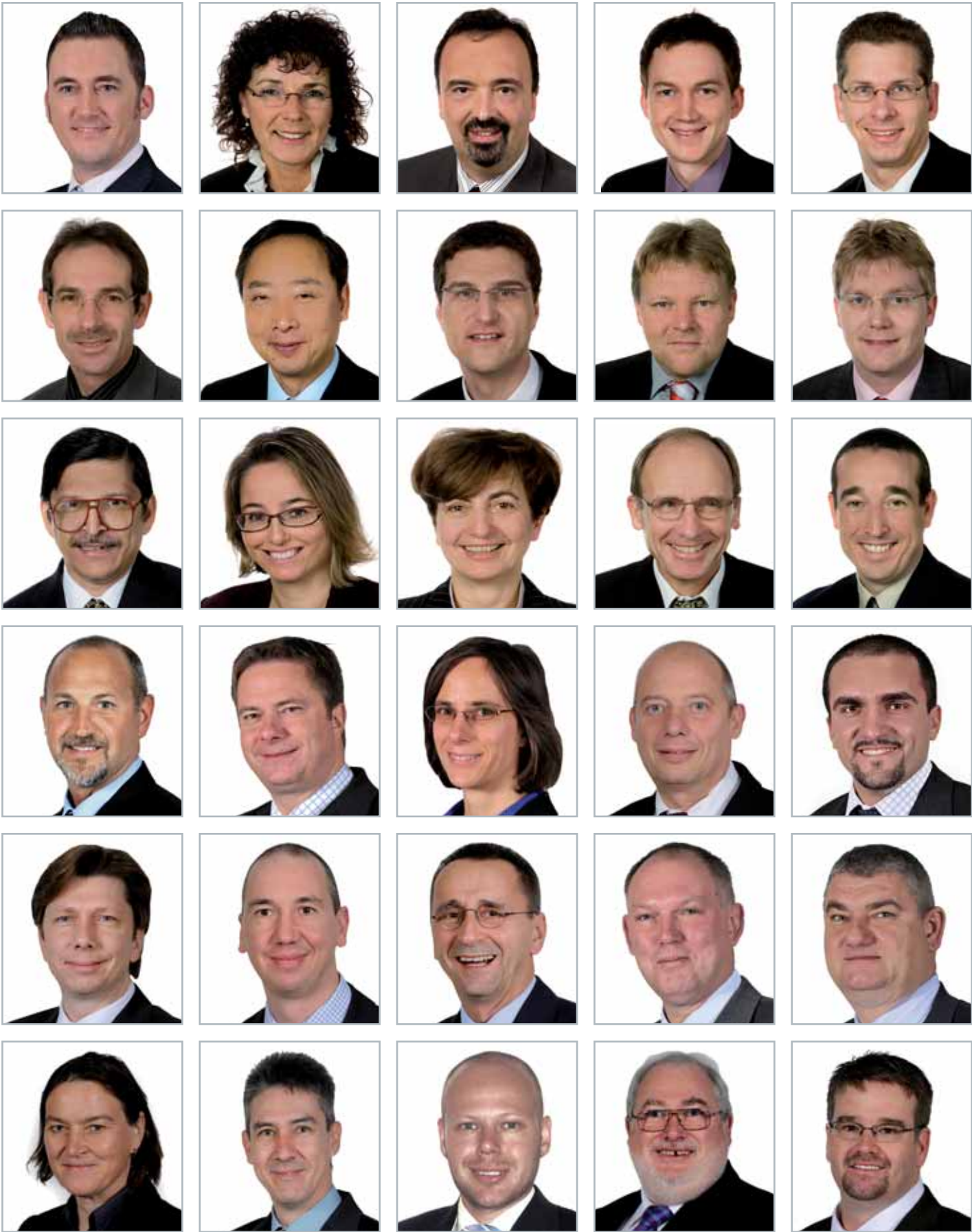


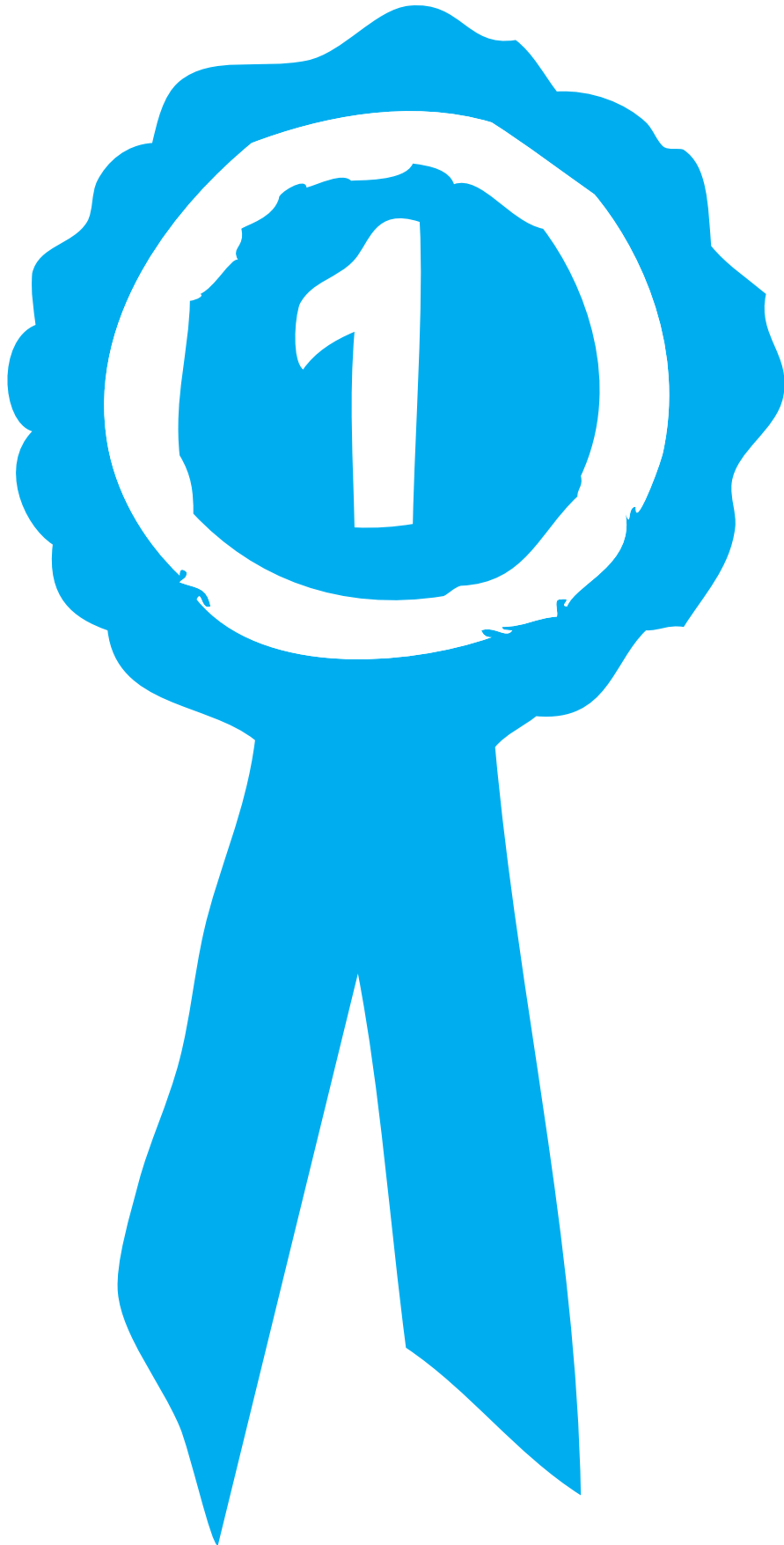












Innovation Honored

Knowledge Is the Source.
Innovation Gets Rewarded.

We Keep the Innovation Motor Running: The Campaign for the ALTANA Innovation Award 2010.



The stunning success of the in-house competition for the ALTANA Innovation Award initiated in 2009 impressively confirmed the enormous potential of our employees in the areas of research esprit, know-how, creativity and team spirit. To promote a culture of innovation and activities generating innovations at ALTANA, we mounted an innovative campaign encouraging employees to actively take part in the competition for the ALTANA Innovation Award 2010.

The Campaign Poster – an Eye-Catcher

To invite our employees to participate, we designed a poster that literally breathes the spirit of innovation. Not only does this poster break with usual modes of thinking and seeing; it also asks a question and then wittily triggers the correct answer – an affirmative nod.

The ALTANA Innovation Cube: Symbol of Progress

Offering highly specialized technical solutions for customers in niche markets is ALTANA's business model. For this reason, innovation has been an essential element of the company's corporate strategy from the start; this secures our growth and ensures that we will remain the technological and market leader. However, this strategy pans out only if we continually transform knowledge into values and benefits. Our researchers set out again and again to improve the existing and discover the new. We are rewarding their courage and research spirit with the ALTANA Innovation Award. The way the award is displayed reflects its very special status.

The award has been given a special place of honor in the foyer of the ALTANA headquarters building in Wesel – namely in the ALTANA Innovation Cube. The plexiglas cube in the ALTANA colors, blue and white, stands out by virtue of its eye-catching design and its inner values. The cube consists of three smaller cubes stacked asymmetrically. The names of the recipients of the ALTANA Innovation Award are displayed prominently on the middle cube. This cube also contains a multimedia terminal (with an Internet connection) used, among other things, to show a film of the awards ceremony. The award itself is on display in the top cube. To show the award off to the best advantage, the designers came up with a clever idea. The glass panes surrounding the award are made of opaque frosted glass. If a viewer approaches the ALTANA Innovation Cube, a motion detector is actuated; the previously opaque plexiglas is magically transformed into a glass showcase and the award glows from within (electrochromic window).

