

# TRANSFER

*The Steinbeis Magazine*

## Setting the sails to succeed

### **Steinbeis on a local level**

Our centers in the Rhine-Neckar region

### **Processes in motion**

Business processes get smart and mobile

### **A healthy environment for demographic change**

The “Future Ideas” project in the district of  
Rhine-Hunsrück

### **Cross-border technology transfer**

The GIS transfer network celebrates 10 years in  
Bulgaria

<b>Editorial</b>	03		
<b>Steinbeis at a local level</b>	04		
Knowledge and technology transfer in the Rhine-Neckar region			
<b>"For SMEs, collaboration with Steinbeis Enterprises can be extremely fruitful"</b>	08		
An interview with Prof. Dr. rer. pol. Udo Wupperfeld			
<b>Curtain up for Effective Quality Management</b>	10		
Theater Winterthur Sets Course for the Future			
<b>Professional product management in small and medium-sized enterprises</b>	12		
Steinbeis Engineering Group seminar			
<b>Processes in motion</b>	14		
Business processes get smart and mobile			
<b>Technology transfer across borders</b>	16		
GIS Transfer Network marks 10 years in Bulgaria			
<b>The challenges of product development</b>	17		
Regional Steinbeis Engineering Day took place in Gosheim			
<b>Top priority: satisfied employees</b>	20		
Steinbeis assists with demographics project			
<b>Training spotlight</b>	18		
<b>Leadership: an acquired skill</b>	20		
Development of modern people-management techniques			
<b>A healthy environment for demographic change</b>	22		
"Future Ideas" project in the district of Rhine-Hunsrück			
<b>Consulting spotlight</b>	24		
<b>Process management maturity in public administration</b>	25		
SHB-Studentin entwickelt ein Prozessmanagement-Reifegradmodell			
<b>Well positioned, worldwide</b>	26		
Steinbeis advises clients on the selection of a product life cycle management system (PLM system)			
<b>A cornerstone of innovation</b>	27		
The Steinbeis House in Karlsruhe			
<b>Systematic expert knowledge in the field of oncology</b>	28		
Steinbeis works with partners to develop software to provide overviews of guidelines			
<b>Industrial quality steel hardening: energy efficient and environment-friendly</b>	30		
An integrated approach to manage quality, environment and energy in industrial hardening plants			
		<b>Mechatronic Dialog Karlsruhe</b>	31
		Mechatronics – safeguarding the future	
		<b>Making the most of differences: diversity in education</b>	32
		SHB student examines diversity management issues	
		<b>Backache? Never a welcome visitor!</b>	34
		Steinbeis supports a startup company from Stuttgart as it walks the road to self-employment	
		<b>Mobile marketing – hype or a hope?</b>	35
		Steinbeis student sets up new international communication channel	
		<b>Kick into the market</b>	36
		The "KIC Innoenergy" innovation platform gives its backing to a sustainable energy concept	
		<b>This is how sustainability works!</b>	38
		School students explore aspects of sustainability in Kraichgau	
		<b>New centers in the Steinbeis Network</b>	39
		<b>P.E. classes in the saddle</b>	46
		A Steinbeis University student develops an equine preventative health program	
		<b>Florian Rösch</b>	48
		Obituary	
		<b>News</b>	48



Find an overview of all Steinbeis Enterprises and their services on [www.steinbeis.de](http://www.steinbeis.de) → our experts

## Dear readers,



Prof. Dr. Heinz Trasch was Chairman of the Steinbeis Foundation Board from 2004 until 2012. He is now Director of the Steinbeis Transfer Center for Science, Technology & Economy in Ludwigshafen. The center is one of over 50 Steinbeis Enterprises in the Rhine-Neckar region. All Steinbeis centers in the area are presented on pages 4 to 7.

The region of Rhine-Neckar, a metropolitan region running along the Rhine and Neckar rivers, is a planning region around the tri-state border between Baden-Württemberg, Rhineland-Palatinate and Hesse. Some 2.4 million people live in this relatively small area, which measures around 5,600 square kilometers. This makes it the second most densely populated metropolitan region in Germany, and this density is rising. The area includes the cities of Mannheim, Ludwigshafen and Heidelberg, the surrounding area, the rural district of Neckar-Odenwald and the southern Palatinate region of Südpfalz. The area has everything to offer for a lifestyle full of variety and fulfillment, whether it's the arts and cultural events, leisure activities, housing or medical care.

This important economic location is home to a variety of international corporations, small and medium-sized enterprises, and business startups. Among the leading names here are companies like BASF, Roche Germany, SAP, the printing machine maker Heidelberg, Fuchs Petrolub, Freudenberg, Bilfinger & Berger, and Heidelberg Cement. Among those not named in the region are companies that have made history in their industry with groundbreaking inventions. Others still are global leaders in their industry.

The mixture of industries represented in the area fuels a hotbed of innovation potential. To exploit this potential, many regional alliances and business clusters have been formed, acting as a springboard of collaboration for companies, regional universities of applied sciences, research institutions and hospitals. I would like to name a typical example of this: The BioRN Leading Edge Cluster, which involves over 100 powerful and inventive partners both from trade and industry, and science and academia, all successfully collaborating on cell-based and molecular medicine. The alliance includes some 60 small and medium-sized biotechnology firms.

Many of the people working at these companies hail from scientific institutions in the region. Aside from the oldest university in Germany, the world-class University of Heidelberg, there are about 21 other establishments of further education in the area, with 90,000 enrolled students. The universities of applied sciences and the Baden-Württemberg Cooperative State University (DHBW) also make a significant contribution to academic training in the area, especially in the field of engineering. There is also Germany's only Pop Academy, which is a center of excellence in musicology based in Mannheim. Then there are the College of Jewish Studies in Heidelberg, conveying the multifaceted nature of Judaism, the German University of Administrative Sciences in Speyer (DHV) and the outstanding Department of Applied Linguistics and Cultural Sciences at the University of Mainz.

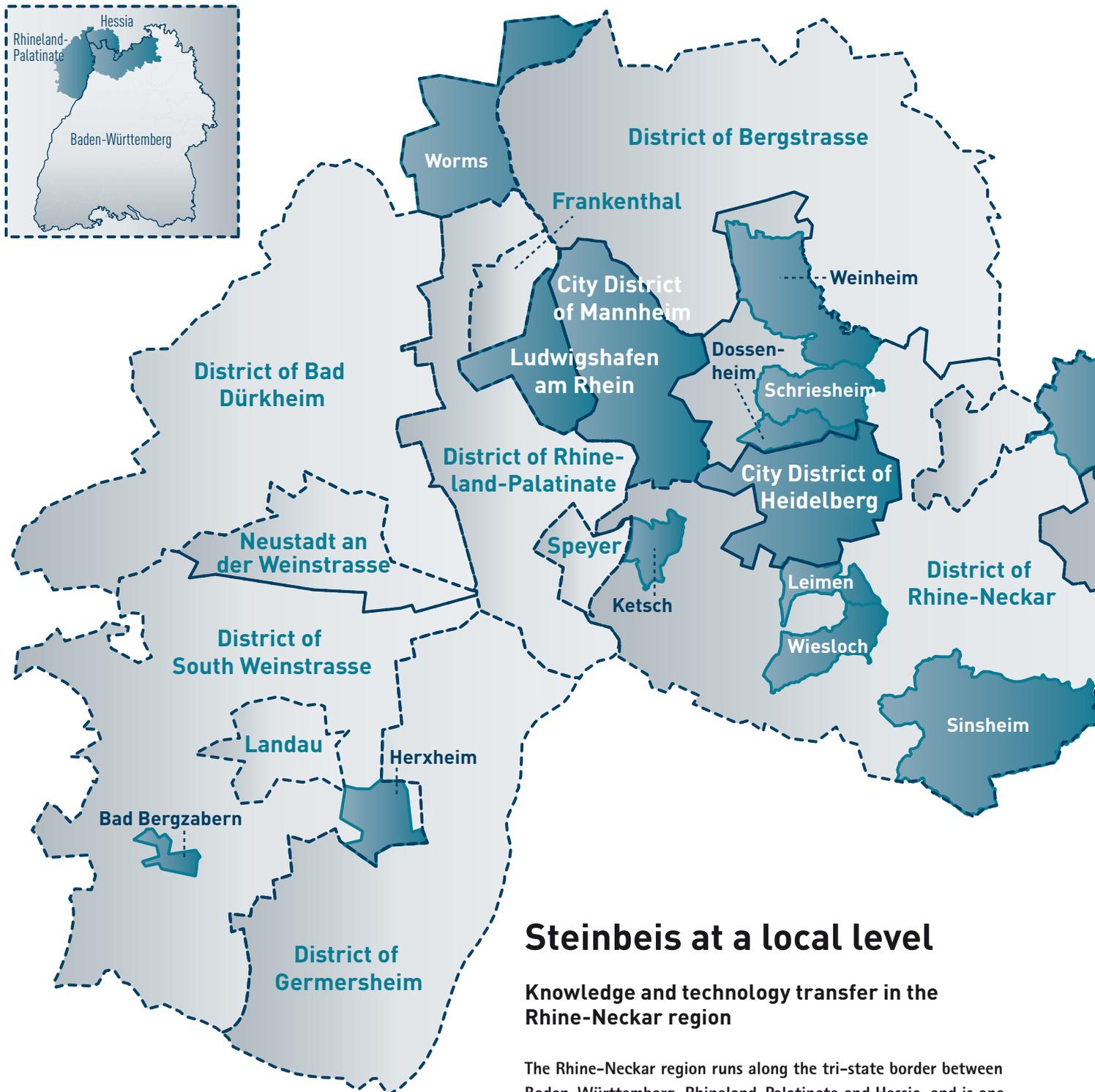
These establishments are complemented by a host of Steinbeis Enterprises in the metropolitan region, offering a variety of scientific services and know-how. It is a fast-paced region, and as early as 1969 one of Baden-Württemberg's first five technical consulting services was established at the former state engineering college in Mannheim with the aim of making scientific insights available to companies in the region. These technical advisory centers were subsequently integrated into the Steinbeis Foundation. Nowadays, the many transfer projects carried out by Steinbeis Enterprises in the region are particularly useful to SMEs, a helping hand in answering their know-how and technology requirements.

