

Synergies – Networks – Value-added

Innovation management in machine and plant engineering

SHB students analyze the status quo

Energized

Turkey's power grid links up with Europe's

Lifting the veil on advertising effectiveness

Measuring advertising effectiveness
with real-time responses

Technology foresight for optical technologies

Roadmaps for SMEs

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Editorial

Dear readers,

Let's not deceive ourselves. Many companies think the crisis is over – they have recognized its challenges and mastered them. But: have we also learned from the crisis? Do we know how to turn a crisis into an opportunity? What works for big companies is not necessarily a guiding principle for small and medium-sized businesses.

Business may well be profitable at the moment, but we should still ask ourselves whether we can be satisfied in general. Conventional approaches, and the techniques of yesterday, are no longer enough. Traditional management methods – focusing mainly on liquidity and current earnings potential – must be superseded by an orientation towards managing potential, and a strong leaning towards current and future earnings potential. Already the most pressing issues are: Where should the business be in five to ten years? How will the market change, or customer demands? Which industry rules will become obsolete? And, more than anything, how can we actually shape the rules of our industry, rather than merely react to them?

Things are becoming more chaotic. The treadmill is moving faster. And there is more and more firefighting. One of the key challenges now is to find our bearings and hold them – clocks will be replaced by compasses! It will become more and more important to set clear goals. In day-to-day business, a strategy must be more than bundling together plans for different fields of business.

A few product or process improvements, a couple more points of market share, cut costs a bit, spruce up our design, and hey presto, we've got a marketing and production strategy. But where's the big vision?

Efficiency programs are important when learning from past mistakes. But they have yet to catapult a company into pole position in a market. Efficiency programs alone don't make future winners! Innovation takes companies forward, sustainably, not the economy. "Vorsprung durch Innovation" is the only way to safeguard prosperity and employment in our country. The precept is renewal: from records to MP3 players, from telephones to mobiles, from tungsten lamps to LEDs, from the drawing board to virtual product development – and next?

Innovation is more than a new (product) concept. It's not about happy-go-lucky engineers inventing for the sake of inventiveness. It's about bringing ideas to the fore – to the market – with a keen eye, entrepreneurial spirit and the courage to take (calculable) risks. To achieve the possible, people must be willing to attempt the impossible, time and again. Money and strategies are crucial for innovation. But it's people who fuel success. Which is why we must set more clear goals, point to potential and show why it's worth taking to the barricades. Seen from this angle, many new avenues will open up to us in the days that follow, although we will have to open many up ourselves.



This latest edition of TRANSFER gives an insight into the potential offered by the Steinbeis network. I hope you enjoy reading it, and I wish you strong leadership, courage, drive, and of course success with your future change processes!

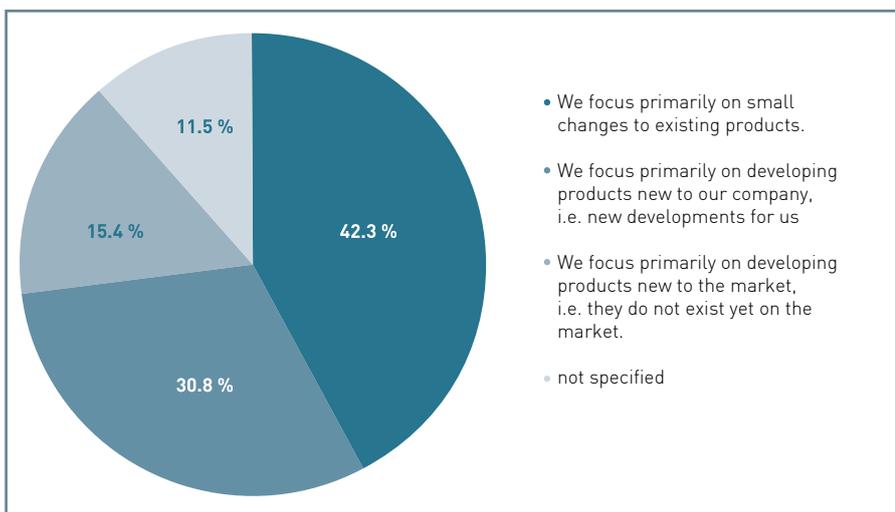
Prof. asoc. univ. PhDr. Arno Voegele

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Product and service innovations: analyzing the status at SMEs

Innovation management in machine and plant engineering

Few terms have dominated sociopolitical and economic discussion more in recent years than "innovation." It is clear that innovations play a decisive role in empowering companies to secure competitiveness and develop their sites in high-wage locations. But even with the right management support, there is no guarantee that an innovation will culminate in success, although the likelihood of success is significantly higher. People in business and the academic and scientific arena are thus highly interested in working out what makes an innovation successful. Small and medium-sized machine and plant engineering companies in particular are considered innovative, and of importance, although it is dangerous to see all SMEs as the same. Distinctions have to be made between different types of companies. As part of their graduate research projects at Steinbeis University Berlin, Holger Schaaf and Christoph Thome are looking at a variety of issues, including industry-specific success factors in product and service innovation management at SMEs.



Focus of product-related innovation processes (%)

The aim of Christoph Thome's research project is to identify the components and success factors of product innovation management and develop a kind of framework for them. A large number of companies were contacted using a standard online questionnaire. The survey resulted in 130 valid sets of data which included narrative as well as structured findings.

It was interesting to discover how the companies in the survey described the focus of their product innovation processes. The majority of respondents (42.3%) said that their company primarily concentrates on tweaks to existing products. In second place came the 30.8% of companies that primarily focus

on developing products new to the company. Only 15.4% of respondents stated that their companies are developing products that are new to the market (i.e. which do not yet exist).

Christoph Thome also looked at whether companies' innovation approach is more push or pull. In response, 49.2% of respondents said their company pursues a "pull" strategy – so product innovations generally stem from the customer. This compares to the 39.2% of product innovations where the impetus comes from the company itself.

Extracts from the narrative comments highlighted on the one hand the fact that SMEs

in this sector of industry focus on small innovations, and act less as a greenhouse for market innovations. On the other, the majority of these companies also express their innovation potential through the customer, although their own creativity is by no means inferior. Thome concludes from these findings that SMEs are driven by customers and that because of this, the majority of innovations are of an incremental nature. These aspects, as well as the key components and success factors of product innovation management, are outlined in detail in his research project.

When used to underpin products, services present companies with a good opportunity to stand back from markets dominated by price competition and convey an image to the client of a provider of premium quality solutions. But it is a major challenge to innovate with services, especially for small and medium-sized enterprises. This is especially true for services that are not directly linked to the core product – i.e. customer support services. Especially in more conservative industries, such as machine and plant engineering, there is a tendency for people to focus more on material issues. Services aimed at supporting the customer are thus separate from the core business and become marginalized. Yet it is precisely these types of services that are particularly well suited

to differentiating a company from its competitors, as they are difficult to copy. They also address the full requirements of clients. One of the aims of the research project being carried out by Holger Schaaf is to gauge the status of customer support services offered by companies. SMEs involved in machine and plant engineering were surveyed about their service portfolio using an online questionnaire. The survey resulted in valid data from 120 companies.

The first set of questions looked at services relating to consulting, information and training. Schaaf's survey was particularly interested in services that are actually offered. Nearly all companies currently offer technical support (99.2%). Feasibility studies were the second most common service offered by the companies in the survey, at 63.9%, followed in third place by commercial advice given to clients, at 46.2%. Seminars and speeches gained a very similar score to cost-

benefit analyses, at 41.2% and 40.3% respectively. Market research, contract research and support with research and development featured among the least offered services at the moment. Some services are aimed at supporting companies by improving the way businesses work together, especially on-call services (81.1%) and project management (64.2%). Operating agreements and hotline services are only offered by a small number of the companies surveyed. The third area of services relates to enhancing business relationships. At 70.3%, the top-ranking services in this category are warranties. The narrative comments showed that the majority of companies do offer services to support customers, but many SMEs still maintain a traditional focus on material aspects. Holger Schaaf concludes this because when it comes to quantitative measurements of success, like sales, profits or margins, no direct link can be made to innovating through customer support services.

Holger Schaaf has thus taken it on himself to prompt SMEs to perceive premium value services as precisely that and not just view them as an add-on to the core product.

Both graduate students at Steinbeis University Berlin are currently finishing their research projects and, based on their findings, will be making specific recommendations for use in business.

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Active citizenship in residential homes

Enhancing the quality of life, together

What role do people play by taking an active interest in residential homes, both on a strategic and operative level? This is a key issue on the working agenda of the KWA for 2010 and 2011. The KWA is a board of trustees for senior citizens, and one of the biggest sponsors of residential homes in Germany. The Steinbeis Transfer Center for Gerontology, Health and Social Aspects (GeroS), which is based at the Protestant University of Applied Sciences in Freiburg, was asked to consult the KWA on this issue and conduct an empirical study.

Some people might ask what voluntary work and volunteers have to do with residential homes in the first place. Many homes charge premium rates for the security, comfort of living and services that they provide in an effort to ensure the elderly enjoy their years of retirement. Is homes' asking volunteers to play an active role in providing services almost an admission that they are not actually able to supply what they are being asked to? Is active citizenship being used to plug a gap in professional services, cut costs and compensate for savings in social budgets? Superficially, this is often the reaction to

this issue. But the KWA trustees are at pains to emphasize that this issue is about far more than this. It is widely understood how important involvement in elderly welfare is, and this is also particularly evident when people demonstrate their commitment. And it is known that people who need support enjoy better quality of life when they see people taking a voluntary interest in their welfare without being paid in return. The KWA also knows what shapes the image of residential homes and care establishments: When people identify with an establishment, when they become part of something

through their own personal commitment, this trust is conveyed to others – and later, people sometimes even select this home or establishment for their own retirement.

The GeroS Steinbeis Transfer Center was invited to provide the KWA with concept advice and conduct a study into KWA establishments. Its survey was carried out among residents and managers at homes, plus volunteers from outside. The study demonstrated clearly the extent to which residents were involved in community activities themselves earlier on in life and their



Photo: © photocase.de/nerek

continuing level of commitment. As well as being on the receiving end of services, they actively shape community life. Involving social volunteers in the day-to-day running of homes should never be taken for granted. As a German saying goes: voluntary work may not be paid, but it's not for nothing. And this was also underscored by the KWA study. The volunteers questioned gave some useful pointers for the strengths at homes, but also pointed out certain weaknesses.

It is understandable that full-time workers at elderly homes and nursing establishments are sometimes quite hesitant about the issue of citizen involvement. They are quick to assume jobs could be lost. Also, drawing on support from volunteers does not fit in well with the classic concept of market orientation and the notion of elderly and care homes essentially being service providers. It is a major challenge to involve volunteers in the work of a home. It changes the nature of the organization and influences the culture, people's perceptions of professional staff,

and management responsibilities. This is also one of the key statements made in the new framework model: Managing volunteers and fostering active citizenship within KWA homes are the tasks of management. If homes succeed in making voluntary work – carried out by and for residents – a defining feature of homes, as a social enterprise, this gives a lift to the quality of life in residential homes and reflects well in its image.

The KWA concept also includes promoting active citizenship among staff as part of HR development, and the KWA becoming commercially involved in social causes in its role as a social enterprise. A particular emphasis within this concept is leveraging the core competences of the enterprise to contribute to the sustainable development of the community and to make its expertise in the elderly available to others. The chairman of the KWA, Dr. Stefan Arend, considers the inclusion of active citizenship in the model of the KWA a key quality criterion of KWA residential homes. All people involved in

this issue are aware that this will be a long learning process which cannot be imposed on others or decreed from above. Voluntary work and understanding active citizenship require social understanding. Fostering this understanding takes the right skills and a corporate culture that appreciates why becoming involved adds value. If the project being worked on by the KWA in collaboration with the GeroS Transfer Center is a success, the path it has trodden could provide an example for the sector as a whole.

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Hydro-electric power plant Atatürk at Euphrat

Turkey's power grid links up with Europe's Energized

On 18 September 2010, Turkey was connected to the European electricity grid via three new feeder lines to Bulgaria and Greece. This step was the outcome of extensive examinations and adjustment work carried out by the Steinbeis Transfer Center for Applied Research in Electrical Power Engineering at the University of Rostock. The team of Steinbeis experts addressed issues such as primary regulation and frequency stability, secondary regulation, inadvertent interchange, and dynamic behavior for operation – when connected and in isolation.

Turkey has been looking to connect its energy supply system to the European grid since the 1970s. Joining the European grid brings major benefits: a more secure energy supply, a more stable utility frequency, easier regulation, and the ability to trade power with European neighbors. But the requirements for connecting to the European grid, as specified in the ENTSO-E Transmission Code, are high. Candidates must prove that the primary regulation of their power plants is stable and functional – and can compensate for lost power within 30 seconds if a power plant goes offline. This is done by using energy from all other power plants at a somewhat reduced utility frequency. The primary regulation must also guarantee a steady, non-oscillating frequency response during normal operation. Potential candidates must also have a functioning secondary regulation which can make up for lost power within 15 minutes, using dedicated secondary power plants. This also involves returning the reduced utility frequency to the usual 50 Hertz. If not present, these functions may need to be implemented before being tested to see if they are effective.

Another prerequisite for joining the grid is avoiding and actively damping oscillations. This phenomenon, roughly comparable with the oscillations created by two weights connected by a spring as they swing, occurs across the European grid as a whole, between the generator rotors of Spain and Turkey. The rotors spin in opposition to each other: if the rotors in Spain speed up, the ones in Turkey slow down, and vice versa. The more the European grid is enlarged, the less stable these pendular oscillations become – and the more danger they pose to safe operation.