The ALTANA Success Story Continues. On the next few pages you can read about the nominees and their work, learn how ALTANA profits from their innovative market-ready ideas, and see how we celebrated this event together.



Don't Forget: It's Your Turn Next Time!

Please feel free to cut it out and then fold.





Nominations for the ALTANA Innovation Award 2010

To defend its position as the innovation leader in many markets, ALTANA has to stay one step ahead of its competitors; to achieve this, it has to make sure it always has the better idea. This year again we can be proud of the ALTANA employees who entered the competition for the ALTANA Innovation Award 2010 after coming up with brilliant ideas and surprising solutions. Out of ten submissions, the ALTANA Innovation Council nominated three projects for the ALTANA Innovation Award 2010. In the following we would like to present the projects and teams that made it into the final round.



BYK-C 8000 is the first coupling agent BYK has introduced on the plastic market. The reactive polymer works as a bridge builder on a molecular level, forming a stable link between resin and inorganic filler. As a result, the mechanical properties and stability of the composite achieved can be improved significantly. On the one hand, more endurable composites can now be produced; on the other hand, thinner construction parts can be made exhibiting constant quality compared to thicker parts made without the coupling agent, thus giving the opportunity to save precious raw materials, costs for our customers, weight and energy.



ECKART borosilicate pigments LUXAN® and MIRAGE®: A new dimension of glamour and color. ECKART is presenting a new generation of patented, world-class-quality borosilicate pigments with extraordinary luster and sparkle, outstanding purity and intense interference colors, neutral bulk colors, and maximum transparency. The MIRAGE product family is compliant with global cosmetic regulations, offers a pleasant skin feeling and can be used widely in all kinds of cosmetic applications. It works especially well in transparent systems such as lip-care applications. With the most recent innovations, MIRAGE Sparkling Luxury Gold and MIRAGE Glamour Sapphire, one can achieve impressive real gold effects or deep blue sparkles with unrivaled chroma and sparkle.



PAI Select Technology allows the use of wire enamel solutions with a high solids content while maintaining acceptable viscosity levels. The Select Technology promotes accelerated wire curing so that low-molecular-weight resins can be used to achieve the excellent physical properties of high-molecular-weight resins.

We Proudly Present:

The ALTANA Innovation Award Hymn

French Horn

Viola

Cello

Bass

5

The image displays a musical score for a hymn. It features four staves: French Horn (treble clef, 4/4 time), Viola (alto clef, 4/4 time), Cello (bass clef, 4/4 time), and Bass (bass clef, 4/4 time). The key signature is one sharp (F#). The score is divided into two systems. The first system shows the French Horn playing a melodic line, while the Viola, Cello, and Bass provide harmonic support. The second system, starting at measure 5, continues the melodic development for all instruments. The notation includes various musical symbols such as notes, rests, and accidentals.

9

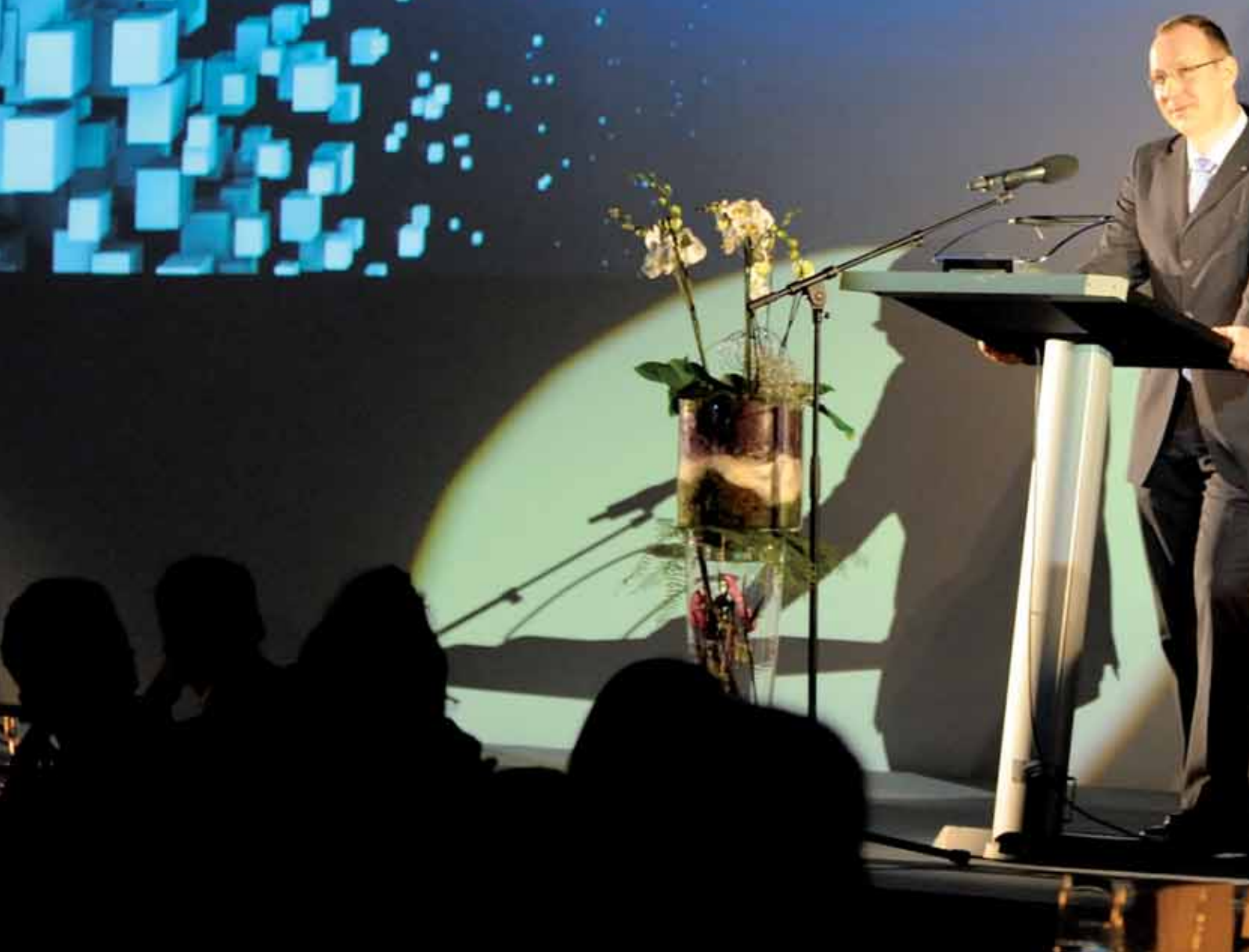
Musical score for measures 9-13. The score is written for five staves: two treble clefs, two alto clefs, and one bass clef. The key signature is one sharp (F#). The notation includes various rhythmic values such as eighth, sixteenth, and thirty-second notes, as well as rests and ties. The music is arranged in a complex, multi-staff format.

2

14

Musical score for measures 14-18. The score is written for five staves: two treble clefs, two alto clefs, and one bass clef. The key signature is one sharp (F#). The notation includes various rhythmic values such as eighth, sixteenth, and thirty-second notes, as well as rests and ties. The music is arranged in a complex, multi-staff format.

Our knowledge
makes the



difference





The Winners of the ALTANA Innovation Award 2010: Dr. Günter Kaupp, Dr. Dirk Schumacher, Jens Depner, Michael Grüner, Dr. Ulrich Schmidt

ALTANA Innovation Award Ceremony: Knowledge Brings the Best Interest

Innovation is the driving force behind ALTANA's position as one of the leading companies in specialty chemicals. Permanent, structured and targeted innovation is the foundation of ALTANA's present and future success. Our customers know what they can expect from ALTANA – and we know what we have to deliver: innovative solutions, uncompromising quality and the ability to be constantly ahead of the times.

Our innovative culture has left a deep mark on the company; it represents the unique spirit of an exceptional organization. As a research-intensive company investing in R&D a percentage of sales roughly double the industry average, we encourage the innovative power of our workforce and reward especially innovative employees with the ALTANA Innovation Award. The festive awards ceremony was part of the evening program at the ALTANA Innovation Conference 2010.

Highlight of the conference:

The presentation of the ALTANA Innovation Award 2010

The foyer was festively decorated and illuminated to set the right mood; it provided the perfect backdrop for the joint dinner and awards ceremony after the first day of the conference. The conference attendees took advantage of this opportunity to let the numerous experiences of the day sink in and to share their impressions in an informal atmosphere. The relaxed mood gave way to intense suspense, however, as an impressive light show diverted everyone's attention to the stage where the awards ceremony was about to start. Moderator Achim Struchholz greeted the conference attendees and guided them through the evening's program in an entertaining manner. In his opening speech, he used

the example of a Stone Age knife to demonstrate that even people in Neanderthal times were reliant on innovative developments, cooperation and knowledge-sharing to survive in a cold and hostile environment. The next statement was given by Dr. Georg F. L. Wießmeier, initiator of the ALTANA Innovation Award. Dr. Wießmeier spoke about the projects submitted during this year's competition and emphasized the importance of innovation for ALTANA. He went on to say that truly revolutionary innovations are made only when there is a paradigm shift and people learn to "think out of the box" – something that can only happen within a strong network of R&D experts all pulling together.

He also pointed to one of the cross-divisional teams and its members as a shining example of this kind of collaboration, which is what the ALTANA Innovation Award is all about. This was the first – but by no means the last – highlight in the evening's program.

And the Winner is ...

