MAKING AN IMPACT

04 HIGHLIGHTING THE TRANSFORMATION …
Heraeus’ corporate restructuring is taking shape. Jan Rinnert, Chairman of the Heraeus Holding Group Management Board, on an eventful year and good prospects.

08 WHERE THE SUN RISES
Dr. Weiming Zhang on the compatibility of his double roles as head of Sales and head researcher for Heraeus Photovoltaics, as well as on the challenges in China, the largest photovoltaics market in the world.

14 MIXING CEMENT FOR FURTHER GROWTH
Heraeus Medical delivers bone cement from Wehrheim throughout the world – and demand is steadily increasing. Dr. Britta Bär is responsible for expanding production.

16 BELIEVING IN THE IDEA
Teamwork in a globalized context: Heraeus Innovation Prize winners Florian Richardt and Bikash Agarwal report on how they are breaking down outdated ideas and organizational structures with their innovative Flexible Forward pricing model.

20 SATISFYING CUSTOMERS AROUND THE GLOBE
Heraeus employees in every region of the world strive every day to make their local customers even more successful. A peek into the places where cooperation develops.

22 … WE SEE OPPORTUNITIES!
Colin Boucher, product engineer at Heraeus Medical Components, explains why innovations are important for medical technology and what new developments patients can expect in the future.

26 CREATING INNOVATIONS
An overview of the finalists and winners of the 2015 Heraeus Innovation Awards.

28 THINGS MUST CHANGE …
Dr. Jürgen Heraeus, Chairman of the Supervisory Board of Heraeus Holding GmbH, describes why companies today must continue to remain adaptable.

32 CONSISTENTLY GEARED TOWARDS SUCCESS
Wolfgang Stang, President of Heraeus Noblelight, talks about how he turned the stagnating light business around.

34 CREATING THE PRODUCTION OF TOMORROW
Two locations, two people, one goal: Project managers Hendrik Trute and Vincent Ji are building the precious metals factories of the future in Hanau and Nanjing.

36 OPERATIONS EXCELLENCE NEEDS A GOOD TEAM
Where is production at Heraeus going great? In Wilmington, North Carolina, for one. A visit with production manager Bruce Bratz.

38 HERAEUS IN 2015
In 2015, Heraeus vigorously pursued its course of transformation. By realigning itself with its markets, focusing on functionality and optimizing a number of processes, it has been able to increase overall efficiency and thereby benefit its customers. A variety of initiatives are in place to maintain this level of efficiency as Heraeus continues to strive for global excellence. But transformation is hard work. People are the ones who make it happen; day by day, they are working to improve every area of the company. But who are they, and what motivates them? We’ll introduce you to some of the people who make Heraeus the company it is today.
APRIL
Heraeus Electro-Nite acquires CPP Thermo Devices Pvt. Ltd.
Heraeus Electro-Nite has acquired CPP Thermo Devices Pvt. Ltd. The Indian company specializes in the production and marketing of measurement sensors for the steel industry in India, southeast Asia, the Middle East and Africa, with about 140 employees.

JULY
Best Supplier Award from Continental
The Continental company has recognized Heraeus with its Best Supplier Award in the category “Product Related Auxiliaries (PRA).” The new Heraeus product “Flexible Forward” was a major factor in that decision. You can read more on page 16.

JULY
Groundbreaking ceremony for the Innovation Center in Hanau
Construction has begun for the new Heraeus Innovation Center in Hanau. The impressive building should be finished by early 2017, providing space for approximately 200 employees.

AUGUST
New touch panel developed with innovations from Heraeus
Heraeus and ITRI Taiwan unveiled a fully functional, flexible 7-inch touch panel at the Touch Taiwan Exhibition. The conductive polymer Clevios™ PEDOT was used for the film coating. The innovation opens up new possibilities for flexible, foldable, and wearable displays.

JUNE
»Top 100« awards ceremony – Heraeus Medical is the most innovative company
At the German SME Summit, Heraeus Medical is once again recognized as a “Top 100 Innovator.” To maintain the company’s reputation as a world market leader, more than one third of its employees in Germany work only on innovative processes – from optimizing existing products to new development.
AUGUST

Expansion of Heraeus Medical activities in Wehrheim

Heraeus Medical is investing around €17 million in the renovation and construction of production facilities at its Wehrheim location. The site offers ideal conditions for the company’s global activities.

SEPTEMBER

30 years of Heraeus in Singapore

Singapore gained its independence 50 years ago. Heraeus began its activities there 30 years ago with about ten employees. Today there are about 650 Heraeus employees at five sites in the small city-state. The company focuses its activities in Singapore on the areas of electronics, hard drives, semiconductors, medical technology, and photovoltaics.

OCTOBER

Factory opens in Romania

In Timișoara, Heraeus has chosen an ideal location for its new production facilities in Romania. The region has good infrastructure and short transit routes. The factory produces solder pastes, powders and other contact agents, mostly for automotive suppliers.

OCTOBER

Heraeus and Northam Platinum enter long-term partnership for precious metals refining and marketing

Heraeus and Northam Platinum, Ltd., a South African manufacturer of platinum group metals (PGM) announce the expansion of their existing long-term partnership. According to the agreement, which has a term of 20 years, Heraeus will refine all of Northam’s PGM ore concentrates. In addition, Heraeus acquires up to 40 percent of these refined precious metals, thereby securing a reliable supply of platinum group metals for its customers.

NOVEMBER

Heraeus joint venture in China celebrates 20-year anniversary and opens new production facility

The 20-year anniversary of Heraeus (Zhaoyuan) Precious Metal Materials (HZPM) and the opening of a new production facility for the joint venture give Heraeus two reasons to celebrate. This was the first joint venture between a Chinese company and a foreign company in the gold-processing industry. At the new production site, state-of-the-art production facilities, high operating standards and intelligent information management systems can improve productivity and product quality and strengthen the electronics and semiconductor industry in Greater China.

NOVEMBER

2015 Heraeus Innovation Awards

With the Heraeus Innovation Award, given each year since 2003, the company pays tribute to in-house research and development teams for their outstanding ideas and achievements. We showcase this year’s winning teams on page 26 of this magazine.

DECEMBER

Presentation of the HPS Awards

Top performance in the further development of our production and the introduction of the Heraeus Production System (HPS) led us to honor three teams – a first – with our in-house HPS Award. At the second annual HPS event, the prizes were awarded to the winning teams from Bitterfeld, Kleinostheim and Yverdon-les-Bains.
Mr. Rinnert, you have initiated a very comprehensive change process at Heraeus. Why was this necessary?

JAN RINNERT: One important reason is that our markets and our customers’ needs have changed significantly. Our competitors are winning market shares with products that are in the low-price segment. This is particularly evident, for example, wherever precious metals are being replaced because of cost, as in the electronics industry. Furthermore, the technologies in our markets are changing at a very fast pace. For example, the traditional hard drives business continues to lose shares to semiconductor memory technologies, or technologies such as OLED (Organic Light Emitting Diodes) don’t catch on as fast as they might because major participants in the market make other strategic decisions. This accelerated development and the increasingly globalized competition also intensify the pressure to innovate, to bring new products to market in shorter and shorter cycles. At the same time, we must meet our customers’ service and system requirements more than before, and with cost pressure there as well.

What measures have you defined in response to this development?

JAN RINNERT: We have identified a number of action areas across the entire company. Since autumn 2014, we have been actively working to orient our business units more closely to our markets and customers, implementing changes swiftly and with good results. For example, at the beginning of 2015, we established new leadership structures in the company with eleven Global Business Units. These GBUs now consolidate the former 35 strategic business segments to form eleven market-oriented areas. We streamlined our leadership structures, taking out two levels of management. This gave us a functional structure with short paths that allow quick entrepreneurial action. The new Global Business Units (GBU) have now addressed their markets in this form for more than a year, mainly with good operational progress.

