

# TRANSFER

*The Steinbeis Magazine*

## Vorsprung durch Transfer

### Steinbeis on a local level

Our centers in the Ulm region

### Rapid and early Diagnostics

Clinical diagnosis of lysosomal storage diseases

### Mobile Intelligence

Mobile medical apps

### Implementing sustainability efficiently

The introduction of sustainability management



## Editorial

Dear Readers,

"The Best in the South!" – our greeting from the innovative region of Ulm/Neu-Ulm, Germany.

We're home to a healthy variety of over 500 enterprises of varying sizes, two universities of applied sciences, and a traditional university – making the Ulm/Neu-Ulm region a powerhouse of innovation at the heart of Europe. Many companies in the area are worldwide industry leaders. The gross domestic product in the region rose by 41% over the last decade, the highest improvement in the whole of Germany.

Where does this success stem from? A huge helping of hard work plus a sensible mixture of manufacturing companies on the one hand, and service providers or trading companies on the other – ideal prerequisites.

Another key success factor in our innovative region is the ability to transfer technology know-how between the world of academia and science, and industrial enterprises. Successful technology transfer has many faces: collaboration on degree programs, support

from universities with industrial projects, help with new business startups, even partnerships between companies to set up centers of excellence or endowed chairs (professorships) at universities. These are all examples of cooperation that can give wings to a region of innovation. It's important during such undertakings for everyone involved to be well-networked, as technology transfer needs close cooperation based on trust and good ties between people.

It's this kind of support that the Steinbeis network of experts is so good at offering. Over the years, it has proven highly effective for everyone involved. Important attributes in this respect have been optimized processes and personal competence. At Ulm University of Applied Sciences alone, there are professors and scientists working with around 30 Steinbeis Centers, each involved in technology transfer, but each with a different specialty.

I hope you enjoy this latest edition of TRANSFER and that we all continue to enjoy the benefits of "The Best in the South!"

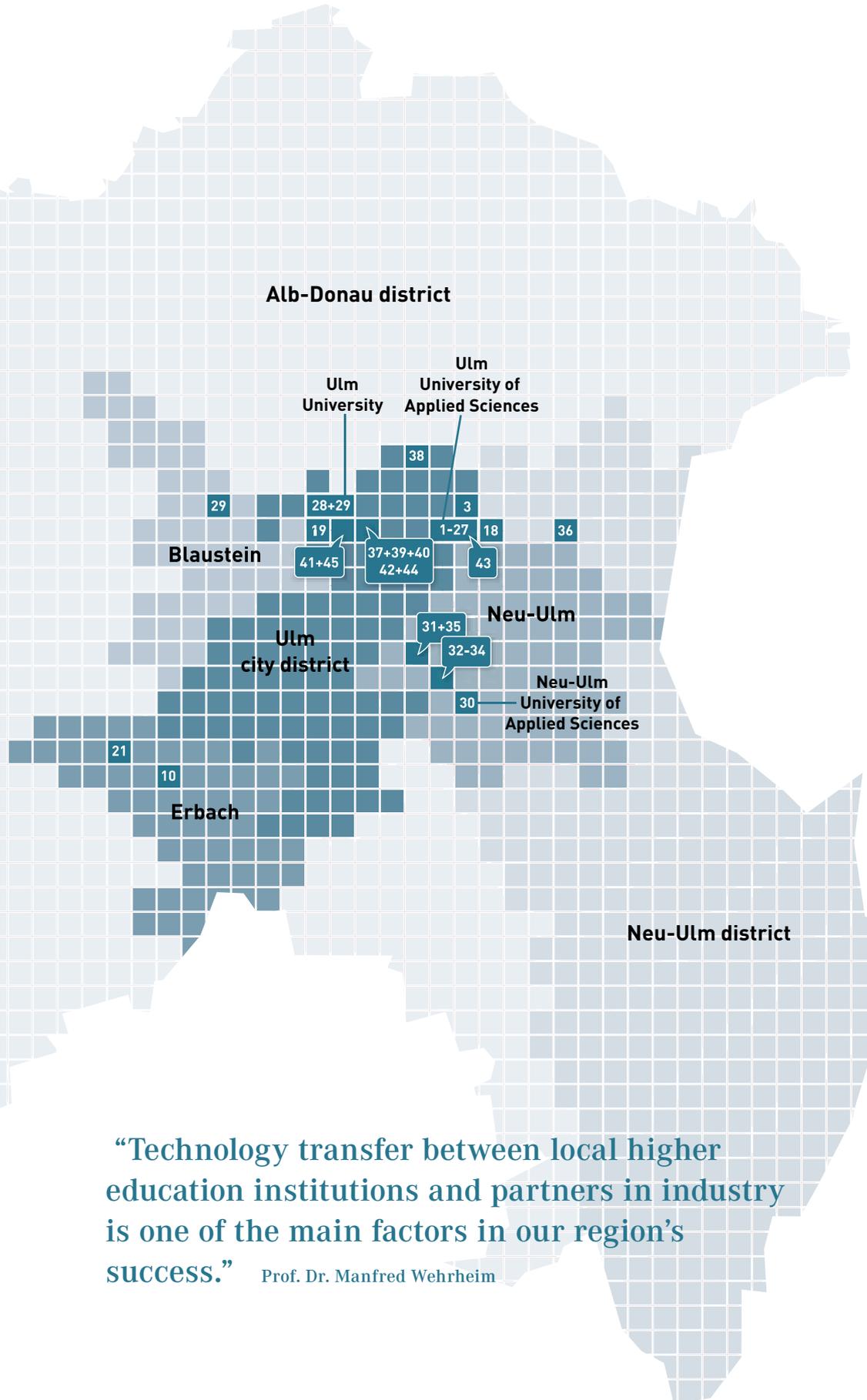


Prof. Dr. Manfred Wehrheim

Prof. Dr. Manfred Wehrheim is Vice President for research and transfer at Ulm University of Applied Sciences. He also heads up the Steinbeis Consulting Center for Manufacturing Systems and Processes, one of the many Steinbeis Centers in the Ulm/Neu-Ulm region, presented on pages 4 to 7.



- › 45 Steinbeis enterprises in the region
- › 27 Steinbeis enterprises at Ulm University of Applied Sciences
- › 2 Steinbeis enterprises at Ulm University
- › 1 Steinbeis enterprise at Neu-Ulm University of Applied Sciences



“Technology transfer between local higher education institutions and partners in industry is one of the main factors in our region’s **SUCCESS.**” Prof. Dr. Manfred Wehrheim

## Knowledge and technology transfer in and around Ulm

# Steinbeis on a local level

Ulm and the surrounding region is one of Europe's strongest economic regions. The manufacturing industry continues to be strongly represented in the region, while both the research and development and the services sectors have grown strongly in recent years as a result of Ulm's "academic city" initiative. The Steinbeis companies based in the Ulm region also contribute to its economic strength by actively promoting knowledge and technology transfer.

Steinbeis has been active in the Ulm region since the Steinbeis Foundation was established in the late 1960s. In pursuit of its aim to ensure businesses can successfully make use of the latest scientific findings, Steinbeis works together with the following local partners:

**Ulm University of Applied Sciences** – The university's strength in technology, IT and media is down to its close partnerships with business. This ethos is lived out in the university's research and development work, its further education programs, its research institutes and its several Steinbeis centers. Founded in December 2009, the jointly-owned company Steinbeis Transfer Centers at Ulm University of Applied Sciences has further strengthened the university's collaboration with Steinbeis.

**Ulm University** – Ulm University is the youngest university in the German state of Baden-Württemberg and is one of the cornerstones in Ulm's reputation as a research-oriented academic city. Ulm University successfully conducts basic and applied research in a wide variety of fields.

**Neu-Ulm University of Applied Sciences (HNU)** – Neu-Ulm University of Applied Sciences offers a range of practice-based bachelor's and master's degrees in the field of management. The aim is to add practical relevance to the degree programs, and the university is keen to expand its practice-based research activities in close cooperation with companies.

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## Strengthening collaboration

Steinbeis and Ulm University of Applied Sciences have been working closely together since 1970, the year in which the Steinbeis Foundation set up a technical consulting service at the university. With the signing of a cooperation agreement in 2009 and the founding of a jointly-owned company, Steinbeis Transfer Centers at Ulm University of Applied Sciences, this long partnership has strengthened further. Steinbeis is one of the university's preferred partners in knowledge and technology transfer, and the partnership also allows the university to better publicize its transfer activities with businesses.

The Steinbeis enterprises that make up Steinbeis Transferzentren GmbH offer their customers sophisticated technology solutions that are specially tailored to their needs and delivered quickly. Technology transfer with Steinbeis allows university professors and staff to focus more strongly on applied research, thereby tapping into its potential to a greater extent. The practice-based nature of research projects as a result of transfer with businesses also adds practical relevance to the university's degree programs and helps to generate relevant new topics for the university's research.

**A discussion with Professor Rainer Göppel**

## **“There is still plenty of potential to be exploited in this area in the future”**



**Professor Göppel, you head up a Steinbeis enterprise in one of the most economically dynamic regions of Germany, where science and business pull successfully in the same direction. The Ulm region stands for research and development, the basis for knowledge and technology transfer à la Steinbeis. What impact does this climate of innovation have on the work done at your Steinbeis transfer center?**

It's true to say that the Ulm region is a hive of research and development activity. There are currently 15,000 students enrolled at Ulm University of Applied Sciences, Ulm University and Neu-Ulm University of Applied Sciences. The district of Oberer Esels-

berg, which is officially allowed to bear the title "Town of Science," offers nearly 10,000 jobs in research and development. Steinbeis is active in the region with a variety of Steinbeis enterprises. It must, nevertheless, be pointed out that there is a variety of economic activities happening outside the "Town of Science" district. The Danube valley is a large industrial area which is home to many other innovative international companies.

Everything is in place here for business to collaborate with economy and science. It's particularly attractive for students looking for internships, with plenty of opportunities to write about innovative topics for their thesis at local companies.

Our Transfer Center benefits from these opportunities in two ways. Firstly, as some of our customers are based in the immediate area, the distances are short, so communication and collaboration is straightforward. If you need to travel to the client at short notice or meet at the transfer center, it's easy to set this up and make it happen. In addition, I've gained many new insights into current issues and the future business needs through my lecturing at the university and the supervision of student projects and their theses. These insights have a direct impact on the portfolio of services and the type of support offered by our transfer center.

**You have founded the TMS Management Systems Steinbeis Transfer Center in 1996, and still stand strong at the helm today. What would you describe as the milestones your center has passed over the years?**

Looking back, I wouldn't point to any particular milestones, if anything I'd say it has been a continual process of developing our portfolio of services.

Not long after our transfer center was set up, it became clear that management and engineering topics should not be dealt with in isolation; rather, they should be considered jointly, in fact they must be. To develop innovative products or technical processes, one needs the right organizational infrastructures. By contrast, if existing organizational infrastructures are effective and efficient, they create space and provide leeway for new concepts and different ways to create products or organize production processes. Focusing on individual topics is usually insufficient.

Another important decision and development for us was starting to provide our customers with qualification training and advice. We've been running open seminars and in-house company seminars for years; not just to share our expertise and experience, but also to offer advice and coaching services. Many of our existing customer contacts arose and then grew after somebody expressed interest in a specific topic, originally while on one of our open seminars. This was then typically followed by an in-house seminar, matched specifically to their requirements, culminating in a jointly planned and jointly implemented consulting project.

**Your Steinbeis transfer enterprise focuses on advisory services, training and continuing professional development in the fields of management and engineering. Customers are central to your work: their specific needs, developing concepts based on these needs, putting these concepts into practice, then realizing tangible successes and providing long-term benefit. Which projects and services are currently in strong demand from companies?**

The projects we're currently working on for our customers relate to management issues like process management, project management, innovation management and product management. These kinds of topics are nothing new to most companies, but they assume and recognize that there's still plenty of potential to exploit in these areas, and often they're right in this assumption.

The fundamentals of process and project management are usually understood and have been implemented. What companies are interested in is their own, current level of maturity and how this relates to management issues. As a consequence, maturity models and evaluations in these areas are currently hot topics.

Topics like innovation and product management are more recent management disciplines, so companies are more interested in learning about these processes and techniques. They also want to introduce them. We've recently had a number of inquiries specifically about product management and have been asked if we could help planning and introducing the right processes and methods once the organizational changes have been made within the company. Interestingly, we were approached about these topics after the organizational changes had already been implemented at the company.

In the engineering area, we're currently getting a lot of inquiries about target costing. The companies are particularly interested in systematic ways to design products and analyze concepts, but also useful ways to connect or link them.

**Oscar Wilde once said that the future belongs to those who recognize opportunity before it becomes obvious. Which opportunities and challenges do you see for your Steinbeis enterprise in the future?**

The challenge currently relates in defining and developing existing and potential synergies between the two areas of management and engineering. This affects things like integrating engineering methodologies into business processes and organizational structures, and, coming the other way round, the processes and organizational infrastructures that need to be in place to make proper use of engineering methodologies.