I hope you enjoy reading this latest edition of Steinbeis Transfer magazine and that it whets your appetite for the metropolitan region of Rhine-Neckar!

Yours



Prof. Dr. Heinz Trasch



## Steinbeis at a local level

### Knowledge and technology transfer in the Rhine-Neckar region

The Rhine-Neckar region runs along the tri-state border between Baden-Württemberg, Rhineland-Palatinate and Hesse, and is one of the most important economic regions in Germany. It is marked by its healthy blend of future-ready industry, with a distinct leaning towards the automotive industry, biotechnology, the life sciences, chemicals, the energy and environmental industry, IT, the arts and creative industry, mechanical engineering and machine-making, and organic electronics. The leading international companies, medium-sized enterprises and innovative startups in the region reap the advantages of an outstanding higher education and research infrastructure. The close interplay between industry and science provides an excellent foundation for successful knowledge and technology sharing, derived from the support provided by the many Steinbeis Enterprises in the region.

There are 53 Steinbeis Enterprises (SEs) in the Rhine-Neckar region (which lies along the Rhine and Neckar rivers): four at the German Cancer Research Center in Heidelberg, two on the Mannheim Campus of the Stuttgart-based Baden-Wuerttemberg Cooperative State University (DHBW), six at the Mosbach Campus of the DHBW, three at the Ludwigshafen University of Applied Sciences, three at the Mannheim University of Applied Sciences and ten at the University of Heidelberg – not to mention 25 other centers in other locations.

To find out more, go to:  
[www.steinbeis-rhein-neckar.de](http://www.steinbeis-rhein-neckar.de)



Steinbeis has been active in the Rhine-Neckar region since 1969, paving the way for targeted knowledge and technology transfer. To this end, Steinbeis works with the following partners in the area:

The German Cancer Research Center in Heidelberg is the largest bio-medical research establishment in Germany. It conducts research on cancer development, documents factors influencing cancer risk, and pinpoints strategies to prevent the development of cancer in humans. Furthermore, the center's scientists work on new techniques to diagnose tumors more accurately and try to find new ways to treat cancer patients more successfully.

The two Baden-Württemberg Cooperative State University campuses in the region, in Mannheim and Mosbach, offer successful degree programs based closely on the principles of dovetailing theory with practice. In Mannheim, there are two departments – business and engineering – offering programs in business administration, media studies, business information systems, IT and engineering. The Mosbach campus also offers a broad spectrum of online media courses covering topics from banking, to trade and industry, business IT, wood engineering and construction. Courses such as process engineering and electromobility are geared closely to the evolving nature of engineering work.

The Ludwigshafen University of Applied Sciences offers a variety of classic full-time courses as part of its business studies and social and health care studies programs. It also offers degree programs in parallel to full or part-time employment ('dual' education) as well as distance learning

courses. The university plays an active role in research and knowledge sharing, drawing on its rich pool of expertise.

The degree programs at Mannheim University of Applied Sciences – which has a strong track record, particularly in engineering, design and social affairs – dovetail scientifically sound education with content based on business and practical application. The university is also actively involved in research and is a successful promoter of regional and national knowledge and technology sharing.

The University of Heidelberg – or Ruprecht Karls University – was founded in 1386 and as such is the oldest university in the whole of Germany. It has 12 faculties offering no fewer than 160 degree programs. The University of Heidelberg collaborates with a variety of expanding industrial enterprises and research institutions in the Rhine-Neckar region. Working with its two university hospitals in Heidelberg and Mannheim, it provides a competitive international research network with manifold networking and collaboration opportunities to researchers and students alike.

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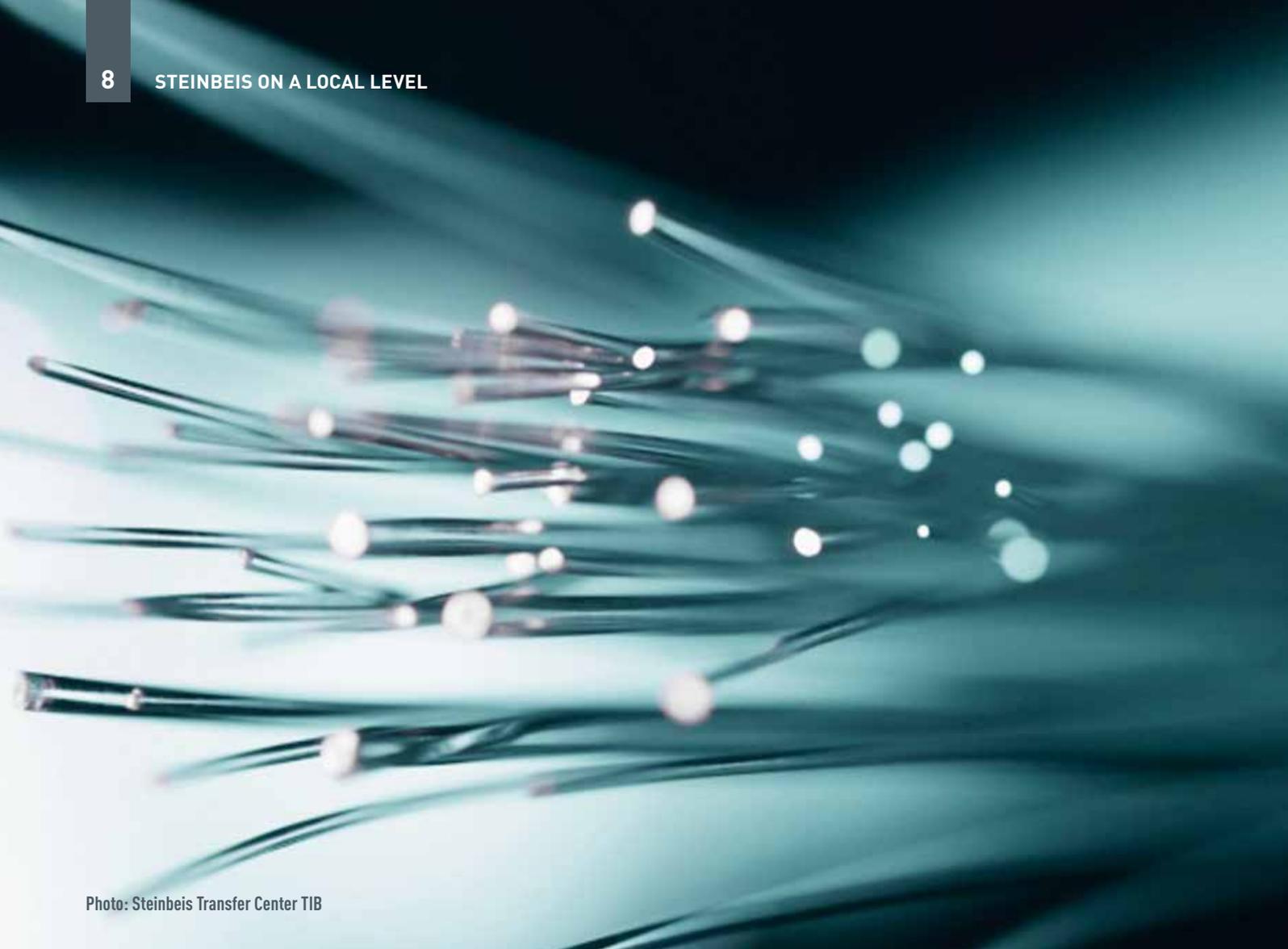


Photo: Steinbeis Transfer Center TIB

## “For SMEs, collaboration with Steinbeis Enterprises can be extremely fruitful”

An interview with Prof. Dr. rer. pol. Udo Wupperfeld

Professor Wupperfeld, your Steinbeis Transfer Center for Technology Evaluation and Innovation Consultancy is based in the metropolitan region of Rhine-Neckar. How does the mixed nature of industry in your region shape the services you offer and the requirements of your customers?

The mixture of industry in the region is also reflected in the field we've worked in until now. Over the past 15 years, we've written over 900 expert reports for a variety of industries, so-called market and technology network reports. Our services are also a reflection of our level of expertise and our flexible approach, which to a certain degree are shaped by our employees.

Our projects were strongly influenced during this time by the technological trends, economic developments and changes in the political environment. These have changed customer expectations, which we've had to react quickly to by offering new services and upgrading the qualifications of our personnel.

You've said that the job of your center is to recognize potential, seize opportunity and minimize risk. What specifically do you do to help your customers in these areas?

Having instant access to a network of over 1,700 experts involved in almost all areas of technology, makes it possible for us to assess even the most complex of projects and precisely analyze the technology or market potential. Our approach benefits clients, as they're in a better position to seize the opportunities related to their project. They know the risks up front and can minimize them.