The tension in the room mounted as the three teams nominated for the award, the individual team members and their innovative projects were presented. The excitement felt by the nominees and the entire audience was palpable as the envelope containing the jury's decision was carried onto the stage. Finally the big moment arrived: Achim Struchholz read out the name of the winning team. Applause resounded as the ALTANA Innovation Award Hymn started up and the winners marched proudly up to the podium. The ECKART Effect Pigments team had won the race with a high-quality new generation of borosilicate pigments based on glass flakes and patented under the names MIRAGE® (for cosmetics) and LUXAN® (for industrial applications). This was additional strong evidence of ECKART's position as the technical market leader for optical effects. These pigments are characterized by extraordinary brilliance and gloss, pure and intensive interference colors, a neutral color spectrum and maximal transparency. The MIRAGE product family is winning new customers with its pleasant skin feeling and can be used by our customers for all cosmetic applications. Moreover, the latest additions to this product group, MIRAGE Sparkling Luxury Gold and MIRAGE Glamour Sapphire, can create striking genuine gold effects or a deep blue sparkle, respectively.

After all members of the team had received their personal awards from Dr. Wießmeier, a visibly proud ECKART CTO Dr. Mark Stoll came onto the stage to deliver the laudation. After these words of praise, the champagne corks popped and the conference attendees took advantage of this chance to meet and celebrate with colleagues from all over the world.

It remains to be said, in summary, that the ALTANA Innovation Award Ceremony again made a substantial contribution toward professional exchange and personal networking – across both divisional and national boundaries – among our researchers and application specialists. This year again ALTANA has provided all conference participants – as well as everyone who was not able to attend the awards ceremony – a chance to "be there" at least virtually. A film of the event can be downloaded at the following link: www.altana.com/innovation



Welcome to the Hall of Fame: The ALTANA Innovation Award – Winners and Nominees

As many of the people depicted here would surely affirm, it is a very special feeling to be short-listed for the ALTANA Innovation Award and even more so to win the coveted trophy. The Award is the visible and tangible "highest mountain" in a corporate landscape where people think ahead together and is an indispensable part of our culture of innovation. On this page, and on the following pages, we would like to pay special tribute to the untiring commitment, creativity and inventive spirit displayed by all of the winners and nominees to date.

AWARD WINNERS

ALTANA Innovation Award 2009



Bärbel Gertzen
BYK



Dr. Stephan Roth
ECKART



Dieter Prölß
ECKART



Dr. Wolfgang Pritschins
BYK

AWARD NOMINEES

ALTANA Innovation Award 2009



Dr. Stefan Engel
ECKART



Angela Daps
ACTEGA



Ding Wang
ELANTAS



Dr. Marco Greb
ECKART



Dr. Rüdiger Wittenberg
ACTEGA



Frank Kamphuis
ACTEGA



Collin Peter Appleyard
ECKART

AWARD WINNERS

ALTANA Innovation Award 2010



Dr. Günter Kaupp
ECKART



Dr. Dirk Schumacher
ECKART



Jens Deppner
ECKART



Michael Grüner
ECKART



Dr. Ulrich Schmidt
ECKART

AWARD NOMINEES

ALTANA Innovation Award 2010



Dr. René Nagelsdiek
BYK



Dr. Wolfgang Pritschins
BYK



Dorothee Greefrath
BYK



Stephan Remme
BYK



Andrea Eber
BYK



Dr. Giovanna Biondi
ELANTAS



Dr. Thomas Murray
ELANTAS

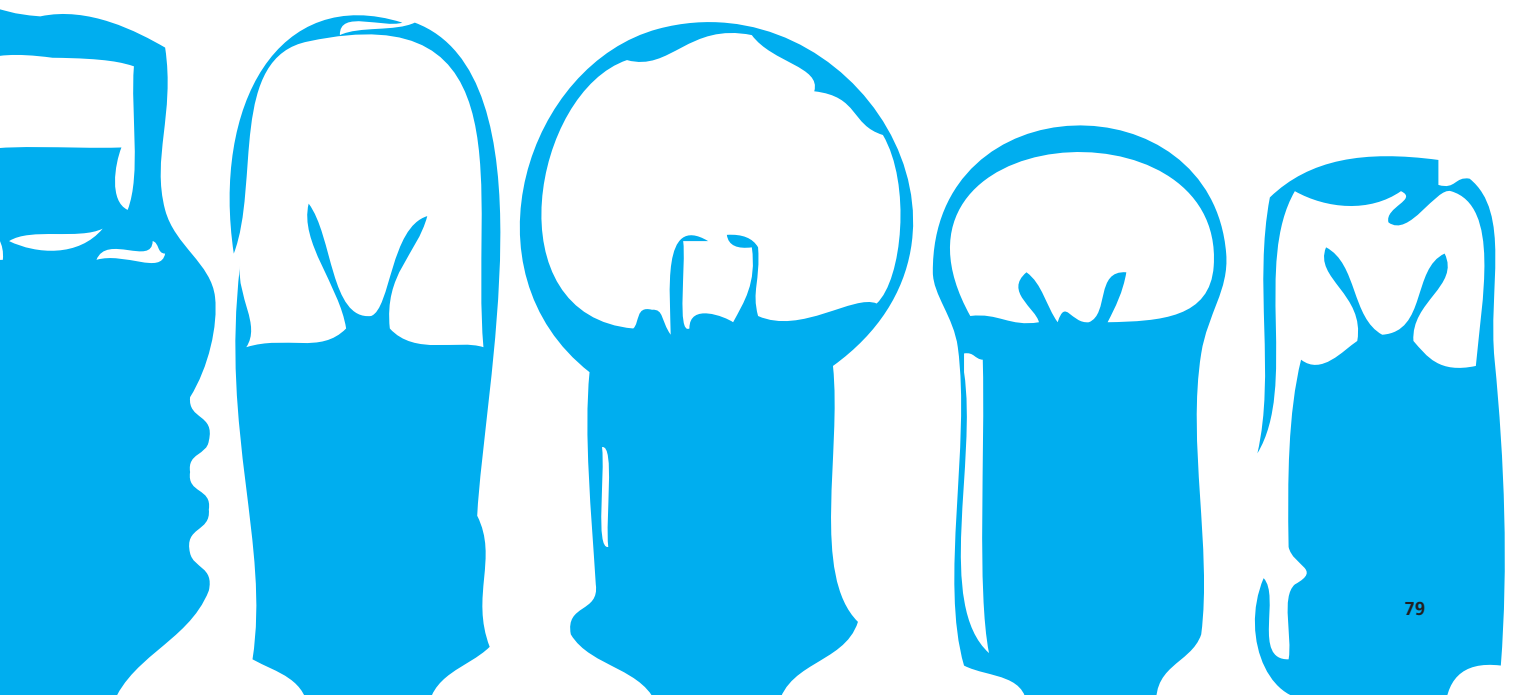


Dr. Heta Raval
ELANTAS



Innovation and Idealism

Crossing and
Protecting Frontiers.



Industrial Biotechnology: Universal Fields of Application

Dr. Georg F. L. Wießmeier, Chief Technology Officer of ALTANA, on the new ALTANA "Industrial Biotechnology" platform

ALTANA is currently involved in setting up an "Industrial Biotechnology" platform. What exactly is it all about?

Dr. Wießmeier: We regard "Industrial Biotechnology" as being one of a series of key technologies whose use is a core element of the ALTANA Innovation Process. For example, key technologies are able to contribute towards a better and more efficient satisfaction of existing customer needs, as is the case when they help to reduce costs. The second important aspect of these technologies is that they enable ALTANA to make inroads into markets it has not hitherto entered. We believe that both of these aspects of "Industrial Biotechnology" hold great potential for our company.

Precisely what potential will "Industrial Biotechnology" open up for ALTANA?

Dr. Wießmeier: It offers us universal fields of application. I am working on the assumption that it will enable us to be innovative in all those branches and markets in which ALTANA is actively involved. Biotechnological processes enable us to conserve resources in the process control of chemical syntheses, for example. And it is also conceivable that, by using "Industrial Biotechnology," we can gain access to new sources of raw materials if suitable biosynthetic products offer themselves as viable alternatives. Thirdly and finally, we are confident that new and novel surface functions can be realized with the help of biotechnology.

What role does BYK play in all of this?

Dr. Wießmeier: BYK has a central role to play for ALTANA with regard to this new and interdivisional technology platform. ALTANA locates such interdivisional technology platforms in those divisions which are likely to benefit directly and to the greatest extent from the introduction of the technology in question. The manager of such a platform is responsible for ensuring that knowledge of the technology and the technology itself is made accessible to all companies within the Group and that appropriate use can be made of it. As is the case with the ALTANA "Nanotechnology" platform, we have decided, on the basis of the requirements described, to locate the ALTANA "Industrial Biotechnology" platform with BYK and in its laboratories. Working together in close cooperation with the CTO of BYK, Dr. Jürgen Omeis, we are assisting and promoting the introduction of this new interdivisional technology platform.



Industrial Biotechnology: Enzymes, the All-Rounders of the Future

BYK explores activities in "Industrial Biotechnology." Biotechnology has long been established in the medical and pharmaceutical industries, and has already achieved successes in agriculture – but in the field of specialty chemicals? This is still virgin territory which BYK now plans to enter.