From our experience, many engineering methodologies are not just applicable to engineering tasks, they can also be applied effectively to areas revolving around administrative tasks. There is still plenty of potential to be exploited in this area in the future. But often, the most interesting challenges arise when the telephone rings at our transfer center and somebody asks for a new task.

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#### In and around Ulm

The Ulm region is an attractive area for science and business with a long and successful history. The inventions and production processes of pioneers of industry – like Albrecht Ludwig Berblinger (who built the first semi-rigid hang-glider) and Conrad Dietrich Magirus (a name now synonymous in Germany with fire protection) – quickly positioned Ulm as "The Best in the South." Another ingenious inventor from Ulm, who had little to do with industry but deserves a mention, is Albert Einstein. He was born in Ulm.

The area is still a hotbed of research and plays a pivotal role in research and development. But translating ideas into innovations takes time. Steinbeis supports this process, with quick and specific market-based knowledge and technology transfer, and through its work with Ulm University and Neu-Ulm University of Applied Sciences. There are also Steinbeis experts working outside these universities.

## Web portal attracts career-oriented women in Baden-Württemberg

# New access point for women at the top

The web portal [spitzenfrauen-bw.de](http://spitzenfrauen-bw.de) (Leading Women of Baden-Württemberg) is celebrating its first birthday. The forum was established for career-oriented women in Baden-Württemberg who currently hold or aspire to take leadership positions within big business. Funded by the state's Ministry of Finance and Economics, the project has been planned, implemented and operated by the Steinbeis Innovation Center for Business Development at Pforzheim University since 2011.



The web portal quickly made a name for itself, and the number of website visits indicates it's becoming increasingly popular: Over the past twelve months, the site registered more than 100,000 hits; in January 2012, nearly 15,000 users accessed the portal. The web platform is aimed at increasing the number of women in management, and Dr. Birgit Buschmann, head of the department for "Women, Management and Technology" at the Ministry of Finance and Economics, champions the idea: "Women in leadership roles are an important bastion of innovation for the economy of Baden-Württemberg. Recent studies have shown that companies with women in management positions are more successful in their business."

Despite being highly qualified, motivated and delivering excellent performance, too many women still hit a glass ceiling on their way up the corporate ladder. The career portal is intended to highlight the professional advances made by top-notch women in all fields, and provide a platform with networking opportu-

nities for ladies looking to rise to the top in companies that support this.

The site already profiles more than 70 high-flying, career-oriented women. These role models make one thing clear: A vast number of women already hold board level positions in Baden-Württemberg. Until now, these women weren't given much visibility. Their success stories are now presented on the web portal to set an example for other women about the types of career paths and opportunities available to them. This increased career visibility is intended to help women choose management careers, and to develop new professional perspectives and the potential for career advancement.

In addition, to highlight employers that are particularly attractive for motivated women seeking management positions, 21 companies currently use the site to showcase their own initiatives for the advancement of women in their business. In doing so, they are taking advantage of the benefits gained by of-

fering a modern, diversity-oriented executive management style in competitive business. The portal is also continually expanding as a knowledge pool for women looking for career advancement opportunities, offering, among other things, networks, professional associations, experts, events aimed at target groups and current news. The active portal community also enjoys exclusive networking meet-ups in the virtual rooms of the e-learning platform which is dedicated to the "Academy for Leading Women." This platform provides a compact overview of know-how relating to salary negotiations, innovations management and how to handle the responsibility that comes with leadership.

There is also a blog for discussion and further reading. Over the past few months, many women posted on topics such as business etiquette, work-life balance, communication, corporate culture, women's advancement, diversity management, dual career, and the question: "Who will lead the future?"

The Ministry of Finance and Economics supports the platform with expert knowledge as well as funds from the European Social Fund (ESF) and the state of Baden-Württemberg. The editorial staff at Leading Women looks forward to receiving your questions, comments, and inspirational contributions.

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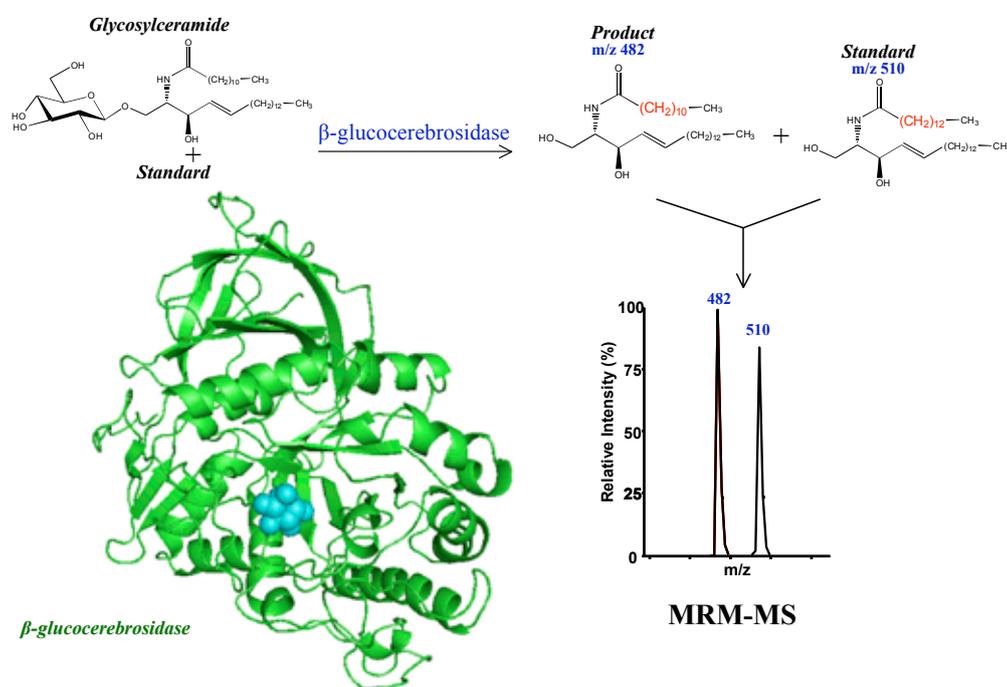
## Clinical diagnosis of lysosomal storage diseases

# Rapid and early Diagnostics

Approximately 60 lysosomal storage diseases are known worldwide, but so far only about a dozen of these metabolic diseases have been biochemically understood and become amenable to treatment. In a collaboration project, the Steinbeis Innovation Center for Biopolymer Analysis and Biomolecular Mass Spectrometry at the University of Konstanz, and Centogene GmbH are developing and validating new molecular methods for the diagnosis of lysosomal storage diseases, and for application of these methods to clinical diagnosis. Based on mass spectrometry and fluorescence spectroscopy, the new methods form the basis for the development of rapid and highly specific enzyme test systems that can be used to reliably and unequivocally diagnose enzyme defects, including newborn diagnostics.

Lysosomes, a type of membrane vesicle, are responsible for degrading and metabolizing endogenous substances such as lipids, carbohydrates and proteins. If the body lacks activity of any of these enzymes due to a congenital defect, or if they are inactive for biochemical reasons, lysosomal storage diseases such as Gaucher's Disease, Niemann-Pick Disease and Fabry Disease are resulting. These diseases have a broad spectrum of symptoms, including bone deformation, enlargement of heart and liver, and even stroke. The currently known incidence of lysosomal storage diseases is one in ca. 7000 births.

Targeted enzyme therapies for some of these diseases have already been developed, but the key to treating storage diseases is a specific and early diagnosis, as enzyme replacement therapy (ERT) is often no longer effective in late stages of the disease. The aim of the joint project between Centogene and the Steinbeis Innovation Center is to synthesize highly specific new substrates for determining activities of lysosomal enzymes, that can be used both for diagnostics by mass spectrometry, and by routine clinical determina-



Structure of the Gaucher enzyme, reaction diagram of the conversion of glycosylceramide, and mass spectrometry determination of the product ions and an internal standard.

tion using fluorimetric analysis. Moreover, the project aims at developing methods for the simultaneous determination of multiple enzymes (multiplex diagnostics), and new diagnosis methods based on the direct determination of lysosomal enzymes. By developing these methods, the team of experts hopes to substantially broaden the diagnostics spectrum for lysosomal storage diseases. The molecular-specific determination will enable to analyze previously non-diagnosable storage diseases that are fatal

if untreated, but have a good, curative prognosis if specifically diagnosed and treated early.

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## Mobile medical apps for the iPhone and iPad

# Mobile Intelligence

The success story behind smartphones and tablet computers is not being written in the world of private consumer goods alone. These mobile devices and their apps are becoming increasingly important for businesses and organizations. The Heidelberg-based Steinbeis Transfer Center for Medical Embedded Systems (MES) is currently working on a special iPhone and iPad app for doctors, medical practices and hospitals.



Using *MITK bones* in an operation

The advances we're witnessing in mobile devices are stronger than ever. New models are constantly hitting the shelves, each touting newer and better technical features. 3D displays, intelligent touchscreen mechanisms, and user-friendly integrated tools dominate today's technology offerings. Smartphones and tablet computers provide users with immediate access to the Internet and multimedia solutions. Businesses and executives that are always on the go rely on mobile devices as part and parcel of their working life. Customer data can be accessed from anywhere and business processes can be controlled at any time. Even doctors can benefit from this.

Yet, until now, doctors still rely primarily on stationary computer systems to access medical data such as magnetic resonance imaging/tomography (MRI/MRT) and patient information. The ability to access patient data directly at the bedside while on ward visits or in professional discussions with fellow doctors is generally considered a vision of things to come. Even getting a second opinion is often difficult, if not impossible, if a colleague isn't on site.

The Steinbeis Transfer Center for Medical Embedded Systems (MES) has taken this as motivation to develop mobile medical apps

designed to simplify the day-to-day work of medical staff. On account of the immense popularity of iPhones and iPads among doctors, developments supported by these devices have been placed in the foreground.

The frontrunner project is the development and marketing of *MITK pocket*, an app that gives doctors flexible access to medical data associated with MRIs, as well as corresponding patient records, on either an iPhone or iPad. A particularly innovative feature of *MITK pocket* is a newly developed intelligent streaming technology which allows data to be viewed as it is being downloaded. *MITK*

*pocket* also sets itself apart with the option of displaying data sets that are larger than the available main memory of the device. *MITK pocket* is intended to improve doctor-patient relationships by conveniently integrating patient-oriented concepts such as "bedside treatment" and "informed consent" into clinical routines based on the needs of the patient. Since doctors have limited time for training on new software solutions, developers focused on creating a simple and intuitive user interface.

Their efforts have already been rewarded: The Steinbeis MES experts received the German High Tech Champions Award for their innovative technologies, and simple and attractive user interface solutions. In addition to the € 10,000 prize money endowed by the Fraunhofer Society, *MITK pocket* was presented at the RSNA 2011, the world's largest radiological congress worldwide, which is held annually in Chicago.

But that wasn't enough for the Steinbeis MES team. They have developed yet another innovative product called *MITK bones* – an augmented reality application destined to take on a significant role within the field of scientific mobile apps. The app allows doctors to take a look inside patients for minimally invasive surgeries. To do this, a CT scan is made before the procedure with specially produced markers placed on the patient. The iPad's integrated camera can help determine the positioning of these markers, so that the position of the internal organs is shown correctly on the display. In this way, the app not only helps doctors perform operations, it also helps share medical information with patients during consultations.

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## Steinbeis instructs lectures at the German Red Cross training center in Baden-Württemberg

# iPads for training and organization

**The German Red Cross (GRC) training center in Baden-Württemberg offers a wide range of courses for all fields and levels of activity related to Red Cross work. The GRC team has recently started using iPads in the hope that they will pave new paths for the use of media in their training. The GRC training center in Baden-Württemberg first equipped its lecturers and administrative staff with iPads in late 2011. A special training course offered by the Steinbeis Transfer Institute for Academic Management highlighted the usefulness of these devices in training and organization.**

Sales of tablet computers have skyrocketed in the past year and the devices counted as one of the most desired Christmas presents going. Their popularity extends beyond private use, with professionals increasingly reaching for their tablets at work.

After presenting user reviews, an overview of the device and first steps for its use, instructor Benjamin Schiller covered tools and software apps for using iPads in administrative and management work. The central topics covered by the course include emailing, organizing appointments and contacts, working with administrative tools, and editing and presenting documents. The iPad enables mobile, decentralized working – ideally suited to coordinating the services offered by the GRC training center, including its facilities for hosting company events and seminars complete with overnight accommodation. Benjamin Schiller pointed out that integrating the iPad would require an analysis of business processes and gave tips for what might be relevant when optimizing these.

The lecturers at the GRC training center had already familiarized themselves with various device functionalities. In the workshop, they learned that the iPad can have far more practical applications than mere Internet searches and email facilities. With their newly acquired skills, they can let their creativity run wild, for example, using the iPad's integrated camera and



various apps to create interactive teaching materials. Participants of future GRC training courses are also expected to use iPads soon, opening doors to all kinds of new learning experiences. Additionally, the devices will be an essential component in blended learning models. Benjamin Schiller recommended that the lecturers on this training course work together to create a strategy for integrating the iPad in existing teaching concepts.