To meet these requirements, ENTSO-E (formerly UCTE) commissioned Amprion GmbH in Essen (formerly part of German energy company RWE) to set up a project group comprising specialists from all countries involved in the project. The Steinbeis Transfer Center for Applied Research in Electrical Power Engineering is acting as a consultant for Amprion in the project. To study the behavior of the Turkish grid in advance, the Steinbeis experts created detailed simulation models of both the Turkish grid in isolation and the resultant combined grid. The large hydroelectric power plants in the east of Tur-

key have a major effect on the dynamic behavior of the Turkish grid – so these plants, their hydraulic systems and regulation systems were modeled very precisely. These models made it possible to investigate the system and see the extent to which it met UCTE requirements, and make recommendations for safe, stable operation. These recommendations included regulation optimizations and recalibrations in the power plants, as well as the addition of supplementary damping devices both in power plants and the grid itself.

Currently, deviations in the system are still being reduced by introducing more optimizations. As a result, thanks in part to the assistance of the Steinbeis Transfer Center, nothing stands in the way of continued joint operation between the Turkish and European power grids.

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SHB graduate establishes medical training center in Beirut

Education for when it really matters

It took less than a year to get a medical training center for emergency medicine up and running at the Saint George Hospital University Medical Center. Two German companies, Umedic and incentiveMED, were also on board to see this project through to completion. The project goes by the official name of the Lebanese European Academy of Emergency Medicine (LEAEM). Day-to-day operations plus all technical and medical affairs were handled by Rainer Gaupp, a Steinbeis University Berlin bachelor's student at the Steinbeis Business Academy who organized and ran the project for incentiveMED.



The timeframe certainly was challenging. Gaupp had just one year to set up the medical training center, doing everything from designing curricula for emergency medicine courses to providing teacher-training to Lebanese physicians and nursing specialists. Here, the goal was to provide the future in-house instructors with international treatment guidelines based on standard courses and patient simulation methods. The reason for this was that to receive Joint Commission International accreditation, Saint George Hospital University Medical Center had required its employees to earn emergency medicine qualifications. The project also aimed to help Saint George stand out from other teaching hospitals in Lebanon. Patient simulation is considered an innovative, ef-

fective and viable teaching method and in the long term, Saint George intends on using patient simulation in its training courses for apprentices and university students.

LEAEM trained 30 instructors within the first year. LEAEM methods were also used in nearly 120 other courses involving 1,300 graduates. In addition to required courses, Gaupp and his team designed and put on others, such as the General Emergency Medicine Course (GEM), a comprehensive 18-day program aimed at physicians who spend most of their time in the ER. In October 2010, the first 12 participants graduated as GEM Providers. This course is truly a trailblazer, as it is the first of its kind in Lebanon. There is nothing like it in the coun-

try, either in terms of curriculum or teaching methods. LEAEM also launched a course called Patient Simulation Instructor (PSIC). As a result of this course, the project team won the business of Saint George Hospital's main competitor: the American Heart Association's training center at American University of Beirut (AUB). Twelve AUB instructors received training on the application and patient simulation methodology. After promoting their project, LEAEM acquired well over 30 hospital customers within one year. Two key state organizations among their clients are Internal Security Forces (the police) and the Lebanese Armed Forces.

With the project now in its second year, the training center is standing on its own two feet, complete with Lebanese staff. Local managers and medical faculty attached to Balamund University (in association with Saint George Hospital) are now at the helm. Although the project team has left the country, LEAEM is continuing as planned. New orders are flowing in, and the Lebanese are designing and running new courses. Both Saint George Hospital management and Gaupp's team have received positive feedback – from Germany, too.

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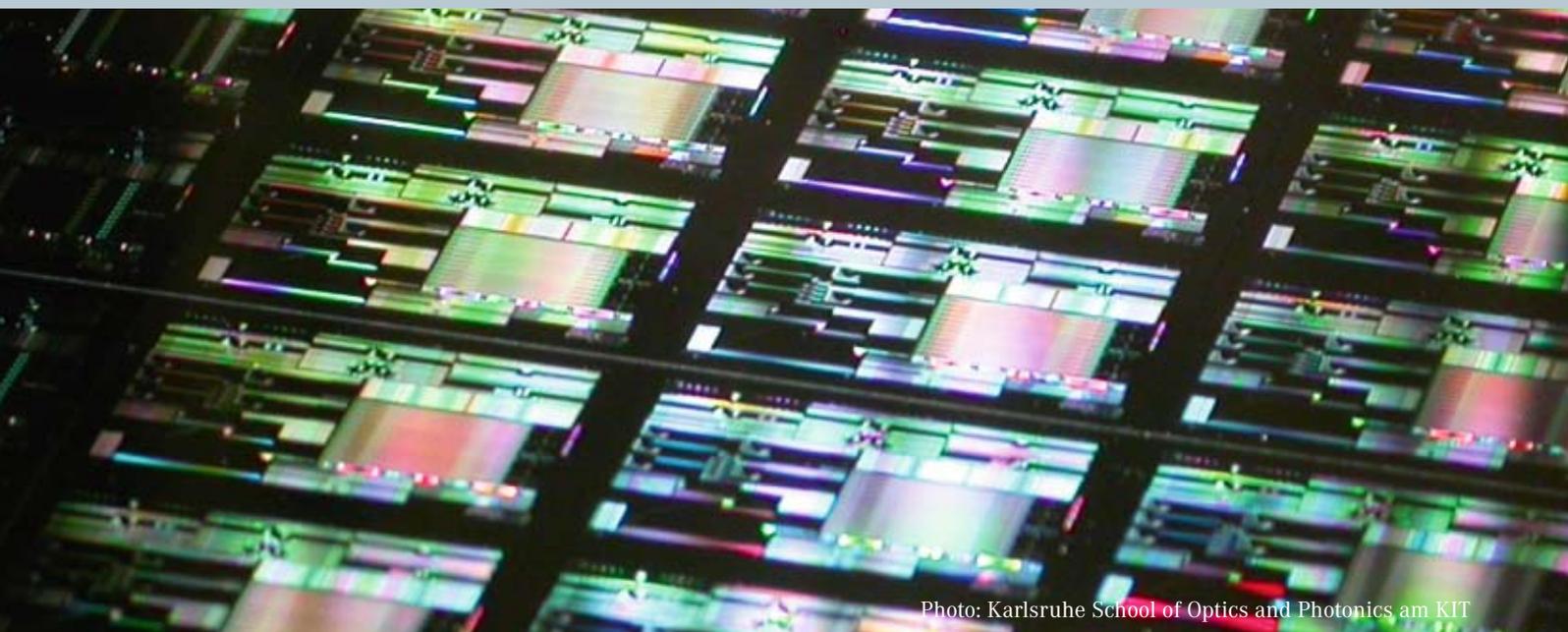


Photo: Karlsruhe School of Optics and Photonics am KIT

Roadmaps to assist SMEs in product development and strategic planning

Technology foresight for optical technologies

Companies looking into the future and realigning their strategies for the markets to come have to base their actions on their current knowledge of technology trends and research results. Technology foresights play a strategically important role in analyzing how the market is changing mid- to long-term. But obtaining access to this information can tie up many SME resources and actually hamstring innovation. For the last three years, the Steinbeis-Europa-Zentrum (SEZ) has been offering technology foresight support, especially in the area of optical technologies.

Some industries will definitively be shaped by scientific insights into optics and nanophotonic developments and technologies during the next decade. But there is often a huge gap between scientific and technical findings and tangible market success. To close this gap, the European Commission is stepping up efforts to involve SMEs in promising areas. One area is optical technologies. An analysis of medium to long-term market changes in all their complexity can dictate whether a whole company will be successful or not. As part of a European study entitled "PhotonicRoadSME: Trends in Photonics Research and Development, Product and Application visions" SEZ wrote four industry-specific roadmaps and another three roadmaps especially for SMEs. The EU project takes into account the increasingly international nature of opportunities available to SMEs, both in the marketplace and for partnerships. As a result, the roadmaps were written by nine partners in five countries, with SEZ acting as a coordi-

nator. The project received funding for two and a half years from the Seventh Framework Programme of the European Commission.

To look at technological trends, the PhotonicRoadSME team focused on how the market is developing for nanophotonic materials, new photonic parts and components, and important manufacturing technologies. The trends point to a number of potential products and corresponding application areas. Many could very well solve some of society's pressing challenges. The aim of the roadmaps is to keep SMEs up to speed on new scientific findings in photonics and industry needs in this area. To this end, the team investigated key requirements to be met in the market and in terms of technological innovation.

To provide an overview of the current status of photonics, the team looked at research findings from the last five to ten years. This

was based on the results of 300 national and international projects, 800 scientific publications, nearly 100 patents and 20 interviews with scientists. This body of data spans nine separate material categories and four separate sectors of industry: information and communication technologies (ICT), the environment, health and safety. At the same time, the team questioned SMEs on their needs and market demands. The team also carried out SWOT analyses with the SMEs. The aim was to help companies understand the technological and commercial challenges they face and identify opportunities that pave the way for new nanophotonic materials, parts, components and production technologies.

With the help of a technology road map, companies can make plans that include medium and long-term goals. Anticipating potential technological solutions helps companies achieve their goals. Roadmaps culminate in the roll-out of a new product,

technology or process – with the top priority being the needs of the companies.

All the results of the technological and market study were used to design the roadmap. The analysis of international photonics research and SME requirements revealed that it is chiefly product and application areas of photonic technology that are relevant to ICT, the environment, health and safety. Since SMEs have different needs, the industry-specific roadmaps were adjusted to each type of SME: "developers," "manufacturers" and "users." This created three more roadmaps.

Over the course of ten workshops, the separate technology roadmaps were presented to selected SMEs and put into practice. The chief aim was to disseminate project findings and translate them into an industrial context. Twelve case studies emerged from these workshops. With the companies' support, product development

strategies were worked out to help SMEs sharpen their competitive edge in the global marketplace. The workshops also helped the SMEs work more effectively with research institutions. Finally, training activities for SMEs across Europe lay the groundwork for further support of specialist training in photonics.

Thanks to the PhotonicRoadSME project, SMEs are now in a position to identify tomorrow's photonic products early in the process. Strategic planning also enjoys a boost. SMEs are supported as they work out successful, mid-term business models and investment decisions. All work from the project – the market study, research reports, the nine categories of nanophotonic materials, the guide and the roadmaps – are available for free at the PhotonicRoadSME website. A web-based tool (a wiki) was also set up to showcase the results. Access to the public area is also free.

Photonic-Roadmaps

Industry-specific roadmaps contain information on:

- key application areas
- the greatest technological and socio-economical challenges that need to be overcome in these areas
- relevant parts, components and materials
- the development status of these components, their potential applications and their main problem-solving characteristics

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Steinbeis Innovation Center received award Teaching for the long term

The Steinbeis Innovation Center for Logistics and Sustainability in Sinsheim has been recognized for its "Where Education and Sustainability" initiative. Spearheading a competition called "Ideas for Future Initiatives" are dm, the German drugstore chain and the UNESCO Commission. With their initiative, the two partners want to support local individuals who make a contribution to the future of our society.



Jens-Jochen Roth, head of the Steinbeis Innovation Center, has been successfully providing courses and staff training on sustainability for years. He joined forces with the vocational Max Weber School in Sinsheim to kick off the "Where Education and Sustainability" project. Its goal: to more firmly anchor an awareness of sustainability into the school curriculum. dm customers voted his project the winner. The initiative was recognized with a €1,000 prize presented by Prof. Götz W. Werner, dm's founder.

"Where Education and Sustainability" unfolds in the classroom, but field trips impart

learning, too. The project also draws on partnerships with companies and public bodies. The initiative is designed to encourage students to think more about ecological and social issues not just economic ones. This is done by through a series of modules based on the existing curriculum.

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Measuring advertising effectiveness with real-time responses

Lifting the veil on advertising effectiveness

Moving images play a central role in advertising and corporate communications. No matter who the target audience is – co-workers, clients or members of the general public – images should be liked, and key content and selling points must be convincing. The message should be lodged front of mind, match the brand and ultimately stimulate the desired response. To check that communication instruments are having the desired effect among the target group – before they go live – the Ravensburg-based Steinbeis Research Center for Advertising and Communication has developed an ad-response test method based on the real-time measurement of responses.

Real-time response measurements (RTR measurements, or continuous response analysis) involves capturing continuous subjective reactions to aural and visual stimuli at the actual moment of perception. Respondents are given a handset to signal their agreement, attitude or opinion by turning a dial. All dial devices are linked up wirelessly to a moderator's laptop. The dial device used by the Ravensburg Steinbeis experts is called a "perception analyzer" and was developed by the American company Dialsmith.

Most RTR testing used to be carried out in the United States to evaluate radio and TV programs, movies and TV ads. In Germany, the perception analyzer was mostly used in debate research, especially for studies during televised debates before general elections. Taking RTR readings is recognized as a valid and reliable way to gauge the reaction of audiences at the actual moment of perception.

Working with UN.MEDIA, a TV and film production company also based in Ravensburg, the Steinbeis Research Center carried out an ad-response test on several short image films and TV ads. By taking RTR plots and evaluating responses to a variety of questions, graphs could be used to answer a number of questions: Does the ad generate enough interest at the beginning? At what point does agreement to certain statements dip, and why? Is there any content in the ad that polarizes? Is the music right, the images, the voice-over?