In a second important area, we took steps to improve our operational excellence, with a particular focus on efficiency in production and production-related areas. Starting in the second quarter of 2015, we launched excellence initiatives, with the goal of raising us to a world-class level from top to bottom. During the reorganization, it became clear that workflows in some of the old business units had more significant shortcomings than we had previously thought. Further optimization measures were needed. We combined these measures to create the Heraeus FIT program. The systematic implementation of this program is having a significant effect on stabilizing and restoring competitiveness for some businesses, especially for our locations in Germany.

In addition, we have continued to focus on our processes and systems. Under the Magellan program initiated in 2012, we introduced a global SAP system. This simply allows us to more quickly identify where our businesses are doing well and where they are not. Although such projects always have their snags and require considerable effort from the entire workforce, the changeover was astonishingly quick. Approximately half of us worldwide are using uniform SAP systems.

How did your businesses and results fare in this environment?

JAN RINNERT: Although our company has a strong foundation, it was very important last year to have done our homework and implemented these change processes systematically, with the necessary investments, write-offs and reserves. Furthermore, the very challenging global environment became even more competitive, while we encountered weakening markets in many regions. The slackening development in China, one of our most important markets, excess capacities in the global steel market, significant currency fluctuations and low precious metals prices – all of these did not exactly make our
Jan Rinnert is Chairman of the Heraeus Holding Group Management Board. Under his leadership, major programs and initiatives have been launched to safeguard the family company’s position in the years to come.
business easier in the past year. Some business areas managed to withstand these conditions, with systematic market development, targeted innovation and cost management that yielded good profitable growth. In other areas, we identified weaknesses in their market and competitive position that inhibited their performance. Under these conditions, we managed to achieve operational results that were still satisfactory, approximately the level of the previous year.

What long-term effects do you expect from the Excellence initiatives and the Heraeus FIT program?

JAN RINNERT: The Excellence initiatives and the Heraeus FIT program form the foundation for the continued positive development of Heraeus. With the call for excellence, we aim to have all Heraeus employees in every area set their sights higher for the long term. It should be a matter of course for all employees to continuously improve themselves and their work environment and to view meeting the customer’s needs as an important priority.

Furthermore, in key areas of the Group we see a need to leverage short- and medium-term optimization potentials, especially in production and in production-related areas. The necessary measures and investments are brought together in the Heraeus FIT program. The systematic implementation of this program will have a significant effect on the stabilization and restoration of competitiveness for some businesses and especially for our locations in Germany. Of course, these include the investment decisions in the Heraeus Innovation Center in Hanau, as well as cutting-edge precious metals factories in Hanau. The expansion of the Wehrheim production site for Heraeus Medical is also a very important investment in the future. We expect cost optimization from the consolidation of the German locations and activities at Heraeus Noblelight as well as Heraeus Quarzglas.

However, Heraeus FIT is also geared toward our international locations. For example, we are optimizing our site set-up in China and also investing in a new precious metal factory there. But we are also consolidating locations in the United States, Brazil and the Philippines.

Although these investment and optimization projects vary widely, I consider them crucial. Taken together, these measures will not only ensure that we see better results in the medium term, but also enable our employees to provide outstanding performance for our customers in a more competitive production environment.

How do you ensure that Heraeus remains innovative throughout these changes?

JAN RINNERT: Innovations are critically important for the future success of our company! Heraeus stands for continuous innovation in each of its markets. This is how we meet our customers’ needs. Our innovations shape the changes in our various end markets. The new Innovation Center plays an important role in this regard. Starting in 2017, it will put 200 Heraeus developers under the same roof. We are planning an ultra-modern infrastructure for research and development, offering an optimal work environment with outstanding support from our regional development center. In addition, our business units have built regional R&D centers in their core markets of Asia, the United States and Europe. We are very close to our customers and speak their respective languages. As a result, we can offer custom-tailored solutions very quickly. This significantly sets us apart from the competition and gives us a decisive competitive advantage. In order to support these efforts, last year we again increased what we spend on research and development.

Are you already seeing the initial results in terms of innovations?

JAN RINNERT: Let me name just three examples from the past year: In the UK, Heraeus Noblelight won the Queen’s Award for outstanding innovation. Heraeus Medical again took second place in the “Top 100” competition as one of the most innovative companies in Germany. And with an efficiency rating of 21.7%, we are the current world record holder for the conductivity of silver pastes for solar modules. Photovoltaics is a fiercely competitive market with extremely short development cycles and high pressure to use replacement metals. Even some of the start-up companies are receiving very good customer feedback. My list could go on and on. But what is interesting is that we are succeeding in completely different markets because our business units are so close to the customer. And with our own annual Innovation Awards, we motivate every Heraeus developer to continue developing outstanding solutions and products.

What are the fields where Heraeus should be marketing innovations and product solutions in the future?

JAN RINNERT: We are already well positioned in many relevant fields. In the health sector, for example, we hold a strong position
with a well-filled innovation pipeline. The Medical Components Division alone accounted for three of the seven finalists for the 2015 Heraeus Innovation Prize. And I’ve already mentioned Heraeus Medical. This shows that we want to maintain our leading role in this field. In the renewable energies sector, we are working hard Group-wide on concepts for energy generation and storage and for efficient energy management. Here, I see our bundling of competences giving us a very promising market position. We also have very good potential for helping our customers advance in the electronics industry. With our application center for power electronics, we took an important step toward offering our customers even more integrated solutions and fewer of the standardized products that always face stiff competition. This helps us, for example, in the area of e-mobility. Finally, we continue to offer the industry many highly developed products. For example, our precious metals expertise helps us in sensor technology and, increasingly, as an important service provider, whether in trade or in advising our customers on precious metals management. However, it is important to consider not just the fields, but also the various regions. Despite uncertain signals from China, we continue to see major opportunities there. We intend to take advantage of them by expanding our production capacities in Nanjing and Zhaoyuan or in regional development centers. But we also continue to focus on Korea as well as the American and European markets.

What are you focusing on this year?

JAN RINNERT: We are continuing to work hard on the Excellence initiatives. Now that Dr. André Kobelt has joined the Group Management Board, commercial excellence and the systematic management of our markets are greatly improving. In many areas of the company, there is as much potential for improvement in commercial excellence as in production. Furthermore, we are working hard to implement Heraeus FIT in order to further improve our workflows. This remains crucial to success, especially for locations in Germany.

Achieving our goals requires a common understanding of leadership. Therefore, we have introduced a new Leadership Model and redefined what we expect of our management personnel. We want to continue enhancing this model, thereby further anchoring a common leadership culture worldwide.

Finally, we are devoting even more attention to future-oriented topics, such as the introduction of a Responsibility Management program that supplements our already very good legal and compliance work with a focus on the environment, health and safety. And we will continue to pursue digitization and Industry 4.0, which will have a significant influence on our activity.

And what effects do you expect to see on business development?

JAN RINNERT: In key markets and regions, the market environment remains challenging. Nevertheless, 2016 will be the year in which the transformation takes hold. We are better positioned to take advantage of our opportunities for profitable growth and to counter the effects of weak markets. Furthermore, we intend to push even harder for innovations, in order to offer our customers outstanding solutions. We are making good progress toward our goals, and Heraeus is leaner, faster, and more focused on our markets and customers. If the global economic situation remains stable, I anticipate good development for the Heraeus businesses.

In fact, the long-term prospects for most of our businesses and for our company are very good. We are positioned in attractive markets, and our global presence gives us outstanding market access and customer proximity.