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**A discussion with Dr. Hartmut Richter  
and Prof. Dr. h. c. Dietmar von Hoyningen-Huene**

## **Steinbeis: “A reliable partner to universities that provides fresh impetus”**

Professor Dr. h. c. Dietmar von Hoyningen-Huene and Dr. Hartmut Richter were members of the Steinbeis Foundation trustee committee for 15 years, shaping the direction of the foundation and overseeing developments objectively from a long-term perspective. They left the Board of Trustees at the end of their final period of tenure in December. TRANSFER took this opportunity to speak to both long-standing friends of the foundation.



Dr. Hartmut Richter

### **A discussion with Dr. Hartmut Richter**

Dr. Richter, many small and medium-sized enterprises gain benefit from the activities of the Steinbeis Foundation, especially in the manual trades. As managing director of the Baden-Württemberg Manual Trades Association, you represented and supported the interests of tradesmen throughout the state until the end of 2010. What obstacles do small businesses still face in trying to draw on support from science and academia?

To enlist support, I also need to know what support is available. Put another way: Small companies often don't have the in-house resources to track technology change and

assess its impacts. They need the right kind of information to understand which developments are just emerging from research or shifting into applications which are pertinent to their markets. The Steinbeis Foundation should become more of a technology radar for these companies than it has been. Working on over 20,000 transfer projects a year gives Steinbeis access to an incomparable spectrum of information which has proven its worth in practice.

When you were appointed to the Steinbeis Foundation Board of Trustees, the Transfer Network consisted of several dozen centers. It will soon comprise 900 Steinbeis centers, a variety of independent companies and a private university. What tangible effects has this trend had on your role as a trustee?

It's had two effects. On commercial independence on the one hand – self-determination within the Network has increased. Our continued existence and potential to develop is safeguarded by our own performance, and this means that the trustee committee, in particular, has to steer the Network coherently along entrepreneurial lines. On the other hand, given these entrepreneurial requirements, the guiding principle of the Foundation, in terms of technology policy, has had to be maintained: Baden-Württemberg, its companies – large and small – have to benefit from the activities of individual centers and the Transfer Network. This

aim didn't always match entrepreneurial developments.

As the Network has expanded, the portfolio of services has also grown. Our centers are now involved in many areas of technology and management, in research and development, consulting, in training and continuing professional development, and expert reports. What advice would you give to the Transfer Network for the next decade?

The functional depth, content and specialization of Steinbeis centers are outstanding. What the Network still needs are transfer agencies tailored to distinct target groups. These would approach specific “sales leads” and be in a position to direct them toward the suitable source of transfer, even if their requirements are often vague or undifferentiated. As more than an example: What about a transfer agency for the manual trades, to promote awareness of relevant technological developments within trades and to set up transfer projects, between and within companies, offering support and evaluating progress. Especially here, with economic structures becoming more and more centralized, there will be many new challenges in the future – or expressed in Steinbeis terms: many new opportunities!



Prof. Dr. h. c.  
Dietmar von Hoyningen-Huene

## A discussion with Prof. Dr. h. c. Dietmar von Hoyningen-Huene

**Professor von Hoyningen-Huene, as a representative of universities on the Steinbeis Board of Trustees, and in your former role as rector of Mannheim University of Applied Sciences, you have been involved in the transformation of the old technical colleges in Baden-Württemberg, the Fachhochschulen, into universities of applied sciences. What impact has this change had on technology transfer, which is especially important at universities with a leaning toward business practice?**

The technical colleges really have undergone some fascinating developments in Baden-Württemberg. As the long-standing chairman of the technical college rectors' conference in this state, I witnessed it and, to a certain extent, perhaps helped shape the process. These universities changed from technical colleges into universities of applied sciences (UAS), and were highly successful in establishing and expanding R&D and continuing education, spurred on by special national and state-run programs. The UASs have set up new and appealing degrees, degree systems, and bachelor and

master programs, and these have proven their worth through audits and accreditation. These developments have enabled the UASs to establish a client base of professors with a leaning toward research and transfer. Overall, this has allowed these UASs to systematically develop their research performance. These establishments have transformed into key centers of knowledge and technology transfer within different areas of the state. The professors come from business so they are sought-after innovation partners, especially amongst medium-sized companies. One of the defining features of UASs is the applied nature of their teaching, and topicality. To provide this, it's important that professors and staff are involved in R&D and transfer projects.

**Looking back at your time working on committees and maybe just taking a tentative glimpse into the future, what challenges will collaboration between Steinbeis and universities have to overcome and what advice would you give to your successors?**

I think everyone working in academia now knows that the overload being experienced by universities at the moment will ease in the years to come, and there will suddenly be heightened competition for professors, students and budgets. This will increasingly make the quality of universities important, in terms of teaching, research and transfer, but also how they interact with companies and international universities. This makes the Steinbeis Transfer Network and the expertise and professional work it does particularly important, as no such equivalent exists in other countries. It will also provide a spring board for promoting the UASs with their development goals in the field of technology transfer and continuing education.

Steinbeis has been a reliable partner to universities, providing fresh impetus ever since the technical colleges were founded. It's

important to match this partnership to new challenges and keep it moving forward.

**Apart from your role on a number of committees, you still play an active role in knowledge and technology transfer. What developments do you think will be important for Steinbeis in this area, and how will Steinbeis be positioned in the future?**

When I was at Mannheim University of Applied Sciences, which came after a long period in industry, I was initially very closely involved in technology transfer projects. When I was appointed rector, I had to stop doing this. When I entered so-called retirement, I was appointed to the supervisory boards of several medium-sized companies and I advise these companies on topics related to technology change, often with UAS colleagues.

Steinbeis has developed new collaboration models with the UASs, enhancing the appeal of collaboration with the universities, which are becoming increasingly autonomous. I believe that as we look to the future the comparatively small UAS environment will witness an emergence of network structures and this will also involve other kinds of universities. This pooling of resources could result in a more expansive and comprehensive transfer environment. Steinbeis will have to take a stance in this new university environment and keep playing a pivotal role in expanding the range of transfer services and increasing its professionalism.

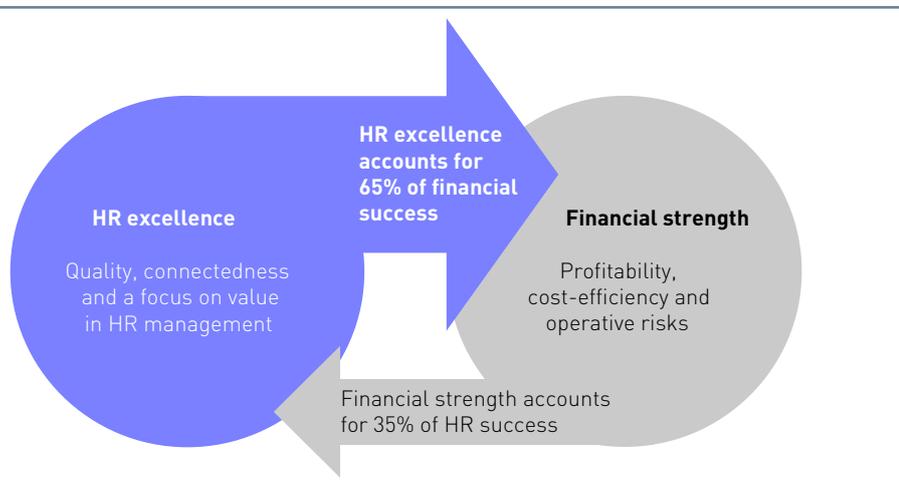
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## HR survey at medium-sized banks

# Personnel – a key success factor

Rising costs fuelled by tighter legislation, cut-throat competition, and the financial impact of international crisis: Small and medium-sized banks face huge challenges these days. Then there are growing customer expectations and rising competition. To make business more profitable, many banks are pumping more and more resources into sales promotion. Unfortunately, this often results in disgruntled staff and quality losses in customer services. A recent HR survey conducted jointly by the business consultancy zeb and the School of Management & Innovation (SMI) at Steinbeis University Berlin examined the impact of HR excellence on commercial success.



### The impact of HR excellence on commercial success, and vice versa

The survey was conducted amongst medium-sized financial institutes in Germany, Austria and Switzerland. The underlying concept was developed by the SMI, who also analyzed results. The HR survey examined whether prerequisites had been fulfilled to deal successfully with challenges, whether the prerequisites of success were fully exploited and whether using them centered on successful outcomes. Together, these three factors constituted "HR excellence."

The prerequisites of success are high-grade HR instruments and processes, even if in isolation, these are no guarantee for success if ideas run into snags during implementation or are badly received. It's only when everything is coordinated and agreed properly, from initial plans to implementation and reviews, covering all stages of the HR life cycle, that implementation works smoothly in terms of HR recruitment, placement and

development, as well as remuneration and management.

Analysis of the survey indicated that, measured in terms of profit and costs, HR excellence dictates 65% of commercial success. Skeptics typically say this does not prove that HR management contributes to success – surely, more profitable financial institutions can simply afford superior HR management? Based on the findings of this survey, however, this argument can clearly be dismissed: HR management makes a tangible contribution to commercial performance, even if more successful enterprises don't necessarily have above-average HR management.

The leading banks in particular have clearly already understood the significance of HR activities. These banks describe their HR work as significantly more important and achieve a 20 to 25% higher score in terms

of implementation standards. At 50 to 60%, the standards achieved by the leading banks still trail far behind the top scores achieved across all industries, namely 70 to 80%. Leading banks believe in flexible working arrangements and hours, a sensible work-life balance, and doing justice to different customer requirements. They achieve revenues that are significantly higher than average and keep costs below average by supporting senior management with HR and succession plans that are tailored to strategic needs – and by supporting employee performance with carefully designed target and remuneration systems. As part of this, the leading banks often accept that HR costs will be somewhat higher.

The significance of HR work has risen sharply amongst medium-sized banks since 2009. This is reflected by the fact that more money is being spent on HR development than in 2009. Emphasis is also being placed on improving companies' image as an employer. Despite this, only 11% of banks have already taken direct action.

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## Steinbeis partners up with the DHBW on Project OPEN

### New realms of nurse education

**Most care homes already lack well-trained staff, but the current demand for specialist care workers is set to rise. This is likely to remain an enduring situation due to demographic developments: Society is aging and the number of people requiring care is steadily rising. Training and retraining care workers is a key issue. It will no longer be possible to meet training needs through formal classroom education, so there's an urgent need for new teaching methods. In collaboration with the Baden-Württemberg Cooperative State University (DHBW), the Steinbeis Consulting Center for Audiovisual Media, VIDEODOC, has developed a training vehicle that seems to fit the bill.**

A new cooperative degree program is due to get underway in the coming winter, managed by Professor Anke Simon. The training will prepare workers for a career in the care industry. The aim of the program is to address growing demand for skilled and creative care workers. The new method designed by the Steinbeis experts is based on the concept of classroom training in combination with web-based training.

Professionally produced videos will be central to sharing knowledge-based content successfully. The core of the curriculum is based on a mixture of teaching materials consisting of instructional videos and carefully edited educational texts, allowing students to flexibly work through the course from remote locations whenever they chose. The program is broken down into several modules. Theoretical content is dealt with in depth, and students are carefully prepared for formal tests. The teaching platform has been integrated into an open source moodle solution used at the DHBW. The system allows students to obtain precise feedback on their progress at any time.

The DHBW carried out most of the leg-work with the Steinbeis Consulting Center in Fahlenbach within weeks, resulting in a successful funding application for a joint project. The German government launched a training initiative in 2008 aimed at promoting "Advancement through Training" to improve the long-term education opportunities open to all citizens. The DHBW's Project OPEN (Open Education in Nursing) is being sponsored by the Federal Ministry of Education and Research over the course of three years. It forms part of a program backed by European social funding called "Advancement through Education: Open Universities."

The ambitious project has the following key goals:

- To compensate for the shortage of care workers through training and qualification
- To facilitate more effective exchange between vocational and academic training
- To assimilate new knowledge more quickly into working practice.

"On top of this, we're entering new territory in the realm of training for people in care professions, and by bringing together

professions, degrees and the family, we're making an important contribution to society," explains Anke Simon. Web-based training plays a central role in the success of the vocational training program. People with vocational training but no formal university education can now also start receiving academic training.

The Steinbeis Consulting Center for Audiovisual Media, VIDEODOC, specializes in Web-based education with a leaning toward medicine and science. A highly qualified team consisting of media specialists, TV journalists, scientists and medical experts provide support to the heads of the project, Margot Mayer and Jürgen Skuda. The center specializes in the implementation of training projects.

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## External data protection officers support companies on site

# Data protection expertise as a service

Data protection and data security are important aspects of everyday business practice – and not just since recent, highly-publicized cases of online data mishandling. The Steinbeis Transfer Center for Information Systems, Process Organization and Quality Assurance (IPQ) in Heidelberg has offered professional consulting and support on data protection law for a decade. The center's data protection experts fulfill the role of data protection officers for companies across all industries.