Photo: Dialsmith

Before conducting the RTR ad response test, the respondents' demographic profiles are taken. The participants are then shown a continuous reel of the ads being tested. They are then quizzed on the originality of the ads, whether they are understandable and credible, and what they think of the quality of the ad. This is followed by group discussions to show respondents their earlier reactions, question them on their reactions, and give them an opportunity to recommend improvements.

Ad-response testing is a successful instrument for measuring the effectiveness of a variety of executions among given target groups. UN.MEDIA also plans to carry out regular critical assessments of its own work in the future to gain an edge as a small and innovative business in what is a highly competitive market.

Benefits of RTR testing

- Liking is measured immediately when respondents are shown materials
- Intuitive use of the input device
-> spontaneous responses
- No problems caused by respondents not finding the words to express themselves
- Possibility to pinpoint the exact second responses are made
- No skewing of results caused by respondents forgetting things
- Quick evaluation

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Innovation for recooling plants

Sunny outlooks in the world of virtual design



Optimize the efficiency of design processes – this was the brief given by E. W. Gohl GmbH to the Steinbeis Rating-Advisory Center in Singen, south-west Germany. E. W. Gohl is a specialist in cooling towers and recooling plants. A medium-sized enterprise also based in Singen, E. W. Gohl had an idea: to automate the process of designing cooling towers as early as the quotation phase, before passing on designs to production.

E. W. Gohl GmbH is one of Europe's leading serial producers of cooling towers. Its future goal: to design all of its products virtually, without manual involvement – in a variety of formats, including accessories – and to then hand on detailed drawings to engineers. Andreas Hedrich, the project manager for ordering at Gohl, has ambitious aspirations: "Existing technology makes it possible to achieve this. We can't yet say how close we'll get to 100% implementation, but we will get over 90%."

A cost-benefit analysis carried out at the beginning of the project highlighted some expedient ways to generate clear and neutral data, and to identify which products would be suited to Gohl's needs. Working with the experts at the Steinbeis Transfer Center, the company decided to introduce a CAD system called SolidWorks, which came complete with a product data management system (PDM). The project was given the name GohlCAD.

Once the team had selected the software, the project manager and head of product development were given detailed instruction on how to use the system, and a specification was drafted for the new network software. Simultaneously, the team started the 3D design of individual parts. As the company had previously only worked with a 2D system (CADkey), all parts had to be cleared with pro-

duction and created completely from scratch, adhering to a variety of criteria.

So how does the GohlCAD system work? People in sales and order processing work with software and a configurator (a set of rules). People working on the designs use a CAD system with integrated PDM. Between this, network software feeds commands issued by the configurator directly into the CAD system: the CAD needs a kind of interface to make it possible to initiate CAD commands "from outside". Modern CAD process technology does this by creating a 3D CAD geometric model as a basis for deriving automated 2D designs. The 2D designs contain standard views, an ISO view, a foundation plan and a loading plan. To keep things clear, text markers are attached to planned components. If needed, neutral files formats such as PDFs are made available. These are saved in offer and order folders for anyone to view. To process orders, two other functions were planned. One: the automatic replication of all sheet metal parts in DXF format. The other: automatic transferal of punch and cutout areas to the sheet metal parts. Elmar Marmann, head of sales and marketing at Gohl, is impressed with the new software: "The SolidWorks data exchange program, eDrawings, allows you to read, view and add comments to SolidWorks files without a CAD license. It will help the sales department clear things with the design

department, and is ideal for presenting components to clients and explaining how they work." Marmann's co-worker Christian Noack, who heads up product development, can only point to benefits with the new system: "The PDM system makes it much easier for us to find our design data and areas within drawings," Noack confirms. "With the CAD system, you can also check technical parameters virtually. It's much easier to judge whether parts or retro-fit components can be integrated into new or existing equipment."

The introduction of the GohlCAD system has made it possible for the company to preserve resources for actual construction activities. From now on, standard designs and capturing expertise digitally are par for the course. Summing up, the Steinbeis project manager, Andreas Hedrich, says: "This has resulted in the creation of a pool of important components for future developments. As far as I can see, in the future, we'll save significant time and money at each development stage. The next projects could involve fluid simulation, digital documentation, or both."

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The launch of a new financial management system

Keeping close tabs on finances

New public management, and new monitoring methods and control instruments. In public administration, these terms are omnipresent. Adapting these concepts to the public arena requires using business instruments. As part of his master's degree at the School of International Business and Entrepreneurship at Steinbeis University Berlin, Thomas Dippert worked on the launch of a new financial management tool at the Brandenburg State Department for Rural Development, Agriculture and Land Consolidation.

The German state, individual federal states and local communities all carry out regular spending reviews with the aim of moving towards more resource-oriented management. Among other things, this involves ascertaining and taking into account public assets, medium- and long-term liabilities, and developments in success-related and financially driven planning methods – in parallel with software support.

The Brandenburg State Department for Rural Development, Agriculture and Land Consolidation is currently in the course of launching such financial management instruments. One of the first steps will be to use software to link existing fiscal accounting to double-entry accounting systems and supplement this with costing mechanisms and assets accounting. The idea in the long term is for the new system to be developed centrally but as much as possible be controlled decentrally, i.e. by individual authorities. The task of long-term development was given to Thomas Dippert, who looked at the topic as part of a project towards his MBA degree.

Dippert investigated the field the authorities operate in, plus internal factors, revealing four key issues relating to the introduction of a new centrally-controlled financial management system in individual offices. Based on this, he drafted a four-part plan for controlling changes efficiently in the future. The four

parts: complex, decentralized, risk-based project management, optimized local control of budgeting procedures, a comprehensive change management system, and the identification of potential benefits.

One important aspect relating to Dippert's project is information sharing and communication. To manage projects effectively outside central departments, a good overview is needed of all content areas and parts of the new financial management system. These need linking to all affected departments and functions. They should flow into the project at the right point, taking central planning into account and ensuring that people outside central departments have access to the latest data. As a result, project management was broken down into task areas, matched to those units with the organization affected by the move. Priority tasks were set according to the potential risk to the overall project.

A particularly challenging part of budget management is accessing information as future processes take place. For example, staff need to be given specific training and have to be kept informed about organizational changes. They also need to be involved in the actual implementation. To do this, a process needs to be in place to analyze critically how long it takes to forward certain documents, including examining the individual stages that documents go through by location.

Change management procedures should be put in place, matched to specific target groups. The aim of this is to raise staff acceptance for the impending changes by providing information. The potential benefits of the new financial management system were not yet totally apparent during the launch phase, so it was necessary to underscore the actual potential and share this with people affected by the project. This was achieved by creating a fictional departmental balance sheet – an important step in changing attitudes.

As the four issues described above remain constant factors for official departments in projects of this kind, the content of a major, centrally-managed projects can be implemented seamlessly and thus more efficiently. This process takes a holistic approach to long-term changes, thereby also making implementation more efficient.

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Certification course for professional speakers now in its second year

Leadership and the art of public speaking

Managers' duties range far and wide. Whether or not managers can execute them all and meet their goals greatly depends on their ability to persuade others in conversation and presentations. Yet even experienced managers can find speaking to switched-on audiences stressful. Managers, however, are precisely the people who should be able to animate their listeners with lively authenticity. The operative word is entertainment, not boredom.

The German Speakers Association (GSA) is now entering its second year of partnership with Steinbeis University Berlin. The Professional Speaking course is aimed at established and aspiring professional speakers as well as people who need to acquire speaking skills for their job. The year-long certification course for people in employment is directed by Markus Hofmann, a noted memory expert, and confers the title of Professional Speaker GSA (SHB) upon completion.

Participants receive instruction over eight weekends, covering the core competences

of a professional speaker. This includes presentation and performance techniques, body language, stage presence, voice training and off-the-cuff speaking. Marketing, self-promotion, PR and sales are also addressed, as are business administration and time and office management. "Once again, we were able to secure the industry's best speakers for this course," says Hofmann, Certified Speaking Professional and Director of the Professional Speaker GSA Steinbeis Transfer Institute. "And I'm happy to report that feedback from the first course is excellent all around!"

The Professional Speaker GSA SHB certificate is a university-level certificate that is granted as part of a non-academic study program. After students pass their examinations, they are awarded this certificate at the next fun-filled GSA convention.

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Certification course in real estate energy management

Using energy more efficiently in commercial real estate

Nearly 40% of annual energy consumption goes into occupied buildings. Sustainable buildings create efficient overlaps between building design and energy conservation. More and more, the simulation of difficult conditions brought on by weather and everyday use is allowing industry professionals to improve the energy-efficiency of buildings. New research shows that by running buildings properly, it is possible to cut energy costs by almost 20% without compromising on comfort. The certification course in real estate energy management keeps experts up to speed on all the latest developments.

To work out whether a building is being badly run, managed, or its weakness is of a more fundamental nature, professionals have to look at the entire process, from the energy supply to storage, distribution and actual use. Thanks to high-performance monitoring and diagnostic tools, designers can analyze data in real time and use this to map out needs. This information forms the backbone of smart energy regulation strategies.

Given the array of technical possibilities, practical administrative factors, plus financial issues, optimizing energy use in build-

ings will always be a complex task. Energy management processes need to be headed by business-minded generalists with a keen understanding of the technical principles underpinning energy. Certification builds on this expertise through systematic, practical instruction on tapping into energy-saving potential and ways to cut costs. Third-party and in-house building and energy managers are provided with the skills they need to manage energy-efficient buildings and operations. The course starts in April 2011, spanning four modules over a total of 12 seminar days.

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Seminars for managers and specialists

Qualifications from the School GRC

The School of Governance, Risk & Compliance and the Steinbeis Transfer Institute for Risk & Fraud Management at Steinbeis University Berlin offer seminars for compliance officers, members of supervisory boards and other professionals looking to enter this field who require instruction in basic theory.

Participants can build on their knowledge in four separate areas at the School GRC one module per area: compliance, business administration, crisis management and general skills regarding competencies. The compliance module, for example, uses a case study to teach anti-fraud management. The curriculum also covers how compliance units

must be structured within companies and which specific issues relating to labor, criminal and data privacy laws companies need to consider.

These one to three-day courses take place in Berlin and can be booked as a package or as individual days.

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Summer School 2011 at the Steinbeis Business Academy

Strategy – Management – Ethik

To honor the long tradition of summer school, the Steinbeis Business Academy (SBA) at Steinbeis University Berlin is organizing the 2011 Summer School event from July 6–9 at SIMT, SHB's teaching facilities in Stuttgart. The program will focus on strategic thinking, management and ethics.

Based on the line-up of topics alone, everyone involved can look forward to lively and fast-paced knowledge transfer. Steinbeis University Berlin aims to use this program to serve as an alma mater that does justice to enrolled students and alumni alike. Non-students are also eligible to apply for the SBA summer school program.

The first day is all about strategy and strategic direction. A food-for-thought lecture entitled "Innovative Outlooks for Companies: The Future as It is Today" gets things moving in the right direction. Dynamic times like ours make strategic direction more important than ever. Businesses need creativity and inventiveness to survive in the marketplace. Ultimately, these skills spark new ways of thinking and acting, and they equip people to address key social criteria – an active and challenging approach to staff development, sustainability, using resources sparingly, achieving a work/life balance, and

more. The day closes with a panel discussion that tries to answer the question, "Tradition? Or Innovation?"

The second day focuses on management and leadership. To lend momentum, the session begins with a talk on establishing and leveraging networks of expertise. "Bringing Stability Through Change" is the title of the thought-provoking closing discussion, which promises plenty of insight and stimulation for the gray matter.

The third day of summer school, which explores the issue of corporate ethics under the headline "Conflicting interests: ethics, morals and money", starts by looking at strategic principles of innovation. It then turns to the management qualities required to maintain stability by making specific changes within companies. Clarifying and setting personal or group goals can lead to conflict, even when these goals are based on ethical principles.

Afternoons are reserved for workshops. They delve deeper into program themes in four stages. Groups are asked to discuss the day's topic in depth and explore all aspects from one of four rotating perspectives: the state, a global company, a community and a small business. In the presentation that wraps up each day, groups explain their results. The discussion that follows highlights a variety of conflicting interests between different strategic models – running vertically and horizontally throughout organizations – management hierarchies and ethical expectations that also need resolving in the real world.

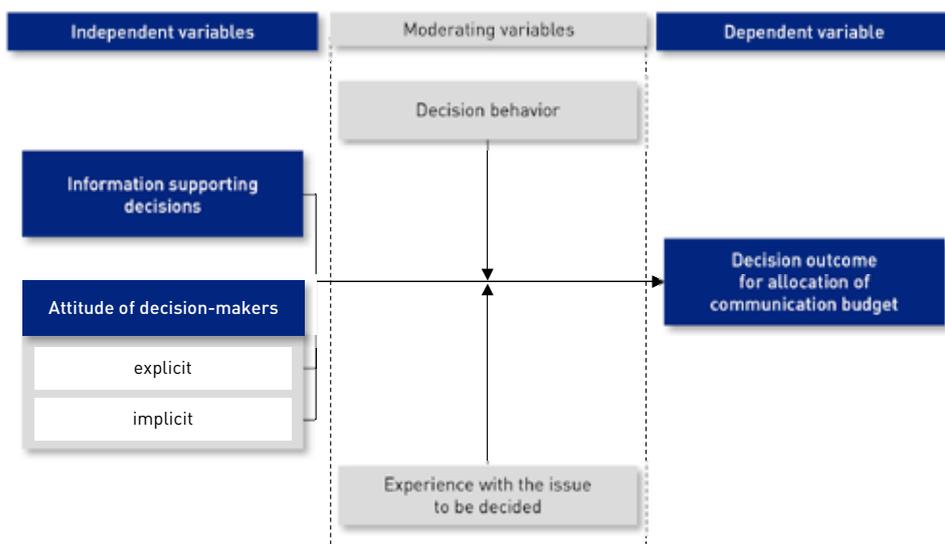
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SHB PhD student examines the factors influencing the allocation of communication budgets

What makes decisions-makers tick

According to a study carried out by ZAW (the central association of the German advertising industry), advertising expenditure in 2009 amounted to around € 28.84 billion. Despite the significance of advertising to industry, few studies have so far been carried out into which communication instruments managers decide to spend their advertising budgets on, and how this decision-making process can be influenced. As a result, as part of his Project Competence PhD at Steinbeis University Berlin, Ralf Kiene decided to investigate the influence of a selection of parameters on the allocation of communication budgets – with a focus on the factors influencing decision-makers.