We can be proud that we at Heraeus can count on such a committed and motivated team. We owe particular thanks to our employees, customers and partners around the world for their support, day in and day out. We are likewise grateful to our shareholders for their support and their trust. Together, we are working to do better every day. In the end, we will succeed.
Dr. Weiming Zhang, both head of Sales and head of Innovation at Heraeus Photovoltaics, is regarded as one of the fathers of silver photovoltaic paste at Heraeus.
OUR BUSINESS CONTINUES TO SHINE

China is the largest photovoltaics market in the world – as well as the primary market for silver pastes from Heraeus. In 2015, WEIMING ZHANG and his team established central research and development centers for photovoltaics in Shanghai and Taipei, enabling Heraeus to react more quickly to its most important customers’ requests – and provide the most innovative and individualized silver pastes, developed and produced on site.
Dr. Weiming Zhang has been with Heraeus for more than 17 years, and has now taken on a new role as sales head at Heraeus Photovoltaics (HPT). A Chinese native, Dr. Weiming Zhang earned his PhD in Ceramic Engineering from University of Missouri-Rolla (U.S.) in 1997. He joined Heraeus after completing his post-doctoral studies in 1999, and has remained with the company, his first and only employer, in Research & Development (R&D) ever since.

Global energy demand is on the rise – and will increase by more than 20 to 30 percent per year by 2030. According to a study by the International Energy Agency (IEA), wind power, solar energy, geothermal energy, biomass, and water power will cover about 30 percent of global energy consumption by 2030. The global Paris Climate Conference at the end of November 2015 once more showed that renewable energies will play a key role if the growing energy demands of the world’s population are to be met in a sustainable and ecofriendly way. The climate goal agreed upon by all 195 participating nations: Limit the rise in the global average temperature to 1.5 to 2°C. This requires almost completely avoiding energy generation from fossil sources – that is, switching over to technologies that do not emit CO₂. This means that photovoltaics will play a decisive role in the energy mix of the future.

“A father of silver pastes”

Heraeus has long focused on renewable energies, especially in the field of photovoltaics. The company doesn’t produce the final solar cells made of silicon, but it does produce one of the most important components – silver metallization pastes. The silver pastes are used to produce very fine, highly conductive contact lines on the indigo colored solar cells. These supply the electrical contacts for the wafer and contribute to improving the efficiency of silicon solar cells.

At Heraeus, Dr. Zhang is known as one of the fathers of PV silver pastes. Together with his colleagues, he invented Heraeus’ first conductive silver paste for solar cells from scratch around 2006, and commercialized the new product, laying the foundation for the business unit today. In the past decade, thanks to the contributions by him and his team, the Heraeus PV business has taken on an important role in the market. It has generated considerable sales and EBIT, although it has also experienced ups and downs in recent years. For his contributions to the development of silver conductive pastes for the photovoltaics markets, Dr. Zhang received the Medal of Honor from the Heraeus Group Management Board in 2011. He remains the only person at Heraeus to have received this special award.

Dr. Zhang took on an unusual role in 2015. In addition to his existing responsibilities, he took on the new task of leading HPT’s global sales. “The appointment surprised me somewhat. However, I was happy to accept it, »Only by transforming our role can we shape the market and lead the industry.«
Solar cells are increasingly contributing to the generation of renewable energy. However, the eco-friendly “green” energy they produce still has a tinge of gray, because some of the materials used in silicon solar cells contain lead, a toxic heavy metal. For years, Heraeus has been developing solar pastes containing silver, which are used on solar cells as circuit paths to transport the energy generated by sunlight. In 2015, Larry Wang, Li Yan, Michael Neidert and Tracy Guo, of Heraeus Photovoltaics in Conshohocken, Pennsylvania, developed a silver paste for solar cell applications that completely eliminates lead-containing materials from the metallization of solar cells without reducing their efficiency, reliability or performance. This is good for our environment, because it makes renewable energy even greener.
Heraeus has been active in the Greater China region for over 40 years. Its precious metals trading business began in Hong Kong in 1974; industrial production followed in 1995.

The optical fibers for the telecommunications industry that are produced each year from Heraeus’s quartz glass cylinders could circle the globe 2,500 times. In 2015, nearly 50 percent of those optical fibers were sold in the Chinese market.

Most of the products manufactured by Heraeus in China are sold to customers in the region. The Greater China region has thus become one of the Heraeus’s most important markets, and today it accounts for 30 percent of the company’s global revenues.

A total of 2,600 Heraeus employees are currently working in the Greater China region. Of that number, almost half – 1,200 – are in Shanghai.

Silver paste from Heraeus enables Chinese photovoltaics companies to make their PV modules more efficient. Today Heraeus holds the world record in this regard, achieving cell efficiency of 21.7 percent.
so Dr. Zhang’s focus is also on this market. He spends around 150 days in Asian countries every year, with an emphasis on meeting with customers. He often starts preparing for and fine-tuning presentations from the moment he gets on the plane, and goes straight from the airport to meetings with customers upon arrival. Dr. Zhang’s keen interest in his work and his strong sense of responsibility mean that he is never bored doing his job. Of course, he also often looks forward to spending time with his wife and two children, who live in the U.S.

Painting the bigger picture

How can Heraeus best support its customers in the future and also build on its market leadership? Dr. Zhang has long been pondering this question. The photovoltaic industry has come to a turning point, with mainstream technologies being gradually replaced by new technologies over the last decades. In Zhang’s estimation, this is a huge opportunity. “Only by transforming our role can we continue to shape the market and lead the industry. Because we want to continue to reinforce our position as a leader in the PV sector for the next five to ten years and beyond.”

Dr. Zhang predicts that PV costs will continue to fall, while efficiency and performance keep improving. “If we look at the bigger picture, energy storage will continue to be a hot topic in the upcoming decade, with many changes and new opportunities. For instance, as yet there is no economical and effective energy storage solution that can help take the PV industry to the next stage of explosive growth. Combining PV and energy storage will create a previously untapped opportunity for Heraeus to grow our business significantly.” Weiming Zhang and his motivated R&D and sales teams will make a decisive contribution to creating this bigger picture.

What is the future role of renewable energies?
Global demand for energy is on the rise – and expected to grow more than 40% by 2030. The global Paris Climate Conference in 2015 showed that renewable energies play a key role if the energy demands of the world’s population are to be met in a sustainable and eco-friendly way. Limiting global warming to 1.5-2 degrees is impossible without the nearly complete decarbonization of energy generation, that is, conversion to technologies that do not emit CO₂.

How is Heraeus currently active in the renewable energy sector?
Heraeus has broad expertise and a number of innovative products for generating, converting, storing and distributing renewable energies. These include metallization pastes for the circuit paths on solar cells; sputtering targets for thin-film solar modules; conductive polymers for organic solar cells; light and heat solutions, as well as quartz glass products, for the production of solar cells; Porocarb® for lithium ion batteries; electrodes for fuel cells; catalysts for the electrolytic production of hydrogen; and power electronics for wind turbines.

How much more can the effectiveness of solar cells still be improved?
Improving efficiency is the key driver in the photovoltaics market. At present, standard solar cells convert approximately 18% of sunlight into electrical energy. The current world record for prototypes is 22%, achieved with solar pastes from Heraeus. In five to ten years, we could have solar cells with a standard efficiency of 23 to 25%. We are working on a multi-layer design, the Heraeus tandem solar cell, where we stack various material systems in a solar cell that can gather various colors or wavelengths of the sunlight, thereby generating even more energy.
Dr. Britta Bür has led production at Heraeus Medical for the past nine years. Expanding manufacturing is her biggest project yet.
For several years now, the Wehrheim-based company, Heraeus Medical, has invested heavily more than double the industry standard in research and development, and these efforts have proven to be very successful. In 2015, Heraeus Medical was recognized as one of the top two innovative companies among German SMEs and its pipeline of new products is quite substantial.

One question that concerns researchers at Heraeus Medical is how to insert a bone cement which is used to fix joint prostheses into the body during surgery.