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As well as financial losses and damage to reputations, companies that fail to manage data correctly can also face heavy fines from regulatory authorities. Appointing a company data protection officer is one of the central stipulations of data protection legislation.

"We were very surprised to discover that we even needed a data protection officer," comments the head of a small printing company in the Rhein-Neckar region. "Fortunately though, the IPQ Steinbeis Transfer Center rapidly provided us with professional support!" As printing annual reports or stock exchange prospectuses is classed as order data processing, it is subject to the same data protection require-

ments, for which the client – in this case, a listed software company – is also responsible.

Many companies perceive the legal requirement to appoint a data protection officer as an irritating chore. And indeed, choosing an existing full-time employee to act as a data protection officer is often associated with a number of considerable problems – like the employee being pulled away from their regular duties, employment law implications, and increased protection against dismissal. A lot of training is also needed to bring the appointed data protection officer up to the right level of expertise. Taken together, these requirements can constitute a significant hurdle for many SMEs.

In cases like these, the law allows companies to appoint an external data protection officer to take on this function on their behalf as a professional, paid service. For Stefan Eisert, project manager for data protection at the IPQ Steinbeis Transfer Center, an external data protection officer is the ideal solution, as it allows companies to fulfill data protection requirements professionally, efficiently and cost-effectively. "By taking advantage of our services, companies can focus more on their core business and free up internal resources while lowering costs and liability risks," believes Eisert, who acts as a data protection officer for a number of companies and has many years of experience in data protection law. In fact, one of Eisert's customers recently passed an audit by the German Federal Commissioner for Data Protection and Freedom of Information.

The industry expertise of Prof. Dr. Klaus-Georg Deck and his team ranges from doctors' practices and IT firms to publishers, printers, production plants and telecommunications companies. The transfer center is a member of the German Association for Data Protection and Data Security (GDD) and trains its own employees comprehensively to ensure they have the required level of expertise.

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## 20<sup>th</sup> Business Practice Forum at Karlsruhe University of Applied Sciences

# Theory meets practice

**Collaboration between the worlds of science and business are a key strength of universities of applied sciences. To ensure this does not just remain a noble ambition and that students really do benefit from their education, universities need committed professors. At Karlsruhe University of Applied Sciences, which specializes in engineering and business, Professor Klaus Gremminger has been promoting practical application in IT since the mid-90s. One of the Steinbeis director's projects is the "Business Practice Forum," which took place in late 2011 for the 20<sup>th</sup> time.**

In addition to the event itself, which allowed students to forge contacts directly with companies, the university staged a variety of alternative attractions and student services: A business practice get-together for setting up external projects and a "Theme Track," – a series of presentations focusing on practical issues. These are just two of many examples.

Overall, the aim of the forum is to flood the lecture theater with practical ideas. The theme announced by the deacon, Prof. Dr. Lothar Gmeiner, for the 20<sup>th</sup> Business Practice Forum was "As much theory as necessary, as much practice as possible." Gmeiner and the curator, Karl Linder, agreed that business projects and degree papers based on the real world of business are irreplaceable and help create networks, ultimately making it easier to open the door to future careers.

Prof. Klaus Gremminger has been following the demands of "theory meets practice" at the Innovation > Development > Application (IDA) Steinbeis Transfer Center since 1989. As one of around 850 centers in the Steinbeis Network, 20 of which are based at Karlsruhe University of Applied Sciences, he and his colleagues actively contribute to the successful sharing of the latest scientific knowledge with local companies. "This dovetailing with practice has a positive impact on the students as well as the professors, as both parties benefit from the practical nature of transfer projects," explained Prof. Dr. Michael Auer, Chairman of the Steinbeis Foundation, at the event. The shock caused by the cold reality of business can be avoid-



The panel discussion at the 20<sup>th</sup> Business Practice Forum at Karlsruhe University of Applied Sciences

ed and students learn, at an early stage, why theoretical knowledge is of genuine use and how it relates to practice. Professors taste the success of direct transfer and apply "generated knowledge," specifically in their teaching and in a practical context. Key to this is that as well as generating and sharing knowledge, skills need to be developed, as ultimately these are central to success, i.e., the required efficiencies and sufficient effectiveness. Theory merges well with practice when it's not enough to know something, but knowledge is successfully applied.

To close the Business Practice Forum there was a panel discussion involving representatives of industry. It was moderated by Prof. Klaus Gremminger and Prof. Holger Vogel-sang who fielded a string of questions from

a captivated audience. What are the ostensible differences in the business context between a graduate with a bachelor's and a master's degree? What qualifications will employees be expected to have in the future? What clinches an interview, the degree or the applicant's personality? The number of questions made it clear that there was little doubting that the forum should take place again. The next business and student forum is scheduled for May.

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## Steinbeis consulting survey

# A changing working world?

The first "A changing working world?" Steinbeis Consulting survey was unveiled at the 12<sup>th</sup> Steinbeis Consulting Forum in mid-March 2012. Its title: "Working World. Job Satisfaction. True Happiness." As well as Steinbeis consultants, members of the Baden-Württemberg Junior Chamber (WJ BW) were also invited to the exclusive presentation of survey results.

The WJ BW comprised the survey sample group, which was questioned in late 2011 using a detailed questionnaire covering topics such as work/life balance and satisfaction at work and at home. Already in its second year, the survey underscores the success of collaboration between junior business representatives and Steinbeis. Amongst other findings, which will be presented in detail in the next edition of TRANSFER, the survey points to differences in opinion between the self-employed and employees. Findings of

the study, which was conducted based on scientific principles by the Steinbeis Consulting Center for Marketing, Intelligence and Consulting, will be published in the Spring 2012 Steinbeis-Edition.

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## Steinbeis concept

# Successful succession planning

**Management succession is a highly sensitive issue. Given this sensitivity, the owner of Feninger, a wood turner and specialized supplier to the furniture industry, turned to experts at the Steinbeis Transfer Center of Internationalisation – Equity Participation – Succession Regulation (I/B/N). It was all part of a project backed by an ESF business succession program.**

The aim of the project was to agree on a reasonable enterprise value and work out a succession option to pave the way for a transition that would suit both parties. It was particularly important that everyone had trust in the proposed course of action. According to Prof. Dr. Peter Philippi-Beck, trust is especially important for everything to work with business succession, especially after the contract has been signed, and successors have to familiarize themselves with key business processes and start working with them. Collaboration with the Steinbeis

Consulting Center for Business Coaching enabled the project to culminate in a successful transition of responsibility, laying a foundation in the long term for smooth-running operations.

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## Funding through ESF Programs

# Wanted: consultant!

The Steinbeis Consulting Center for Business Coaching is authorized by the Baden-Württemberg Ministry of Finance and Economy to carry out projects as part of the ESF Coaching Skills Consultation and Staff Development funding program.

Steinbeis consultants may support, advise and coach managers on the planning and implementation of business strategies. The state of Baden-Württemberg subsidizes the projects.

### Coaching funding program

Funding is available for coaching projects on the following topics:

- Innovation
- Collaboration
- Reduction of energy consumption
- Demographic change
- Business succession

Funding is available for up to 15 working days in each area.

### Skills consultation and staff development program

Funding is available for coaching projects on the following topics:

- Consulting on skills and staff development (A)
- Systematic HR development (B)

Funding is possible in either area per company and site. Projects in Area A can be funded for up to 10 working days. In Area B, they can be funded for up to 20 working days.

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**A discussion with  
Prof. Dr. Heinz Trasch**

## **“Convincing people to trans- fer research findings to industry”**

**It's all change at the helm of the Steinbeis Foundation: After eight years in office, the Board Chairman, Prof. Dr. Heinz Trasch, is stepping down for age reasons. The new Steinbeis Foundation Board took up duties after the Board of Trustees meeting at the end of March. TRANSFER joined Heinz Trasch to look back on his work at Steinbeis headquarters – and beyond to his time as director of a Transfer Center in the Steinbeis Network.**

**Professor Trasch, when you were appointed chairman of the Steinbeis Foundation Board in 2004, you stated in an article in the former TRANSFER newspaper that expanding the Steinbeis Transfer Network was one of your key responsibilities. The Network now spans over 850 centers. What challenges did this growth bring?**

Looking back over the years, the demand for support wasn't always constant. If anything, it fluctuated. There are times when demand is low but also times when the demand for our knowledge-based services is strong. The task of managing projects lies with the Steinbeis enterprise. With the existing infrastructure, projects often progress at a regular pace. But at the headquarters level, we sense this volatility in contract behavior acutely. We're a service provider, and such companies deal with peaks and troughs with effective or efficient processes or spare capacity. This also applies to the other activities needed when a network is constantly



Prof. Dr. Heinz Trasch

growing. On the other side of the coin, this dynamic process of continuously setting up new centers ensures that specialist skills and competences in the Transfer Network are always kept up to date. So we're always in a position to offer our customers the very latest technology.

To keep up the momentum of Steinbeis Transfer Network expansion, we've imposed new structures in central areas of the Network based in Stuttgart and optimized existing processes. This involved pinpointing and realizing potential. To keep processes running smoothly, we now have clearly defined contacts for people inside and outside the Transfer Network. We portray Steinbeis to our customers as a brand and a successful provider of technology transfer services.

Successful competitive technology transfer, in the way we promote it, is something that's desired by the Baden-Württemberg state government. It's captured in general contracts and delivered by professors at universities and universities of applied sciences, as well as freelancers. The customers who use these services are mainly based in the areas the knowledge stems from.

So maintaining contacts with universities is also central to our task at headquarters. This is partly because rectors and presidents change regularly, but also because universities appoint new professors. So strategies have to be discussed with key players, collaboration arrangements have to be set up and young professors need to be convinced of the merits of transfer. Personal contacts amongst representatives of politics, chambers of commerce, associations and research institutions – combined with participation on committees and involvement in business cluster development – also help engender trust, so these are very important to us.

**Before coming to Steinbeis headquarters, you headed up the Steinbeis Transfer Center for Technology Consultancy at Mannheim University of Applied Sciences. Before that, you worked in research and industry. Based on this wealth of experience, where do you see current and future synergies for universities as being particularly important sources for us, professors and Steinbeis in knowledge and technology transfer?**

If we look back 20 or 30 years, our sources of information in the transfer process were almost exclusively state "technical colleges." The newly appointed professors at these colleges were experienced people from companies who wanted to share their specialist knowledge and practical experience with students through lectures. Third-party research at technical colleges was still in its infancy. But professors who were active in R&D exploited every opportunity to work on development projects with companies, or offer their knowledge and services to local companies. Professors engaged in research, who also participated in transfer, had an "edge on others" as they had more recent insights or access to more up-to-date technology. At the time, university professors used this to their advantage by joining the Steinbeis Transfer Network. This shows that, in many cases, successful competitive technology transfer has to come before fundamental research and application-based research. This is why many of our project or center managers are actively involved in third-party research at universities of applied science.

Graduate education has changed over the years. The technical colleges became universities of applied sciences. In addition to teaching and research, which is still not obligatory at those universities, emphasis is placed on managing your own work. Universities of applied sciences compete with one another for funding based on performance. Securing sponsorship from third parties safeguards more financial backing from government departments. This is the main reason why the managers of these universities are so interested in third-party research at the university. This includes industrial projects carried out directly at the university, which don't involve Steinbeis. The interests of the newly appointed professors have also changed. Previously, professors were attracted to universities of applied sciences because they were interested in teaching. Now, they're more likely to be interested in research. The equipment at university de-

partments and laboratories is much better now, which doesn't just make research easier, it promotes it. There's an ever-growing need for us to win people over at universities of applied sciences and convince them that the findings of research should be shared with industry so that they can make use of them and enhance their international competitiveness through innovative products.

Small and medium-sized companies involved in competitive enterprises in all sectors of industry are sometimes unable to fund innovative leaps with their own means. They will also need technology transfer support in the future. Steinbeis will continue to ensure it nurtures contacts in all departments at both types of university to maintain and expand the variety of scientific disciplines worked on at Steinbeis Centers. Steinbeis supports research at both types of university because it is a prerequisite of successful competitive technology transfer, so we will continue to do this in the future.

**One of your favorite quotes comes from the entrepreneur Philip Rosenthal, "If you stop improving, you stop being good." Which areas should be promoted more in technology transfer? What recommendations would you give to your successors to keep development within the Steinbeis Transfer Network moving forward?**

Of course we have to improve to stay good. We're in constant competition with bodies that promote knowledge through research and want to share research findings with industry. We have to keep close tabs on changes in political opinion-forming, academia and business. We have to react to the latest developments, and, if necessary, tweak our strategies and maintain the momentum of the expansion of the Steinbeis Network. So we're not standing still, this is a dynamic environment which requires our undivided attention. We have to constantly adapt our jointly agreed, clearly defined goals to new situations, and pursue our goals relentlessly.

This value-based development at Steinbeis creates stability within the organization and is rewarded by our customers with recognition and respect. The standard of our services and the fact that we keep our promises have made us a popular technology transfer partner. We have been able to carry over successes from the past to the present by implementing appropriate measures, and Steinbeis technology transfer will continue to develop successfully along similar lines in the future – by adapting quickly and continuously to developments in our immediate environment.