The dependent variable under investigation was the outcome of the allocation of the communication budget. Ralf Kiene restricted the decision to a selection between two media plans with different spends on promotional letters as a proportion of the overall communication budget.

The independent variables were chosen deliberately to identify key factors influencing decision-making. The level of influence was examined by looking at budget allocations. The independent variables were chosen by seeing whether the decisions to allocate communication budgets centered more on the cognitive processing of information or whether decision-makers leaned more towards intuitive factors based on judgment.

In analyzing the attitude of decision-makers, two attitudinal tendencies were taken into account. Individuals with more explicit attitudes deliberately provide information. They control their utterances. This contrasts to implicit attitudes which individuals have no conscious access to, so they cannot actively influence how these are expressed. Apart from analyzing the influence of independent variables, the study also looked at the behavior of decision-makers when making decisions and their experience with the allocation of communication budgets. These counted as moderating variables.

To carry out his study, Ralf Kiene conducted online experimental research among decision-makers in marketing who already had

experience allocating communication budgets. In total, 301 people took part in the test. Their average experience was around 13 years. On average, respondents had approximately seven years' experience in allocating communication budgets. The data was put through the chi-square test. Apart from confirming statistical significance, the hypothesis was checked using empirical measurements relating to the strength of effects, so as to evaluate the practical significance of observed differences.

The key finding of the study: decision-making when allocating budgets is significantly influenced by the information used to support the decision as well as explicit attitudinal factors. Implicit attitudinal factors had

no significant influence on decision-making. The relationship between information supporting a decision, explicit attitudinal factors and decision-making is also influenced by the behavior of deciders and their experience with the subject:

- The decisions of more deliberate deciders, who base their decisions more on methodical analysis, stem less from their explicit attitude and more from information used to support decisions. The decisions of more intuitive deciders, who tend to listen more to their feelings, stem less from the information used to support decisions and more from their explicit attitudes.
- Decision-makers with strong experience in the area make decisions based on their explicit attitude, and less based on information. Deciders with less experience in the area draw more on information and less on explicit attitudinal factors.

When deriving statements relevant to business, a distinction was made between advertisers and businesses who provide services relevant to budget allocations. Looking at advertisers, the study indicates that the decision-making process for allocating communication budgets is influenced by the information used to support decisions and the (explicit) attitudes of deciders. It is not possible to make general statements about which of the two factors influencing decision-making is more likely to affect the degree to which communication goals are achieved. Given the increasing pressure managers responsible for communications come under in business to justify spends to colleagues, it is more important to advertisers to know which of the two factors influences the allocation of communication budgets, or which should do.

For companies involved in providing services as part of the process of allocating communication budgets, Ralf Kiene derived some routes to influence key decision-makers in a targeted manner. His recommendations for influencing advertisers making the decisions:

- It is probably better to give decision-makers facts if they lean towards more deliberate decisions and they have less experience in selecting communication instruments. The message to these decision-makers should be on a factual level, informative, and with convincing arguments. To appeal to decision-makers, focus more on descriptions, objective issues and proof that instruments work.
- If decision-makers lean more towards intuitive decision-making and already have strong experience with communication tools, they should be influenced more with imagery. It is best to use a more emotional approach with these decision-makers and focus on creating a clear, positive image for the communication instrument.

Ralf Kiene's dissertation will be published shortly in Steinbeis Edition (in German: Allokation von Kommunikationsbudgets – eine empirische Analyse von Einflussfaktoren auf die Entscheidungsfindung im Rahmen der Allokation von Kommunikationsbudgets unter besonderer Berücksichtigung entscheidungsträgerbezogener Parameter", ISBN 978-3-941417-56-4).

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MBA lectures series now also in Berlin

A discussion with...

Theory is all well and good, but it remains two-dimensional if it is not pertinent to practice. In their mission to practice what they learn, Steinbeis MBA students have been living this approach for ten years – by organizing talks outside lectures and meeting leading figures from business, politics and society.

The MBA lecture series has been running since 2002, with a string of managers, politicians and other engaging figures regularly coming to the Haus der Wirtschaft in Stuttgart. Among the many speakers have been people like Reinhold Würth, Herrmann Bahlse, Dr.-Ing. Bernd Bohr and Prof. Götz Werner. Now the MBA lecture series is being extended to Berlin. The aim of the Berlin MBA lectures is simple, but it works: no more boring run-of-the-mill speeches, but instead, engaging, contemporary and relevant topics from the German capital. What will be special about the lectures in Berlin is that all kinds of people will be involved – top managers, young entrepreneurs, creative personali-

ties, even people who experienced failure. The emphasis is on exchanging views and knowledge. All Steinbeis University Berlin students and alumni are invited to events.

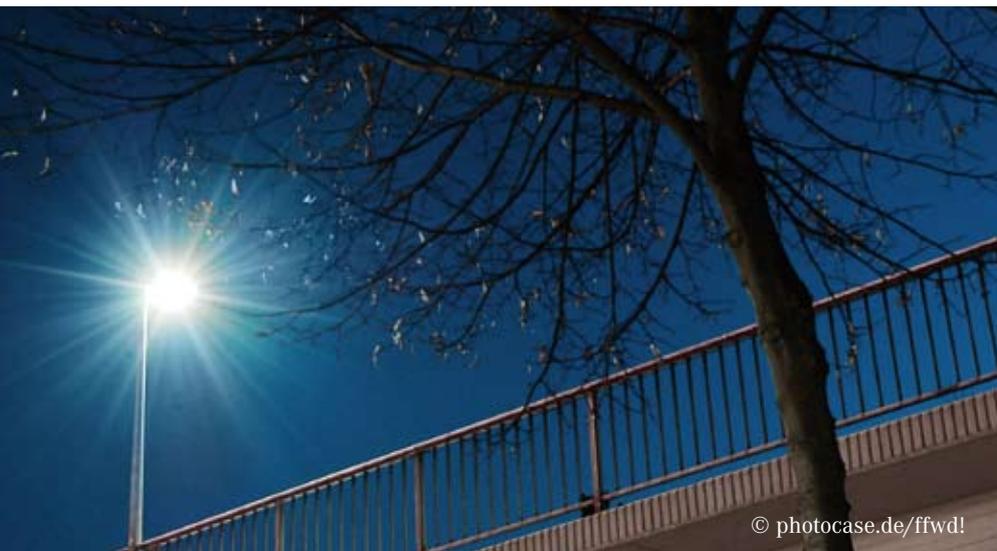
The organizers of the Berlin MBA lecture series are currently seeking backers for the students' voluntary work, either financially or by providing materials. The Berlin organizers would also welcome support with the setting-up of MBA events.

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Innovative solutions for illuminating streets and squares

A new era of street illumination

As towns have grown over recent years, so has the number of street lights – meaning that costs have also grown in proportion. Nowadays in Germany, there is one street light each seven citizens. That's around 10 million street lights, all consuming electricity. With figures on this scale, saving energy is all the more important – not least because energy costs like these are burdening council budgets in a time of declining revenues. The Steinbeis Transfer Center for Identification Media & Identification Management has been investigating various technical solutions.



In 2009, the average amount of electricity consumed by street lighting for a town of around 25,000 inhabitants was 991.811 kWh. The Steinbeis experts in Müllheim used figures like these as a starting point to develop street lights using a more economical light source. These street lights, which are now about to enter mass production, can reduce electricity costs by at least 45% – or even by 100% in the case of the self-sufficient "POI" systems. It goes without saying that this technology substantially lowers operating costs for street lighting. POI stands for Point of Illumination, a type of lamp that uses LED and photovoltaic technology. There are several good arguments for using this new solution – the financial benefits first, but also environmental considerations. The lamps are powered by solar energy, which they use extremely conservatively. As well as being good for the environment, this is also good for operator budgets. "Light into light" is how Armin Bäuerle, director of the Steinbeis Transfer

Center, described this innovative lighting technology. The built-in photovoltaic panel generates the electricity that powers the LED array. As expected, this solution eases the burden that street lighting places on council budgets. These self-sufficient, solar-powered lights are especially ideal for illuminating streets and facilities which lie outside inner-city areas, as they break up with the hassle and expense of laying electric cables. So POI systems can operate independently, without needing to connect to the electricity infrastructure. In buildings and facilities where lights are expected to almost pay for themselves, longevity and low servicing requirements play a major role. When it comes to lifetime, conventional street lights simply cannot compete with POI lamps – at around 50,000 hours, their working life is almost five times longer.

Aside from financial issues, the light from POI lamps also attracts far fewer nocturnal insects. As it is reflected and indirect, the

light in POI lamps can also be pointed precisely where it is needed, thereby avoiding unnecessary light pollution in towns and communities.

"Our knowledge and experience in electronics, combined with the expertise of the Steinbeis Transfer Center, creates a perfect foundation for developing customer-oriented solutions. This makes us a major competence center for the latest LED lighting solutions. Reducing CO₂ emissions is vitally important, so this is a key step and a small contribution towards conserving our environment for future generations," explains Ottmar Flach, head of Atlantik Elektronik GmbH and a partner in the POI project. "We see further opportunities for this self-powering lighting technology, not just in public areas," adds Markus Biechele (biechele infra consult), a Freiburg-based engineer and planner who is the third partner in the project. "For instance, private and industrial applications."

The upcoming Light for Africa project is the team's first step in bringing this technology to new markets using partnership-based approaches. The design of the lights, which literally pay for themselves, has been adapted to the local culture.

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Steinbeis student project looks at optimizing material planning

Kaizen – change for the better

Kaizen is a holistic management philosophy that harks back to 1950s Japan. Ever since, it has been considered the most important Japanese management method. Kaizen is probably best translated as "continuous improvement." The fundamental aim of kaizen is to optimize existing processes and systems through incremental improvements and small adjustments, and thus minimize or – whenever possible – eradicate waste in a business. As part of his master's degree at the School of International Business and Entrepreneurship at Steinbeis University Berlin, Stefan Kopf looked at the implementation of kaizen in the material planning of retail products at the Wendlingen-based toolmaker Festool GmbH.

As a business process, one of the aims of retail product material planning is being able to call up products as needed. The responsibilities of the material planning department thus include ensuring items are available for delivery and managing stock quantities and stock mixes. Overall, the aim is to maximize stock availability while minimizing stock levels.

Festool placed its trust fully in its MBA student and gave him an extremely simple remit: minimize waste. Stefan Kopf began his project by analyzing the status quo then defining a roadmap for the project. Goals were laid down in the project strategy plan by using a variety of portfolio techniques and matrices to capture active and passive factors. Once his project definitions were complete, Kopf started a sub-project to minimize storage area and significantly reduce the warehousing space being used in the consignment warehouse. With his team, Kopf realized that existing restrictions and processes had fallen behind modern needs and were no longer up to the job. By mapping new material retrieval processes and consignment guidelines, the sub-project successfully achieved its aims. Processes were streamlined to match future needs and long-term stock volumes were reduced.

The next sub-project, an ABC/XYZ analysis, was based on the premise that items have varying levels of importance in the sales program. Accordingly, they should be handled differently in material planning. To rank items in the ABC/XYZ analysis, the share of



overall value of an item was given an A, B or C rating. The predictability of ordering was scored with an X, Y or Z. This was deemed necessary to optimize handling and manage warehouse items and stocks. By developing their own analyses and procedures, the team was able to classify items in the product portfolio precisely, without having to invest in third-party solutions.

A third sub-project was set up under the name "Automatic Ordering". Staff working in materials handling for retail products had identified that too many people were tied up in day-to-day operations, and that staff were thus unavailable to work on improvements in internal processes and procedures. This problem can be minimized by using an SAP-based automatic reordering system. Before the project, only a small number of test components had been ordered using this process, so now the aim was to order a larger volume of products using this system. To do this, the team referred back to the

ABC/XYZ analysis, which allowed them to identify suitable materials and then integrate them into the automatic ordering process.

Apart from these three sub-projects, Stefan Kopf and his team worked on a number of other ideas to support continuous improvement processes. For example, they set up regular scheduling workshops, a wiki to coordinate know-how, and a variety of supplier optimization projects. The results were a powerful reminder of the success of the project skills methods used at Steinbeis University Berlin: by partnering with leading companies like Festool, success can be shared in by all.

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Steinbeis researchers analyze gender-specific investment behavior

Women make different investment decisions

Over the last few years, the question of whether women invest their money in ways that differ from men has attracted plenty of interest in business and research. During the financial crisis, the press declared that women are supposedly more cautious and take a defensive stance in the stock market – so their capital investments saw greater gains in that period. The chair of Financial Psychology, Sociology and Finance Ethics at the School of Management and Innovation (SMI) at Steinbeis University Berlin (SHB) recently unveiled empirical data that subjects these speculations to scientific scrutiny.