Here's an example of what I mean: A company is going to be set up and it needs financing. It's developed a new medicine testing methodology that would make animal testing superfluous. One of our experts carries out an assessment of the newly developed technology and its market potential. As a part of the expert evaluation, other areas are also looked at, like how to protect the idea from copycats, or how marketable the new product would be. If we uncover any problems, our experts quickly come back with recommendations, with a strong focus on actual business practice and ways to take things forward.

When you set up your Steinbeis Enterprise in 1998, the goal was to support the endeavors of the financial market and to promote the interests of medium-sized companies and innovation projects, such as patents, product developments and startups. In what way have the

developments in the financial sector influenced your work in recent years?

One important development in recent years was the greater emphasis on fostering the interests of young, technology-oriented enterprises with the aim of providing a strong impetus to the German market for seed funding. At the same time, the aim has been to improve the funding conditions for technology startups in the long term.

Our work – especially through collaboration with the High-Tech Gründerfonds in Bonn, and the funding arm of the savings bank, the Sparkassenfinanzgruppe – has given us the opportunity to get to know lots of new and emerging technology companies, actually during the seed phase, and then work with them as they embark on their journey.

You wrote an article for Venture Capital Magazine called Tech-Guide 2012 and discussed the topics of innovation, technology transfer and competitive edge with Michael See. What do you feel SMEs in particular can do to safeguard competitive advantage versus their regional or even international rivals?

The key ingredient you need to differentiate yourself from the competition and remain competitive on a national or even international level is innovation. Especially for SMEs, which sometimes only have

limited access to resources, collaboration with Steinbeis Enterprises can be extremely fruitful. The process of technology transfer can result in a significant step forward in innovation. SMEs can benefit from this tremendously and in doing so enhance their innovative power and competitiveness.

Another factor that's become increasingly important is to protect in-house innovations from copycats, such as through patents. Otherwise, all that hard-earned competitive advantage can go to waste in an instant.



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### Services

- Market research
- Expert reports
- Consulting
- Funding

### Key areas

- Market research
  - Market structure and market potential analysis inside and outside Germany
  - Competitive analysis
  - Analysis of strengths and weaknesses, benchmarking
  - Positioning and image analysis
  - Customer satisfaction analysis

- Price barrier analysis, determination of price/volume factors and price elasticity
- Analysis of market relevance of product features and services
- Sales analysis
- Procurement market research
- Fundamental research, e.g. market forecasts and technology trends
- **Expert reports**
  - Technical reports, feasibility studies
  - Market reports
  - Company evaluations
  - Patent assessments
- **Consulting**
  - Business start-ups in technology markets
  - Support with drafting of business plans
  - Strategy
  - Marketing/sales
  - Financial accounting
  - Utilization of patents
  - Company acquisition and corporate divestment/disposal
  - Setting up of business partnerships inside and outside Germany
- **Funding**
  - Financing models
  - Financial planning
  - Support with raising capital and negotiations with investors
  - Venture capital consulting
  - Support with applications for funding



## Curtain up for Effective Quality Management

### Theater Winterthur Sets Course for the Future

Public donors are increasingly concerned to ensure that contributions from public funds are put to good use. In order to satisfy the requirements of the public purse, and also to gain the confidence of private supporters, more and more universities, hospitals, and charitable organizations are introducing quality management systems. It is more than likely that in the medium term theaters will also face a higher level of scrutiny from their donors. As one of Switzerland's five largest theaters, Theater Winterthur has decided to prepare for this challenge. Jointly with TQU Group Winterthur, which forms part of the Steinbeis Network, and the Zurich University of Applied Sciences (ZHAW), the theater is developing a process and performance model for performance venues, theaters for guest performances by touring companies, and theaters staging their own productions: the Theater Quality Frame.

Swiss theater statistics for the period between 2007 and 2011 indicate that whereas the number of performances is on a steady increase audience numbers are stagnating, while expenses, taking inflation into account, have remained stable. These figures show that theaters need to work more efficiently if they want to hold on to their audience numbers. An increase in efficiency can be achieved by applying modern theater management methods. In fact, controlling, marketing, audits, and governance are no longer alien concepts in the theater world. With the development of modern theater management, the processes of creating theater are taking center stage. They are the cost drivers of a theater's rehearsal, production, and performance operations. Careful planning and the standardization of processes help to permanently reduce staff costs and at the same time increase staff motivation by creating a

transparent, secure working environment. What they need now is a comprehensive management system tailored to the needs of theaters and performance organizers to better coordinate all the processes and activities of a theater.

Theater Winterthur has decided to collaborate with TQU Group Winterthur and ZHAW to analyze and improve its processes and link them to form an integrated quality management system. The three project partners are implementing their pilot project in three steps. In a first step, all core processes, management processes, and support processes were described and enhanced using a Theater Quality Process Map. In a second step, all performance indicators were determined and visualized in a Theater Quality Monitor. In the final step, the theater will be accredited

to ISO 9001:2008 standard. The project has been awarded state funding from the Commission for Technology and Innovation (CTI).

The results of the pilot project have already led to the development of initial model approaches: The new Theater Quality Process Model mainly brings together the three core processes of theaters: production, performance management, and program development/delivery. The Theater Quality Monitor was developed to reach and monitor the project targets. It visualizes their performance in six target dimensions: finances, artistic quality, dealing with different stakeholders, development and innovation, sustainability, and processes. A trial and further conceptual improvements will be conducted at other theaters in Switzerland, Germany, and Austria.

The development partnership enables the development of a circular model and thus constitutes an ideal climate for innovation. As an experienced business partner, TQU Group Winterthur will guarantee that the new system complies with internationally recognized quality standards and the standards of modern management. The Center for Cultural Management at the ZHAW School of Management and Law works closely with the partners in the areas of generalization and model develop-

ment and ensures knowledge transfer to the expert and research communities. Theater Winterthur provides the practical field based on which a practically oriented, highly effective management model will be created.



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## Professional product management in small and medium-sized enterprises

### Steinbeis Engineering Group seminar

Experts of the Steinbeis Engineering Group together with external speakers will hold a seminar on "Professional Product Management in Small and Medium-Sized Enterprises" in Stuttgart on November 22, 2013. The event will offer practical recommendations for implementing efficient product management as a basis for business success through product innovations.

One of the key factors highlighted by the Steinbeis Engineering Study, which was presented at the 2013 Steinbeis Engineering Day, showed that not even half of the surveyed SMEs employ effective, interdepartmental management. What's more, only about half of these companies indicated that their product management has well-qualified staff. However, the survey results did show that product management is deemed central to success in its interdepartmental role as a coordinator of the product development process (PDP). In addition, product management can only be truly successful if it takes all influencing factors into account, if it sees the value chain as integrative, and it takes a strictly process-oriented approach to seamless interface management.

The practice-based seminar offered by the Steinbeis Engineering Group will take a detailed look at this topic and tackle questions that arise from everyday work processes. Possibilities for financial support for companies within the framework of EU funding programs will also be presented.

#### Speakers:

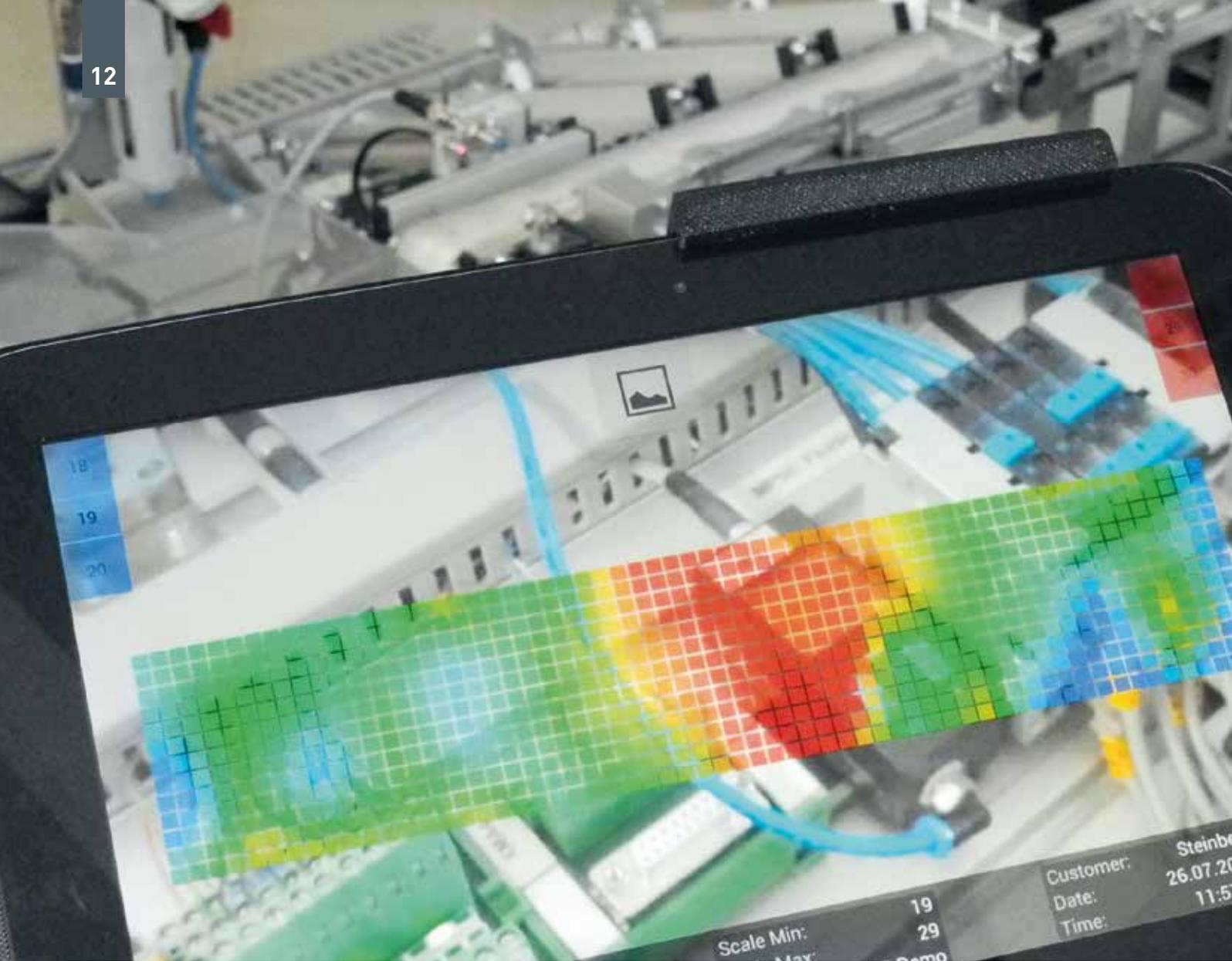
- Prof. Arno Voegelé, Steinbeis Transfer Center for Production & Management, Stuttgart
- Prof. Günther Hofbauer, Ingolstadt University
- Dr. Jonathan Löffler, Steinbeis-Europa-Zentrum Karlsruhe