I don't need to make a recommendation on how to keep the Steinbeis Transfer Network moving forward, as my successor has played a decisive role at Steinbeis up until now, so he's in an ideal position to further the success of Steinbeis in the future.

## Process optimization in IT

# Growth is on the cards

**InterCard is a smart card system integrator based in Villingen-Schwenningen and market leader in the field of multipurpose card systems for educational establishments in Germany. Currently, more than a million students use an InterCard smart card called UniCard, a kind of electronic student ID card. Since its IPO in 2005, the company has enjoyed continuous growth. To ensure in-house processes keep pace with this growth, the Gosheim-based Steinbeis TQU Innovation Center has been helping the company adapt internal systems.**

Describing the initial situation, InterCard CEO Gerson Riesle says, "Our growth, the rising number of employees and intensive time investments in research and development, made it absolutely crucial to optimize our in-house processes and introduce professionally certified quality management." It was clear that redefining internal structures would need the support of an experienced partner, which InterCard found in the form of the TQU Innovation Center.

The need to update structures and launch a certified process and quality management system arose in a number of areas. This was because InterCard had embarked on a product and innovation drive which entailed overhauling the entire product portfolio. On top of this, a project called "InterCard goes mobile" will allow future InterCard users to select which medium they prefer to access system functions. InterCard will be the first company to offer smartphone apps for multifunctional card solutions in the academic environment. With the right programs, students, lecturers and staff will be able to carry out functions like approve documents for printing, make payments, or view bank statements on their smartphone to make bookings through a virtual account on a smart chip. The growing number of development projects and the need to outsource individual tasks to third-party developers, meant that quality management was now a must. The customer base had also expanded and as the company entered new application areas it had become necessary

to update internal procedures. An initial assessment of the situation, which was carried out as part of the project, was positive: "The measures already introduced, especially by optimizing processes in procurement, resulted in a reduction in material costs to 37.8% in the first half of 2011. They used to hover constantly at around 40%," states Christoph Seyfried, director of the TQU Innovation Center.

Certification is also an integral part of the strategy to expand OEM business with producers of printers and photocopiers, a third aspect central to overhauling company procedures. The aim is to install InterCard solutions directly on or inside end-customer equipment, i.e. individual photocopiers and printers. "To be noticed in this business environment and stand any chance, you need recognized certification as the larger companies already stipulate this in their own rules for business partners," explains Gerson Riesle.

Since data protection is of paramount importance, InterCard formally involved the Office of Data Protection in the certification process. "The protection of privacy is a key success factor for the future of any business model which is based on networking, the Internet or other modern forms of communication," believes Christoph Seyfried. "Users of our systems need to be sure that we adhere to the very strictest data protection standards before they invest their trust in us. This is crucial for these kinds of applications," adds Riesle.



Having successfully optimized processes and having launched quality management measures, the project team, comprised of Steinbeis and InterCard experts, is positive about the outcome: "The project cost us a lot of energy and it certainly wasn't always easy for employees to leave the trodden path, but the results speak for themselves." InterCard now has more punch in terms of organization and keeping costs under control, yet it's still able to improve service and quality. The task now is to maintain and build on the newly established standard with a continuous improvement process.

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## New centers in the Steinbeis Network

The Steinbeis Network comprises around 850 Steinbeis enterprises spanning all fields of technology and management. Depending on the nature of their work, these may be Transfer Centers, Consulting Centers, Innovation Centers, Research Centers, Transfer Institutes or separate legal entities. The following new Steinbeis enterprises have been founded since November 2011:

### ESSLINGEN

#### Building analysis and consulting

**Manager:** Dipl.-Ing. (FH) Jörg Seitter

Dipl.-Betriebswirt (BA) Michael Proß

**E-mail:** su1565@stw.de

#### Range of services

- IT, building technology and environmental technology
- Consulting and concept development in the field of building analysis systems
- Monitoring, analysis and optimization of building systems

### SAARBRÜCKEN

#### Institute of Signal Processing and embedded Systems

**Manager:** Prof. Dr.-Ing. Dirk Benyoucef

**E-mail:** su1566@stw.de

#### Range of services

- Research and development projects
- Consulting
- Training
- Customer-specific algorithm development

### TÜBINGEN

#### Steinbeis Global Institute Tübingen

**Manager:** Dr. Bertram Lohmüller

Prof. Dr. Rolf Pfeiffer

**E-mail:** su1567@stw.de

#### Range of services

**Master of Science:** Biennial vocationally integrated Project Competence Degree with the degree Master of Science (M.Sc.).

**Area:** Management

**Major Subject:** Global Technology Management

- Running of Master degree programs
- Running of certification courses

### FILDERSTADT

#### Location Marketing

**Manager:** Dipl.-Betriebswirtin Ariane Derks, MBE

Dipl.-Ing. (FH) Rainer Gehrung

Anke Müller

**E-mail:** su1568@stw.de

#### Range of services

- Seminars and Courses of studies for Location Marketing

### STUTTGART

#### Institute for Management, Controlling and Innovation

**Manager:** Corinna Katzmaier, MBA

**E-mail:** su1571@stw.de

#### Range of services

- Certification courses in controlling, business intelligence (BI), and innovation management
- Corporate programs
- Research projects and studies

### ALLENSBACH

#### Institute for Sports Technology (IST)

**Manager:** Prof. Dr. Markus Gruber

**E-mail:** su1572@stw.de

#### Range of services

- Applied research and development
- Innovation consulting
- Product development

### AACHEN

#### Usability and Innovative Interactive Systems for Information Logistics

**Manager:** Prof. Dr.-Ing. Thomas Ritz

**E-mail:** su1575@stw.de

#### Range of services

- Design and development of innovative, interactive systems
- Usability engineering and consulting
- Project supervision
- Profitability assessments for mobile software solutions
- Development of software prototypes as "live specifications" or as part of flexible developments

### AALEN

#### Innovation Management and Information Technology

**Manager:** Prof. Dr.-Ing. Manfred Bartel

**E-mail:** su1576@stw.de

#### Range of services

- Innovation Management
- Information Technology

### HOMBURG

#### Vision Research

**Manager:** Prof. Dr. Achim Langenbacher

**E-mail:** su1577@stw.de

#### Range of services

- Consulting on ophthalmic products
- Support on product approvals
- Expert appraisals and (technical) assessments
- Development and enhancement of ophthalmic diagnostic and treatment tools
- Optical simulations, calculation of standard optical implants, toric intraocular lenses and customized implants
- Creation of databases and examination guidelines/protocols for pre-clinical and clinical studies
- Statistical evaluations

### MAGDEBURG

#### Institute for Applied European Health Sciences and Pedagogy

**Manager:** Dr. Bernhard Beckmann

**E-mail:** su1578@stw.de

#### Range of services

- Bachelor of Science
- Certification courses in health and social services
- R&D in health and social services
- Consulting in health and social services

### WALDBURG

#### Process Intelligence

**Manager:** Prof. Dr. Thomas Bayer

**E-mail:** su1579@stw.de

#### Range of services

- Training in SAP ERP (application, ABAP, workflows), SAP BW and software quality
- Training on business processes (modeling with ARIS, BPMN)
- Consulting on SAP ERP (ABAP, workflows) and SAP BW
- Knowledge management

## The 2011 Stuttgart Competence Day

# Management in a new global economy

**IBM's 2010 Global CEO Study looked at the challenges to managers "Growing up in a Complex World." For the study, IBM interviewed over 1500 CEOs worldwide on the future challenges facing companies and their managers. Almost unanimously, the CEOs pointed to the fact that the new global economy will be more dynamic, uncertain, complex and structurally different. They also generally agreed that in a world that's constantly on the move – and sometimes even verges on chaos – companies have to be permanently prepared to make evolutionary or even revolutionary steps forward. Ultimately, managers will need a feel for their creative capabilities, much more than in the past. And more than anything else, they will need the ability to create the new or the different, or at least allow it to happen.**

In other words: to survive in a continuously changing world, the categorical imperative, the primary principle of entrepreneurship, lies in the ability and the willingness to innovate – not just continually thinking differently, but also allowing value creation and value adding to become a reality. It's this that will decide the fate not just of economies but also companies.

This being the case, the thoughts of Schumpeter, one of the greatest economists of the 20th century, are as valid now as they have always been. It was Schumpeter who introduced the German language to the concept of "innovation" and this shaped our understanding of the term today. An innovation refers to the sometimes radical (re)designing of the existing, creating the new by doing away with the old, what Schumpeter called the process of "creative destruction." It was also Schumpeter who stated that gain is the reward for seizing the advantage when things change.

Many associate the term innovation with technical inventions. But when Schumpeter wrote about innovation he did not just mean these. Instead he explained that there are many ways to innovate:

- Develop and launch a new product, develop and provide a new service
- Develop and introduce new production methods or new business processes
- Enter new customer markets or purchasing markets

- Develop and launch new organizational structures.

Schumpeter already emphasized that such developments and launches, or entering new or other markets, will not come to us like "manna from heaven." They are the result of people systematically translating ideas into reality – they are initiated, planned, implemented and monitored. To plan and implement such undertakings in the first place – activities that culminate in innovations – people are needed with the ability to react to the unknown or the new, by (re)designing them and translating them into the as-yet non-existent.

But how can we ensure that such highly qualified and highly skilled specialists – as well as highly qualified and highly skilled entrepreneurs and managers, a group often forgotten – are in a position to make their knowledge, abilities and motivation available to society? The simple answer is education. But what should education in general – or more specifically, studies – be like for innovative workers, especially managers, to flourish? Education would involve study, going back to the original Latin meaning: diligent application. Wilhelm von Humboldt's humanistic interpretation of diligent application: Man should work on a better world and change so much about mankind as he is able to in his lifetime. So in humanistic terms, two principles define study. The first principle, working on a better world, implies that we should strive to gain as much variety

of experience in, through and with the world as possible. The second principle, changing ourselves in light of this experience, means that the outcome of a better world should not just constitute an expansion or change in our body of knowledge about the world. Instead, the deeper layers of our own personality – skills, character, values – should be affected by the change process, so we should be shaped on a holistic level by our experience in, through and with the world.

Putting everything in place – so these principles can be realized by students – is the job of the universities. But this task can only be completed *uno actu* with students. So there is also an onus on students. The theologian Ignaz von Döllinger believed that there are two "crag" that we would wish people to circumnavigate in study. The first crag is limiting study to what is needed to pass exams. The second: dilettantism during studies, when predilection and intellectual convenience take over, when the only thing that is extracted and pursued from "organically structured materials" is that which is "conveyed as easier," or that which speaks merely to the students "intellectual curiosity." He believed that both "aberrations" are as common as they are "deleterious."

So potentially, two hurdles can condemn study to failure. And in principle, both have one and the same origin: "Indolence of the heart" (Erich Kästner). In the first scenario, indolence is only working on the things one considers necessary to pass an exam or meet

a challenge set by others. In the second scenario, indolence is only working on things one already finds easy or what seems opportune in a given situation.

Study should thus fulfill a purpose on two fronts. Firstly, it should stimulate people to think about fundamental principles like specialist knowledge and ability, aspects supposedly at the periphery, or even beyond the

sanction of specialty or examination requirements. Secondly, study should stimulate people to work on things beyond the esoteric, exotic and uncomfortable – and not just engage in further education but to further their education.

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## The 2011 Stuttgart Competence Day

# Competence. Personality. Education.

**The entrepreneurial challenges of the future can only be translated into profit through creative leadership combined with well-founded skills. This was a maxim shared vividly by Prof. Dr. Werner G. Faix, program director of the Stuttgart Competence Day and director of the School of International Business and Entrepreneurship (SIBE) at Steinbeis University Berlin (SHB). His speech was heard by more than 600 visitors in Stuttgart's House of Commerce on December 2, 2011.**

To provide young people with the skills they need and prepare them for their responsibilities as future managers, there are partners like Steinbeis. This was a point emphasized several times by Claus Schmiedel, political group leader of the SPD in the Baden-Württemberg regional parliament and deputy chairman of the Steinbeis Foundation Board of Trustees. He underscored the regional parliament's wish to strengthen collaboration with Steinbeis and establish the Transfer Network as a center of innovation, internationalization and skilled worker training in Baden-Württemberg.

Speaking on behalf of IBM Germany, Roland Scheffler said that creativity is one of these management skills. The 2011 IBM Global CEO

Study indicated that businesses will have to deal with more and more complexity in the future, stating that companies that cherish CEO creativity as the most important leadership quality will be the ones to establish themselves. This concept was also central to the talk given by Prof. John Erpenbeck (School of International Business and Entrepreneurship at SHB). He described leadership competence as the ability to react creatively to new management situations. Jens Mergenthaler (School of International Business and Entrepreneurship at SHB) approached leadership from a different angle, looking at the term from a linguistic standpoint. Prof. Dr. Rudolf Tippelt (LMU, Munich) demonstrated the close connections between management training and personality development, pro-



posing six theses that explain the successful interplay between education, personality and professionalism. Dr. Ulrich Schreiterer of The Social Science Research Center (WZB) in Berlin emphasized this point, looking over the "Big Pond" to different approaches toward leadership education in the United States.