With this in mind, Heraeus Medical has developed the PALACOS® Pro system. Bone cement is traditionally prepared in the operating room by mixing a liquid and a powder. PALACOS® Pro simplifies this process. From the production standpoint, however, the new simplified system presents a challenge. The system is relatively large, and as demand has grown, the now cramped facilities in Wehrheim are working at top capacity. In order to ensure customer demand of this popular product, Heraeus Medical must further develop the site and this requires additional new machinery. "We want to continue our annual growth of over 10 percent and to do this, we must adapt our infrastructure," explains Dr. Britta Bär, the pharmacist responsible for production and the supply chain at Heraeus Medical and, in this capacity, also responsible for the site expansion.

The company is spending €17 million to build new production facilities, where, in addition to PALACOS® Pro, Heraeus Medical will be manufacturing another innovative product. By 2020, Heraeus Medical aims to generate a third of its revenue with products currently in the development pipeline.

A little like Tetris

One thing is clear: The new construction opens up entirely new opportunities. "It’s a bit like playing Tetris," says Dr. Bär. Spaces and work areas are defined, new configurations are tried out, and the best solutions are sought. One goal is clear: The new setting must meet the requirements of lean production. From preparing the powder mixtures to filling the containers to packaging the product, workflows are being trimmed down to consist only of the process steps that are actually necessary. "In the end, we’ll have a production flow that is less segmented and much more automated than before," she explains.

Dr. Bär wrote her doctoral thesis about the essential oils of odorless chamomile. After working for a time in quality control, she moved to production at a pharmaceutical company – an entirely different world. Now she has worked in production for a good 20 years, nine of them at Heraeus, and she clearly loves her job. She is interested in its technological aspects and fascinated by the workflows from delivery of the raw materials to distribution of the finished product. The fact that the outcome is tangible is another plus for someone who wants to shape change and move things forward.

Short paths, flat hierarchies and design freedom – Dr. Bär appreciates the open space she gets while working on her projects. “Everyone here is empowered to do their job, but we’re also responsible for doing it right.” Of course, this doesn’t only apply to her as a manager; it also applies to her employees. “I view my role as something like that of a conductor,” she comments. “I set the pace and tell them when to start, but then it takes the talent and commitment of each employee to make something come of it.” The new project has brought a few new musicians to her ensemble, such as architects and structural engineers. They are all building blocks for innovative products to make it from the development lab to the patient. The company firmly believes in growth.

Heraeus Medical is a leader in the field of bone cements and biomaterials for elective orthopedic and trauma surgery. In order to be able to manufacture these new and innovative products, the medical technology specialist is expanding production. DR. BRITTA BÄR, the project manager, explains how.
Florian Richardt and Bikash Agarwal are breaking down intragroup boundaries to offer customers the best possible price hedging tools with the innovative Flexible Forward program.
It’s really quite simple: “When products are sold at a fixed price in the market, manufacturers want to purchase their upstream products at a fixed price as well,” says Florian Richardt. “That’s the only way for them to predict their production costs and thus also the cost-effectiveness of the product.” Florian Richardt is head of Precious Metal Solutions at Heraeus. His colleague Bikash Agarwal describes what they do: “Our job is to make sure that when customers need precious metals, they come to Heraeus – and no one else.”

In 2013, automotive supplier Continental, which purchases a variety of products from Heraeus business units, expressed a desire to purchase those products at a fixed price. Its motivation was obvious, since precious metal prices are extremely volatile. The price of silver, for example, fluctuated by more than 40 percent in 2013 – a nightmare for industry calculations. As a rule, Heraeus passes on price differences to its customers. As a result, a product’s final price fluctuates with the price of precious metals in the commodity markets. Understandably, Heraeus’ customers would like to find a solution to this challenge.

A team seeks a solution

Heraeus had received many such requests in the past but had been unable to accommodate them, given the volatility of the markets. Florian Richardt decided to look more closely into the issue. “We met with sales colleagues from three Heraeus business units and a customer. What came out of that meeting was Flexible Forward.” It was quickly apparent how the basic mechanism should work – like a forward, with a fixed price and a fixed quantity to be purchased. But fine-tuning this approach required cooperation among Precious Metal Trading, Heraeus’ production units and the customer. With Flexible Forward, the hedging of the precious metal price is linked to the product, and the customer has complete flexibility in taking delivery of the agreed quantities of the product within a period defined by the contract. In other words, the service provided to

Even when an idea is good and benefits all concerned, it’s a long road to success in the market. Florian Richardt and Bikash Agarwal describe how their innovative pricing model, Flexible Forward, breaks down old ways of thinking and outdated organizational structures.
the customer is considerably more generous than in the case of a normal forward. However, as Florian Richardt explains, “If you offer the customer an arrangement of this kind, you have to make sure that the relevant processes function properly. Contracts with Flexible Forward have direct consequences. Obviously, Heraeus has to procure the precious metals at a price that makes the contract cost-effective. That means that information has to be exchanged quickly, since mere seconds can sometimes make a difference.”

It was soon clear that this approach would work. It worked so well, in fact, that it was a major factor in Continental naming Heraeus “Supplier of the Year” in 2015. It seemed only logical to offer Flexible Forward to other customers as well. Florian Richardt sought the help of Bikash Agarwal, account manager for Precious Metal Solutions, who is based in Singapore and focuses on the Asian market.

Convincing colleagues, then customers

In a first step, Richardt and Agarwal reached out to sales colleagues in Heraeus business groups that offer products containing precious metals. At first, however, cooperation was not so easy. “The idea of working together across business groups is still new at Heraeus. We had to overcome certain reservations. Many of our colleagues worried that we might interfere with their customer relationships or even try to siphon off some of their profit margin,” says Bikash Agarwal. “Ultimately, though, it all depends on the people involved. Some colleagues are more open to new ideas, while others immediately focus on potential problems – and to a certain extent, that’s normal.”

Florian Richardt quickly recognized the need for a structured, fact-based approach. “The first step was to convince our sales colleagues of the benefits of Flexible Forward, and the second step was to convince our customers. The best way to do that was with facts and figures.” Agarwal and Richardt regularly analyze data to identify the customers who might benefit from Flexible Forward. They have started holding monthly meetings with sales teams where they present their findings and discuss whether and how they can best serve their customers. They have also introduced semiannual meetings attended by over 100 sales staff members; this promotes internal communication and offers an opportunity to present examples of best practices.

The next challenge was to convince customers. “Many customers ask critical questions, of course. The very term ‘price hedging’ is met with skepticism.” Yet price hedging is an extremely common way of dealing with currency or commodity fluctuations. “Often we have to convince not only the customer’s buyers, but also its finance department,” explains Agarwal.

More than a forward

As Richardt explains, “Our customers benefit in a number of respects. With Flexible Forward, they have a secure
basis for calculating their production costs, but they also have flexibility in taking delivery of the quantities they need. There is a direct link between the precious metal purchase and the product, which allows the customer to obtain everything from a single source. This eases the burden on the customer’s bank credit line, since price hedging by the bank is no longer necessary. And since price hedging is part of the supply agreement, the accounting process is considerably easier.” These are precisely the arguments that customers find convincing. “And when the customer is convinced, our sales colleagues from the relevant GBUs are convinced as well,” Richardt says with a smile.

All the same, it’s a long road. “We are taking just one small step at a time, but that is the only way we will reach our goal,” Agarwal notes. Florian Richardt continues to see considerable potential in Flexible Forward: “In addition to the fact that Flexible Forward has a very positive effect on customer loyalty, I am convinced that it will allow Heraeus to generate considerably higher revenues over the long term.” In addition, some customers that used to purchase their precious metals from other suppliers have now switched to Heraeus.

By the way, Flexible Forward has benefited not only Heraeus and its customers, but also Florian Richardt and Bikash Agarwal: In recognition of their Heraeus-wide efforts, Richardt and Agarwal were presented with the 2015 Heraeus Innovation Award in the category of “Best Cooperation.”