For more information about this event, visit: [www.steinbeis-engineering-group.de](http://www.steinbeis-engineering-group.de).  
The Steinbeis Engineering Study and Best Practice Publications are available online: [www.steinbeis-edition.de](http://www.steinbeis-edition.de).



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## Processes in motion

### Business processes get smart and mobile

Companies are oozing with IT these days. Almost by default, every business process has to involve IT. But for people who move around businesses or are mobile, things have remained relatively unchanged for decades. Just one example: customer services. Schedulers often spend a huge amount of time preparing orders and technical documents, usually because it's not possible for the field service technicians to access the documents they need when they're on site with the client. Multiple copies of contact reports are written out by hand for somebody back at base to type into the system, also manually. These interrupted communication flows – or "media breaks" – can be costly. The Steinbeis Transfer Center Processes in Motion has now developed a smartphone and tablet-based solution to bridge media breaks in technical sales and services and thus improve the integration levels and reach of business processes.

Mobile devices, smartphones and tablets have now become media for the masses, and this brings a variety of advantages to companies. People no longer have to acquire specialist skills just to operate a smartphone, especially in the younger generations. More than anything, however, these devices have reached economy of scale within consumer markets, making them cheap to acquire and, thus, excellent value for money. They are crammed full of network technology, sensors, cameras, microphones, compasses, GPS and acceleration sensors. And because of the new app system, they are highly versatile and adaptable. Yet integrating these solutions into business processes is still in its infancy despite the fact that there is so much money to be saved:

- Avoiding "media breaks" improves the quality of information: less money invested on editing content or eradicating errors.

- Processes in the field are easier to plan and organize: less money wasted on unsuccessful work or missing parts; quicker turnarounds in critical client situations.
- Smart devices instead of expensive special equipment: lower costs due to synergy effects, helping spread load on equipment.
- Instructions in smartphone apps: lower costs through more consistent processes.

"Processes in Motion for Technical Field Service" is an Android app developed by the Steinbeis experts at the Göppingen Transfer Center Processes in Motion. It can plan technician schedules more rapidly via the Internet, e.g. if urgent servicing needs prioritizing. It enables access to technical documents held in the back office directly from the client



site. Recorded data relating to the service contract can also be captured accurately, partially automatically and in real time, directly through the ERP system.

The solution can do more than share and present data. Machines and parts can be identified using QR codes and NFC tags. Noises indicating damage can be pinpointed using built-in microphones. External equipment can be plugged into mobile devices via USB. To carry out a heat analysis, an external thermal matrix sensor can be attached to show a heat image on the screen, thus making it possible to identify damages using thermal evaluations. Images, noises and machine and process data can be transmitted via the Internet to experts for remote maintenance.

The solution is adaptable and merely needs to be fitted to existing systems. This service can also be carried out by the Processes in Motion Transfer Center. The center was set up in 2012 and specializes in the process integration of mobile devices. It draws on academic experience in the field of business process optimization and integration, using service-oriented architectures (SOAs) and know-how acquired in the design and programming of mobile applications – i.e. apps.

The center also has expertise in the increasingly important area of external sensor connection to mobile devices, a technology which has been used to develop a heat image camera. Especially in high-end uses, there are a multitude of possibilities to replace specific hardware solutions with standard hardware equipped with individual add-on components. Processes in Motion offers the whole spectrum of IT project management services, from requirements analysis to problem solving and the implementation of software and hardware products.

These services point to a number of other ways, in addition to technical services for customers, to improve efficiency and effectiveness through the use of mobile devices. This includes asset management, such as managing machines, car fleets or buildings, but also services directly delivered to the customers, such as technical or medical support, as well as self-services for customers.

#### Case study: Hanover Trade Fair 2013

As part of Industry 4.0, a research highlight at Hannover Messe 2013, Festo Didactic and the Steinbeis Transfer Center Processes in Motion exhibited intelligent and mobile maintenance and diagnostics processes under the banner "Processes in Motion for Technical Field Service." On a shared display on the Festo stand, the two project partners demonstrated an intelligent service process – an app for tablets called "Processes in Motion for Technical Field Service" which makes it possible for technicians to identify any kind of component during live processes using NFC tags, and then call up corresponding information from an MES server. This allows service technicians to detect things like logical errors in production processes.

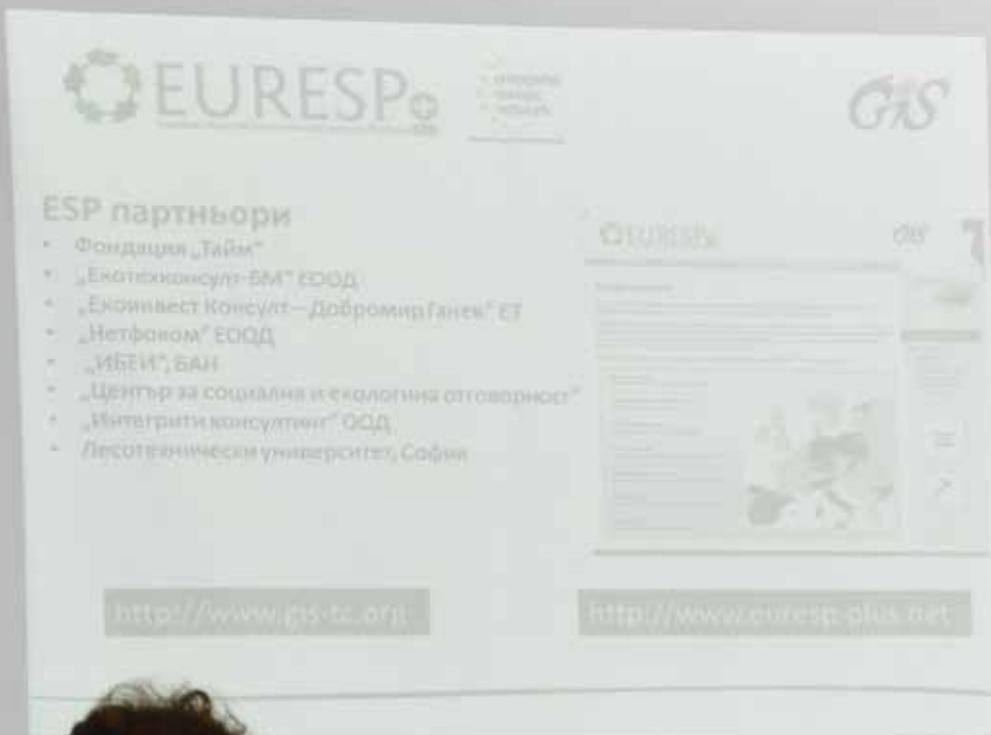
Once a damaged machine component has been detected, a technician is aided by acoustic and thermal analysis. The app uses a microphone to detect the noise patterns of damaged bearings or motors. The thermal matrix sensor allows the app to display thermal patterns on the tablet screen. This can be used in a number of ways by the technician. For example, hot components can be detected, pointing to faulty functions or damage. However, raised temperatures can also often be an indication that heat is being lost, and this should be eliminated.

#### Thermal imaging camera seeks distributor

The thermal imaging sensor is an external add-on device for smartphones and tablets. It was originally developed as a prototype by the Steinbeis Transfer Center Processes in Motion. A serial production model is already being planned, and now other partners are being sought to market the product. Aside from possible uses in production, the accessory can also be put to good use in a variety of other business applications. One particularly attractive field is the market for energy optimization, which should hold huge potential not only in trade and industry, but also in domestic households.