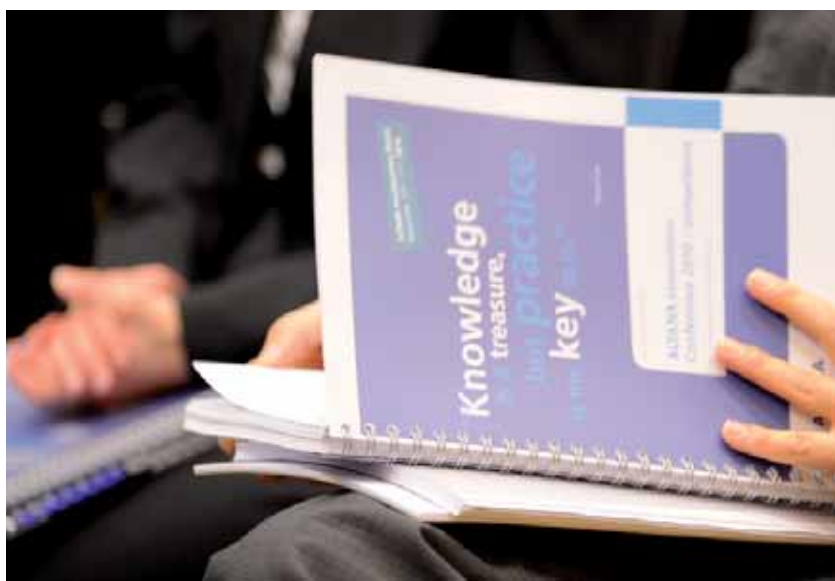
Dr. Birthe Borup

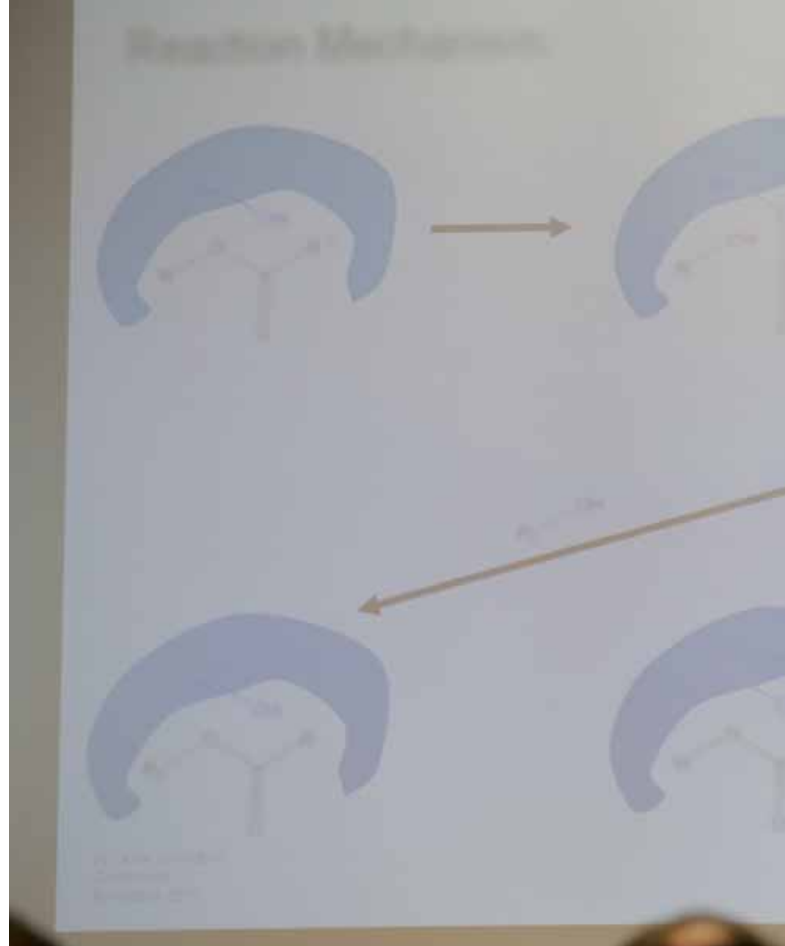


The biochemist Dr. Birthe Borup has been working since November 2009 in the Research & Development department of BYK in Wesel. She is the manager in charge of the "Industrial Biotechnology" platform of the ALTANA Group. Her task is to find out in which of the Group's divisions the use of biotechnological processes and products would be a viable proposition before then setting up an appropriate platform for BYK and its sister companies within the ALTANA Group. The scope of the platform includes a special laboratory where it will be possible to begin testing new processes and biosynthetic products as of the end of 2011.

What exactly do the specialists mean by the term biotechnology? "Biotechnology is an interdisciplinary science which deals with the use of enzymes, cells and complete organisms in technical applications", Dr. Borup explains. Biotechnology, the utilization of living cells or their products for human use, is a new platform at ALTANA. Biotechnology itself is an age-old discipline.

The earliest uses of biotechnology can be found in agriculture (e.g. plant and animal domestication around 10,000 B.C.), food (brewing of beer by the Sumerians around 3,000 B.C.) and medicine (discovery of fungal antibiotics in China around 500 B.C.). During the past 50 – 100 years dramatic advances in biotechnology have been made possible by our new understanding of the transmission of genetic traits from parents to child, decoding the genetic code, and our ability to manipulate DNA. "Industrial Biotechnology," the utilization of organisms to make specialty chemicals, has attained increased momentum due to the biofuels movement, where the focus is on large volumes for cheap prices.





The advantages of the process?

With its help, it is for example possible to develop products which consist of renewable raw materials. This leads in the long term to a reduction in environmental impact. Countering the fear that biotechnological processes could have a negative effect on product performance, Dr. Borup adds: "The use of biotechnology does not lead to a loss of performance." Additives are a new field of work for Dr. Borup, a biochemist who studied and wrote her doctoral thesis in the states of Illinois and Pennsylvania in the U.S. After graduation, she spent eight years doing research for a Californian company with a specialization in the development of enzymes for use in medicine and fine chemicals. Her position with BYK is the first position she has held in Europe.

What procedure is she pursuing to set up the new biotechnology segment?

"I am not so much interested in the actual products themselves as in the chemistry behind them," says Dr. Borup, outlining her strategic approach. For her, this involves posing the questions: Which substances, which catalysts, which synthesis processes should be used? What can be said about the reaction processes, what problems arise from them, what possible side effects do they have? Is it possible to replace these processes with biotechnological processes? Are there any biosynthetic products with interesting properties which could be used? Starting from these questions, she has already identified three projects which could well mark the beginning of BYK's activities in the biotechnology sector. The first of these is the development of a new surface additive for use in aqueous systems.

For a number of reasons, the synthesis process currently available is beset with problems. At this point it should be possible, according to Dr. Borup, to use an esterification process with a commercially available enzyme.

Biocatalysts are considered green catalysts because they catalyze reactions that proceed under mild conditions (less energy is needed) or in water (a green solvent), are non-toxic and biodegradable. In addition, they are highly regio-, chemo-, and enantioselective (reducing unwanted byproducts and the need for protection and deprotection of functional groups). This also allows several reactions to be carried out in "one pot" with a series of enzymes, eliminating the need for purification of intermediates.

Her working hypothesis:

By introducing this enzyme, we are making the process more stable since it takes place at a lower temperature. At the same time, the flexibility will increase. All in all, the number of failed batches should be reduced. Whether or not this hypothesis is correct will be demonstrated by the six-month test series Dr. Borup is currently planning. Should the results of the tests be positive, this could well lead to the initiation of a concrete product development phase within the standard BYK innovation process framework. The second project is a smart coatings project. Smart coatings are coatings that interact with their surroundings and confer novel properties on the surfaces they are applied to. Biotechnology has produced a variety of biosynthetic compounds that can alter the properties of surfaces, including enzymes, proteins, and other metabolites.



One application is in the anti-fouling area. In conjunction with a partner in Denmark, BYK intends to investigate what properties a paint additive should have to prevent the settlement of organisms on the hull of a ship, and how such additives and enzymes, the all-rounders of the future, can be manufactured industrially. By way of background: Such organisms, usually mussels or scallops, increase drag, hence slowing the ship down, costing time and increasing fuel consumption. "The use of enzymes also recommends itself for anti-fouling," Dr. Borup explains. "However, we are still at the very beginning."

The third project is comparatively far advanced. It proposes introducing a biosynthetic product to a surface additive. Biosynthetic compounds are molecules synthesized by living cells. The cells can be of the wild type (i.e. as found in nature), or they can be metabolically engineered to either produce a natural compound in larger quantities or to produce compounds not found in nature. These compounds range from direct petrochemical replacements over novel monomers with new properties to complex molecules. The new additive has already displayed many highly promising properties in test coatings. "We hope to be able to send out samples to our customers by the last quarter of the year," says Dr. Borup. "Enzymes have a whole range of additional fields of application in the chemicals industry," she emphasizes. They can, for example, lend new functions to packaging. This becomes possible when the inside surfaces of the packaging are furnished with additives containing the appropriate enzymes. Once they are in contact with the contents of the packaging, the enzymes can unleash their full effect.

For example, they can remove the lactose content from milk or extend the shelf life of foodstuffs by using up the oxygen in the air inside the packaging. In addition to the use of enzymes, Dr. Borup also sees possibilities for working with biosynthetic products. It is perfectly conceivable, for example, to develop defoamers on a plant basis.

Where does she get the ideas for her suggestions?

"Much of it I am familiar with from the incredibly extensive specialist literature. But I have also been stimulated to a large degree by interesting proposals from my colleagues," Dr. Borup explains. An occasion for such stimulus was provided by the specialist lectures she herself gave to BYK and its sister companies. "There are a great many very inquiring minds in the company," she says. However, biochemistry is a comparatively young discipline which is still unfamiliar to most people. Dr. Borup has discovered: "We don't always speak the same language."

Just one example:

"Substrate" is a standard term which is in wide use at BYK. It is used as a synonym for "substance" and denotes something to which something else is applied. For biochemists and biotechnologists, however, a substrate is "that with which the enzyme reacts," Dr. Borup explains. One and the same term, but two differing concepts – highlighting not only the diversity within chemistry, but also the versatility of BYK.

Intellectual Property at ALTANA

Patents are examples of intellectual property rights which protect ideas and concepts rather than tangible objects. A patent is a set of exclusive rights granted by a state to an inventor or his or her assignee for a limited period of time in exchange for public disclosure of an invention.

Dr. Frank Henglein / Dr. Klaus Arlt

An invention could be defined as a teaching concerning a technical acting which might concern a process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof. Said exclusive right granted to a patent-holder in most countries is the right to prevent others from making, using, selling, or distributing the patented invention without permission. The procedure for granting patents, the requirements placed on the patent-holder, and the extent of the exclusive rights vary between countries according to national laws and international agreements.