Flexible Forward offers customers the security of a forward to hedge against price fluctuations, combined with the greatest possible flexibility in taking delivery. For products that contain precious metals, Heraeus and the customer agree on a fixed price for a specific quantity over a certain period of time. Within that period, the customer can take delivery as needed.

The fixed price provides the customer with a secure basis for calculating production costs and thus also its profit margin. This is especially effective if the customer is unable to pass on higher prices resulting from volatile precious metal prices to its customers, or if a fixed price has been agreed upon. With this model, the customer runs the risk of precious metal prices dropping and having to pay an above-market price, but it is protected from the risk that rising precious metal prices will eat away at its profit margin.
Customer intimacy is the number one priority at Heraeus. Our business is all about our customer's businesses. Heraeus employees are constantly asking themselves the question: What are the challenges that keep our customers up at night? Then they roll up their sleeves and find a way to solve those challenges for them.

As part of this effort, Heraeus has strengthened its presence in key regions around the world. For example, to support high-growth markets like Asia, Heraeus has significantly invested in regional R&D Centers in China mainland and Taiwan. Working closely with customers to identify future needs, these R&D Centers accelerate the innovation process from the research lab to the real world of the customer’s business. Additionally, a global network of manufacturing sites enables Heraeus to quickly respond to market trends and customer demand.

With a globally distributed operations model, Heraeus is able to truly make the customer the center of everything the company does. Precious metal customers get worldwide, 24/7 support for the company’s three trading offices in Hanau, Hong Kong and New York City. Our medical, steel sensors, photovoltaics and quartz glass businesses are strategically located around the world to be close to their markets and customers.

But customer intimacy is more than physical proximity, it is also about people. At every Heraeus location, it comes down to a single moment of truth: employees from the shop floor to the back office to the management suite delivering for every single customer, every single day.

That is why the company puts such a high emphasis on activities like joint planning meetings, customer site visits and investing in R&D projects for customers. It creates a unique culture where employees recognize they actually work for two companies—Heraeus and their customers. This makes Heraeus almost like a natural extension of its customers’ businesses. Heraeus measures its success one simple measure: how the company can add value to make its customers more successful.

America

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"After having previously worked at our key customer, I can truly understand our customers’ needs and challenges. We always strive for a win-win approach. When we help our customer be more innovative and successful, we win and succeed."

Ying Gao, Ph.
Product Application Manager
Heraeus Tenevo
Europe (excluding Germany)

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Germany

»We have one universal truth: every customer relationship must be built on trust, no exceptions. It's not easy; it takes time, effort and dedication. The best way to get the trust is keeping their needs at the center of everything we do. Then our customers know they can always count on us to solve their toughest challenges.«

Vincenzo Longobardo
Senior Director, Global Key Account Management
Heraeus Electronics

Europe (excluding Germany)

»We build customer relationships in a holistic way. A customer’s purchasing department might focus on pricing, their operations group might look for faster speed-to-market and an R&D person might want improved performance. A deep understanding of all their needs makes all the difference.«

Abby Littlechild
Global Sales Manager, Optics Flash Division
Heraeus Noblelight

Asia

Africa/Australia

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Africa/Australia

»Our products play a vital role in orthopaedic surgery for hip and knee replacements and we work closely with surgeons to support them, ensuring a reliable surgical experience. It’s very satisfying for me and my sales team to know that this close collaboration helps them to provide better outcomes for their patients.«

Susan Tye
Country Manager, Australia
Heraeus Medical

Africa/Australia

»Given the high value of precious metals, fast processing of transactions within hours and capability to provide one-stop solutions including risk management are our advantages. The unique set-up of sole trading entity with its own vault, pick-up facility and logistics team enables us to serve customers efficiently. This enables us to earn high trust with our customers.«

Alice Chiu
Manager in Platinum group metals (PGM) Trading
Heraeus Metals Hong Kong Limited

Europe (excluding Germany)

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Heraeus Metals Hong Kong Limited

Number of employees as of Dec. 31, 2015
Revenue excluding precious metals in million € in 2015
Colin Boucher displays the patented torque coil catheter shaft. The catheter shaft enables the surgeon to insert the catheter accurately and reliably into the human body.
...WE SEE OPPORTUNITIES!

Colin Boucher, Product Engineer at Heraeus Medical Components (HMC), leaves the easy stuff to others. He and his team thrive on solving complex challenges, knowing that finding that one elusive solution could make a huge impact in patient care and treatment outcomes.

When they reach their teen years, many students are still unsure of their career goals. But for Colin Boucher, he vividly remembers the moment it all crystallized and came into focus for him. In Minnesota, the Minneapolis-Saint Paul Region is home to a thriving medical device market. “The industry is everywhere in the Twin Cities,” he said. “You can’t drive down a major highway and not see a campus for one of the major medical device companies. And everyone knows somebody who works at one of them.”

So did Colin. While in high school, his great uncle, a long-time employee at a medical device company, took him on a tour of the laboratories where devices were tested. “I even got to touch a beating swine heart in one of the labs. It is still one of the coolest things I have ever done in my whole life,” he remarked. It was the time in that laboratory that Boucher’s career plans came into focus, giving him a purpose and direction for his life, from visitor to a vocation. “Looking back, it was the pivotal moment that drew me toward medical device engineering.”

Catheters are fascinating

In the seven years that he’s been in the field, Boucher readily admits that medical device engineering is a profession dominated by challenges. “You’re in a highly regulated industry. The patient’s well-being is at stake. There’s an urgency to make things work more precisely and perfectly.” But Colin and the colleagues at Heraeus Medical Components live by guiding principles that are vital in the pursuit of the next important breakthrough or solution to a problem. “Innovation is as much about attitude and mindset as the idea itself,” he says. “Where others may see obstacles, we see opportunities.”

After his university studies were completed, Boucher began his career at a medical device company, where he specialized in the development of stents that surgeons implanted in legs to improve blood flow. He studied the complex catheters that surgeons used to deliver the stents.
He said, “I became fascinated with the catheter construction and design because they play such a critical role in treatment.”

Boucher joined Heraeus Medical Components in early 2013, working in the Coiling Group, giving him the opportunity to work on torque coil catheter shafts. He immediately was able to get immersed with the technology and understand how it worked, as well as imagining ways in which performance could be improved.

**Minimally invasive alternative**

Similar to a drinking straw, catheters are long hollow tubes that run from the handle of a medical device, which is outside the patient’s body, all the way inside the body to the target location that needs to be treated. Torque coils were previously used in medical devices to transfer the torque of an electric motor outside the body to somewhere inside the body. Co-workers Jake Markham, Choua Xiong and Rick Koniszczuk worked on how to take this technology and apply it to catheters. Better performing catheters provide surgeons with a minimally invasive alternative to procedures like open heart surgery, which come with more complexity and require longer patient recovery times.

But the challenge that Boucher and HMC colleagues faced was significant: braided catheter shafts fail to meet physician needs because of the lack of smooth energy transfer from handle to tip. The team took the torque coil technology and adapted the design and processing to enable thinner wall thickness coils and the ability to put any sort of material on the inside and outside of the torque coils. According to Colin, this is very important to customers, adding, “It allows us to customize the catheters for the specific needs of each customer.”

Equally important is smooth energy transfer for the physician. Since catheters are an extension of the physician’s hands while inside the body, catheters have to perform consistently and predictably. According to Boucher,
"Current catheters have a delay in motion from one end to the other. Or it could not move at all. Most concerning is that it could create a build-up and release of energy. That whipping motion is very dangerous if the catheter is in the brain or the heart."

Better care for patients

HMC and medical device customers partnered in bringing this patented technology from the engineering lab eventually into surgical environments. What is particularly gratifying to Boucher and the project team is the real-world healthcare benefits their work is providing: better performing devices; less invasive procedures; less expensive care; and reduced complications that enable better outcomes for the patient.