Udo Sturm (ABB) and Carsten Schlichting (Bosch) provided an insight into business within corporations, examining the issues of management development and succession planning. Dr. Joachim Sailer (Steinbeis Transfer Institute of Growth Management at SIBE, SHB) gave a vivid insight into the growing importance of further education for older managers in the future. Dr. Barbara Niedner (behavioral biology and leadership) showed



how politics can provide a role model for management development, looking at the issue from the angle of behavioral biology and pointing out what managers can learn from "politics in the sand box."

As the convention drew to a close, the Master of Science in International Management at the School of International Business and Entrepreneurship celebrated its nomination as a "Selected Location 2011" in the "365 Landmarks in the Land of Ideas" competition, which is sponsored by the "Germany – Land of Ideas" initiative in collaboration with Deutsche Bank.

#### Preview of key events at Steinbeis headquarters in 2012

**Steinbeis Consulting Day**  
June 21, 2012 | Haus der Wirtschaft  
(House of Commerce), Stuttgart  
[www.steinbeis-consulting-forum.de](http://www.steinbeis-consulting-forum.de)

**Steinbeis Day**  
September 28, 2012 | Haus der Wirtschaft  
(House of Commerce), Stuttgart  
[www.steinbeis-tag.de](http://www.steinbeis-tag.de)

**Stuttgart Competence Day**  
November 29, 2012 | Haus der Wirtschaft  
(House of Commerce), Stuttgart  
[www.stuttgarter-kompetenztag.de](http://www.stuttgarter-kompetenztag.de)

Recordings of speeches made at the 2011 Competence Day are available at [www.stuttgarter-kompetenztag.de](http://www.stuttgarter-kompetenztag.de) (password protected). The next Stuttgart Competence Day will take place on November 29, 2012.

Steinbeis Foundation  
Stuttgart

 [www.stuttgarter-kompetenztag.de](http://www.stuttgarter-kompetenztag.de)

## School of Governance, Risk & Compliance awards for best theses

### Wanted: Outstanding theses!

In 2010, over 27,000 students earned their bachelor's degree after writing their thesis for a business-related degree program. This well-grounded knowledge could be used by companies, but is often overlooked. For the first time, the School of Governance, Risk & Compliance (School GRC) at Steinbeis University Berlin has bestowed awards for exam papers looking at the issues of corporate governance or compliance.

To qualify for the award, applicants must have written and submitted a thesis at a German university. It must be of a high academic standard and be based closely on business practice. Papers have to be bound and submitted by mail, with a PDF copy and a cover letter containing the student's contact details. The jury selects the top three theses from all submissions. Winners receive an award as the "Best of Theses" valued at € 3000.

The final submission date for this year is April 30, 2012. The award will be bestowed

on prizewinners at a special event at the School GRC in September 2012, which is also a good opportunity to meet people and forge contacts with business representatives.

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## Certification courses

### Company health managers

**Health management within companies is key to competitiveness and the profitability of businesses and organizations. Given the rising influence of demographic change and the rapid acceleration in business processes, companies need an increasing number of health instruments to safeguard the performance and health of staff in the long term.**

The Steinbeis Business Academy at Steinbeis University Berlin recently started offering a Business Health Managers (SHB) certification course. The new training equips staff with the skills they need to plan, manage and steer health programs at companies. They are taught the theory, methods and personal skills, and learn to run a health promotion program professionally within a business. It has already been proven that investments in health promotion perform well

in terms of costs and benefits. Company health managers therefore have good career prospects.

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## SBA grant

### Support for bachelor students

**The Steinbeis Business Academy (SBA) at Steinbeis University Berlin has launched an SBA grant program to promote the interests of talented bachelor students. The aim of the bursary is to help bachelor students who are expected to achieve outstanding results on their degree, or at work, or who have already done so. Support comes in the form of funding for their studies.**

Under the grant program, 80% of the SBA bachelor tuition fee is paid by a sponsor and the SBA. In keeping with the project skills philosophy, the grant is linked to a business project to be carried out within a company or organization while students are studying for their degree. The SBA grant lasts one year, and, in any case, no longer than the duration of regular studies.

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## Dealing with constraints

# Keeping your wits about you

In addition to Quality Management, Six Sigma and Lean Management, another leading management philosophy of modern times is the Theory of Constraints, or TOC. stw unisono training+consulting now includes TOC instruction in its continuing professional development and training program. The courses are an ideal opportunity for managers and staff to leverage hindrances and set the right priorities.

Constraints aren't necessarily a threat to business profits. According to the theory of constraints, tight situations are an opportunity to grow. They set the pace of the production value chain and make rigid structures more fluid.

The TOC philosophy was developed by the Israeli scientist and strategy consultant, Eli Goldratt. Goldratt observed companies and processes from a physical perspective. Simultaneously, he defined three kinds of constraints. Physical, or equipment con-

straints are dictated by low capacities. Policy constraints relate to strategic management limitations or conflicting goals. But the most intriguing and perhaps most intangible constraints are psychological hindrances. What pulls people back from actively participating in value-adding processes? What anxieties and inhibitions result in bad decisions or false expectations?

Participants on TOC courses learn to pinpoint mental constraints and policy restrictions from the point of view of the market.

The first step is to evaluate customer orientation and external communication. This is summarized in a business analysis. Based on these results, the second step of the workshop is to develop suitable strategies. The third step is to identify internal constraints.

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## The 3<sup>rd</sup> webscout congress

# “Everyone else is doing it. Should I be too?”

## Tweeting lemmings...

At this year's webscout congress, set to take place in Karlsruhe on May 23, there will be plenty of facts and figures on anything and everything to do with social media. Apart from this year's key topic regarding laws and searches, a variety of case studies will look at the issue of Web monitoring and cleaning from the point of view of companies and agencies. Steinbeis is backing the event as a media partner.

A number of communications managers are now more skeptical and level-headed when they hear people describe Facebook, Twitter and co. as "must-haves." Are they really? Or are they just a short-term instrument for quickly gathering friends, followers and likes? Does all this attention actually translate into leads, i.e., a successful way to forge contacts with potential buyers? Wow, 175,000 fans. What now?

These issues will be discussed at the webscout congress in Karlsruhe, which takes place this year for the third time. Another key topic at the congress will be Web monitoring. Wherever high volumes of material are published, people also openly discuss opinions. Delegates will approach the issue from various angles and outline legal restrictions. The congress will finish with a get-together and music. Delegates will also

have an opportunity to get to know the speakers in person and engage in conversation the evening before the event. The number of congress participants is limited to 100. Delegates can register online.

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## Correction

In the 3/2011 edition of Steinbeis TRANSFER magazine, the article on page 19 on "Improving flight safety" described a product called Galley-Light®. This is incorrect. The correct name is Galley-Light.

## Europe's organ builders use a research organ constructed in Leonberg for testing Let the music play

For many years, the Musical Acoustics research group at the Fraunhofer Institute for Building Physics (FHG IBP) has been dedicated to the scientific study of organ and church acoustics. Projects run by the institute in this area have repeatedly been supported with special project funding from the European Commission. The Mühleisen Organ-Building Company (Werkstätte für Orgelbau Mühleisen GmbH) in Leonberg has been involved in the institute's work from day one. Research carried out jointly by the company and the institute have focused on how to preserve and improve an organ's sound using modern technology. This symbiosis of instrument building know-how and engineering expertise aims to generate a broader understanding of organ sounds and create new links between physics and music – between science and art. The Steinbeis-Europa-Zentrum (SEZ) supported the two partners in applying for EU projects, and also took care of project management.



The research organ, built by the Mühleisen Organ-Building Company, at the Fraunhofer Institute for Building Physics, Photo: Roman Wack

People who regularly attend concerts in churches know that every organ sounds different. In principle, every organ is unique – because unlike other musical instruments, organs are highly individual when it comes to their appearance and sound. In terms of the richness of their timbre, their pitch range and their dynamics, they are best compared

not with other instruments but with an orchestra, says Dr. Judit Angster. As head of the Musical Acoustics research group at the Fraunhofer Institute for Building Physics, Angster has carried out a number of successful European research projects with the support of the SEZ since 1997. The group's projects and research work have revolved around

areas such as researching organs' traditional wind systems, developing innovative new wind systems, sound production in flue pipes, methods for sound design and dimensioning of organ pipes, developing pipe construction methods for organs, and developing techniques to assess how to best adapt pipe organs to the acoustics of the room or space in which they are located.

Since December 2011, the scientists at the Fraunhofer Institute have had a unique research organ, built by the Mühleisen Organ-Building Workshop, at their disposal for investigating all kinds of sound-related issues. The University of Stuttgart is a research partner for the project. Given the complexity of church organs and the fact that they cannot be moved

or dismantled, until many measurements have remained impossible or only possible to a limited degree. Previously, model organs in laboratories were used to test individual steps in the organ-building process. Newly developed components could only be tested using model organs in labs. "Software that was developed in a European research pro-

ject has been used to develop all kinds of organ flue pipes," explains Judit Angster. "The research organ makes it possible for us to carry out complex measurements and investigations directly on the organ itself."

Konrad Mühleisen, founder and senior director of the Mühleisen Organ-Building Company in Leonberg, believes the main difference between the research organ and conventional church organs is the research organ's transparency. Most of the inner workings are visible, and the pipes, soundboards, pressurized air channels and stop registers are all exposed. The wind chests of the research organ are also replaceable, which allows newly developed wind chests to be measured in a way that was previously impossible. The organ can also be switched over from a traditional wind system to an innovative new wind system developed in a European research project.

Judit Angster and her team began new research work with a number of European organ builders in November 2011. The consortium successfully applied to the European Commission for the EU's new REED-DESIGN project. As a result, they will receive € 759,000 in EU funding until October 2013. Steinbeis-Europa-Zentrum now is responsible for the project management.

The aim of the REEDDESIGN project is to address the practical problems that organ builders face when designing reed organ pipes. Eight SMEs from seven countries are contributing to the project by making their reeds, throats, resonators, entire reed pipes and voicers available for lab experiments. They will also validate results in their workshops. Expected benefits from the project include a 15% cost reduction (thereby resulting in greater competitive edge for the organ builders involved), improved sound quality, and a stronger market position, especially in Asia. The project goal is to develop new dimensioning methods, as well as a software tool for dimensioning and designing reed pipes with the aim of improving their sound.

New types of reed pipes that sound like Asian musical instruments are one focus of the research activity. Finally, the project also aims to develop demonstration models for quality control of the reed material in terms of its elasticity and hardness, and for inspecting the warp (i.e., the curvature) of the reed.

The SEZ supported the partners in the project bidding and is responsible for the management of administration and finances. Effective project management is one of many factors central to the project's success. The European Commission provides funding to consortiums of up to 20 partners from a variety of countries and organizations. Collaborating with international companies, universities and research institutes requires a great deal of technical expertise and an understanding of cultural differences.

#### The SEZ provides support...

##### ...in applying for EU projects:

- Selecting the right funding program
- Analyzing strengths and weaknesses via an innovation audit
- Studies on state-of-the-art technology and its market potential
- Help in formulating applications
- Looking for partners, support in forming consortiums
- Coaching for contract negotiations with the European Commission

##### ...in project management:

- Organizing and moderating meetings between partners
- Coordinating reports, communicating with the European Commission
- Budget allocation and monitoring
- Knowledge management
- Training and mobility measures
- Technology watch and foresight
- Consulting on intellectual property rights
- Support in utilization of technology and dissemination of research results

#### The SEZ runs a special training program: "Conducting research together with partners in Europe – European research and development co-operations"

- The basics on project bidding – European research projects
- Help, my EU project's been approved – the role of the project coordinator
- The project's about to start – staying on top of project admin and keeping an overview
- Lots of people pulling together – how to make sure they're all pulling in the same direction
- The sound of silence – communication in European research projects
- Emergency strategies and sustainable solutions – conflict management in European research projects

All training is precisely tailored to the needs of international and intercultural consortiums working on joint European research projects. What makes the training special is that it takes the different organizational cultures of SMEs, multinational enterprises and research institutes into account. As a rule, all training combines management issues with intercultural aspects, with a focus on research and development partnerships as part of European research promotion.

The SEZ conducts training in-house and on site at companies for a maximum of 12 participants. In practical exercises, attendees are confronted with a variety of typical situations from the two key project phases of application and implementation. This allows participants to apply what they have just learned.