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## Technology transfer across borders

### GIS Transfer Network marks 10 years in Bulgaria

Bulgaria's national innovation strategy places emphasis on the key role played by technology transfer in transforming new knowledge from science and research into business innovations, especially through SMEs. Successful companies have to think outside the box. Innovation is not just about tweaking existing products or exploring new sales channels. The most contentious area of competition worldwide is for access to cutting-edge technology, new products and competent workers. Flying the flag for technology transfer in Bulgaria for the past 10 years has been the GIS Transfer Center, a franchise company in the Steinbeis Network. Prof. Dr.-Ing. Kostadin Kostadinov, director of the transfer center, provides an insight into his work in Bulgaria.

One of the key challenges of politics is to make scientific insight useful for society as a whole. Fast-moving economies have to find a way to bring business, science and academia around one table with the aim of exploiting the full commercial potential of scientific research. Within the overlap areas between education, research and innovation, aspects which are the backbone of a modern knowledge-based society, intermediaries play an essential role. They bring the three parties together and actively support efficient knowledge sharing and collaboration. Alongside innovation centers and technology transfer agencies, this intermediary role is fulfilled by the GIS Transfer Center in Bulgaria. The center works as a network for delivering actual innovation and transferring technology from science into business.

The GIS Transfer Center was founded in 2000 to support the transfer of scientific insight and technology. The transfer center is a not-for-profit

organization and was set up with the support of the Ministry of Education and Science, the Ministry of Economic Affairs, and the Bulgarian Agency of Small and Medium-Sized Enterprises. The center has been a franchise company in the Steinbeis Network since 2003.

The activities of the center revolve around four key functions and goals:

- The transfer of research findings and technology coming from publicly funded research, laboratories and institutes of further education
- The promotion of scientific research into competitive innovations
- The sales and marketing of competitive research findings with the support of transfer centers according to market economy principles
- The forging of links between science, business and the public sector



The GIS Transfer Center currently employs 12 people (professors, engineers, business experts and Ph.D. students). The not-for-profit organization is managed by a board of nine directors. Over 40 external partners and consultants work on a freelance basis at the center. Their expertise spans a broad spectrum of technology fields.

The franchise agreement with Steinbeis resulted in a national network of 14 GIS Transfer Centers in Bulgaria in the most important areas of science and business. Their job is to support the transfer of competitive research findings, know-how, consulting and expert reports, especially among small and medium-sized enterprises. Eight new technology transfer units were integrated into the GIS Transfer Network in April 2013, all of which had originally been set up as part of a program called "Competitiveness of Bulgarian Economy," forming the Bulgarian Technology Transfer Network (BgTTN).

GIS Transfer Center projects focus primarily on five key areas. The first revolves around fields where advice and new technology may be needed by SMEs, and how this demand can be addressed by scientific research. Projects in this area stretch beyond the borders of Bulgaria and can include countries like Serbia and Macedonia. The GIS Transfer Center also

supports technology-based startups and innovative business clusters which should also contribute to the competitiveness of young companies. Another key priority is to provide technical infrastructure in the form of technology transfer offices to pave the way for transfer. As part of the EU Competitiveness and Innovation Framework Programme, the transfer center also offers SMEs carefully matched service packages. Finally, the most innovative and competitive SMEs were supported by the center to participate in the EU's 7th Framework Programme for scientific research.

#### A selection of GIS-TC projects

- **Bolstering of SME competitiveness through the transfer of research results at the Bulgarian Academy of Sciences**  
The setting up of a database to provide an overview of competitive research findings.
- **Collaboration projects with the Steinbeis Transfer Center for Engineering & Project Consulting (Constance)**  
RoTe MiNa: development of a robot for use in microcell and nanocell manipulation.
- **Interreg Project: INTER GET UP – a cross-regional approach to support technology oriented start-up enterprises in Europe**  
An alliance formed by twelve partners to examine forms of possible technology transfer. Eight technology startups received support through the project.
- The setting up of a **Mechatronics and Automation business cluster**
- **The PHARE Project:** establishment of a Technology Transfer Office at Sofia University
- The improvement of companies' competitiveness through knowledge and technology transfer between SMEs and research and education establishments in the field of renewable energy, energy efficiency and ICT in the Sofia and Nishava region.
- **FP7 Project:** Fitforhealth – the promotion of long-term shareholding in research-heavy, high-tech SMEs in medical fields, as part of the EU's 7th Framework Programme.



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## The challenges of product development

### Regional Steinbeis Engineering Day took place in Gosheim

**Faster, better, more efficient – thanks to targeted product development processes. This was the motto on the invitation issued by Petra Ohlhauser, director of the TQI Innovation Center, to the first regional Steinbeis Engineering Day, which took part in Gosheim in June. And judging by the turnout, there's major interest in the topic!**

Opening the event, Petra Ohlhauser discussed the challenges faced in the product development process (PDP) when creating products and developing processes. Drawing on years of experience in the field, Ohlhauser convincingly demonstrated the insights she has gained in her career while consulting and carrying out projects. Audience members agreed that one area for potential is to use FMEA tools effectively for preventative troubleshooting and to apply other methods in project management teams.

Speaking on behalf of Steinbeis, Sandra Haltmayer then walked through the results of the Steinbeis Engineering Study, explaining the findings regarding key factors and the conditions of successful product development processes. The audience was given insights into the study design and the focus of the survey. Other points covered included the attitude of respondents to the PDP and support needed from management and

co-workers during the process. The authors of the best practice section of the Steinbeis Engineering Study talked about the practical application of the PEP. There was lively discussion during the breaks, a reflection of the fact that there was still a lot more to say about the topic.

In a further presentation, Dr. Michael Zerrer (Pfisterer Kontaktsysteme GmbH) asked, "Is the PDP a practical aid or a stumbling block?" Drawing on actual examples from his place of work, he showed that the PDP really cannot be approached according to a strict agenda. Frequently, people discover new things or conditions change, so the actual procedures of the PDP have to be highly adaptable. The talk was also used by the audience as an opportunity to glean ideas about planning processes, hindrances and the results of the PDP.

In the subsequent discussion about the event, it became clear that efficient communication is key to the entire product development process. Product development is difficult if initiatives, needs and results are not matched up and discussed within the company or between departments or specialist areas.

The Steinbeis Engineering Forum is an opportunity for the Steinbeis organization to keep looking at different aspects of the product development process. If you have questions or ideas concerning the study, the Steinbeis enterprises in the Steinbeis Engineering Group would be pleased to assist you.

#### The Steinbeis Engineering Group

The Steinbeis Engineering Group (SEG) is an alliance of centers within the Steinbeis Network. It acts as a platform for dialog on topics related to the product development process. Every two years the SEG organizes the Steinbeis Engineering Day.

 Production & Management

 Production and Engineering

 Development & Management

 Steinbeis-Europa-Zentrum

 Management – Innovation – Technology

 TQI Innovation Center

 Production technology and Waste Handling Logistics

 Innovation and Organization

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## Top priority: satisfied employees

### Steinbeis assists with demographics project

**In less than ten years, people over 40 will constitute the majority of the population of Europe for the first time ever, according to a study conducted by the Adecco Institute in London. And the consequences are staring us all in the face: The decline in population and aging of the current labor force means more people are working longer and more women are working in the first place – while the number of qualified up-and-coming employees is dwindling. Employers and employees alike have to start thinking about how to maintain health, motivation and performance levels in the future. The Steinbeis Consulting Center for Operational Health Management, with its ProSalutO method, offers a holistic concept that enables businesses to react adequately to these demographic changes – and a project with the Brückner Group shows just how successful this concept can be.**

The salutogenic research addresses the question of how health can be promoted by individuals as well as entire organizations. It found three factors with the biggest impact on how satisfied and motivated people are: comprehensibility, manageability and meaningfulness. These can be very practically promoted based on actual needs in the areas such as workplace design, work processes, information, communication and management. And the most effective way to improve work satisfaction? Just ask the employees themselves; being able to constructively contribute to the development of one's business is a guarantee for motivation and performance. It fosters mental and physical health.

The Steinbeis Consulting Center team moderates steering committee meetings and employee events, offers its own survey on subjective workplace quality, and consistently focuses on the question, "How can the parties involved better understand, manage and give meaning to their working conditions?" The steering committee, a representative sample of

customer businesses, designs the in-house steps of the market analysis, prioritization, strategy planning, implementation and evaluation.

The Brückner Group, a Leonberg company going back over 60 years, decided to pursue the employee satisfaction issue. As early as 2009, it initiated an organizational development process under the project name "vit@work," which has been receiving support from Steinbeis project director Ralf Elsner since 2011. vit@work stands for vital, innovative and transparent organizational development. Quickly, the initial objectives of an operational health management system turned into a comprehensive demographic project.

"vit@work is about more than just health and physical fitness. It focuses on organizing a company in the long term in a way that ensures young and old, experienced and up-and-coming employees can work well with one another, that experience can be passed down, and that each individual can derive meaning from his or her particular work. Each employee should have the opportunity to contribute to developments in the company by being healthy, motivated and active as long as possible," says Regina Brückner, owner and CEO of the Brückner Group. The Steinbeis Consulting Center for Operational Health Management moderated the organizational development process. First, employees filled out surveys, which resulted in various spheres of action. These were then discussed with the vit@work steering committee and approached with suitable strategies. This paved the way for new initiatives at Brückner, such as a "Lunchtime Rendezvous," free water and fruit for employees, discounts for the neighboring gym, part-time and flexible work models, home-office work, and employee training from experienced or retired employees. A redesign of the open-plan office is also planned to optimize the working environment. Central to the project's success is its transparency and the extensive participation of the employees, which served to strengthen loyalty to the company.