Boucher and the torque coil catheter team believe their work goes far beyond the feeling of accomplishment to solve medical engineering challenges. He concludes: “It’s personally and professionally gratifying to know our work helps our customers improve patients’ lives all around the world.”

TWO QUESTIONS

for Dr. Nicolas Guggenheim, President of Heraeus Medical Components

For the 2015 Heraeus Innovation Awards, the seven finalists included three projects from Heraeus Medical Components. What do you think is the reason for this success?

We develop innovations to create added value for our customers and to solve their problems. Innovation is the mission of the entire organization, and it happens at all our levels and functions worldwide. An important component of our culture of innovation is an internal award. In 2015, more than 60 projects and ideas were submitted in the categories of product, process, and business process innovation. Three of these ultimately made it to the finals of the Heraeus Innovation Prize.

One factor in leadership models is resilience, the ability to cope with adversity. How important do you consider resilience in relation to innovations?

An example: The CerMet technology was selected as the best Heraeus innovation for 2015. But it was a long journey to get there. It’s very difficult to chart the course for innovations. Something unexpected always happens. Markets and requirements are constantly changing; assumptions turn out to be false. We initially launched CerMet as a pure R&D project. As a result, our initial efforts did not find success with our customers, and we had to cope with many setbacks. After realigning our CerMet program several times, we are now working with customers who consider our CerMet a true enabler technology for their needs. In our CerMet startup, the market requirements are closely linked with our developers’ high level of expertise. However, this requires a great deal of resilience, because we know that it will still be some years before the CerMet technology is used across the board.
CREATING INNOVATIONS

The Heraeus Innovation Awards were presented in November 2015 with a new design and new categories. The winners of the Konrad Ruthardt Award for the “Best Innovation” are revolutionizing the design and the possibilities of future medical implants. The innovative Heraeus material system made of ceramic and platinum (CerMet) makes it possible to produce smaller, more robust and more powerful medical components. In recognition of this technological advance, the winners also received the new Customer Focus Award. Heraeus customers had the opportunity to vote for the innovation they considered to be most important. The Richard Küch Award, given to innovations based on outstanding cooperation, went to an innovative hedging instrument for the precious metals business. The winner, “Flexible Forward”, gives Heraeus customers a higher level of certainty with regard to future prices.

Innovation deeply embedded in the Heraeus DNA

Heraeus CEO Jan Rinnert praised the Innovation Award finalists: “The projects once again demonstrate that innovation is deeply embedded in our DNA. I’m especially pleased with the direct feedback from our customers, because our innovations will make them more successful. Our top teams make a definite contribution to these ends with their great products and processes.”

Of the 26 projects submitted for the Innovation Award, a jury selected seven finalists. Since the Heraeus Innovation Awards were initiated in 2003, nearly 280 innovations have been submitted, resulting in a total of 43 winners. Finalists in the category of “Best Innovation” for a product, process or business model were competing for the Konrad Ruthardt Award, named for physicist Dr. Konrad Ruthardt (1906–1973), founder of the Heraeus physical laboratory and co-developer of high-vacuum technology. The “Best Cooperation” award, for the best innovation resulting from outstanding internal and external cooperation, bears the name of physicist and chemist Dr. Richard Küch (1860–1915), who was Heraeus’s first head researcher and inventor of the “Original Hanau” sunlamp.

RICHARD KÜCH PRIZE/BEST COOPERATION

Team
Flexible Forward:
Customer-friendly price hedging tool (Flexible Forward)

“Flexible Forward” allows Heraeus’s industrial customers to purchase a certain amount of precious metals at a fixed price. The agreed-upon quantity can then be received within the established time frame on a flexible basis. This gives Heraeus’s precious metals customers a higher level of certainty with regard to future prices, while also ensuring availability. Since mid-2015, our precious metals customers have been using Flexible Forward with great success.

Team
Coniuratio Digitalis:
Digital Conjuration

Heraeus Noblelight has taken a new path in its cooperation with customers from the coating industry while developing a new infrared lamp. The entire production process for the appropriate lamp was first conducted and optimized in a fully virtual mode, using 3D design and simulation calculations on a computer. Interdisciplinary teamwork and constant communication with the customer were the crucial elements for successful completion of the project.
Team 
Horizon 2020: 
Platinum-based CerMet technology for medical implants

The CerMet technology developed by Heraeus Medical Components is expanding the opportunities to further miniaturize medical implants. Thanks to its innovative material system, it is now possible to produce smaller, more robust and more powerful electrical feedthroughs at significantly lower cost. At 0.15 mm, the electrical circuit paths are just twice as thick as a human hair. CerMet is paving the way for new applications in medicine, such as nerve stimulation in the brain.

Team 
Green Paste: 
Renewable energy becomes even greener

Solar cells will be even greener in the future, because they will contain the new lead-free conductive electro-plating pastes (for the circuit paths) developed by Heraeus Photovoltaics. A new composition of the silver-based pastes has made it possible to completely eliminate lead-containing materials from the electro-plating of solar cells without reducing their efficiency, reliability and performance.

Team 
Improving Lives Together: 
Minimally invasive surgery becomes even simpler and faster

A new development from Heraeus Medical Components is making minimally invasive surgery simpler and faster. The patented “torque coil catheter shaft” is significantly more flexible and maneuverable, enabling the surgeon to insert the catheter accurately and reliably into even finer branches and channels in the human body. This innovation could yield new options for minimally invasive surgery.

Team 
Horizon 2020: 
Platinum-based CerMet technology for medical implants

Heraeus Black Quartz consists of ultrapure silicon dioxide, but it also contains pure silicon. The silicon makes the product look black and fundamentally alters its optical properties. HBQ® 100 is a new generation of quartz glass that absorbs light in the visible and infrared wavelength range. The absorption and emission of radiation make the material ideal for blocking and homogenizing heat radiation in high-temperature processes in the semiconductor industry and elsewhere.

Team 
Improving Lives Together: 
Minimally invasive surgery becomes even simpler and faster

Most pacemakers include high-tech components from Heraeus, such as millimeter-fine stimulation electrodes. In the past, these components have been produced by lathing and milling techniques. With a new, highly modular and flexible production method (micro-deep drawing), Heraeus can produce these complex microcomponents even more economically and individually, thereby opening up new markets and applications.

The Innovation Award’s new design symbolizes the breakthroughs that Heraeus developers accomplish with their innovations.
Dr. Jürgen Heraeus is Chairman of the Supervisory Board of Heraeus Holding GmbH. He gives insight into why adaptability is key to the company’s success.
Did you know that the TUI Group, a multinational travel and tourism company, began as a mining company operating as Preussag AG? Or that Nokia, once the world’s largest manufacturer of mobile phones, earned its first profits making rubber boots in the Finnish taiga? One must wonder at such turns of events.

Certainly, not all companies undergo such radical changes in the course of their history. But versatility, along with innovative activity, remains a cornerstone of success in business. Standing still has always been tantamount to sliding back. Some of us are old enough to remember the companies AEG, Borgward and Telefunken. Because they failed to read the signals from the market, they have now disappeared.

I am hearing more often these days that it was precisely our stability that enabled our company to grow and thrive. I agree with this, in view of our ability to respond to changing markets and new opportunities. Constant change has been a factor in the success of Heraeus over the past 165 years. Without it, a pharmacy in Hanau could not have become the global technology company we are today. But let us not confuse stability with lethargy! Those who make that mistake miss out on the future. Nokia, which I mentioned earlier, missed the smartphone revolution starting in 2007 and has been struggling ever since.

We recognize that the disappearance of a large company is not uncommonly related with its inability to adapt nimbly to a changed environment. And how many firms have run aground on the requirements of the globalized market, which relies on entirely different supply chains and cost structures than a domestic market? When we look at digital business models, we cannot fail to notice the number of traditional department stores that have closed their doors since the development of e-commerce at the start of this millennium.