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Steinbeis helps companies with the introduction of sustainability management

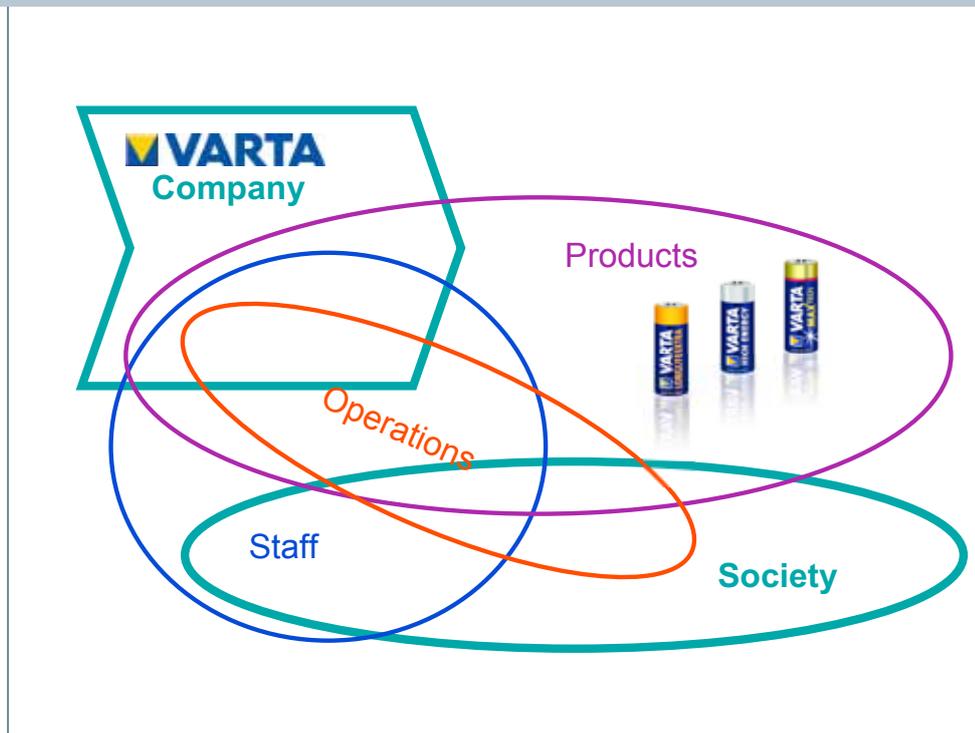
## Implementing sustainability efficiently

The Aalen-based Steinbeis Transfer Center for Applied Management helps and advises companies and other kinds of organizations with management, business, IT and technology issues. One key field at the center is sustainability. The Steinbeis experts recently advised VARTA Consumer Batteries on the successful introduction and implementation of sustainability management.

VARTA Consumer Batteries is a member of the Spectrum Brands group of companies. The company site in Dischingen produces alkali manganese batteries in the sizes AAA, AA, C and D. Its products make a major contribution to group turnover.

VARTA Consumer Batteries turned to the Steinbeis transfer center with a request for support with the introduction of a sustainability program at the company. The first step was to run workshops with teams and managers at the company to define sustainability policies and objectives, and identify key target groups. The processes of various departments were also analyzed.

To foster the concept of sustainability in specific terms and make it more tangible, a model was developed to represent the different interactions between the business and the outside world. The model depicts three pillars of sustainability – the environment, social aspects and the economy. Working with these pillars, it provides a basis for organizing processes and the sustainability strategy. Sustainability policies and the organization of sustainability processes were then planned in workshops. Sustain-



Sustainability in practical terms: the interdependencies between companies and society

ability policies were communicated through the company intranet and on company bulletin boards.

To convey the importance of the issue to the workforce, the company provides annual sustainability training to explain the logic behind sustainability policies and allow participants to exchange views. A variety of measures have also been introduced to promote sustainability through a VARTA sustainability program.

Product development plays an important role in the success of the sustainability concept. A central theme for the company is the issue of AA alkali manganese batteries, which account for the lion's share of battery production at about 60% of total volume. The team looked at the different stages of the alkali manganese battery product life-cycle with respect to greenhouse gas emissions. The analysis showed that sourcing raw materials and the transportation of raw materials account for around 90% of total greenhouse gas emissions.

The areas VARTA has a direct influence on, such as production and packaging processes and, in part, distribution channels, only make a relatively small contribution to

total emissions. Despite the relatively limited possibilities, VARTA has to significantly lower the total volume of greenhouse gas emissions, and the company is determined to do whatever it can through a variety of key measures. These could include using local material suppliers whenever possible to reduce distances traveled to factories, plus a string of small projects inside the company to improve efficiency and thus minimize the carbon footprint. The Steinbeis experts helped VARTA identify these key measures. Meanwhile, VARTA has issued its first sustainability report in two languages, German and English.

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## Software for automatic optimization

# First simulate, then optimize

Anyone offering a product on the free market wants to keep improving it. In times of dwindling margins and turbulent markets, suppliers are under acute pressure to develop their goods and services. Although the resulting efforts to "optimize" through testing do lead to improvements, companies don't always exploit the potential of what's truly possible. The aim of modern simulations/calculations isn't only to gain a better understanding of actual systems, but also to help improve products. Simply improving isn't necessarily optimizing.

With WORHP (We Optimize Really Huge Problems), the Steinbeis Research Center for Optimization, Control and Adjustment Control turned methods for mathematical optimization into modern software, which exploits the variance of a simulation model to automatically determine the best-possible optimization solution. Large models are a specialty of WORHP, and are resolved just as thoroughly and efficiently as smaller problems. The European Space Agency (ESA) has already recognized the software's potential for developing high-tech solutions, and has opted to use WORHP as a European NLP solver.

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## Grid security and reliability

# Smart grids – in times of crisis

Electricity suppliers can expect increasing demands such as the integration of renewable energy. However, as Germany turns away from nuclear power, the public electricity grid is already facing new challenges. To address these, the industry will need new ideas which are currently being discussed under the label "Smart Grid."

Supplying electricity across the board can only be considered a possibility if safety-critical technical requirements are recognized and defined early on, and standards and guidelines, or even legislation, are put in place accordingly. As part of a project funded by the German Commission for Electrical, Electronic & Information Technologies under DIN and VDE (or DKE), the Steinbeis Research Center for Electrical Networks and Regenerative Energy Sources is currently researching how safety and reliability in the electrical power supply will be affected within a smart grid. Analyzing the current reliability of supplies by looking at key influencers and instruments is helping to identify the need for standardization, with the aim of

safeguarding long-term supplies within the smart grid. In doing so, the team is defining measures to keep the grid stable or restore operation. Based on this work, experts will develop a precise overview of standardization needs.

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## Call monitoring

# Speech technology can hear emotions

Call centers and telephone hotline operators invest a substantial amount of time and money in improving customer satisfaction. This is done primarily through the training of call center agents. To safeguard quality, managers study recorded calls. Since thousands of calls are generally taken every day in call centers, monitoring has to be limited to a small sample of calls.

The Steinbeis Research Center for Dialogue Systems specializes in the research and development of speech and spoken dialog technologies, and is leader in the field. Using special emotion recognition software, speech technology helps to filter large numbers of calls and identify critical dialogs. This way, the lion's share of critical interactions can be identified, thus significantly reducing the cost of quality assurance.

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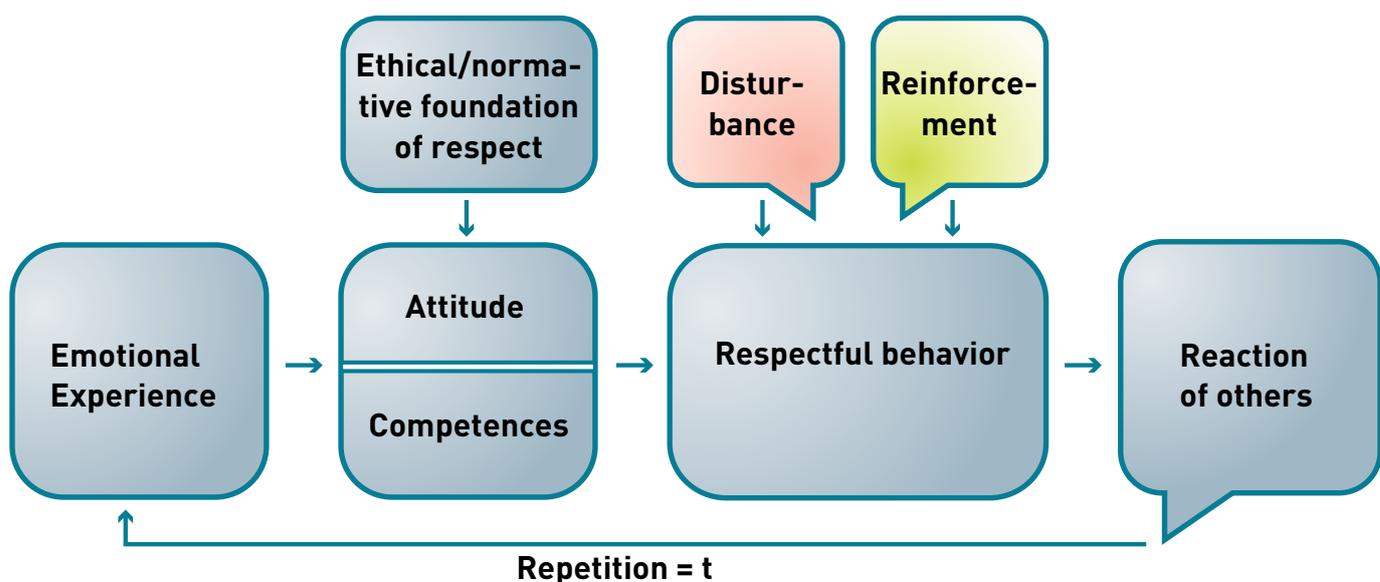
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## Respecting other members of the hospital team – the key to successful HR development

# Everything (r)evolves around respect

A variety of projects at hospitals show that fostering respect amongst team members can have a positive influence on companies and employees. The concentration on respectful behavior in HR development gives companies the opportunity to focus resources and still achieve a lot. Birger Dreher looked at this issue as part of his master's thesis at the School of International Business and Entrepreneurship at Steinbeis University Berlin. For his project, he developed an HR development strategy aimed at having a positive and specific influence on autonomous "processes of socialization" in working groups.

→ = Communication of rules, values and standards



The components and conditions of an HR development strategy with a focus on respect as a guiding principle of teamwork

Respect is a variable that is connected to many other key variables of business management. Reinforcing respectful behavior brings about several benefits, including improvements in employee loyalty and appeal, staff satisfaction, the ability of an organization to change, image enhancements, lower absenteeism, etc.

Tackling issues of respect therefore has a strong impact. But what does respect actually mean? What do people working in hospitals mean by respect, and how does

respect manifest itself in the organization? What drivers or hurdles exist in such organizations with a tangible influence on respectful teamwork? What methods, tools and strategies can be used to enhance mutual respect within the company and how does one nurture such a culture (in the long term)? These were the issues Birger Dreher looked at in his master's thesis, which was based on an analysis of literature and the evaluation of six qualitative interviews with doctors and care workers at different levels of the hierarchy.

Initially, respect is an attitude, a person's ability to see other as equals and acknowledge their values and personal nature. When dealing with colleagues or co-workers, this attitude is reflected in certain situations by the way people observe certain manners. One generally has to consider the fact that people often revert to different behavioral patterns which are dictated by the situation. People often experience a great deal of stress in modern hospital environments – with organizational pressures, heavy workloads and vastly differing tasks. How each individual

deals with stress, depends on the nature of the person. So when people react to stress, they revert to certain behavioral patterns that they have developed at different stages of the "socialization process." Behavioral patterns are a technique for organizing how one deals with situations. People revert to a particular pattern of competences they have acquired in the course of their life in order to react appropriately to a given situation. Respectful behavior taps into a variety of personal competences (integrity, self-respect, value-neutrality, authenticity, helpfulness), social communication skills (ability to communicate, team skills, cooperative skills) and action-based skills (initiative, ability to cope with pressure).

People don't always manage to engage these skills when things become difficult. Conveying respect can be interfered with by organizational and socio-cultural influences. So situations can arise in which it is difficult to communicate one's respect for someone and people are pushed to the limit (e.g. under stress, or when faced with socio-cultural differences).

Attitudes and competences are formed when things "get under your skin". People process the reaction to their behavior and by that they take on the normative expectations of their social environment. Under such circumstances, shared values, rules and standards become adopted and develop into attitudes and competences. A specific consequence of this kind of socialization process is that certain ways of dealing with a situation become "normal" or are acted out "without thinking". Values, rules and standards of respectful behavior can be (and should be) important in the process.

However, the continual socialization process can take place in sub-contexts, such as a ward or hospital department. As a result, people learn competitive or divergent behaviors. To shape this process, Birger Dreher designed a concept for an HR development

strategy aimed at influencing autonomous socialization processes in work groups in a positive and targeted manner.

Implementation of this strategy involves two important building blocks, a workshop and training. The respect workshop is targeted at staff and managers. Its aim is to examine ethical and normative fundamentals in respecting team members and challenge the meaning of respect when dealing with others. Based on the discussion and thoughts about the nature of everyday work, ways to behave respectfully to others were defined and translated to actual, everyday situations. At the end of the workshop, next steps and possible actions were looked at and discussed with managers and staff with the support of a moderator.