At the beginning of the year, Brückner successfully entered the vit@work project for Baden-Wuerttemberg's Demographic Excellence Award, an initiative sponsored by the Federal Association of German Business Consultants (BDU) and the Baden-Wuerttemberg State Ministry of Business and Finance. The jury selected the project as its 2012 beacon project among companies with 50-250 employees.

**Photo: Inga Reichart (Internal Project Director), Ralf Elsner (Steinbeis) and CEOs Axel Pieper and Regina Brückner show their excitement over the Demographic Excellence Award.**



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Dr. Susanne Fath, Angela Boll, Dr. Ingrid Peroz (left to right)

### Distinction for SHB Master's Thesis 1st place "Dentista Academic Award" for Angela Boll

Angela Boll, a dentist from Hamburg and graduate of Steinbeis University Berlin, has won an award for her master's thesis, earning her prize money of € 1,000 from the Dentista Club. Her thesis addresses the topic "Professional Implantology from the Gender Perspective: Possibilities and Career Options." She was awarded the prize at the Hirschfeld-Tiburtius Symposium held in Berlin in June. The award was presented by Dentista Club president, Dr. Susanne Fath and the chairwoman of the academic advisory board of the association of female dentists, Dr. Ingrid Peroz.

By bestowing this prize, the association of female dentists hopes to cast a spotlight on well-founded studies into the effects of the growing number of female dentists on dental medicine and care, and to promote academic work relevant to care and related to the field of "gender dentistry." This year's winning thesis covers an issue of frequent debate in the industry, which had not previously been the subject of properly researched work, according to Ingrid Peroz: "Female students have outnumbered male students for years now. This is evidenced by graduate numbers which totaled 60% in 2000 and 65.5% in 2009. The percentage of female doctoral candidates currently lies at 67.3%. Yet these numbers are not at all reflected in the number of female members of specialist implantology associations." Angela Boll dedicated her master's thesis to this topic as part of her Oral Implantology degree at the Steinbeis Transfer Institute for Management of Dental and Oral Medicine at Steinbeis University Berlin. The study was based on questionnaires sent to 1,200 female implantology dentists and 500 male implantology dentists. The study served to high-

light the obstacles raised by the lower number of female implantologists, while offering alternative solutions to the issue. One topic highlighted is the time-intensive training required for implantology, which is often difficult to master while juggling career and family priorities, making professional development more difficult. Unlike the career paths of male dentists, female dentists often have to deal with a break in their careers. As mentioned in the study's conclusion: "Female dentists who would like to start a family and hope to complete postgraduate studies up to the master's level are often confronted with varying, contradictory societal expectations. [...] The expected discontinuity along the career path of 'mothers' is not conducive to the complex, postgraduate training for implantology and the highly technical nature and educational demands of this specialist area. This is especially the case since implantology training is often carried out during a phase of a female dentists' life in which the children are still quite young and require more care and attention."

The Dentista Club is an independent forum for female dentists and dental specialists, female dentistry students and dental assistants, as well as women returning to the field or studies. The club is a central platform for contacts, education and training, the exchange of professional experience, services and networking.



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## Anthology documents SHB research project Demands facing communal communication with citizens

An increasing shortage in local residents is challenging sustainable communal development. While citizens used to hold a more peripheral position, they are now becoming a focal point for communal marketing. At the same time, citizens are demanding more communication and traditional channels are losing ground in terms of their quantitative and qualitative reach. This situation was the starting point of a long-term research project of the SVI-Endowed Chair for Marketing and Interactive Marketing at Steinbeis University Berlin.

Two questions are at the nucleus of the research project: "How do communities currently communicate with their citizens?" and "How could they communicate better with their citizens?" The anthology, which is the project's capstone, answers these questions based on extensive empirical research into communication with residents, both from the perspective of community officials as well as the perspective of the citizens.

Furthermore, practitioners report about best practices from communities. Several communication scenarios are examined, such as strengthening the feeling of belonging among members of a community, campaigns intended to develop the community or the particular challenges of communication during a crisis. The publication aims at clarifying the importance of communal communication with citizens to city executives. Moreover it offers impetus and advice for improving this communication.



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## Master of Arts in Criminal Investigation 2nd academic group underway

The second academic year of the Master of Arts in Criminal Investigation got underway in October 2013 at the School of Governance, Risk and Compliance (School GRC) at Steinbeis University Berlin. The master's program offers students from the German-speaking world a unique opportunity to specialize in the area of criminology through a part-time, extra-occupational program.

The master's program, which runs for four semesters, covers specialist disciplines such as criminal strategy, criminal tactics, IT forensics, case-based information management, criminal justice, forensic psychology and even economics and business culture. Students who apply to enroll in the program must have an undergraduate degree achieved with honors (at least 180 ECTS) to meet the formal participation requirements. Work experience in the field is also advantageous. The target group for this program has intentionally been kept quite broad on account of the new tasks and areas of responsibilities related to criminal methods and instruments. As a result, the professional backgrounds of first-year students working for the authorities or organizations which deal with security range from company security agents to lawyers, auditors, and freelance forensics specialists. This heterogeneity means that as well as receiving specialist training, the program participants can gain more key qualifications such as skills in leadership, problem-solving, and decision-making, while networking with a variety of experts. The master's degree in Criminal Investigation does not compete with police academy training or the first degrees obtained at universities. Instead, a degree for extra-occupational continuing professional development must build on solid specialist knowledge and practical experience in order to make the educational offerings worthwhile for participants, especially in terms of enhancing leadership skills and creative problem-solving techniques.



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## New degree program for artistic therapeutic care Training to become an Art Therapist (SHB)

The "competence institute unisono" Steinbeis Transfer Institute, which is based at Steinbeis University Berlin, is offering a program to train as a certified Art Therapist (SHB) in collaboration with the Art and Communication Studio in Ulm. The three-year training program offers fast-track courses to develop the unique creative abilities of the participants, providing them with a lively way to expand on their personal circumstances or professional situation. It provides a qualification for professional activities in the field of art therapy and care.

Throughout the program, participants are given the tools to apply the methods of artistic therapy. These can be used in the preventative and follow-up care of people experiencing personal difficulties, crises, illness

or disabilities brought on by trauma. These skills are based on theoretical and practical exposure to principles relating to the impact of art therapy on human behavior, a process seen to have tangible effects in both psychological and somatic respects.

The artistic methods, qualities, and materials are selected in line with the physical, psychological, social, and aesthetic needs of the patient. The aim of an art therapist is to attend to patients in such a way that they are motivated to use regenerative strength along their path to defining a new direction in life.



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## Leadership: an acquired skill

### Development of modern people-management techniques

Almost every single director or chairman maintains to people outside the company that their employees are key to the success of their enterprise. But sadly, behind closed doors, things are often completely different – as the experts at the Steinbeis Transfer Center for Marketing, Logistics and Company Planning, which is based at Pforzheim University, know all too well. Sometimes people hardly talk to one another, and if they do, they switch into army general mode. “We constantly have to ask ourselves why these managers, who are intelligent and clearly successful bosses, just don’t do more to look after their capital, their workers,” says Professor Uwe Dittmann, director of the Transfer Center. “Here of all places, interaction between people should be automatic. Far from it – it’s actually the opposite. And the more time people invest agreeing on things with workers, the more they expect back from them.” To identify the strengths and weaknesses of a company, the Steinbeis experts in Pforzheim have developed a tool called dialog-based communication analysis (DCA). It involves some highly versatile methods.

The DCA can be used to observe internal or external communication at companies. It is particularly good at looking into all kinds of business processes – for example to get under the skin of a bad working environment. On one project, a client turned to the Steinbeis Transfer Center after noticing that the results of the annual employee satisfaction survey were gradually getting worse and worse. The brief for Steinbeis was to analyze internal communication and identify the reasons for the negative feedback. Another challenge would be to introduce a systematic change and improvement process, and to introduce measures to improve employee satisfaction.

To find out what areas in particular needed most urgent attention, it does not necessarily make sense to conduct a survey. Employees typically know what they are expected to answer, and the results are often superficial generalizations, which are of no use. So it makes more sense to try role-playing and to ask people to walk you through situations involving specific departments or target groups. People find it difficult to put on a brave face; in fact, they do not hold back and show you exactly what really is going on: “I’m telling you, this honestly does happen here!” Using this form of communication can work on any level of the hierarchy, under one condition: Don’t have people at different levels of the company in the same role-play. The DCA technique is not cast in stone, but it provides a useful template that can be adapted to the specific issues facing the company without missing out any of the core constituents. Long-term success comes when employees see and sense for themselves that the measures introduced are meant to last.

The dialog-based communication analysis carried out for the client by the Steinbeis Transfer Center took place in four stages. To start the process, key issues were analyzed, as part of a briefing session with the company directors. This was to make a rough sketch of the project pri-

orities. Next, the team captured the areas that needed addressing in order to work out what the actual problems were. This highlighted initial options to address the core problems. The next step was to hold a workshop with selected members of staff. At this point it was also important that everybody was at the same level of the hierarchy. The participants started with a role-play to show their take on the problem area. The moderators documented key statements. Then people wrote their thoughts on flash cards to go on a pin board – a technique known by some as a metaplan. Once the participants’ ideas were on the cards and for all to see on the board, they were discussed, placed in clusters, and ranked in terms of priority. Before translating ideas into actions, a concept needed to be developed based on the results of the workshop. So next, a pool of possible solutions was worked up with the client company. The aim at this point was to not overlook opportunities presented by working with external partners – their advantage is that they have no history with the company so they approach things without pre-conceptions, a factor that positively influences acceptance.