The disruptive moment of digitization

It doesn’t necessarily have to happen, as the Otto Group in Hamburg demonstrates. People there recognized early on that the traditional catalog business which did so well for decades would give way to online sales. Their entire strategy, including their management structure, was realigned toward online commerce. Not everyone at the family-owned company was in favor of this entrepreneurial change. Yet today, Otto is second only to Amazon as an online retailer of fashion and lifestyle products for European consumers. And nobody asks for a mail order catalog any more.

However, while digitization has been most obviously disruptive in the retail sector, its effects do not stop there. The increasing reliance on networking and digital data to improve a company’s business activities is also a factor in industry. An important driver is the Industry 4.0 initiative,
whose principles have spread beyond its origins in Germany. The “Made in China 2025” program launched in China has many quite similar goals. According to an unpublished study by the Chinese Academy of Engineering, by 2045 the country could rank with the United States, Germany and Japan as a leader in industrial production. China is entering a new age of production. Investments in automation and digitization are rising dramatically; since 2005, the manufacturing industry has doubled its investments in IT. Meanwhile, China is the world’s largest sales market for industrial robots. By next year, most of the world’s industrial robots will likely be located there.

China and the new engineering dynasty

These examples illustrate why entrepreneurial change is so important: It is the key to maintaining competitiveness and therefore to a company’s long-term development. Hungry for success, the Asian nations – and especially China – will not willingly let us stay ahead in manufacturing depth and innovative strength. In the new engineering dynasty, as the Zukunftsinstitut (Future Institute) recently called it, the first wave of imported expertise will be followed by well-educated domestic talent.

How, then, can domestic companies successfully shape change? I believe that this task places great demands on members of management. They must not only understand why the change is necessary, but also convincingly communicate the reasons and the consequences to their employees. They will need to expend a great deal of energy in order to overcome internal and external resistance. They will also need patience, because successful change does not happen overnight. It is the fruit of persistent work. I welcome the fact that Heraeus, with the Leadership Model introduced in 2015, has established a shared understanding of leadership. The model demands our agility in the areas of business leadership, organizational leadership, and team leadership. It also demands that we make the most of every individual’s potential. Every employee now has the opportunity to develop on the basis of a shared understanding. Passively remaining in existing structures cannot be good for any company. The same is true for every person at Heraeus.

Fit for the future – through change

Interestingly, many change processes are often not questioned in the slightest. When we look at the realignment of our innovation and the construction of the Innovation Center at our Hanau headquarters, we see broad agreement with these measures. I call for the same openness in regard to the other major change projects within our company. Making Heraeus “fit for the future” has my wholehearted support, as well as the full support of our shareholders.

My confidence is bolstered by two factors in particular: We have technical expertise that we often do not fully tap. Linking this expertise with digitized processes will give us an important competitive edge. Furthermore, we are already relying on start-up structures. It is impressive to observe the dynamics unleashed by the coupling of creative and entrepreneurial competence on the basis of a flat structure. There are plenty of role models for this in Silicon Valley, but also increasingly in Europe. I see tremendous potential in adapting these structures.

It was physicist Georg Christoph Lichtenberg who once remarked: “I cannot say whether things will get better if we change. What I can say is they must change if they are to get better.” Let us set to work on this together. ☻
HERAEUS GROUP – OVERVIEW OF CHANGE TOPICS

OPERATIONS EXCELLENCE: ON THE WAY TO THE PRODUCTION OF TOMORROW

Heraeus has set itself the goal of raising production to a world-class level, and the Operational Excellence program was created in April 2015 for this purpose. A team of Heraeus production experts is working closely with the responsible production managers to develop future concepts for individual areas and is monitoring the first steps of implementation. In the coming years, major elements of the global Heraeus production landscape will gradually be reorganized to promote excellence.

HERAEUS FIT: STRENGTHENING COMPETITIVENESS THROUGH INVESTMENTS AND OPTIMIZATION

Heraeus is using the FIT program to strengthen its competitiveness through investments and site consolidation, as well as optimize structures and portfolios. The program, launched in August 2015, consolidates a number of measures in Germany as well as around the world. A total of €150 million will be invested in modernizing and expanding important facilities in the coming years, including the Innovation Center in Hanau and the precious metals factories in Hanau and Nanjing.

LEADERSHIP MODEL: A COMMON UNDERSTANDING OF LEADERSHIP AS A BASIS FOR SUCCESS

Heraeus considers a modern, consistent leadership culture to be an essential foundation for commercial success. The leadership model, which was globally introduced in summer 2015, has created a shared vision of good leadership. The leadership model describes what excellent leadership at Heraeus involves and what a leadership culture that supports the growth targets looks like. The leadership model is based on four pillars: business success, organization, our employees and ourselves.

MAGELLAN: UNIFIED BUSINESS PROCESSES FOR A GLOBALLY ACTIVE ORGANIZATION

Heraeus has been working within the framework of the Magellan program to create uniform Group-wide business processes based on a standardized SAP landscape since 2012. The Magellan program plays an important role in achieving the goals established in the Heraeus Guiding Principles 2020. 2015 saw the program come a good deal closer to reaching its goal, with rollouts in Hong Kong, Singapore, and New York, as well as preparations for implementation in Germany.
Consistently geared toward success

Within a single year, he increased Heraeus Noblelight revenues by about 15 percent, leading the segment into the black. Global Business Unit President Wolfgang Stang shares how the segment turned itself around.

Clear communication and structures as well as accountability – these are the principles that Wolfgang Stang considers essential to good leadership. He expects them of himself and also of his management team: “Employees want a clear picture of where the journey is taking them. We must provide that orientation,” says Stang, whose field is engineering and business economics.

In 2014, the Heraeus Noblelight business unit fell short of its profit targets for the third year in a row. Revenue growth merely reflected an acquisition. At first glance, the business segment seemed in need of restructuring. Wolfgang Stang did not see it that way. “As an outside observer, I was certain that the segment could be quickly restored to profitability,” he recalls. Wolfgang Stang has experience with turnarounds: Since joining Heraeus in 2000, first as division manager and then as sales director, he helped reorganize Heraeus Quarzgläser and build it into one of the Group’s most successful business segments.

Wolfgang Stang took the helm of Heraeus Noblelight in fall 2014. From the beginning, he focused on communication. On his first day, he spoke with his direct reports – one on one. “I wanted to hear their thoughts on the situation and where they saw starting points for improvement.” By the end of the day, he had held 17 conversations. They fleshed out the image that he had previously seen only from the outside.

Employees ask questions …

On his second day, he met with all the Heraeus Noblelight employees. In two meetings at the production facilities in Germany, he introduced himself – and also was probing questions. “Of course, the employees want to know what my goals are. But it was too soon for me to really answer them,” Wolfgang Stang recalls. Nevertheless, he promised to outline a clear strategy for the future by the end of the year. And then he went to work.

Next, Wolfgang Stang turned his attention to the organizational structure. Although some managers were let go, he refrained from a major wave of layoffs. Rather, he did away with redundant structures that had developed over time, trimming the number of managers reporting directly to him by half. Four divisions were converted to three business lines. In addition, he reorganized production and development according to functional criteria.
He and his leadership team identified two paths to growth: First, Heraeus Noblelight expanded its business with lighting sources, broadening its reach to become a provider of system solutions. Second, the business unit revised its strategy for the new business area of industrial LED applications, aiming to boost its innovation rate in order to significantly expand its market share.

... Wolfgang Stang gives answers

As promised, Wolfgang Stang presented the new strategy by the end of the year. “Such promises must be kept. Accountability is crucial to leadership. Therefore, I think very carefully ahead of time about what I announce and what goals I formulate.” This is another reason that the Global Business Unit chief develops business objectives in partnership with his leadership team: “We must integrate every aspect if we are to define realistic goals and then be able to implement them together.”