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The findings are based on the evaluation of more than 500 questionnaires given to male and female investors between 2009 and 2010 during stockholders' meetings and investor trade shows in Germany. At the time of writing, the SHB research team had surveyed more than 1,000 people. "The women in our

test group tend to be more risk-averse," affirms Professor Dr. Dr. Sabine Meck, the department chair. "This was evident not only from the answers they gave about investment products. The scores these women gave for their willingness to take risks were significantly lower than those of their male counterparts."

In contrast to men, women prefer liquid assets to capital investments, the only exception being real estate: "Gilt-edged concrete" as it's called in Germany is often seen by both sexes as an investment that will ride out any crisis. Women are also much more likely to want to do bank business in person as the financial advisor carries a lot more weight with them. As a result, compared to men, a significantly lower number of women do their banking online or over the phone. "This could be that women are more afraid of losing money," muses Meck. "Until now, a significantly smaller number of women disagreed with the statement that the word 'credit' still links back to the Latin word it's derived from – 'creditum,' or, 'trust!'" But it's still up in the air as to whether women don't trust the Internet in general or their doubts are more about banking in general. "We've spotted another divergence in this group, and a very well-known one. Although many more women have the German secondary school qualifications to attend college, significantly fewer actually have a college or advanced degree. It's only in the younger women that we're starting to see their bachelor's degrees catch up with men," adds Meck. "As for next steps, we want to investigate what roles age, education, religion and profession play in

investment. And whether these factors steer opinions on money, and if so, how."

These precise scientific analyses and the underlying theoretical context are the subject of various dissertations in progress at the SMI Chair and Erasmus University Rotterdam in the Netherlands. Professor Frits van Engeldorp Gastelaars is at the helm of the Dutch comparative studies. "We're interested to see if we can measure cultural differences in attitudes toward money. We believe that what people associate with money is always dictated by culture. Scientific studies pertaining to this are still thin on the ground." Meck agrees: "Attitudes about money hinge on numerous sociological and psychological factors. We're assuming that we'll run into particular 'money types' in our samples. Up until this point, things have been pointing to a specific gender pattern. On the whole, women tend not to associate money with power and respect as much as men do." It will be fascinating to see how money profiles emerge in the representative samples. Theoretical insights from the studies will be discussed and put into practice at the second Finethikon, a conference on financial ethics, to be held on October 5-6, 2011 in Eichstätt.

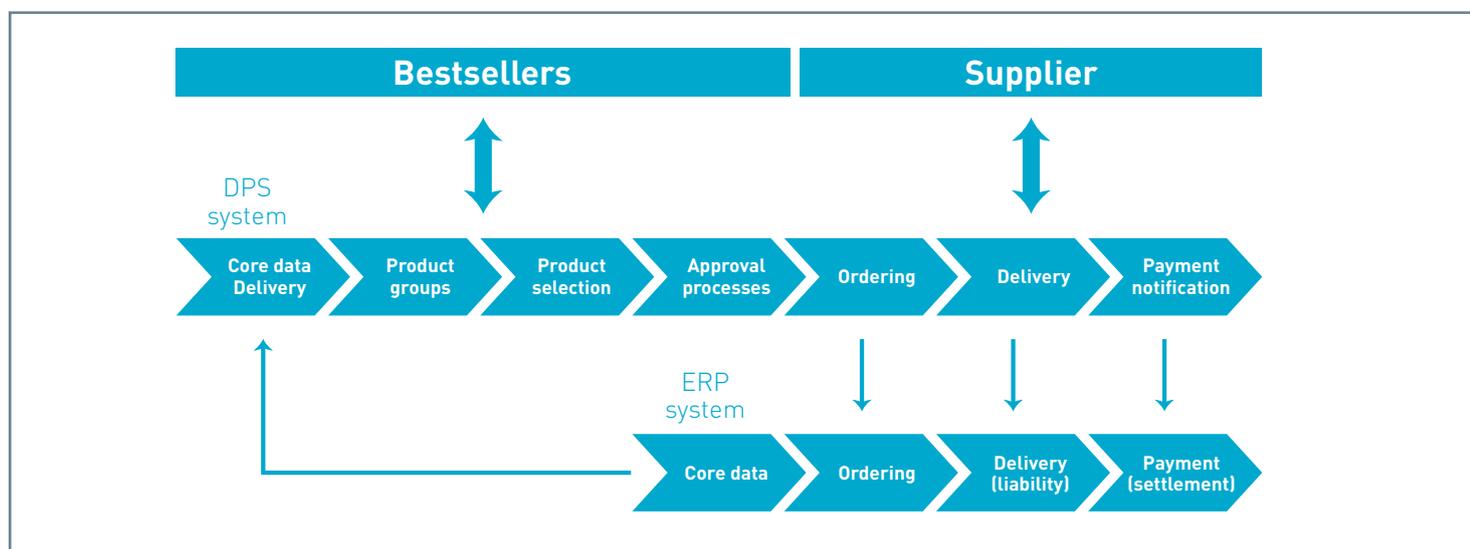
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Optimizing processes at a medium-sized company specialized in parking facility management

E-procurement – a key long-term competitive advantage

The trend towards outsourcing has had a severe detrimental effect on many companies' real net output ratio. As a result, more and more goods and services are being sourced through third parties. Consequently, in recent years the significance of procurement to business success has risen sharply. Increasingly, this area of the business is becoming pivotal to profit and competitive advantage. The options open to medium-sized companies to leverage this advantage were investigated by Jörg Mayr, as part of his bachelor's degree at the School of Management and Technology at Steinbeis University Berlin.



E-procurement system integration

The increasingly important role played by the internet is providing companies with modern new procurement options. The targeted use of web-based electronic buying, or e-procurement, saves time and money. The challenges faced in introducing e-procurement at medium-sized companies are fundamentally different to the challenges faced by big companies, however – not least because of the vastly different transaction volumes involved and the smaller scope of cost reduction. So if a medium-sized business does succeed in introducing e-procurement, it can often be a strategic competitive advantage.

As part of his degree project, Jörg Mayr analyzed how a typical medium-sized company in the field of parking facility management can make product and process savings by in-

roducing an optimized, electronic buying process – e-procurement – and the long-term contributions this would make to improving revenues. The company involved had already enjoyed significant success by continuously improving its industry-related business processes. For example, as a result of a comprehensive analysis of general overheads in 2009, a number of new measures were introduced to cut costs. All were aimed at improving long-term revenues. Specifically in procurement, a number of approaches emerged to make buying processes more simple in the future, easier to control, and whenever possible, automated. The procurement process focuses mainly on indirect products/MROs (maintenance, repair and operating products). These are not an integral part of company services. Apart from re-or-

ganizing the buying process and process modeling, it was also essential to take investments in related IT systems into account.

There are many ways to improve procurement systems. Most focus on products and the processes. An analysis of processes showed that over 80% of all purchase transactions stem from the procurement of indirect/MRO products. Existing processes are paper-based, long-winded, prone to errors and thus expensive. Processes are analyzed to ascertain whether the intended use of resources would add value to the company. The process savings expected from a project depend on how completely processes are supported – at every stage of the procurement process – plus the extent to which different kinds of processes are covered. An

analysis of products showed that there was a high number of indirect/MRO products as a proportion of total company expenditure: Including plant and investment goods, they accounted for around 8% of total item turnover, the third biggest cost category. Many high-cost investment goods (parking equipment) were acquired outside volume contracts by side-stepping the central purchasing function ("maverick buying"). The portfolio of products needed to provide core services was multifaceted and extremely heterogeneous. A particular feature of parking facilities and equipment in multi-storey car parks is that products are highly specialized and cost-intensive.

This is compounded by a need to make the right parts immediately available for repairs and maintenance, otherwise equipment

could stop working, which means losing money. The team ran a product analysis to see if a specific selection of required products (including their suppliers) could optimize costs in this area in the long term.

The analysis showed that the challenges for medium-sized enterprises involved in parking facilities are more of a financial and less of a technical nature. For them, e-procurement solutions have to focus on the buying strategy and be tailored to company needs. Individualization and ongoing updates can ensure a company maintains a strategic edge on its competitors. However, as the economies of scale in medium-sized firms are lower than in a large company, actual outcomes are less marked. There is therefore less leeway to solve problems. Instead, more attention must be paid to planning and

implementation. Introducing e-procurement plays an essential role in realizing the corporate strategy in the long term. It also lays a meaningful foundation for further growth.

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The 2011 webscout convention

Media crises – how to react when things go wrong?

The second webscout convention takes place in the KunstWerk center in Karlsruhe on May 18, 2011. Spanning several events, this time the convention will look at the issue of media crises, with a focus on the role of social networking within corporate communications. Steinbeis is backing the event as a media partner.



How should companies react when things are written about them – online or offline? Do they always even need to react at all? What mistakes do companies make with crisis communications when things go wrong? These are issues being looked at during the convention, as well as online measurement of campaigns and media reach, Google visibility, and the best way to evaluate platforms

like Facebook. To distinguish itself from larger events, the convention is deliberately being kept small. To ensure speakers can exchange views and converse with others, participant numbers are limited to 100.

The evening before the event, the organizers are inviting participants to a friendly discussion with the speakers in a relaxed atmosphere. The keynote speech at the convention will be given by Stephan Schlenrich, who has been working as an investigative journalist for the German ARD TV channel for nearly 30 years, including as editor of the political magazine "Report Mainz". As a specialist in covering crises, Schlenrich has reported from Baghdad, the Middle East, Thailand after the tsunami and Haiti after the earthquake on

the German evening news. As director of the Steinbeis Transfer Center for Communication, Safety & Security, he helps industry clients plan up-to-the-minute crisis strategies, assesses areas of risk within companies, writes crisis manuals and checklists, and trains senior and mid-level management to recognize, prevent and manage corporate crises.

Participants can register for the event online. Tickets cost € 449 and include the meet-up on the evening before the convention, food and drink on 18 May, and an evening event with chefs and music.

Dr. Nadine Höchstötter
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HR performance management and its three core constituents

Pulling through the crisis in HR

Looking back on the most recent economic crisis, it seems that the German economy was not as easy to unsettle as it was in previous crises. One moment the Germany economy was busy catching up, the next it was in the fast lane. One unorthodox aspect this time round was that HR departments were to thank for a significant share of the positive developments. Working hours, remuneration and training were kept flexible in the short term, yet sustainable in the long term. This helped firms "make it" this time – or do better than last time, as Dr. Viktor Lau and Prof. Edmund Haupenthal of the Technology – Organization – Human Resources Steinbeis Transfer Center explain.

Nevertheless, the last economic downturn once again exposed genuine inadequacies in HR departments. Of all places, these were in the key areas of people management and staff performance. The term we use for this is HR Performance Management. This includes assessing, paying and developing staff.

Staff appraisals include the assessment of qualifications and skills, potential, performance and achievements, and evaluating the fulfillment of targets. A cardinal error when setting targets and going through performance reviews is when managers deliberately include targets that have long-since been captured in job descriptions or candidate profiles. What personal targets should define is the extra mile that people need to go to receive extra pay (variable compensation). Many consultancies show how this is done. Sadly, too few organizations in other areas follow their example – with disastrous consequences. Because this bad practice results in double payments for something that was only achieved once. In times of crisis, management inevitably loses credibility, simply by trying to maintain course. This becomes all the more exacerbated if companies fail to compensate for the discrepancy between overall company performance and individual target fulfillment – a discrepancy we witness time and again, especially during economic downturns: employees go home with 120% target fulfillments and a bonus to match, while the company creaks under the paradoxical strain of added costs. No management instrument helps in this situation. What's needed is leadership. Which,

obviously, as ever, means uttering unpleasant truths and calling average performance what it is: average.

Misguided appraisal systems fuel illogical **salary structures**. This applies to the way basic salaries are set – linked to skills or qualifications – as well as the allocation of variable pay, which is dictated by the fulfillment of targets. Many organizations still find it difficult to link salary levels and career levels to meaningful salary brackets. These should define the minimum and maximum pay and have clear, unequivocal boundaries. They should be dictated by the role, tasks, skills and status of a position. They should not have evolved over time from the salary structures of individual employees. Salary systems must be pieced together around roles and tasks, not individuals.

Meaningful salary structures should also tie up with carefully thought-through **development programs** – HR Performance Management entails an extremely close, often unseen connection between staff salaries and staff development. Pivotal to this is the link between career levels and salary brackets. And a career these days is no longer just about a management career. In today's knowledge and service economies, a management career is just one career option among other, equally important career paths, such as specialist, project and sales careers. Recently, people have even written about "committee careers." On top of this, demographic change and productivity improvements are chipping away at clas-

sic management careers. Ambitious people find themselves sitting it out on career plateaus filled with people in their late thirties. Adaptive career systems have been proved to defuse this situation with different career paths and levels that are analogous in formal terms and secure staff loyalty and enhance the attractiveness of the employer. Experience shows that this only brings benefits after the crisis, but these are then much more valuable benefits.

To pull through a crisis in HR, a business needs dedicated HR Performance Management, encompassing an integrated appraisal system (which separates regular duties from extra-mile tasks), a role-related remuneration system (with defined entry and exit points within salary brackets), and last but not least, an adaptive development system (which does justice to our "multi-option society"). Ultimately, systems must allow for a multitude of career paths, and not be cast in stone and shackle people to the spot.

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Complimentary consultations for SMEs

Short consulting sessions by the Steinbeis foundation

With its short consulting sessions, the Steinbeis Foundation helps small and medium-sized businesses tap into sources of technology and knowledge. The aim is to open the door to the latest scientific findings and technology. Other benefits of these sessions include direct contact with the Steinbeis network of experts and sound business advice.

Requests for a short consulting session can be submitted by companies, representatives of various chambers, the Baden-Württemberg bank, institutions of economic development and managing directors of Steinbeis Enterprises, specifying what the session needs to address. All forms can be found online.