The Steinbeis Team successfully developed a variety of possible ways forward for the customer. The key recommendations included tips on how to improve staff motivation, successful conflict management, treating others with respect, ways to stay in touch with people, and new ways – tangible and otherwise – to reward people.



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## Blazing new trails in coaching and mediation

### SHB certification program as an Integrative Coach and Mediator

Integrative mediation is the synthesis of coaching, conflict management, and mediation. In bridging the gap between work and private life, a coach will normally support people with change and development processes, whereas a moderator will focus mainly on conflicts and disputes. A new certification program offered by the "competence institute unisono" Steinbeis Transfer Institute, which is based at Steinbeis University Berlin, provides course participants with the tools for working in professional coaching, conflict management, and mediation roles. Werner Tafel, the program's developer and head of training, and Christian Munz, a graduate of the program, tell us more about their experiences.

**Mr. Tafel, what is so special about this combined training as coach and mediator?**

**Werner Tafel:** We teach coaching, mediation, facilitation, the art of communication and, to some extent, client-centered therapy. This works well due to a basic foundation, the so-called competence spiral of Tafel® which forms the backbone of support provided during the process. It's important that course participants don't just focus on conflict the whole time, but that they're made aware of the broad spectrum between concentrating on task resolution and conflict resolution.

**What exactly is so different about integrative mediation?**

**Werner Tafel:** Integrative mediation is a method of "process support." It offers a structured process which completely integrates the phase model for mediation. The advantage lies in having a thought-out, functioning basic structure. Unlike classic mediation, integrative mediation moves between two apparently very different poles: the development of potential success and how to deal with the potential for conflict.

**You initiated the European Association for Integrative Mediation (EGIM e.V.) this year. What inspired you to do that?**

**Werner Tafel:** We'd like to create a qualification for process facilitators which takes the unique skills of the individual into account, truly valuing the individual on the opposite side of the table. Our aim is to create a certification environment that doesn't pigeonhole people according to fixed expectations. Our first priority is to highlight individual strengths.

**How did the collaboration with the "competence institute unisono" at Steinbeis University Berlin come about?**

**Werner Tafel:** The institute offers participants who have successfully completed their training in integrative mediation the chance to attain a university certificate, giving them an opportunity to become a certified "Integrative Coach and Mediator (SHB)," regardless of their educational background. The institute dovetails professionalism with respect for people. It promotes the unity of so-called hard and soft skills.

**Mr. Munz, what made you decide to take part in the training for certification as an Integrative Mediator at Steinbeis University Berlin?**

**Christian Munz:** Next year, I will leave the armed forces after 15 years of service. Initially, my goal was to polish my profile as a manager in human resources. As a secondary aim, I wanted to gain further training in interpersonal interaction. Advising people and guiding them is my core competence. This program not only strengthened my competences, know-how, and practical skills. It really taught me a lot about myself. My overall conclusion: one should never be afraid to work on oneself, or with intrinsic personality structures, especially if one wants to work with others in these areas.

**How have you been able to apply integrative mediation in your daily professional life, and how has your training influenced this work?**

**Christian Munz:** Although military service is clearly different from "normal" employment, intrinsically it's still about people who are communicating and cooperating with one another – or not! In the military, personal and work-related interactions are pretty different from what most people might think. If you bring people together with different interests and specialist backgrounds, you're bound to have friction. This is precisely where my training will help me to facilitate and defuse conflicts. When I start down my new career path, I hope to apply these new skills just as easily and successfully.

Photos: Werner Tafel (left), Christian Munz



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## A healthy environment for demographic change

### “Future Ideas” project in the district of Rhine-Hunsrück

Recent demographic change has made the restructuring of public services absolutely essential. But this won't be possible without financial support. In this vein, the district of Rhine-Hunsrück wants to use the potential offered by energy conservation, energy efficiency and renewable energy (EEE) strategies to generate value across the board. The district, its affiliated municipalities, and the unaffiliated city of Boppard joined forces with residents to seize the opportunities created by demographic change to develop new, targeted approaches to the public services challenge. As a part of the “Future Ideas” project (ZukunftsiDeeen in German), the project partners developed an integrative approach that combines the areas of public services and renewable energy. The Steinbeis Consulting Center for Regional and Communal Development and the Institute for Applied Material Flow Management (IfaS) worked as scientific advisors on the project.

Capacity problems in the provision of public services, a direct result of demographic change, can readily be classified into three spheres of action based on fundamental needs: life – habitat – work. But it is difficult to know if and how the current technical and social infrastructure will remain viable in the future. Because of this, individual strategies will be necessary to bring local needs and prospects to the forefront and to develop customized strategies. The goal of “Future Ideas: innovative public services through energy conservation, energy efficiency and renewable energy in the district of Rhine-Hunsrück” was to gather ideas through general public participation. The process involved asking residents and key players how best to take advantage of opportunities in the area of renewable energies and, thus, better overcome challenges in the provision of public services.

The project revolved around seven planning workshops. These took place in each of the municipalities and in the city of Boppard. During each workshop, participants acted as “local experts” to develop concrete strategy proposals to address different objectives in the areas of local infrastructure, the labor market and energy supply. In the end, approximately 400 participants came up with a total of more than 600 suggestions.

The planning workshops were evaluated in early 2013, revealing five areas with the largest need for action: medical provision, local infrastructure, transport, building management, and energy efficiency, including decentralized energy supply and inclusion. In order to pinpoint the exact nature of these needs and further develop the ideas from the



These ranged from reallocating finances to combining the content of both modules into one project. This systematic process will enable the district to scrutinize proposed projects and actions in terms of their overlap with EEE, and consider commonalities as early as the planning stage.

On the other hand, the process, which was marked by intense involvement of residents – in the planning workshops, the discussion workshops, central events and the work of the planning council – revealed a strong interest in the issue as well as a willingness to play a role in the planning and implementation of solutions.

In June, a meeting on the "Future Ideas" project took place in the Rhine-Hunsrück Hall in Simmern. Approximately 200 people attended the event. With Federal Ministry for Education and Research funding of the project coming to an end, Rhine-Hunsrück district community members and key players voiced their support for the flagship project, also emphasizing that it should be pursued further with participation from residents at the district and municipality level. In a keynote speech, Malu Dreyer, the Minister-President of Rhineland-Palatinate, highlighted the incredibly innovative character of the project and praised the groundbreaking results.



planning workshops, local experts were called in for open "discussion workshops."

At the moment, a "Planning Advisory Council for the District of Rhine-Hunsrück" is being set up to handle implementation of selected flagship projects and drive them forward. The council was conceived as a merger between local experts and key players known for commenting on and criticizing local politics. As such, it will consist of political decision-makers as well as residents, with residents receiving 50% representation plus one vote. The council will be responsible for the implementation of project proposals and driving the connection between public services and renewable energies in the district. In addition, each municipality will establish various working groups for these "future ideas" with its residents, which will report to the planning council and initiate local projects.

The Steinbeis Consulting Center for Regional and Communal Development separated findings into two areas. On the one hand, suggestions were made by specific location on ways to secure sustainable public services in cities and municipalities. These included a system to capture all options for dovetailing public service projects with renewable energy.



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### The EXI Startup Bonus

Steinbeis consulting in the pre-startup phase



Robin Derdau (Freiburg Regional Economic Development Department, WFG Emmendingen mbH), Petra Mörder (Emmendingen Regional Economic Development Department), Johannes Merkel (Steinbeis) (from left to right). Photo: Alex Jung

Ten would-be company founders – ranging from professional outdoor training experts to part-time sellers of tapas – met up in the City Hall in Emmendingen to attend an information evening for startup companies and young entrepreneurs. The expectations and experience of the would-be company founders were as varied as their ideas. The information evening is held regularly by the Regional Economic Development Department in Freiburg in collaboration with cities and local communities in the Black Forest districts of Breisgau and Emmendingen, as well as the Steinbeis Consulting Center for Business Establishment and Development.

Petra Mörder, an economic development officer from Emmendingen, made a warm offer to entrepreneurs to set up their business in Emmendingen. For Steinbeis startup consultant Johannes Merkel, the priority during the evening was not to “find a quiet corner to work out the perfect strategy,” because, as Merkel says, “there isn’t one!” Setting up a business is a challenge and it is particularly important to look closely at the market and to have the courage to just get out there and do it. Support and feedback from others can be helpful – one thing that Steinbeis is there for.

Free initial consultations and in-depth consultations lasting several days are sponsored by a European Social Fund-backed scheme called EXI Startup Bonus. Startups in Baden-Württemberg are given support by qualified Steinbeis consultants on the planning and implementation of their project idea, from the initial concept to successful realization.



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### Promoting investment in energy efficiency

The Energy Efficiency Funding (EEF) Program for medium-sized enterprises

Since 2012, a program initiated by the LBBW-Bank (Baden-Württemberg State Bank) and the Baden-Württemberg Ministry of Environment, Climate and Energy Industry has been awarding low-interest credit to medium-sized enterprises in the state. The low-cost loans are supplied through a scheme at the KfW (the government-owned development bank) called the KfW Energy Efficiency Program. The loans are available for business investments aimed at significant energy savings. Steinbeis writes expert reports on the proposed measures.