Typically, however, a patent application must include one or more claims defining the invention which must be novel, non-obvious, and useful or industrially applicable. For a patent to be granted that is to take legal effect in a particular country, the patent application must meet the patentability requirements of that country. If the patent application does not comply, objections are communicated to the applicant or his or her patent agent or attorney and the applicant is usually given one or more chances to respond to the objections and to bring the application into compliance. Only claims of a granted patent can be infringed. Generally, a patent is deemed infringed if all the features of at least one patent claim of the patent are fulfilled by a product or a process. A patent is not a right to practice or to use one's own invention. For example, many inventions are improvements of prior inventions that may still be covered by someone else's patent. Rather, a patent gives the holder the right to exclude others from making, using, selling, offering for sale, or importing the patented invention for the term of the patent, which is usually 20 years from the filing date.

Patents are used as strategic instruments of competition providing protection against imitation (monopolization of a technology for one's own business), a barrier function (obstruction of competitors in order to improve one's own market position without using the protected technology for one's own business), a compulsion to design around (an alternative solution which is not within the scope of protection is often disadvantageous for competitors), deterrence ("acquisition of peace": competitors avoid using their own patents in order to avoid possible counterattacks) and prestige advertising (the number of patents is often seen as an indicator of innovation). Generally, the two basic pillars of the patent strategy of a technology-orientated company might be seen in the optimization of the company's own "freedom to operate" concerning the commercialization of its products and technologies ("acquisition of peace") on the one hand and in the generation, defending and maintenance of its own patent portfolio on the other hand.

BYK and ECKART both have patent departments which are basically responsible for all patent matters (and are in direct connection with the "patent strategy" of their own division) and also carry out information management providing a research and archive tool. The research and archive tools used by ALTANA are "CAS," a convenient tool for searching for chemical compounds (formulas) and "IEPROS," which provides a combination of a search function and an internal patent archive. The ALTANA IP platform serving as our common patent organization system is based on the teamwork of the CTOs and IP specialists in all the divisions and provides the basis for an interchange of information and the organization of common IP projects (e.g. intercompany regulations concerning common inventions, standardized patent portfolio features and the foundation of a common search and archive software).



New Business Approaches: New Business Development at BYK

Worldwide leaders in innovation such as BYK place a very marked focus on recognizing and developing new business markets. In the future it will examine three different thematic areas that are pursued consistently.

Dr. Wolfgang Kortmann

The presentation deals with three different issues:

- Idea, organization and process of New Business Development (NBD) at BYK
- Results of the first strategic project "Paper Coatings"
- Future activity in "Advanced Ceramics"

New Business Development

The central idea of NBD is to define and develop new markets for BYK with proven, existing and globally sold additives. The business should be developed by a specialist with the existing sales force. The pillars of this approach are technical service, quality and innovation. Any new NBD activity starts with a market review, which should verify the basic assumptions. Very important is also the build-up of an end-use-oriented network, which should include opinion leader like universities, institutes and associations. The hiring of an experienced specialist and the build-up of a technical service lab with experienced staff and corresponding equipment is crucial for the future success.

Paper Coatings

According to our NBD ideas we started almost five years ago with the setup of our new application "Paper Coatings". Besides the technical testing of our existing product portfolio, the innovative development of a new methodology or new technology for paper coatings was our objective. New sales in a new business can only be generated by (lower price or) new, additional benefits for the customer. As we wanted to improve the paper surface by our additives, the new approach for our customer would be a new and reproducible methodology for the characterization of the paper surface. By developing this tool we introduced a unique approach to sell additives. Besides this we discovered in our portfolio some gaps, which we closed by some new product developments for certain multilayer coatings. The Paper Coating activity has now outgrown the NBD status and has been integrated into the business line Industrial Applications.

Advanced Ceramics

The new strategic development project is "Advanced Ceramics." This is a €40 bn marketplace growing by 10 % per year. It represents a niche market for high-end ceramics, for which organic additives are generally used to achieve high quality. Typical applications are medical implants, electronics, cutting tools and machine parts. The additives are mainly used to support the tool-making process from the ceramic powder to the finished hip joint. During this production process almost all of our product groups are necessary. Therefore, we see a big chance to develop a new market for our existing additives. The approach will be very similar to the successful start of Paper Coatings. A ceramic-specialist, a well equipped application lab and a unique idea on how to sell our additives will be crucial to run a profitable business in the future.



New Business Approaches: New Business Development at ELANTAS

ELANTAS consists of eight independently operating companies spread out across the globe. While some companies are larger than others, there is no lead company within the ELANTAS division. The division responsibility for New Business Development (NBD) is located in Wesel, but most of the ideas are generated at a local level and project work has to be carried out locally for the most part. The decisions which projects to pursue and which ones to stop are taken jointly by local management and division management in Wesel.

Dr. Horst M. Sulzbach

ELANTAS considers all activities which lead to additional business outside of our core markets as NBD. It is irrelevant whether we enter a new market with existing technology, or establish a new business line in an existing market. A new NBD project has a high probability for success if our existing capabilities can be leveraged. So when considering a NBD, the first step is to evaluate how this new opportunity ties in with our existing know-how and capabilities.

If we see a good fit, we will carry out initial lab trials and market evaluations. The goal is to gain a better understanding without using too many resources at this stage. Once we have achieved enough information to warrant the start of a larger project, a project leader is nominated and a detailed project and business plan is put in place. At this stage it often becomes somewhat difficult for ELANTAS, because ideally the project manager for a large NBD project should have significant resources (time) available. However, a smaller company that is run efficiently will not have personnel with idle time. Therefore, we have now established a NBD group at the division level in order to provide dedicated, high-level resources with little risk for the company that carries out the NBD project.

In summary, ELANTAS' NBD process is decentralized with a strong focus on leveraging our existing resources and capabilities. In order to work as efficiently as possible, we increase expenditure in line with a rising success probability for a NBD project. To overcome the disadvantages inherent in our structure characterized by many small companies, we have build up NBD resources at division level that individual companies can employ for large NBD projects.

Two examples of current NBD projects will help to illustrate this point:

In our film project which is based at ELANTAS PDG in the U.S. we leverage our good knowledge of polyamide imides (PAI), a high-performance polymer family. In the past we only applied these polymers as wire coatings; now we use our knowledge about PAI to generate films. The resulting products can be sold to our existing markets as so-called tapes, i.e. solid insulation materials.

A second example are new radical initiators, a project operated out of ELANTAS Beck Electrical Insulation in Germany. ELANTAS is using radical initiators to cure unsaturated polyesters. We understand the shortcomings of the existing systems very well. We are now using this knowledge to develop a new system with the potential to overcome the limitations of the existing peroxide-based initiators. We will use the new initiators ourselves, but will also place them on the market. This project currently is supported with NBD personnel employed by the division holding.



New Business Approaches: New Business Development at ECKART

ECKART applies three major steps when entering new business markets. At the end of the process, however, the final step must always be that new ideas can be translated into new products to generate sales.

Christian Wolfrum

Significant innovation needs a paradigm shift

ECKART's New Business Development (NBD) concept was designed to find appropriate answers to three questions, which have been identified as the most serious tasks for successful NBD activities: availability of time and resources, creation of new ideas and translation of ideas into products. Compared to the classical NBD idea of Ansoff, who defined NBD as entering new markets with known products, ECKART's approach is mainly based on the idea of finding new solutions for identified market needs. These new solutions, i.e.

new products, shall be developed using the broad spectrum of technological core competencies available at ECKART. Since this method is more complex and time-consuming than the classic NBD approach, a team of nine members was implemented to work on NBD full time. The team members have heterogeneous scientific backgrounds which enable them to find out-of-the-box solutions for the identified market needs. To keep up this creative spirit in the future and to prevent the development of bureaucratic structures, the team members will be rotated from time to time in such a way that team members will be transferred together with their projects to existing business lines and replaced by new members from the organization. This rotation system is therefore described as a dynamic model.



New Business Approaches: New Business Development at ACTEGA

As a very special opportunity, participation in the so-called "Spring School" run by UnternehmerTUM, the Center for Innovation and Business Creation at the Technical University of Munich, had been offered to ACTEGA DS by the end of 2009. Within this unique program specific challenges are put forward by industrial companies which are then tackled by a selected interdisciplinary group of students (chemists, physicists, materials scientists, industrial designers). The main goal is to generate ideas from that challenge and learn how to turn them into a viable business concept. For the company this provides an effective way to employ an external think tank, thereby potentially opening up an entirely new and different area of creative endeavor.

Dr. Peter K. Jenkner

This year 30 young scientists from 17 nations were asked to find new and economically viable applications for thermoplastic elastomers (TPE), for example, as a substitute for PVC. Following an explanation of the material properties, it was then up to the students to come up with innovative ideas outside the food and beverage industry while keeping the technical requirements and framework conditions in mind. The idea-creating phase was characterized by initial brainstorming, research and observation, and market and technology screening but also by the implementation of innovative techniques such as visual thinking and prototyping. Far more than 100 ideas were generated and finally six concepts were selected. Professional support was provided when needed by the expert staff of UnternehmerTUM.

The participants were confronted with the challenge of having to achieve presentable results under great time pressure, with only eight workdays allotted for the project. On that tough schedule it was nevertheless possible to achieve acceptable and even outstanding results within a short time through concerted teamwork. "Taking an outside view" of a topic within a predefined framework can lead to interesting, high-quality and – most importantly – realistic perspective on such topics, assuming that the problem-solving does not require primarily specialized expertise. The results, which were presented on March 5, 2010, were quite positive and encouraging: Most prominently an initiative to make TPE-S a starting material for three-dimensional (3D) printing was found to bear the potential for direct implementation at ACTEGA DS.

On the basis of these facts it was decided to elaborate a more refined business model in collaboration with UnternehmerTUM. On October 8, 2010 the four-month program "Manage & More" was launched with a smaller group of top students. Work is currently progressing and detailed pros & cons for a respective market entry of ACTEGA DS as a material supplier for the 3D printing industry are awaited with great interest.