The training only takes place once a foundation has been laid in the workshop by reaching consensus on the meaning of respect. So each training session is different and takes into account the areas people work in, different processes, interfaces within the organization and the actual make-up of the group. Every training course on respect involves different challenges in different companies. During the training sessions, a selection of situations are chosen, some successful, some involving poor communication or collaboration, and usually the group works on these issues in several rounds. Re-enacting actual situations from everyday work, while drawing on a variety of coaching techniques, adds emotion to the experience. The combination of new insights and emotions allows people to learn alternative courses of action in the long term. All sessions are pitched as an invitation to experience known situations in a new light. The aim is to strengthen people's ability to interact respectfully with others and develop ways to foster mutual respect.

Birger Dreher's thesis showed that cultural change in companies takes time. Improving people's respect for one another at work is not a short-term project. Staff and man-

agers have to be reminded, on a repeated basis, how important respect is in everyday situations. To establish fundamental ethical standards and select suitable mechanisms, this process has to be included in strategic management processes. Specific actions can then be planned. Finally, success can be measured with surveys on respect or more informal analytical tools.

#### The HR development strategy basically covers four key areas:

1. Jointly establishing a concept of ethical norms governing respectful collaboration.
2. Instruments that use dramatic situations in selected settings to train people on respectful behavior.
3. Close consideration of situations that result in failure, but also success drivers. This is particularly important in areas relating to organizational influences (management, division of labor).
4. Consideration of time factors in HR development strategies.

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## EU project promotes energy efficiency in hospitals

# Keeping an eye on energy

These days, the efficient and timely management of buildings used for the provision of services involves keeping a tight control on energy costs and exploiting every opportunity to cut expenditures. An increasing number of companies are including environmental and climate objectives in their business goals. A pan-European efficiency project called "Re-Commissioning – Raising Energy Performance in Existing Non-Residential Buildings," which is being coordinated by the Graz Energy Agency, aims to save energy and costs in 11 complex service buildings in 8 European countries. One of the project partners is the Stuttgart-based Steinbeis Transfer Center for Energy, Building and Solar Engineering (EGS).

Conserving energy doesn't always require large investments. In larger, complex service buildings, often the most economic and profitable way to save is through technical or organizational optimizations, i.e., the way energy devices are operated, or encouraging more economical use of energy.

The target of the 33-month EU project is to achieve primary energy savings of at least 10% through "low-or-no-cost" measures. The aim is to bring together and network

individual parties – users, technicians, management – and thus achieve better results than if each party worked individually.

The Steinbeis Transfer Center for Energy, Building and Solar Engineering is participating in the project working out energy saving measures in the BGU Ludwigshafen, a trade union trauma clinic. The clinic uses around 30,000 MW hours of energy per year. Its annual energy bill is around €2.5 million. The clinic belongs to a network of 12 clinics in

the statutory accident insurance program and is one of the biggest trauma clinics in Europe.

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## netvico guides visitors through Stuttgart library

# Signposts through the media jungle



The new Stuttgart city library covers an area of 11,500 sq m (123,785 sq ft) and houses around half a million books, films and other media. To tour the new building, which was designed by the Korean architect Eun Young Yit, visitors can use a digital guidance and information system developed by netvico, a company supported by Steinbeis.

Modern touchscreen stations, ideally suited to the futuristic cube design of the building, have been installed throughout the premises – from the basement to the eighth floor.

The digital signage has been carefully positioned in the reception area, near elevators and near the stairs. These electronic visitor guides provide an overview of the topics on each building level, floor plans highlighting selections made by the user, and search

functions extending to the display shelf numbers. At the top of the screen, moving banners highlight events and featured books.

The aim is for the new Stuttgart library to not only impress visitors with its architecture but also with its service. Depending on user requirements, the futuristic information system can provide information, incite emotion or inspire. The project was deliv-

ered by netvico in collaboration with Totems Communication.

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Rector Prof. Dr. Klaus Erich Pollmann, Martí Puy Ruiz, Sebastian Günther and Norman Zergänge (l-r)

## German scholarship fund at Otto-von-Guericke University in Magdeburg

### Cash reward for performance

A German scholarship program was launched at all German universities in the summer semester of 2011. The program provides backing for one year to gifted students, who can claim up to € 300 per month, not depending on other income. To qualify, students must demonstrate outstanding academic performance, a commitment to social causes, or have successfully overcome major setbacks on a personal or academic level. The Steinbeis Research Center for Electrical Networks and Regenerative Energy Sources is currently funding three scholarships at Otto-von-Guericke University in Magdeburg.

The initial goal of the German scholarship fund is to back around 160,000 students – around 8% of all students. Fifty percent of the scholarship comes from public funding; the rest comes from private sponsors.

In the first round of scholarships, 52 students at Otto-von-Guericke University were selected to receive support for one year from 38 companies and sponsors. The Steinbeis Research Center for Electrical Networks and Regenerative Energy Sources, which is

headed up by Professor Dr.-Ing. habil. Zbigniew Antoni Styczynski, is currently funding three talented students studying mechatronics and math. Martí Puy Ruiz is studying mechatronics in his fourth semester. In his leisure time, he is interested in physics and sings in a choir. Sebastian Günther is also studying mechatronics in his third semester and is a member of a university association called Formula Student Teams UMD Racing. He is also a volunteer for THW disaster relief. Norman Zergänge is studying

math, majoring in physics and economic science. He is also a local councilor in the small town of Bördeau.

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## Obituary

### Prof. Dr.-Ing. Hans-Joachim Förster

**Steinbeis mourns the loss of the former Chairman of the Steinbeis Foundation Board, Professor Hans-Joachim Förster, who passed away on March 4th.**

Hans-Joachim Förster was Chairman of the Steinbeis Foundation Board from 1982 until 1991. As well as providing professional and generous support to the Steinbeis Foundation in its early years, his personal commitment and determination were an example to everyone at Steinbeis.

Hans-Joachim Förster was born in Wrocław in 1916. He studied Machine Engineering at Karlsruhe University of Applied Sciences, and in 1942, he went to work at Daimler-Benz in Stuttgart. After returning from captivity in the Second World War, Förster worked in the development department at Daimler, where

he was made responsible for the development of automatic transmissions and power steering – a topic to which he dedicated his working life. Förster was made head of the measurement center in 1967 and all research in 1969. In 1983, by now a director, he entered retirement.

In parallel to his successful career in industry, Förster had a lively interest in science. In 1952, he gained a Ph.D. at the Karlsruhe Technical College where he qualified as a lecturer in 1965. After 1965, he regularly lectured on power transmissions. Förster's varied interests were also reflected in his numerous lec-

tures and publications. He was also a member of a variety of committees.

We are deeply indebted to Hans-Joachim Förster, who was a close friend of Steinbeis for many years. He was a highly reliable partner who made valuable contributions to the long-term development of the Transfer Network and we will have many fond memories of him.

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**New releases from Steinbeis-Edition**

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**Handbook for the ILIAS 4 Learning Management System**

Jacqueline Henning, Peter A. Henning, Monika Quenzer

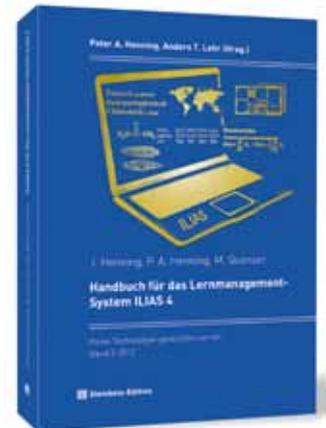
Technology-based learning series | Volume 2-2012

Peter A. Henning, Anders T. Lehr (Publ.)

2012 | Paperback, B&W | 376 pages, German

ISBN 978-3-941417-97-7

More online:



**About the authors**

Amongst other roles, Dr. Jacqueline Henning is a project manager at the Steinbeis Transfer Center for Professional Learning, Education Management and IT. The center was founded by Prof Dr. Peter A. Henning in 2010, who still heads up the center today. Monika Quenzer is an architect and a scientific assistant at the Institute for Computers in Education.

**A Proposed Method for Evaluating Service-Oriented Architecture (SOA) on the Basis of Empirically Defined Requirements**

Martin Fiedler

2011 | Paperback, B&W | 442 pages, German

ISBN 978-3-941417-91-5

More online:



**About the author**

Dr. Martin Fiedler works full-time at a leading company in the IT industry, where he is responsible for global management accounts in in-house IT and customer support. He was awarded his Dr. rer. oec. title at Steinbeis University Berlin in 2011. The publication of his paper coincides with his doctoral thesis appearing in Steinbeis-Edition.

**Emergency and Service Control Centers: An Organizational Task**

Joachim Lindner

2012 | Paperback, B&W | 182 pages, German

ISBN 978-3-938062-89-0

More online:



**About the author**

Dr. rer. nat. Joachim Lindner has decades of experience in the security industry; primarily in industry, but also within public authorities. Dr. Lindner is a program director for Security at the Steinbeis Business Academy, a member of the Steinbeis University Berlin network.

**International Light Simulation Symposium (ILISIS) 2012. Proceedings**

Steinbeis Transfer Center Applied Lighting Technology (Ed.)  
 2012 | Hardback, B&W | 448 pages, English  
 ISBN 978-3-941417-84-7

More online:



**About the publisher**

The Steinbeis Transfer Center for Applied Light Engineering was founded by Prof. Dr.-Ing. Alexander von Hoffmann in 2009. The International Light Simulation Symposium (ILISIS) took place for the first time in Nuremberg on March 7/8, 2012. The symposium takes place every two years.

**HR Performance Controlling. Business Controls in HR and HR Management**

Viktor Lau | Edmund Hauptenthal  
 2011 | Paperback, B&W | 194 pages, German  
 ISBN 978-3-941417-90-8

More online:



**About the authors**

Amongst other positions, Dr. Viktor Lau was a consultant for the Steinbeis Foundation and other companies dealing with international consulting and continuing professional development. Professor Edmund Hauptenthal is director of two Steinbeis Transfer Centers working in the field of business analysis, evaluation and development, as well as business succession.

**Management of Growth and Globalization. Best Practice, Volume 4**

Werner G. Faix, Ardin Djalali, Annette Horne, Gerhard Keck, Stefanie Kisgen, Patricia Mezger, Joachim Sailer (Publ.)  
 2011 | Hardback, B&W | 1102 pages, German  
 ISBN 978-3-941417-73-1

More online:



**About the publishers**

The publishers work in a variety of departments at the School of International Business and Entrepreneurship (SIBE) at Steinbeis University Berlin, which currently has around 800 students enrolled on master's programs in the field of management.

**Proceedings of Stuttgart Competence Day 2010:**

Competence.Personality.Education. Volume 3  
 Werner G. Faix, Michael Auer (Publ.)  
 2011 | Hardback, B&W | 494 pages, German  
 ISBN 978-3-941417-74-8

More online:



**About the publishers**

Prof. Dr. Werner G. Faix is managing director of the School of International Business and Entrepreneurship (SIBE) at Steinbeis University Berlin, which currently has around 800 students enrolled on master's programs in the field of management. Prof. Dr. Michael Auer is Chairman of the Steinbeis Foundation.

**The 8th Business Intelligence Symposium:  
Status Quo – Opportunities and Challenges  
Proceedings of the 2011 Symposium**

Andreas Seufert, Peter Lehmann,  
Klaus Freyburger, Thomas Becker (Publ.)  
2012 | Paperback, B&W | 148 pages, Ger./Eng.  
ISBN 978-3-941417-98-4

More online:



**About the publisher**

Prof. Dr.-Ing. Peter Lehmann and Prof. Dr. Andreas Seufert are directors of the Steinbeis Transfer Institute of Business Intelligence. Prof. Dr. Klaus Freyburger and Prof. Dr. Thomas Becker are part-time lecturers at Steinbeis University Berlin (SHB).

**4th Energy Conservation Symposium.  
Sustainable Buildings –  
The Challenges of Building Energy Technology**

Proceedings | 23.11.2011 | Stuttgart  
Jörn Krimmling, Bernd Landgraf (Publ.)  
2011 | Paperback, col. | 136 pages, German  
ISBN 978-3-941417-92-2  
The speakers' slides are also available as a free  
e-book in the Steinbeis-Edition: ISBN 978-3-941417-94-6

More online:



**About the publishers**

Prof. Dr.-Ing. Jörn Krimmling is a full professor in the department of civil engineering at Zittau/Görlitz University of Applied Sciences where he lectures on "Technical Building Management." Bernd Landgraf is director of the Steinbeis Transfer Institute of Building and Property Industry at Steinbeis University Berlin (SHB), which offers a Master of Science in Real Estate as part of the project skills program at SHB, as well as certification courses on energy management in the real estate industry.

**Other recent publications:**

**Quality Management in Hospitals**

Markus Illison, Jürgen G. Kerner  
2011 (9th Ed.) | Paperback, B&W | 76 pages, German | ISBN 978-3-941417-87-8

More online:



**Quality Management in Small and Medium-Sized Enterprises**

Jürgen G. Kerner, Bernd Kentner  
2011 (11th Ed.) | Paperback, B&W | 65 pages, German | ISBN 978-3-941417-86-1

More online:



**Quality Management in Care Institutions**

Markus Illison, Jürgen G. Kerner  
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