Short consulting sessions must meet the following criteria:

- The organization's head office must be in Baden-Württemberg

- Annual revenue (last financial year) cannot exceed € 100 million
- Only one session per year
- Applications, decisions and contracting are managed by Steinbeis
- The session is free of charge

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Steinbeis Consulting Center gains consulting accreditation

ESF program lends a hand

The Steinbeis Consulting Center for Business Coaching has been accredited as a consulting service for the European Social Fund (ESF) Coaching and Skills Consultation and Staff Development programs of the Baden-Württemberg's Ministry for Economic Affairs.

Steinbeis consultants support, coach and advise small and medium-sized businesses on the planning and implementation of corporate strategies. The consultation services are financed by the state of Baden-Württemberg using an ESF grant.

The Coaching development program

This program funds coaching on:

- Planned innovation
- Cutting energy consumption
- Demographic change
- Corporate handovers
- Collaborations

The grant covers no more than 50% of the coaching fee for a full day (eight hours), not exceeding € 400 per day. Up to 15 days are covered per topic and company.

The Skills Consultation and Staff Development program

This program funds activities in:

- Skills and continuing professional development consultation (A)
- Systematic HR development (B)

Applicants can receive support in both areas. The grant covers 75% of the coaching fee for a full day (eight hours), not exceeding € 600 per day. Activities in Area A are funded for up to ten days, in Area B up to 20 days.

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Steinbeis Consulting Centre coordinates EU pilot project

Online conflict resolution process for European companies

Dr. habil. Gernot Barth and lawyer Bernhard Böhm, head of the Steinbeis Consulting Center for Business Mediation, are coordinating and managing the Civil Justice (online mediation in cross-border conflicts) EU project.

As part of this EU project, Steinbeis Beratungszentren GmbH is acting as the lead manager with other European partners in developing an online mediation process to resolve cross-border conflicts. The project aims to put EU Directive 2008/52/EC into practice. This directive supports the use of mediation to resolve cross-border conflicts in a cost-saving and time-effective way. What's more, the directive makes provisions for more training opportunities for mediators. Underlying the project is the idea of bringing cultures together in teams and companies – and bringing companies together.

To bridge the physical distance between opposing parties – as well as their mediators – the project partners are using a video-conferencing system called Concilia online for online mediation. Two conferences are scheduled as part of the project. These will focus on intercultural communication, co-mediation in intercultural contexts and techniques of using online mediation systems.

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The kebab principle – Steinbeis helps company streamline its variants

Combining customer-orientation with standardization

ZF Lemförder GmbH, a member of the ZF Friedrichshafen AG group of companies, makes products such as tie rods, steering rods, suspension components and suspension modules. As a value-chain partner to the commercial vehicle sector, it places special emphasis on customer orientation. This has led to an enormous number of variants in its range in recent years, which is making it more and more difficult for ZF Lemförder to live up to its goal of reacting quickly to customer needs. The Management-Innovation-Technology (MIT) Steinbeis Transfer Center helped ZF Lemförder streamline its portfolio of variants and introduce a sustainable process for continuously managing variants.



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In recent years, the number of different steering tie rods, axle rods and ball joints has risen sharply. "We guarantee our customers exact adherence to specification, under tight development deadlines – but it was increasingly becoming impossible to do so, given the variety of products we were dealing with and the resources available," explains Holger Bublies, head of D&D. The aim was therefore threefold: to slash the time needed for D&D to issue a detailed offer; to reduce prototype delivery times once quote were given the go-ahead; and to shorten delivery lead times for serial products. All of this should be achieved by standardizing products and processes, as part of on-going plant development projects.

Even as the project got underway, ZF Lemförder knew it would be necessary to address many issues. "We didn't want to leave the task of overhauling our variants just to development," says Hubert Gross,

who heads up the commercial vehicle chassis module department. "Our processes are integrated, so sales is involved through actively selling product standards, production is involved with standardized manufacturing processes, and financial accounts are involved with fixed calculation models for standardized products." The scope of the project was therefore clear: a new end-to-end variant management system was needed, involving standard processes that make it possible to shorten lead-times by more than 50% – from the first point of contact with the customer to final delivery – without reducing the deliverable scope of products or raising prices. The aim was to map customer solutions by using components and assemblies made from defined (standard) "building blocks." Working with the experts from the Steinbeis Transfer Center, the ZF Lemförder project team used a 3-step model (see box, next page).

To define standard products, consensus was needed with all departments as to which standards should be used. An important tool in this respect was the use of a software program for product configuration. This made it possible to significantly reduce the time taken to submit offers, draft designs and prepare work processes.

Equally important was the task of dividing the entire job handling process into standard product processes and special product processes. A major help in this respect turned out to be a lean production system (LPS) which had already been in place at ZF Lemförder for a number of years. Because of the underlying principles it is based on, an LPS makes it possible to make variants quite late in the production process. This makes it easier to reconcile the goals of maximizing capacity use while keeping batch sizes and variants flexible. Extending LPS principles to the entire job handling process – based on

similar methods – made a significant contribution to achieving overall goals.

However, the project team at ZF Lemförder were not content to leave it as a "specialist" departmental project. "We could tell that introducing variant management in the long term would require a new mindset," explains Hubert Gross. "People need to see discernible benefits through standardization and not feel like their creativity's being strait-jacketed." As a result, the project was underpinned by training provided by the Steinbeis Transfer Center to three interdisciplinary product teams. Instruction covered the theory underlying the new system as well as knowledge-sharing by learning "on the job" as part of live project work.

In the three areas looked at – ball joints, axle rods and steering/tie rods – laying down standards based on pre-defined building blocks resulted in different levels of stand-

ardization. In some areas, this was as high as 65%. In combination with process optimizations, the resulting throughput times were more than halved, which was even better than planned. But for Hubert Gross, the change in attitude among co-workers was more important than bare numbers: "We want to stay number one for our customers for top-of-the-range solutions, solutions that don't come off the shelf. But at the same time, we want to keep earning money!"

Dr.-Ing. Günther Würtz, Director at the MIT Steinbeis Transfer Center, compares the new solution to the "kebab principle": "The purchase of a doner kebab provides a simple yet striking analogy with the underlying principles of variant management. Kebabs are a standard product, based on building blocks (lettuce and tomatoes) with the customer deciding just at the last moment what goes in it – i.e., just before paying. What could be better?"

3 step model

- Step 1 – clearing the decks: stripping down products by removing overlaps, items gathering dust and profit killers
- Step 2 – design: designing products by laying down standard products and "specials" based on standard templates
- Step 3 – taking control: sustainable implementation and adherence to defined product structures by adapting standard processes in sales, D&D, logistics and production

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Steinbeis Consulting Mergers & Acquisitions GmbH provides advice on a company acquisition

Well advised

Using a systematical selling process, Steinbeis Consulting Mergers & Acquisitions has sold the well-known Mannheim electronics company Karl-Friedrich Schilling to the R+S Group.

The R+S Group took over Karl-Friedrich Schilling Elektrotechnik GmbH in October 2010. The traditional Mannheim company was founded in 1965 by Karl-Friedrich Schilling, who still manages the business today. Most of the company's current activities revolve around general purpose electrical installations, building automation, EIB (European Installation Bus), communication and security technology, switchgear construction and automation technology. All of its products are delivered to companies in the Rhine-Neckar metropolitan region.

Schilling currently employs 143 people and supplies around 300 other companies. In

2009, the company's sales totaled 14.4 million euros. Its electrical services enjoy an established presence in the south-west Germany.

The R+S Group was founded in Fulda in 1988. The company now employs 1400 people throughout Germany, with sales far in excess of 100 million euros. For the R+S Group, the Rhine-Neckar region represented a strategic gap in its portfolio which it was able to close neatly by acquiring Schilling.

Steinbeis Consulting Mergers & Acquisitions GmbH, which is also based in Mannheim, advised Schilling GmbH shareholders on

preparatory work for the acquisition and the transfer of business. This included detailed research into 50 potential buyers in the industry throughout Germany. Of the four serious contenders left in the running, the R+S Group made the most attractive offer.

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New centers in the Steinbeis Network

The Steinbeis Network comprises around 800 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 2010:

Abbreviations:

SCC: Steinbeis Consulting Center

SRC: Steinbeis Research Center

SIC: Steinbeis Innovation Center

STI: Steinbeis Transfer Institute

STC: Steinbeis Transfer Center

STI Berlin Institute for the Study of Societies, Berlin

Director: Prof. Dr. Dr. Helmut Schneider, M. A.

E-Mail: su1462@stw.de

Range of services

- Identifying pointers for solving problems relating to society
- Research-based, solution-oriented advice for all political and civil institutions interested in solving key issues.

STC Processing, Querying and Visualization of Very Large Datasets, Constance

Director: Prof. Dr.-Ing. Marc H. Scholl

E-Mail: su1463@stw.de

Range of services

- Applied research and development
- Software development
- Consulting and support services
- Training and workshops

Vodaco Deutschland GmbH, Arnberg

Managing director: Ingo Neubert

E-Mail: su1464@stw.de

Range of services

The objects of the enterprise lie in plant engineering, process development, consulting and concept development, planning (engineering), and feasibility studies. Other areas of the company's work include the manufacture, delivery and assembly of equipment and machinery for use in environmental and power engineering, as well as the trading of apparatus, components and machinery in Germany and abroad for use in wastewater systems, exhaust air treatment plants, drinking water purification, biogas plants and cogeneration units.

SCC EIM – Enterprise Information Management, Karlsruhe

Director: Dr. Bernhard Kölmel

E-Mail: su1465@stw.de

Range of services

- Consulting and implementation (planning, concept development, selection, implementation, project management)
- Open innovation and strategic planning (customer-based innovation)
- R&D management/cluster management
- Business design/business strategy/ foresight

STI Energy-based Building Systems, Glauchau

Director: Dipl.-Lehrerin Ingrid Reinhold

E-Mail: su1466@stw.de

Range of services

- Training and continuing professional development

STC Sensor Technology and IT Systems – SensIn', Karlsruhe

Directors: Prof. Dr. Thorsten Leize

Prof. Dr.-Ing. Ralf Herwig

E-Mail: su1467@stw.de

Range of services

- Consulting
- Technology transfer
- Development
- Training

SRC Peptide Microarrays, Quersfurt

Director: Prof. Dr. Mike Schutkowski

E-Mail: su1468@stw.de

Range of services

- Enzyme profiling
- Applied R&D projects in the field of epigenetics
- The use of peptide micro-arrays in medicine
- Identification of biomarkers

ZfBU GmbH

Zentrum für Betriebswirtschaft und Unternehmensführung,

(Business Administration and Management Center) Heilbronn

Managing Director: Prof. Dr. Dr. h. c. mult. Johann Löhn

E-Mail: su1469@stw.de

Range of services

The objects of the enterprise lie in the transfer of know-how between business and science and academia in the region of Heilbronn-Franken. To this end, the company is establishing centers in the Heilbronn-Franken area and through these providing businesses with research, development, consulting and training services in the fields of business administration and management. Through the centers, the company will create and market products and services related to the above areas.

Steinbeis Mechatronik GmbH, Ilmenau

Managing director: Jörg Rönnert

E-Mail: su1470@stw.de

Range of services

The objects of the company lie in the provision of consulting services, the evaluation of problems, the planning of solutions, applied research and development, the provision of continuing professional development, and writing expert reports in all areas of mechatronics.

STI Institute for Psychology and Psychotherapeutic Science (IPPTW), Berlin

Directors: Prof. Dr. Michael Brucksch

Prof. Dr. Gottfried Fischer

E-Mail: su1471@stw.de

Range of services

- Bachelor's degree in psychology (BSc Psych)
- Master's degree in clinical psychology (MSc Klin. Psych)
- Master's degree in clinical psychology and psychotherapeutic science (MSc PTW)

- Certification course in myoreflex therapy (ZLG MRFT)
- Certification course for specialist consultants in psychotraumatology
- Expert reports in the field of psychotraumatology and clinical psychology
- An open program of seminars
- Services in the area of supervision/institutional consulting
- Services in organizational development in clinical/therapeutic establishments
- Research consulting and quality assurance in clinical establishments

STI Research in Medical Psychology and Health Care, Berlin

Director: Dr. med., Dipl.-Psych.
Wolfgang Albert
E-Mail: su1472@stw.de

Main areas of focus

- Multimodal diagnosis of complex somatopsychic disorders
- In-patient and out-patient treatment concepts for psychological disorders
- Education models for somatopsychic disorders
- Psycho-social assessment and quality of life evaluations

STC Economic and Technology Policy Dialogue, Stuttgart

Director: Dipl.-Ing. Jan-Eric Bandera
E-Mail: su1473@stw.de

Range of services

- Policy advice, consulting and coaching for decision-makers
- Training and the supervision of internships
- Seminars, conventions
- Specialist fact-finding visits and corporate trips
- Expert reports, audits

STC Wire Technology, Ilmenau

Directors: Prof. Dr.-Ing. Ulf Kletzin
Dipl.-Ing. Rüdiger Lux
E-Mail: su1474@stw.de

Range of services

- Optimization of wire treatment systems
- Modeling, measurement and optimization of heat-treatment processes for wires and wire products
- Optimization of wire-drawing systems and wire-straightening processes with

regard to ease of formability, and the use of improved wire-straightening technology

- Investigation of coating systems used in wire-drawing with regard to slip and lubrication properties at different temperatures

SRC Applied Medical Engineering, Dresden

Director: Prof. Dr.-Ing. habil.
Hagen Malberg
E-Mail: su1475@stw.de

Range of services

- Research and development in the field of biomedical engineering, especially in cardiovascular medicine (intensive care, sleep medicine, hypertensiology etc.)
- Biosignal processing/analysis of physiological data/medical statistics
- Development of medical sensors and equipment
- Organization, implementation and evaluation of clinical trials and medical engineering feasibility studies and assessments

SRC Ion Channel Screening and Clinical Diagnosis, Rostock

Director: Dr. Philipp Julian Köster
E-Mail: su1476@stw.de

Range of services

- Ion Channel Screening
- Cell line evaluation
- Transfection

STI Center for Real Estate Studies (CRES), Berlin

Director: Peter Graf
(VWA business graduate)
E-Mail: su1477@stw.de

Range of services

- Bachelor and master's degrees in real estate
- Research and science
- Market research

SCC Business Excellence, Balingen

Director: Dr.-Ing. Günther Schöffner
E-Mail: su1478@stw.de

Range of services

Consulting for SMEs in the manufacturing

industry, focusing on business processes, innovation and human resources. Consulting services focus on attaining outstanding performance through business excellence.