Key Account Management & Innovation

Combining the Best of Both Worlds – How R&D and KAM Can Leverage Each Other

Our KAM activities can help purchase innovation and vice versa because KAM sits at the interface between key customers and the internal organization. For example, over time Group Account Managers built up trust with multi-level customer contacts which helps to surface the customer's voice and also presents a unique platform for discussing specific innovation and value projects. On the other hand, innovation can provide Group Managers and Key Account Managers with valuable market and capability insights that help us at ALTANA to enter into a more strategic dialogue with customers and to be perceived as partners beyond the delivery of products.

Dr. Teresa Ramos

Innovation is the key for ALTANA.

On the one hand, innovation is the key because it helps translate know-how into valuable products and processes to ensure that our portfolio remains new and competitive. But what actually is considered true added value by our customers of strategic importance, value that customers are willing to pay for? On the other hand, innovation helps us build unique competencies for the future. But who are the right customers to partner with to focus and combine scarce resources as well as share risks for competence development? In essence, successful innovation necessitates a balance between the outside-in customer perspective and the inside-out competence perspective. This is exactly where the ALTANA Key Account Management (KAM) can help leverage innovation and vice versa: KAM can bring the customer's voice and strategy into our organization and take our tailored value-creation projects to our strategic customers.

Innovation can impact growth through KAM. The purpose of KAM is to deliberately focus on those customers where we expect the highest potential and most profitable growth by using or allocating all necessary resources with the target to create added value for the Key Account and ALTANA through a partnership cooperation.

According to the 2012 vision, 50 group and key accounts will contribute 50 % of global added value.

KAM can leverage innovation.

The Group and Key Account Managers play an important role in identifying, validating, and orchestrating the realization of both existing and new value projects. These colleagues develop the group and key account plans with the core team, formulate joint vision and strategy with the customer based on ALTANA competences, capabilities, and innovation potential, and identify and coordinate respective value creation projects with customers. In their role as orchestrator and partner between strategic customers and the ALTANA divisions and functions, Group and Key Account Managers obtain in-depth knowledge of not only expressed customer needs, but also of less visible customer business and market drivers. Multi-level relationships and trust with customers are nourished, and recurring customer interaction platforms like business development and top management workshops established. These efforts open the door for strategic dialogue and breakthrough opportunities with these customers, including the discussion of customer innovation strategy, competencies, and planned innovation projects.

But to fully leverage these relationship and business platforms, input from the innovation side is required.

Innovation can contribute to KAM.

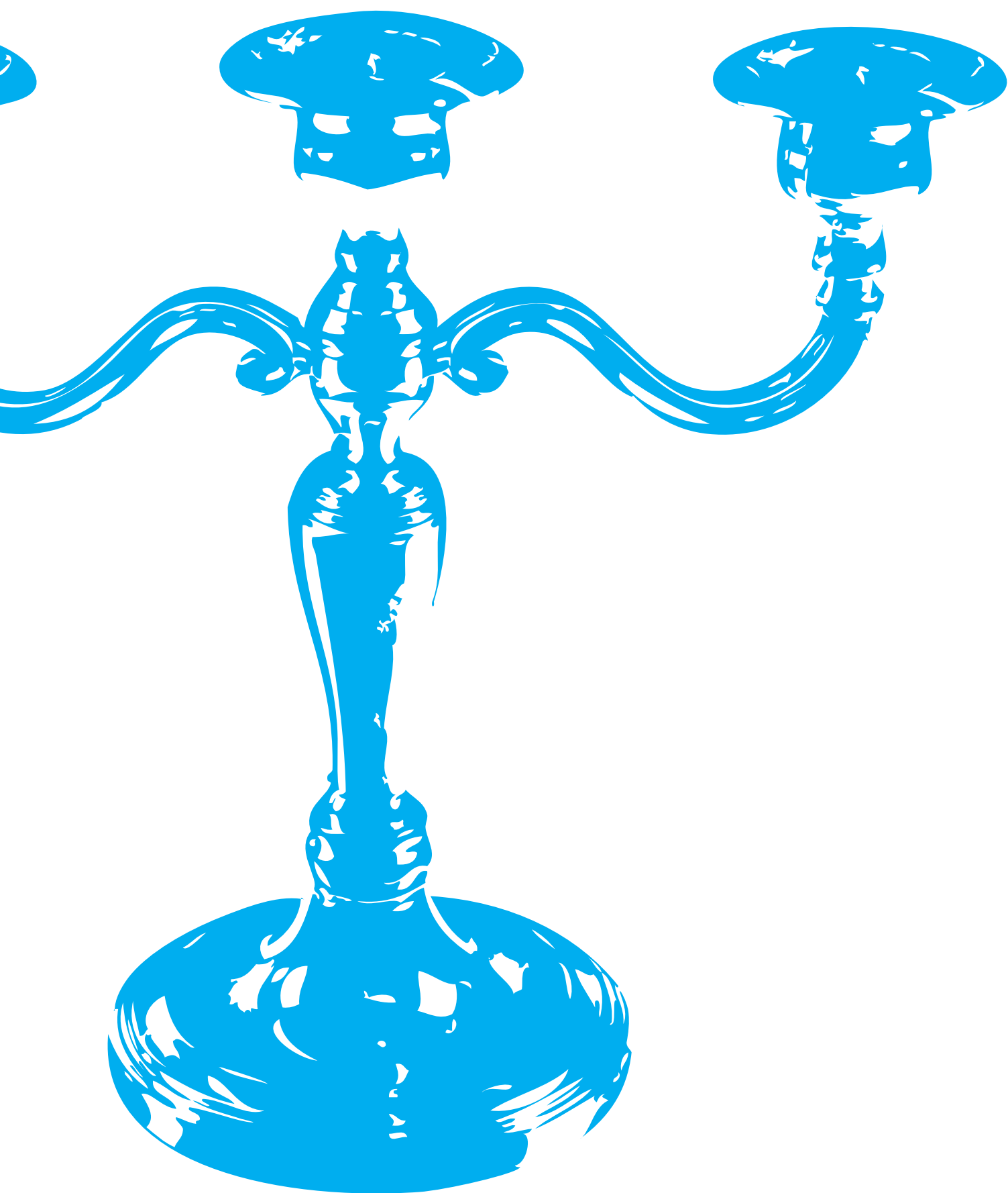
The Group and Key Account Managers can harness the full potential with strategic customers if innovation contributes to and concentrates on these customers as well. For example, in-depth knowledge of technical competences, innovation priorities, and platform synergies is necessary to identify and specify new value projects tailored to particular customer value drivers. Insights from and partnerships with external networks on trends such as "green" or "food safety" that likely shape the market and industry help us to become and remain the trusted strategic partner for our top accounts. And by testing and collaborating for incremental and major innovation projects with our strategic customers, we can establish commercialization potential from the beginning and gain insights that can be multiplied to the broader customer base as well.

KAM is a key driver for innovation. Only by bringing the customer's strategy to the focus of ALTANA divisions & functions like R&D can value-creation projects be identified and sustainable profitable growth achieved.



Networking for Innovation

We Are Not Just United
by the Thirst for Knowledge ...













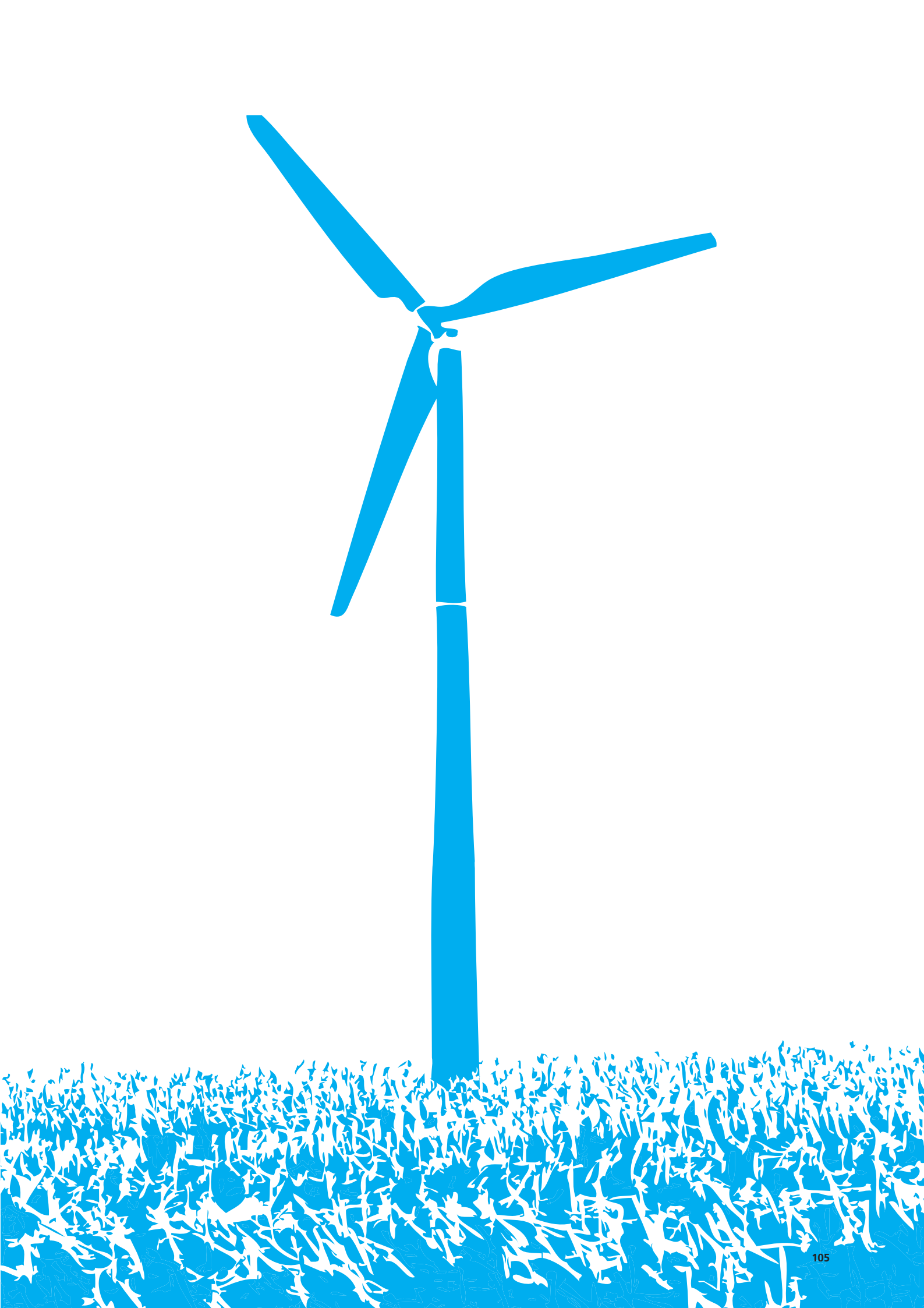






Innovation on Site

Innovation Affects Us All – Wherever
We Are.