In any case, Wolfgang Stang views measurable goals as an important element for establishing the accountability he seeks. He insists on them not only for himself, but also for his employees. Take sales, for example: “We needed to increase our presence with customers. Market presence is essential in this business. Therefore, I highlighted the number of customer contacts as a key performance indicator,” Stang says. He views this measure as one factor contributing to the growth in revenue in the first fiscal year under his leadership. And such targets do not just apply to his workforce. In another example of his typical approach, Wolfgang Stang reports, “I set myself goals for how many customers I would visit – and I met those goals.”
Heraeus is investing heavily in a modern production landscape. The two largest individual projects are underway at the headquarters in Hanau and in Nanjing, China. HENDRIK TRUTE and VINCENT JI are making the precious metal production of the future a reality at both locations.

Interview with Hendrik Trute, Building & Construction Project Manager

What special challenges are involved in planning and building the new precious metals plant?
The new plant will accommodate several Heraeus operational units, manufacturing hundreds of different products, and will feature an optimized production flow. As project manager, I am working with my colleagues to reconcile the needs of various internal clients within a logical yet complex factory layout. Moreover, construction will be taking place while operations continue at the venerable Hanau plant, a structure that has certain size limitations. Time-consuming approval processes and a tight time frame, as well as connections to other projects, pose additional challenges.

What is your role in this project?
As project manager, I am responsible for all aspects of building design as well as for the design’s implementation. In my interactions with those involved, I must always be mindful of the interests of Heraeus as the project’s principal. Having worked in a variety of areas – construction, financing and project management – on earlier projects, I am very familiar with Heraeus’ internal structure. This is helpful in overseeing such a complex project.

What is it about working on this new precious metals plant that you find intriguing?
With this new factory, we are creating an environment that meets the very latest industrial standards – a model for the entire Group in terms of lean production, modern plant design and Industry 4.0. The opportunity to work with a highly skilled team on this project and contribute to Heraeus’ future success inspires me every single day.
Heraeus is taking a further step towards growth in Asia by building a new precious metals factory in the Chinese city of Nanjing. The factory will set new high standards in production and environmental protection for Heraeus in Asia. It is expected to be completed in early 2018. Nanjing, the second-largest city in Eastern China, is located approximately 300 kilometers northwest of Shanghai.

The Nanjing precious metals plant by the numbers:
- Plot size: 84,000 m²
- Building footprint: 21,000 m²
- Plot area: 33,600 m²
- Registered capital for the new company: 40 million US-Dollar
- Approximately 400 employees (for full scope in 2024)
- Offering chemical products and precious metals recycling service

Interview with Vincent Ji,
Deputy Technical Project Manager & Site Service Manager

What special challenges are involved in planning and building the new precious metals plant?
One of the greatest challenges is figuring out how to make the team work together efficiently. Team members come from many different operational units of Heraeus, and sometimes they tend to focus more on their particular objectives than on finding overall solutions through collaboration. This challenge has been significantly mitigated by encouraging sufficient discussion in the design workshops, as well as by setting up and communicating the common design principles and factory guidelines. Personally, I need to become more familiar with certain topics, such as the special precious metal security requirements. I am constantly improving by acquiring new knowledge, consulting experts in the organization, and involving experts directly in the project.

What is your role in this project?
Together with my colleagues, I manage the project’s engineering-related activities to make sure the project progresses on time and within budget, and meets the quality requirements.

I bring my professional experience to the project as much as possible, for example by giving my professional advice to the site-selection team during the decision-making process, setting up the local engineering team to work with international experts, etc. I also coordinate user requirements for site infrastructure and logistic design in order to make sure the site will be designed according to users’ needs.

What is it about working on this new precious metals plant that you find intriguing?
I have been working on the project since July 2014. It is very interesting to work as part of a big project team, and I have learned a lot from the other team members. It is also very exciting to watch the new site developing from ideas, to drawings, and finally, to reality.
Heraeus is expanding its competitiveness in the global production landscape with various programs. It is counting on the many years of experience and commitment of production experts like BRUCE BRATZ, at the location in Wilmington, NC.

OPERATIONAL EXCELLENCE IS A TEAM SPORT
In his nearly-30 year career at Heraeus in Wilmington, North Carolina, Production Manager Bruce Bratz has seen countless changes. But one thing remains unchanged and enduring: the company’s commitment to operational excellence. “What we did yesterday, or even today, is not good enough for tomorrow’s production”, he says. “We have to constantly improve and think of new ways of manufacturing.”

The Wilmington site, which specializes in quartz manufacturing for the fiber optic, semiconductor and life science industries, utilizes all of the Heraeus Excellence initiatives to achieve a high-performing manufacturing environment. This includes Lean principles, Heraeus 5-S standards and goals, the Heraeus Production System (HPS) and a career development program for its two dozen employees that emphasizes cross-training and the advancement of skill levels.

To Bratz, the company’s 360-degree approach is critical to success. “A machine is comprised of countless moving parts that have to work together in order to function properly. The same applies to the actual manufacturing environment.” This comprehensive approach is producing results. Re-designed Lean work centers have delivered gains in productivity, manufacturing efficiency and on-time delivery. Modernized fabrication methods and automation have increased quality and reliability.


Experience is the foundation of success

A recent example of what Bratz calls “excellence in action” took place when the Wilmington facility had the opportunity to fabricate a three-nozzle quartz burner, which is used for soot application in the fiber optic industry. Utilizing HPS tools, the Wilmington team designed a fabrication method that dramatically increased output from 40-50 burners per operator per month to 120 parts in 3-5 days of fabrication time. Additionally, the team’s implementation of a repetitive lathe fabrication process ensured quality and reliability of the finished part.

To Bratz, the Wilmington team is the most important component of the Heraeus formula for success. He says, “Our production people are on the front lines and know what can and cannot work. Their experience, input and ideas are the reason why we are able to be innovative and successful.” ☮
HERAEUS IN 2015

5,750 patents and patent applications
12,477 employees

€1,929 million revenue excluding precious metals

Product revenue by region

Asia 42%
Americas 26%
Africa/Australia 2%
Europe excluding Germany 18%
Germany 12%
In the fiscal year 2015, Heraeus Holding comprised the following areas of expertise:

**HEALTH**
Heraeus carries on the Group’s long tradition in this area as it continues to be one of the world’s most in-demand suppliers of medical technology and medical components.

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<th>Revenue excluding precious metals in million €</th>
<th>2015</th>
<th>2014</th>
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<tr>
<td></td>
<td>356.7</td>
<td>316.6</td>
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**ELECTRONICS**
This area supplies to consumer electronics customers worldwide and offers outstanding solutions for the automotive, information-technology, and telecommunications sectors.

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<th>Revenue excluding precious metals in million €</th>
<th>2015</th>
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<td>592.1</td>
<td>539.1</td>
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**INDUSTRIAL APPLICATIONS**
With this area and its expertise in dealing with high-temperature processes and the industrial processing of precious metals, Heraeus has long been a sought-after and reliable partner for industry.

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<td>579.0</td>
<td>555.4</td>
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**ENVIRONMENT**
Heraeus products from this area make a significant contribution to efficient energy production. This area also impresses with its power of innovation.

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<td></td>
<td>285.6</td>
<td>240.9</td>
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**CORPORATE**
This area of activity focuses on the Group’s ground-breaking and future-oriented activities. The Group has bundled its ground-breaking and forward-looking activities in its Corporate area. This area is also home to Heraeus’ Corporate Functions that perform inter-divisional functions for the Group’s operating companies.

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<th>Revenue excluding precious metals in million €</th>
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<tr>
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<td>115.7</td>
<td>106.9</td>
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