STC Virtual Engineering, Mannheim University of Applied Sciences, Mannheim

Director: Prof. Dr.-Ing. Bruno Burbaum
E-Mail: su1479@stw.de

Range of services

- Technical visualization (images, film, animation, photorealism/real-time)
- Scientific calculation (CFD/FEM)
- Model construction/preparation (VR model construction, 3D CAD modeling, 3D scans)
- Consulting/supervision on issues relating to virtual reality (hardware, software, introduction)

SCC Coaching & Consulting, Mainz

Director: Wolfram Schulze, M. Sc.
E-Mail: su1480@stw.de

Range of services

- Coaching
- Consulting
- Moderation
- Supervision
- HR development
- Organizational development
- Business mediation

SIC Institute of Holistic Solution Engineers (I-HSE), Zimmern o.R.

Directors: Prof. Dr.-Ing. Ulf-Rüdiger Müller
Swen Niebann, B. Eng.
E-Mail: su1481@stw.de

Range of services

- Business process and innovation management concepts
- Sustainable process optimization concepts
- Change management
- HR development projects

Focus Biomed GmbH, Stuttgart

Managing director: Dipl.-Ing. (FH)
Uwe Haug
E-Mail: su1482@stw.de

Range of services

The objects of the enterprise lie in the provision of applied research, development and consulting services in the fields of biomedicine, pharmacology and infection research, as well as securing and exercising property rights.

**STC European Innovation Network
c/o Mannheim University of Applied
Sciences, Mannheim**

Director: Prof. Dr. Rainer Gerten
E-Mail: su1483@stw.de

Range of services

- Networking
- Arrangement of collaboration agreements
- Consulting
- Expert reports, evaluations
- Coaching, business development
- Project management, supervision, brokering

STI Dynamic Systems, Berlin

Director: Prof. Dr.-Ing. Dr. h. c.
Florin Ionescu
E-Mail: su1484@stw.de

SIC Steinbeis Danube Center, Stuttgart

Director: Dipl.-Betriebswirt (FH)
Jürgen Raizner
E-Mail: su1485@stw.de

Range of services

- Supporting government department personnel at a state, regional, city and municipal level in the development of macro-regional partnerships and projects
- Concept planning and execution of events to promote and implement the EU Strategy for the Danube Region
- Moderation of development processes to implement the EU Strategy for the Danube Region
- Consulting on the planning of specific activities in south-east European Danube regions

**SCC Financial Accounting
and Strategy, Worms**

Director: Prof. Dr.
Norbert Theodor Varnholt
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Range of services

- Training and certification of financial accountants
- Concept planning and implementation of financial accounting systems
- Strategic consulting
- Rating advice
- Balance sheet optimization

**SCC International Public Management,
Stuttgart**

Director: Prof. Dr. iur. Franz Thedieck
E-Mail: su1487@stw.de

Range of services

- Evaluation of development projects (pre, post and interim evaluation)
- Curriculum planning for training and staff development measures in public administration
- Training courses and seminars
- Methodical issues relating to training and staff development

**SCC Innovation and Growth –
SIW, Hanover**

Directors: Dr.-Ing. Franz-Peter Marx
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Rainer Sauerland
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Range of services

- Assessment and evaluation of technology companies and start-ups with regard to financial backing

STC Magnetic systems, Schrozberg

Director: Prof. Dr.-Ing. Jürgen Ulm
E-Mail: su1490@stw.de

Range of services

- Magnetic measurement technology
- Function development of magnetic actuators/sensors
- Calculation/simulation of magnetic actuators/sensors

**STC Complex Systems Engineering,
University of Constance, Constance**

Director: Prof. Dr. Stefan Leue
E-Mail: su1491@stw.de

Range of services

- Consulting
- Research and development
- Project implementation

- Systems development
- Training

**STC Implant Development,
Testing and Approvals, Ulm**

Director: Prof. Dr. Felix Capanni
E-Mail: su1492@stw.de

Range of services

- Development of medical engineering products and components, including documentation
- Medical engineering evaluations in the field of osteosynthesis

**STI Project Management, Quality
Management & Organizational
Development, Berlin**

Directors: Maximilian May, BBA
Birgit Gaida
E-Mail: su1493@stw.de

Range of services

- Degrees:
 - Bachelor of Arts
 - Management
 - Elective B.A. Financial Service Selling
- Certification courses:
 - Management
 - SBA Certified Project Manager
 - Emergency service manager
- Continuing professional development:
 - Seminars
 - Workshops
- Consulting:
 - Expert consulting
 - Coaching
 - Arrangement of other consulting services
- Research:
 - Facilitation and supervision of research projects in STI fields

**SCC Applied Movement Technology
(ABT), Spenge**

Director: Prof. Dr.-Ing. Ralf Hörstmeier
E-Mail: su1494@stw.de

Range of services

- Drafting and distribution of research findings
- Setting up and running of innovation networks
- Knowledge advancement and sharing, continuing professional development
- The interface between humans and technology

Steinbeis Transfer Center named one of the best employers in 2011

Top jobs at TZM

The best employers in Germany are awarded the Top Job Award in a national comparison of companies carried out by compamedia GmbH. As part of the assessment, the University of St. Gallen interviewed employees at the Steinbeis Transfer Center for Microelectronics in May 2010 and evaluated its HR management. The result: In January the center was awarded the "Top Job" seal of quality in Duisburg from the project mentor Wolfgang Clement, a former Federal Minister of Economics and Labour. The award places the TZM among the leading employers in Germany.

The TZM Steinbeis Transfer Center offers engineering services and software development to the automotive industry and the medical engineering sector – two leading, forward-looking industries. As a result, the center's managers are prepared to invest more than the average business in the personal and professional development of staff: "Employee expertise is key to the success of the company, especially when you're developing new products," explains Sandra Welter, head of HR.

As a supplier of development services, the Göppingen-based company is keen to maintain its course of systematic growth. "But not at any price," emphasizes Welter. "Soft

factors shouldn't be ignored." The company also wants to position itself using this philosophy in the future – a vision that is also lived out by senior management. For example, the management approach centers on results, and this is reflected in instruments such as its annual reviews with staff. Each year, the performance of every employee is assessed based on 18 criteria. The reviews also include feedback from co-workers and customers.

With her team, Prof. Dr. Heike Bruch at St. Gallen University's Institute for Management and HR Management researched the practices of 169 HR departments at medium-sized enterprises throughout Germany,

across a spectrum of industries. The top 72 are awarded the Top Job seal of quality for one year only.

"The award is based on the opinions of our employees, so we're quite proud," says Welter. "Also, we now know what staff think of the working atmosphere. It's important for us to know this so we can move forward as a good employer and introduce the right measures."

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An evening sharing ideas in Herrenberg

Burnout and our exhausted society

More than 100 people came to Herrenberg to attend an information event organized by the Steinbeis Consulting Center for Operational Health Management, Dr. Jürgen Bauer, and the Herrenberg and Gäumed Health Network. The topics for the evening were burnout and burnout prevention, as well as the question "What's the best way to tackle everyday challenges with energy, humor and enthusiasm?"

This question was addressed in the speech held by Dr. Carsten Till, whose specialties are internal medicine, psychotherapy and business administration. Till has been the Chief Physician at the AHG Clinic in Hardberg since 1999. His credo: deceleration, and approaching yourself and your strengths and weaknesses with humor and understanding. Dr. Till started his talk with some sobering

statistics. One third of all employees say they are subject to "major mental stress"; more than two thirds have "general psychological and psychosomatic symptoms." The cost to society of poor health – which manifests itself in productivity losses, medical care, therapy, sick pay and pension payments – is astronomical. Till, who has four children and two different jobs in two clinics

– and thus plenty of personal experience in juggling priorities – focused in his talk on the issue of how to achieve "an enjoyable and creative equilibrium in life, even in trying times."

Till's recommendations:

- Balance your daily routine and commitments by spending time in nature. Being in

Steinbeis-Europa-Zentrum encourages more women to set up companies

Female Ambassadors for female entrepreneurship

Become a female ambassador for female entrepreneurs, give support to women entrepreneurs, and share personal experiences – these are the goals of a women's ambassador network spanning the whole of Germany. The network was set up by Steinbeis-Europa-Zentrum (SEZ).

"We'd like to encourage women to assume more responsibility and take the initiative. Female ambassadors will play a key role by sharing experiences and providing inspiration," says Dr. Petra Püchner, director of the Stuttgart-based Steinbeis-Europa-Zentrum. Successful female entrepreneurs have been recruited in similar networks across Europe as ambassadors for the initiative. Their work includes visiting schools, universities and events and encouraging girls and women to consider an entrepreneurial career.

Ambassadors have varied backgrounds and qualifications. By sharing their stories and recounting actual experiences they can instill tremendous enthusiasm. The SEZ has already recruited 64 female ambassadors for

the German network, across 13 federal states. All ambassadors have the official title "Ambassador of the European Network of Female Entrepreneurship Ambassadors."

The initiative started in August 2009. In December 2010 Sabine Laruelle, the Belgian Minister for the Economy, the Self-Employed and Agriculture, and Antonio Tajani, Vice-President of the European Commission, invited over 200 female business representatives from 20 countries to a European networking meeting in Brussels. This included ten ambassadors from Germany. The notion of female entrepreneurs motivating other women and encouraging them to forge a career by setting up a business was first launched in the UK and Sweden. In Ger-

many, the network receives 50/50 funding for two years from the European Commission and the Federal Ministry of Education and Research. Handwerk International Baden-Württemberg and EIC Trier GmbH are also partnering the initiative. Steinbeis-Europa-Zentrum's role is to coordinate the network and manage contacts with sister networks in Europe.

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natural surroundings helps you remember what's important and what isn't, and approach day-to-day activities appropriately – which also helps in setting priorities.

- Sometimes it's worth spending less time focusing on things around you and more time focusing on yourself, your values, tendencies and expectations.
- Always try to keep a balance between work obligations and personal priorities.
- Aim for a balance between giving and taking.
- Make a distinction between things that cannot be changed and problems for which there is a solution.
- Dr. Till recommends that perfectionists should still be satisfied if they achieve 65 to 75% of their aims.

- Mistakes should be seen as a vehicle to learn and to develop new ways of looking at things and new possible solutions.
- Seeking experiences and people beyond your usual circle of the familiar can be sensible and enriching, and help you see things from new perspectives.
- Employers should look for staff not just with the right skills, but also with values that match the value set of the business and employees. Goals must be clearly laid down by senior management. At the same time, these must allow for a suitable amount of leeway, so that staff can largely decide themselves how they implement or achieve set targets.

The evening provided plenty of food for thought on self-development, as well as contact details for therapists and specialists. Copies of Carsten Till's speech can be obtained via email by contacting the Steinbeis Consulting Center for Operational Health Management.

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The 2011 iF communication design award goes to the i/i/d

An award-winning exhibition

The Steinbeis Transfer Center i/i/d (Institute of Integrated Design) has been awarded the highly cherished 2011 iF communication design award for its "Silent stars – extreme materials in extreme applications" exhibition. The i/i/d won the award on account of the exhibition's overall concept, design and execution. The exhibition was commissioned by Bremen Economic Development and held in the Wilhelm Wagenfeld Haus in Bremen.



The exhibition was structured in categories of opposed qualities, such as "light+heavy", "hot+cold" or "hard+soft". The exhibits were presented on free-shaped, modular combined polyhedrons. A red safety rope created a second information level with detailed background knowledge and lead the visitors through the exhibition. The objects were supposed to be touched and tested – a hands-on experience.

The exhibition presented and celebrated special materials with outstanding properties which often go unnoticed, but without which many innovative, brilliantly designed products could never exist. The exhibition

was warmly received by experts, businesses and the general public. In total, over 120 products were exhibited: from everyday life, healthcare, industry, manufacturing, sport and leisure, and transport.

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Steinbeis Prize awarded to student from Ravensburg

Outstanding achievements

In the 2010/2011 winter semester, the Steinbeis Transfer Center for Corrosion and Corrosion Prevention at Ravensburg-Weingarten University of Applied Sciences awarded its very first Steinbeis Prize. Worth 500 euros, the prize recognizes outstanding achievements and degree results of students and graduates in mechanical engineering. The first winner is Huriye Cengiz.