Knowledge Is an Asset You Have for Life.

The knowledge of one individual is indeed limited, but if people take their knowledge and exchange it with others, it grows almost infinitely. Exchanging knowledge across all borders is therefore an important corporate feature at ALTANA. It gives rise to innovations, opens up new business fields, and enhances understanding of the worldwide markets.



Sean McCabe
ELANTAS



Brigitte Weber
BYK



Robert Andrews
ACTEGA

ALTANA Innovation Conference 2010 – a great experience following 2009! The organization was impeccable and even simple chats with colleagues from other divisions made this event eye-opening to say the least giving deep insight into the potential across the Group. Sharing of experience/knowledge was the key to this conference; the workshops solidified this with active and inspiring group sessions. To take in a wide variety of information with others focused the mind and made me aware of the potential within the whole Group.

I feel we all shared the sense of a family atmosphere with lively and constructive networking. The ALTANA Innovation Award especially inspired me to think beyond the box and not limit ideas within even one business unit. Shared experiences from all departments made this, in my opinion a necessary part of the future for ALTANA for future growth.

At the ALTANA Innovation Conference I experienced a very lively and friendly atmosphere. One of the most important aspects was the networking with colleagues – meeting new people and seeing "old" friends.

For me knowledge transfer means understanding the challenges and needs of my colleagues within ALTANA so that I can help them with the best additive recommendation and with the right product development in the future. The ALTANA Innovation Conference enables us to identify fields where we can work together in a cross-divisional manner to find new innovative solutions and where we can learn from each other. Innovation is hard work – sometimes things move slowly, step by step – and it is good to have the conference as a platform to share the results of these efforts.

The same, but different. To me, that describes the companies and people within ALTANA. The ALTANA Innovation Conference is an exciting forum for networking, exchanging ideas and learning that brings us together and points out similar issues we all face, even though many companies use different chemistries. It is great to see the vast pool of knowledge that our companies possess.

At the ALTANA Innovation Conference I got to experience moments that started as a casual conversation that, due to this vast pool of knowledge, led to the development of new projects and new methods and chemistries to complement existing projects. At every ALTANA Innovation Conference I learn more about how different our projects are, and how much we share in our common goals: create the finest, most innovative solutions for our customers. We truly are the same, but different.



Jorg Mannig
ECKART



Dr. Katharina Johannes
ACTEGA



Dr. Kevin Lassila
BYK

The 2010 ALTANA Innovation Conference was the second one for me. I was looking forward to be there to meet new people and to refresh contacts from the prior year.

It is definitely a great feeling being part of a larger dynamic group. The different backgrounds and experiences the participants bring to this event make it inspirational. All the different view points and approaches that were discussed in smaller networking sessions help the need to be creative and to think outside the box. And this is what innovation means. The presentations were also very uplifting. Needless to say that we all enjoyed Dr. Lienert's presentation about electromobility and the challenges this trend is presenting for all ALTANA divisions.

Knowledge transfer is certainly one of the most important benefits this event is presenting. Knowledge for me is not only to know things but also to know who to ask if I don't know – and the ALTANA Innovation Conference is the ideal platform to do that.

This was my first time at the ALTANA Innovation Conference – an interesting and exciting experience which allowed me to gather a lot of impressions. The conference was a great opportunity to get to know many colleagues working at the other divisions of ALTANA and to gain insight into the topics they are concentrating on in their daily work.

The workshops and the poster session in particular were opportunities to exchange knowledge and have frank and serious discussions. The ALTANA Innovation Award ceremony was an impressive show, well organized like the whole conference. I'm looking forward to the next ALTANA Innovation Conference.

My most vivid impression from the ALTANA Innovation Conference 2010 was the widespread commitment to innovation within ALTANA. Innovation in all areas of the company is recognized as essential to our future success. This belief was reflected in the program, which had presentations about new products and technology platforms, but also included discussions about innovative approaches in other areas such as Key Account and IP Management, and workshops on topics such as information sourcing and innovation management.

The idea that everybody in the corporation is responsible for innovation was reinforced by including marketing and sales colleagues in the conference. And as usual, the biggest benefit came during informal discussions, when it was possible to exchange thoughts, build on the ideas of colleagues, and together formulate the future of ALTANA.



Angela Berger
ECKART



Meiyong Zhou
ELANTAS



Dr. Patrizia Spurio
ELANTAS

The ALTANA Innovation Conference 2010 was a real highlight for me. I joined ECKART in February 2010 and so the conference was a perfect opportunity for me to get an overview of the broad range of activities within ALTANA. In these two days I got an initial insight into the R&D activities of the other ALTANA divisions ACTEGA, BYK and ELANTAS. Furthermore, I had the opportunity to meet many colleagues in person (who until then I had only known from the "Yellow Pages").

I think the conference offers many benefits for the ALTANA Group. The workshops in particular help us to share, transfer and deepen knowledge. In the nanotechnology workshop I had the chance to see what cross-divisional networking is like.

Overall the ALTANA Innovation Conference was a very valuable experience for me and I would be glad to participate again in the ALTANA Innovation Conference 2011.

I liked the ALTANA Innovation Conference 2010. It was a good chance for me to make friends and gain knowledge from the conference. In particular we need a lot of assistance from BYK because we have to face a lot of issues about the surfaces of parts; after a lot of communication during the workshops and poster session I got a lot of new ideas and knowledge about the new methods and solutions from colleagues from all divisions.

I was very interested in the micro-reactor technology and reaction pump technology in the poster session. I am looking forward to seeing more new posters at the upcoming ALTANA Innovation Conference 2011.

It has definitely been a positive experience. This is the ideal place to meet colleagues from other divisions, to exchange ideas and start new cooperation projects.

I found both the presentations and the poster session very interesting, and the workshops turned out to be very productive opportunities to share and compare ideas. With contacts resulting from several different experiences, the ALTANA Innovation Conference is a good opportunity to learn new methodologies that might be assimilated and used to develop new projects and reach the goals set.

Personally, I think that social events are also very important for getting to know colleagues more closely and on a personal level. I am very proud to be a part of this community and would like to thank all those who made this possible.



Thierry Tabeaud
ACTEGA



Dr. Hendrik Luttkhedde
BYK



Yvonne Plitzko
ECKART

The ALTANA Innovation Conference 2010 was interesting. In my opinion the presentation of the different key innovation projects and the poster session were the most valuable parts when it came to gaining new knowledge about the purely technical aspects. By sharing and adding knowledge in a specific field the ALTANA Group is setting the stage for creating the best value for all parties involved in developing new innovations.

During the poster session we and our colleagues from ELANTAS discussed the possibility of using a different resin technology, which they produce, in a specific end use application. To this end, a project between ELANTAS Deatech and ACTEGA Rhenacoat has been initiated. The mid-term target is the market launch of this new technology for the high chemical resistance needed in the cosmetic field.

I hope the next ALTANA Innovation Conference will have a greater focus on the purely technical aspects.

The ALTANA Innovation Conference, which I attended for the second consecutive time, was an excellent opportunity to further broaden my network within the ALTANA Group. The participation of colleagues from different divisions led to discussions on topics outside of the daily scope of BYK-Cera R&D.

Personally I enjoyed the workshop session which gave me the opportunity to discuss subjects in detail and resulted in tangible cross-divisional actions. This again proved that the ALTANA Innovation Conference is an excellent platform for identifying and initiating projects and therefore commercial opportunities that otherwise would go unnoticed. At future ALTANA Innovation Conferences one could envisage presentations from the heads of the business lines to elucidate current customer requirements, and of course market trends and future needs.

This was my first ALTANA Innovation Conference. The interesting lectures and posters offered a great overview of the various R&D fields. Thinking out of the box was greatly stimulated, especially by the presentations that came first. Talking about the activities of the divisions and fostering discussions with colleagues from different parts of ALTANA helped me to extend my personal interdivisional network.

This conference was an interdisciplinary platform for networking and information exchange. In my opinion this kind of conference and global networking across all ALTANA divisions can push our innovation work forward. I want to mention the perfect organization as an essential backbone of this event.

I am curious about the program and the topics of the ALTANA Innovation Conference 2011.





Success in Figures

You Can Count on
Our Innovations.