The prize rewards above-average performance by students and graduates. This was certainly the case with Huriye Cengiz, who wrote her master's thesis for her sponsoring company ZF Friedrichshafen on the subject of "The suitability of nitrocarburizing as a substitution method for the case-hardening of warp-critical components". Cengiz

familiarized herself intensively with the heat treatment of modern steel materials, and was extremely disciplined in pursuing her master's degree, which was completed within schedule in an exemplary fashion. A major factor towards Cengiz winning the prize was also the interplay in her thesis between scientific theory and industrial application – an

aim around 800 enterprises in the Steinbeis Network adhere to.

The prize is designed to provide an incentive to all students at the university. Its awarding is decided by a committee consisting of the dean of mechanical engineering, the director of the Steinbeis Transfer Center for Cor-

Head of Steinbeis Research Center becomes honorary member of Alpha Sigma Mu High accolade for Saarbrücken materials researcher

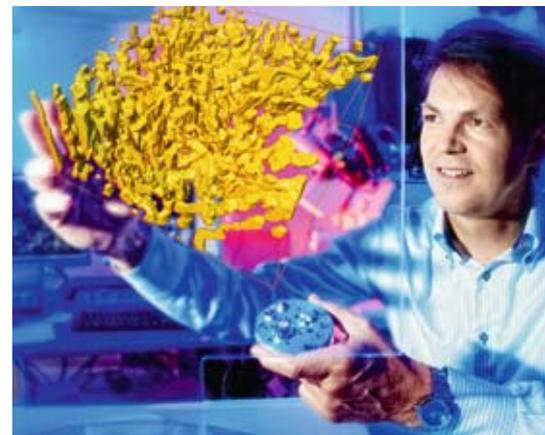
Prof. Dr.-Ing. Frank Mücklich, a Saarbrücken-based materials researcher and head of the Steinbeis Research Center Material Engineering Center Saarland (MECS), has been admitted into Alpha Sigma Mu, a US-based professional honor society for materials science and engineering. The Greek letters stand for Art and Science of Materials. The society only recently opened its doors to international members and Frank Mücklich is the first German scientist to receive this honor.

Alpha Sigma Mu was founded at the University of Michigan in 1932 and is represented at all large universities in the United States. The society's aim is to promote outstanding research and strengthen the international materials science network.

Frank Mücklich has been Professor for Functional Materials at Saarland University since 1995. Two years ago, he also founded the Steinbeis Research Center called Material Engineering Center Saarland (MECS), which he still heads up. Professor Mücklich's admittance into Alpha Sigma Mu is in recognition not only of the quality of his research, but also his commitment to the next generation of academics. Two years ago, he found-

ed the European School of Materials (Eusmat), which coordinates and publicizes a variety of international materials science and engineering degrees at Saarland University. Professor Mücklich also established the junior degree program at Saarland University, which gives talented young people a taste of university life before they graduate from high school.

One of Mücklich's main research interests is nanotomography, which makes it possible to examine the inside of materials extremely precisely. The material researchers at Saarland University want to use the findings from nanotomography to develop new materials which are impervious to brief periods

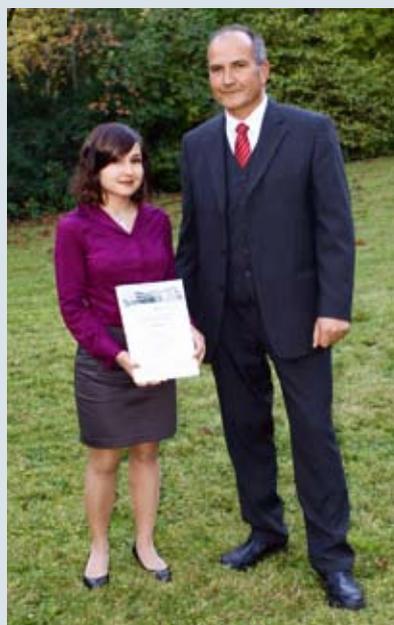


Prof. Dr.-Ing. Frank Mücklich

of extreme heat. Another of Professor Mücklich's main research interests is laser interference technology. In this, laser beams generate three-dimensional microscopic models of materials and change the inner structure of a very thin layer of the surface. This reduces surface friction, making materials less susceptible to wear, for instance. This technology has important applications for a variety of components, including those used in microelectromechanical systems, the automotive industry and engineering. Professor Mücklich has already received a number of significant accolades in the past, including the Alfried Krupp Award, worth € 1 million.

rosion and Corrosion Prevention and the vice dean of the faculty.

The Steinbeis Transfer Center for Corrosion and Corrosion Prevention was founded in 1996. The services it provides include materials analysis, examining coatings, and wear testing.



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The CAx series – Volume 3:

Optical calibration of an LED street lamp using LucidShape

[in German only]

Matthias Groß, Andreas Bielawny

Alexander von Hoffmann (Publ.)

ISBN 978-3-938062-30-2



Engineers working on vehicle lighting need to be proficient in CAx applications. CAx allows engineers to quickly evaluate and

make changes at any point during the development process. As a complement to the software manufacturers' manuals, the CAx series is designed to help readers quickly get the hang of each CAx application through real-world projects. Drawing on the example of an LED street lamp, the third volume of this series illustrates the key functions needed to operate an optical simulation program: street simulation, LID operators, setting up free-form surfaces, defining optical properties and assessing the distribution of luminosity. Apart from optical assessment, DIN 13201 and its effects on street lighting are discussed and an explanation is given of the requirements lamps must fulfill to adhere to DIN standards. The criteria used to categorize LED street lamps by construction class are also looked at.

The publisher

Prof. Dr.-Ing. Alexander von Hoffmann founded the Steinbeis Transfer Center for Applied Light Engineering in 2009 and still heads up the center today.

School costs at public schools.

An analysis for Saarland [in German only]

Bernd Eisinger, Peter K. Warndorf,

Jochen Feldt

ISBN 978-3-941417-54-0



"There is only one thing that is even more expensive than education: no education!" (John F. Kennedy). In today's knowledge-based society, education is probably the most fundamental raw

material of all. Education provides a values-driven grounding for social success in almost all areas of life. But what does education really cost? This is the issue tackled by the Heidenheim-based Steinbeis Transfer Center for Economic and Social Management as part of a series of studies commissioned by the Software AG Foundation. Drawing on the example of the German state of Saarland, the authors examine the annual costs, from a business perspective, of educating one student at a public school. The calculations are based exclusively on publicly available figures, which are structured, analyzed and interpreted along business management lines. This makes it possible to capture pertinent costs categories on a state, district and municipal level. The result is a comprehensive and reliable set of figures that can provide a basis for further political discussion.

The authors

Prof. Dr. oec. Bernd Eisinger and Prof. Dr. rer. nat. Peter K. Warndorf have been heading up the Heidenheim-based Steinbeis Transfer Center for Economic and Social Management since 1998. Prof. Dr. rer. pol. Jochen Feldt is project manager at the center.

CHARMA. Measurement technology for the in-line characterization of magnetic microcomponents.

[in German only]

Institute for Microtechnology at

Gottfried Wilhelm Leibniz Universität

Hannover (Publ.)

ISBN 978-3-941417-35-9



Working out how to ascertain the magnetic properties of wafer-thin magnetic films was the main aim of a network project entitled "Measurement technology

for the in-line characterization of magnetic microcomponents" (CHARMA). The procedure allows producers of magnetic microsensors to assess the quality of thin magnetic layers even during the production process. To do this, a hysteresis measurement system was developed consisting of a micro-engineered converter, a controller and an ultra-sensitive evaluator. This system makes it possible to capture anisotropic layer properties. Apart from magnetic micro-measurement technology, the project team also developed processes using a focused ion beam (FIB) to penetrate the surface of components and ascertain geometric properties. This resulted in an in-situ measurement technique for use in the production of magnetic components.

The project partners

As partners in the overall CHARMA network project, InnoMas Innovative Magnet-systeme GmbH and the Ilmenau-based Steinbeis Transfer Center for Mechatronics took comprehensive 3D measurements and played a key role in the development of the sensor mechanism and the sensor head to be used in the final measurement system.

The languages of police forces in Europe. Volume 1 – French–German Dictionary [in French–German only]

Jacques Moreau
ISBN 978-3-941417-36-6



Since the signing of the Schengen agreement, close cooperation between national police forces has become even more important, especially given the removal of border controls. Practical, hands-on cooperation between the German and French police is thus particularly important. This dictionary is the first comprehensive bilingual reference aid for regular use by police on both sides of the border. As it is based on actual usage, it is particularly well suited to day-to-day police work. The aim of the dictionary is to help eradicate communication problems between French-speaking people and the German police. It could also pave the way for more intensive cross-border cooperation between French and German officers, which obviously requires a solid grasp of the other country's specialist police vocabulary. The dictionary will certainly also be extremely useful for teaching officers foreign languages. It is also tailored to the needs of interpreters and translators regularly involved in police work, as well as readers from a variety of backgrounds interested in French police terms.

The author

Jacques Moreau works as a language teacher and is head of the languages unit at the Villingen-Schwenningen Police Academy. The dictionary was compiled with the support of Steinbeis Business Academy (SBA), which has around 1800 enrolled students and is thus the largest network of institutes within the SHB.

Talent. Competence. Management. Volume 2 [in German only]

Werner G. Faix, Michael Auer (Publ.)
ISBN 978-3-941417-22-9



Competence: the ability to transform knowledge into tangible added value and bring ideas to life – in short, to incubate innovation. In entrepreneurial terms, competence is ultimately the ability to create new and better things, i.e. to foster innovation and growth. Given this, the Stuttgart Competence Days focus both on academic topics and the broader implications to business of the term "competence." Volume 2 documents the proceedings of the 2009 Stuttgart Competence Day, which focused on competence in a global economy. As well as edited versions of the speeches, it also contains articles resulting from discussion and presentations on the day. The topics ranged from international competence and management development to intercultural skills, open innovation, global delivery and global competence networks.

The publishers

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

The Creative Power of Education. On Innovation, Entrepreneurship, Personality and Education. [in German only]

Werner G. Faix, Jens Mergenthaler
ISBN 978-3-941417-52-6



Whether an enterprise, organization or even a whole society is "future-ready" greatly depends on whether and to what extent its members could be considered innovators. For people to be able to – and want to – translate their ideas into value-adding, benefit-bringing reality, they must be granted access to an education that allows them to develop the creative side of their personality. The authors give specific answers to questions like: "How can we educate people in such a way that they develop entrepreneurial knowledge, abilities, interests, and ways of being?" and "Why is personality/ why are people so important to innovation?" The logical causal relationship between education, personality, innovation and sustainable success is examined in a comprehensive and factually substantiated yet emotionally challenging manner.

The authors

Prof. Dr. Werner G. Faix is managing director of the School of International Business and Entrepreneurship (SIBE) at Steinbeis University Berlin. Also at SIBE, Jens Mergenthaler is academic project manager and PhD program coordinator.

7th Business Intelligence Symposium: Status Quo – Opportunities and Challenges

[in German only]

Steinbeis Transfer Institute for Business
Intelligence (Publ.)

ISBN 978-3-941417-58-8



Business intelligence (BI) is increasingly evolving into a key success factor for strategic corporate managers with one eye on the horizon. To track developments, the Institute for Business Intelligence (IBI) examines the field's current status once a year.

Hosted by the IBI, the Business Intelligence – Status Quo: Opportunities and Challenges symposium is a chance to share experiences. Users, manufacturers, and higher education representatives connect and discuss current BI issues. The symposium's key themes are also captured after the event in the annual conference proceedings. The latest symposium in 2010 addressed subjects ranging from business management in difficult times to the added value of BI, the state of BI today, and current trends in the field. There was also an expert panel.

This publication of the proceedings also includes speakers' slides.

The publisher

The Steinbeis Transfer Institute for Business Intelligence belongs to Steinbeis Center of Management and Technology (SCMT), one of the major networks of institutes at Steinbeis University Berlin.

3rd Energy Conservation Symposium. Innovate ways to use renewable energy in non-residential buildings [in German only]

Steinbeis Transfer Institute for Building
and Property Industry, Zittau/Görlitz
University of Applied Sciences (Publ.)

ISBN 978-3-941417-53-3



Using renewable energy in an eco-friendly and commercially viable manner is currently a major issue, especially with regard to non-residential buildings. The authors of this book each approach this issue from a different angle. For example, heat pumps play an important role in exploiting low-temperature energy, whether from outside or from heat emitted by machinery and equipment. Another particularly lucrative method involves local heating networks of biogenic energy sources such as biogas. Systems like these are also interesting with regard to energy contracting – there is significant potential to do more with buildings in this area. Control technology is important in this field, and identifying suitable concepts and planning methods is

equally so. Against this background, this book looks at thermal building simulations and the planning of LowEx systems. The Energy Conservation Symposium takes place twice a year, once in Stuttgart and once in Zittau, focusing on different topics each time. It is organized jointly by the Steinbeis Transfer Institute for Building and Property Industry and the Zittau/Görlitz University of Applied Sciences. Minutes are captured in symposium proceedings. Articles from the first and second symposium have already been published; this volume includes proceedings from the latest symposium. Previous symposiums appealed to a broad audience in all areas of the private and public real estate industry, especially building services engineering, power engineering and energy economics. The emphasis is on knowledge sharing between researchers, developers and users, with the aim of fostering and spreading future-ready technologies and applications. Users discover the very latest trends; research and development experts gain important feedback from industry.

The publisher

The Steinbeis Transfer Institute for Building and Property Industry at Steinbeis University Berlin (SHB) offers a Master of Science in Real Estate in the form of an SHB project competence degree, as well as certification courses on energy management in the real estate industry.

Correction

In TRANSFER 04/2010, the article referring to "Compliance in Energy Management" (ISBN 978-3-941417-48-9) by Christian W. Plate wrongly stated that his thesis was named the best in its class in 2007. This should have read 2009.

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