Research and Development

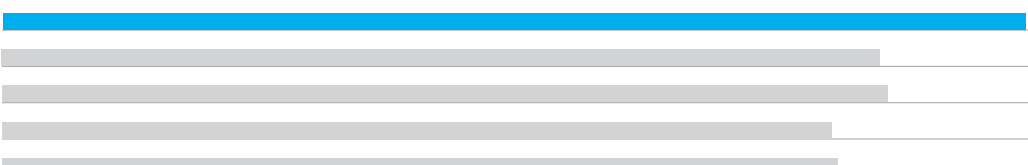
In 2010, we continued our innovation activities at a high level – as we did even during the months of the economic crisis. In addition to our defined core research and development activities, we specified further strategic areas in which ALTANA intends to expand in a focused way in the future. At €82.0 million (2009: €70.6 million), Group-wide research and development expenditure reached a new high in 2010.

- Group-wide research expenditure in 2010 was 5.3 % of sales
- In 2010, €82.0 million were spent on R&D
- In 2010, 791 ALTANA employees worldwide worked in the area of R&D (16 % of the Group's total workforce)

R&D employees

	R&D employees
Additives & Instruments	300
Effect Pigments	241
Electrical Insulation	137
Coatings & Sealants	109
Holding	4
Total	791

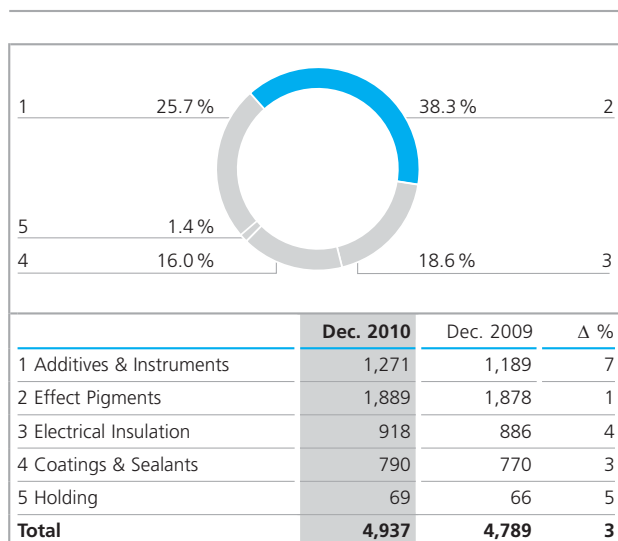
R&D expenses (in € million)

2010		82.0
2009		70.6
2008		71.2
2007		66.7
2006		67.2

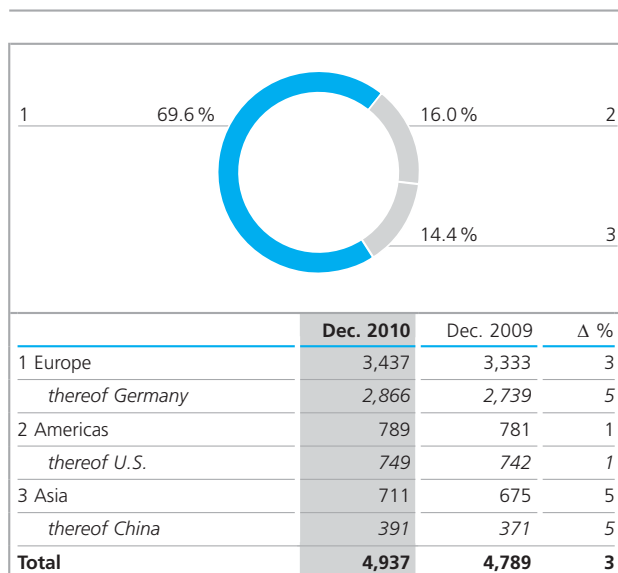
Employees

While the number of employees decreased slightly in 2009 due to the restrictive hiring policy on account of the crisis, we built up the workforce again by the end of the past business year. On December 31, 2010, the Groups' worldwide companies employed 4,937 people. This represents an increase of 148 employees or 3 %. The number of employees working in research and development worldwide increased to 791 (2009: 763).

Employees by division



Employees by region



Annual Report 2010

Overview of ALTANA Locations

U.S.

BYK USA Inc.,
Wallingford, CT
■ ■ 100 %

BYK Gardner USA,
Columbia, MD
■ ■ 100 %

ECKART America Corp.,
Painesville, OH
■ ■ 100 %

ELANTAS PDG Inc.,
St. Louis, MO
■ ■ 100 %

ACTEGA Kelstar Inc.,
Cinnaminson, NJ
■ ■ 100 %

ACTEGA Radcure Inc.,
Fairfield, NJ
■ ■ 100 %

ACTEGA WIT Inc.,
Lincolnton, NC
■ ■ 100 %

Central America

BYK Chemie de Mexico,
S. de R.L. de C.V.,
San Pablo Xalpa (MX)
■ ■ 100 %

ECKART de Mexico Industries,
S.R.L. de C.V.,
San Pablo Xalpa (MX)
■ ■ 100 %

Latin America

ELANTAS Isolantes Eléctricos
do Brasil Ltda., Cerquilho,
Estado de São Paulo (BR)
■ ■ 100 %

Europe

BYK-Cera B.V.,
Deventer (NL)
■ ■ 100 %

ECKART Benelux B.V.,
Uden (NL)
■ ■ 100 %

ECKART France SAS,
Saint-Ouen Cedex (F)
■ ■ 100 %

ECKART Pigments KY,
Pori (FI)
■ ■ 100 %

ECKART Italia s.r.l.,
Rivanazzano (I)
■ ■ 100 %

ECKART Suisse SA,
Vétroz (CH)
■ ■ 100 %

ECKART UK Ltd.,
Ampthill, Bedfordshire (GB)
■ ■ 100 %

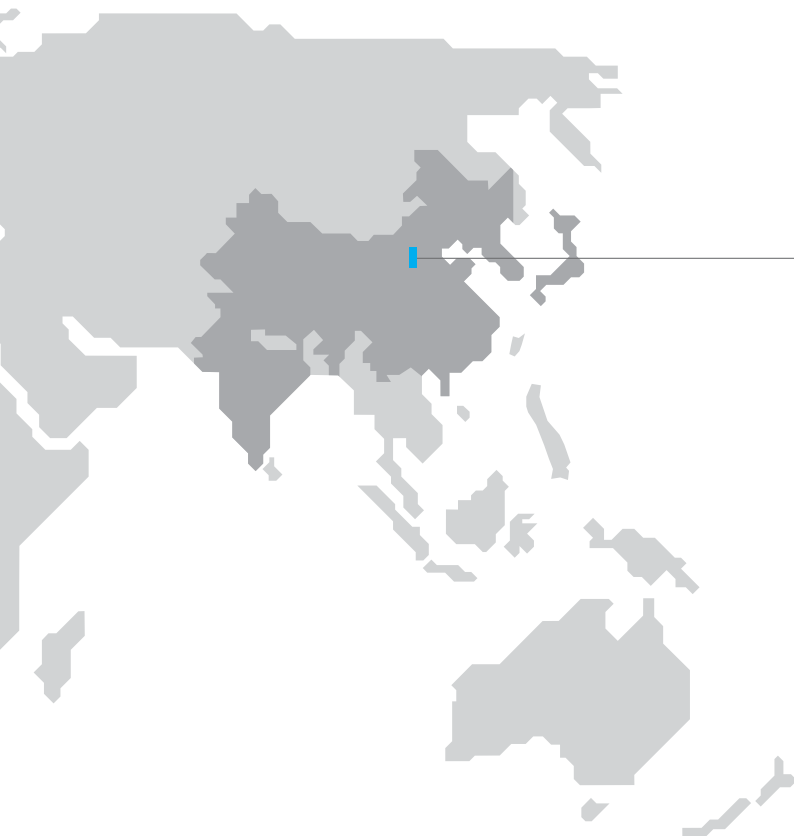
ELANTAS Camattini S.p.A.,
Collechio (I)
■ ■ 100 %

ELANTAS Deatech s.r.l.,
Ascoli Piceno (I)
■ ■ 100 %

ELANTAS UK Ltd.,
Manchester (GB)
■ ■ 100 %

ACTEGA Artística S.A.U.,
Vigo (E)
■ ■ 100 %

ACTEGA Rhenacoat S.A.,
Sedan (F)
■ ■ 100 %



Germany

ALTANA AG, Wesel	BYK-Gardner GmbH, Geretsried
ALTANA Chemie GmbH, Wesel 100 %	■ ■ 100 %
BYK-Chemie GmbH, Wesel ■ ■ 100 %	ELANTAS Beck GmbH, Hamburg ■ ■ 100 %
ECKART GmbH, Hartenstein ■ ■ 100 %	ACTEGA DS GmbH, Bremen ■ ■ 100 %
ELANTAS GmbH, Wesel 100 %	ACTEGA Rhenania GmbH, Grevenbroich ■ ■ 100 %
ACTEGA GmbH, Wesel 100 %	ACTEGA Terra GmbH, Lehrte ■ ■ 100 %

Asia

BYK Asia Pacific Pte Ltd., Singapore (SGP), ■ 100 %
BYK Japan KK, Tokyo (J) ■ 100 %
BYK Solutions (Shanghai) Co., Ltd., Shanghai (CN) ■ 100 %
BYK (Tongling) Co., Ltd., Tongling (CN) ■ ■ 100 %
ECKART Asia Ltd., Hong Kong (CN) ■ 100 %
ECKART Zhuhai Co., Ltd., Zhuhai (CN) ■ ■ 100 %
ELANTAS Beck India Ltd., Pune (IND) ■ ■ 89 %
ELANTAS (Tongling) Co., Ltd., Tongling (CN) ■ ■ 100 %
ELANTAS (Zhuhai) Co., Ltd., Zhuhai (CN) ■ ■ 100 %
ACTEGA Foshan Co., Ltd., Foshan (CN) ■ ■ 100 %

■ Sales company
■ Production company

Annual Report 2010

ALTANA AG
Abelstrasse 43
46483 Wesel
Germany

Tel +49 281 670-10201
Fax +49 281 670-60201

innovation@altana.com
www.altana.com