Investments eligible for funding include “individual investment projects” aimed at generating or using energy efficiently, as well as refurbishments, or the initial construction of business premises. The potential energy savings have to be confirmed by a qualified expert. For a new investment, the savings must amount to no less than 15 percent versus comparable industrial equipment. For replacement equipment, the savings must be at least 20 percent versus the existing arrangement. There is no cost to the company for the expert report.

An “individual investment project” refers to investments in technical equipment, machines, construction equipment, etc. The term also applies to work carried out on buildings, such as a heating system. Under the energy efficiency funding program, the state development bank awarded around €357 million to some 365 companies in 2012. Most investments were used for machinery and production plants.



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## Process management maturity model for public administration in Germany

### SPECIFICATIONS

I	„What“	<b>Area</b> (process management, dimensions...)
II	„Where“	<b>Domain</b> (public administration)
III	„How“	<b>Implementation, approach</b> (degree of maturity, self evaluation)
IV	„Why“	<b>Anticipated results and benefits</b> (actuals vs. plan, comparisons, derivation of actions)
V	„Maintenance“	<b>Further development and maintenance</b> (content, use, ...)

## Process management maturity in public administration

### SHB-Student developed a process management maturity model

Public administrations in Germany are facing a challenge – a paradigm shift away from a focus on function and towards a focus on processes. To understand more closely the quality and effectiveness of process management in public administration, it is necessary to analyze and evaluate these factors and thus ascertain the degree of “maturity.” The key question is whether and to what extent conventional maturity models can be adapted to public administration and whether changes or additions are needed. This was the topic looked at by Sina Fischer as part of her degree at the Academy of Public Administration and Law, a Steinbeis Transfer Institute at Steinbeis University Berlin.

In her master’s thesis, Sina Fischer started with the assumption that existing maturity models used in process management do not match the requirements of public administration in Germany. Thus an existing process management maturity model would need to be adapted in such a way that it would match the needs of public administration and be used for self-evaluations.

The adaptation was based on a previously drafted list of requirements. These were identified by analyzing areas such as process management (definition and content), the differences between public administration and the private sector, the tasks of process management in public administration, and maturity models and how they work. Based on this, the student selected a maturity model for potential adaptations. Fischer chose a maturity model called Eden, which she then adjusted accordingly.

The adapted process management maturity model takes all stipulated requirements into account and can thus be used in public administrations in Germany as part of a self-evaluation program. This will help plan and modernize public administration bodies.

A maturity analysis always starts by determining the current status (“actuals”) of process management within the organization concerned. Actuals are broken down into nine dimensions. These are shown using five sequential levels of maturity. By comparing these to the desired (“plan”) status for each dimension, it is possible to identify specific areas of po-

tential/required improvement and key actions. To make it possible to use the maturity model properly in public administration, as a next step it will have to be introduced as a Web-based application and as an entry in the “national process library” – a research project with the aim of providing an overview of public administration process know-how in Germany.

The maturity model developed by Sina Fischer can be used by organizations as an instrument to conduct an initial maturity analysis. In its reduced form (36 criteria), it does not mean that a more detailed analysis is no longer necessary. Instead, it can be seen as a precursor.

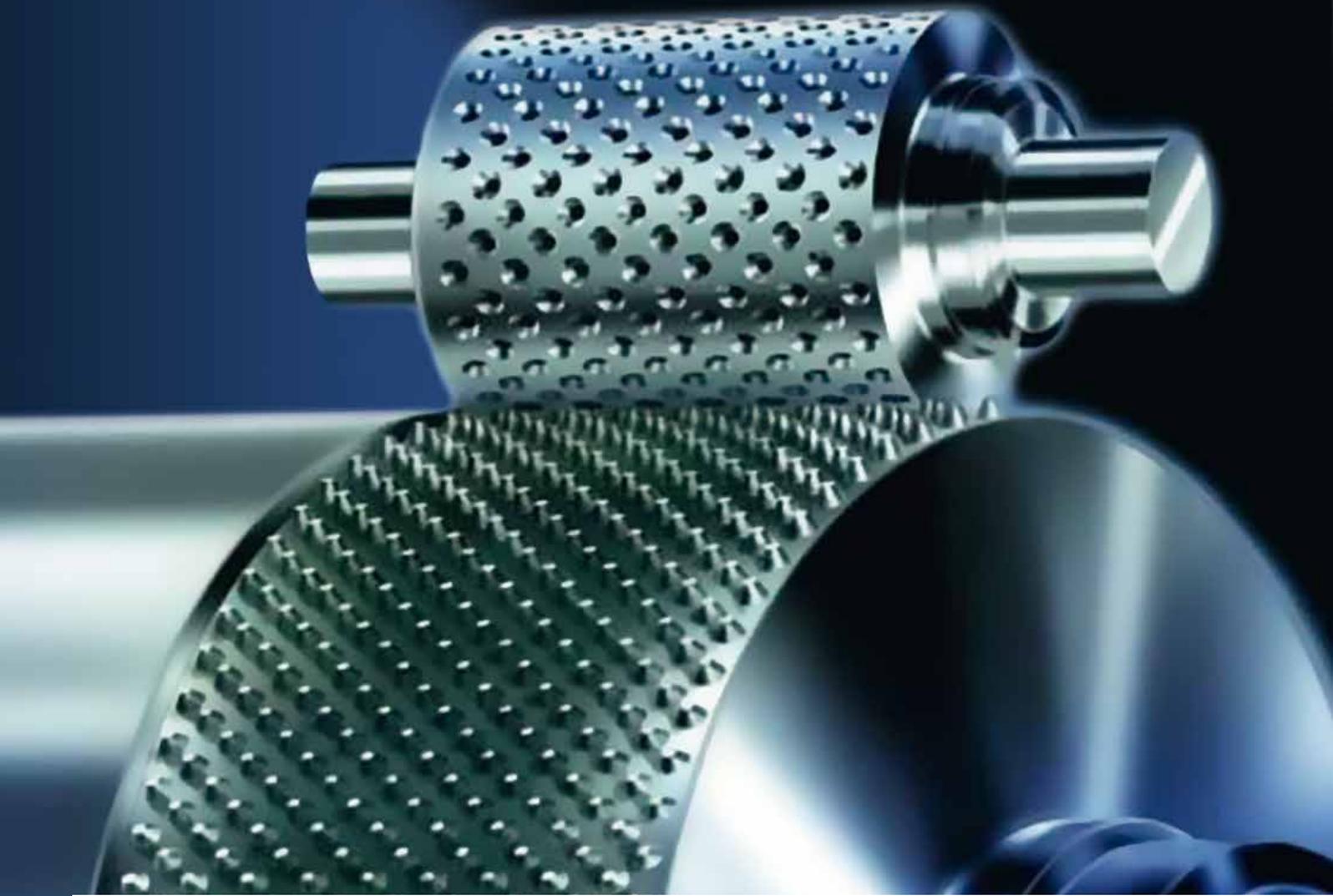
There are many overlaps between process management and quality management, so if possible it should be checked to see if the maturity model can be linked to the Common Assessment Framework (CAF). Both models focus on public administration and are designed to work as self-evaluation tools. Further (ongoing) work on the process management maturity model, as well as the CAF, could make it possible to arrive at a solution that combines the two sides of the equation. Ideally, these would look not only at quality management maturity but also process management maturity, and thus make combined assessments and recommendations.



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## Well positioned, worldwide

### Steinbeis advises clients on the selection of a product life cycle management system (PLM system)

The challenges of new, rapidly expanding target markets in Asia and Latin America, combined with the growing need to decentralize development activities, are heightening data management requirements. To maintain its global leadership in international markets, the machine and plant manufacturer BHS Corrugated decided to find a PLM system that could be made uniform worldwide. It was helped by the Steinbeis Transfer Center for Innovation und Organization, which has a wealth of experience in the evaluation of complex software used in CAD and PLM.

BHS Corrugated develops and produces corrugated cardboard machines, individual units and corrugated rolls in over 20 countries. It is one of the world's largest system providers to the corrugated cardboard industry and can construct corrugated board machines up to 150 meters in length and 500 tons in weight. But as the business environment undergoes change in different countries, BHS Corrugated is having to localize more and more products and make solutions for individual countries. This makes increased decentralization of development activities almost unavoidable, posing particularly high demands on CAD and PLM data management.

To gear itself to efficient development processes in the long term, across all sites, the company from northern Bavaria decided to introduce a uniform global PLM system. To identify the right system, the company called in the experts at the Eisingen-based Steinbeis Transfer Center for

Innovation and Organization. Drawing on their experience, the Steinbeis consultants were able – within a short period of time – to take a snapshot of development, as well as other departments directly involved in the development process. Based on their analysis, an ideal scenario was put together.

Following meetings with an interdisciplinary team of workers from what would later become the application departments, it immediately emerged that inter-site CAD data management was not the only issue. Product configurations and, related to this, the computer-based optimization of approval processes between development and sales, were also hugely important.

"The project entailed solving two key challenges," explains Thomas Hecky, who was responsible for the project and is head of design and

development at BHS Corrugated. "The first challenge lay in the interdisciplinary nature of the people involved and the variety of requirements. Even within development, we had to get mechanics, electronics and software pulling in the same direction. Then there were people from sales, project management and IT. On top of that, we had to work out the scale and scope of existing PLM systems in terms of product configuration, sales configuration and project management, or, if necessary, pinpoint procurement requirements for other systems." Using applied methods and their highly specialized expert knowledge, the Steinbeis consultants worked successfully alongside each area as sparring partners, resulting in a list of requirements that would be understandable to the systems providers.

BHS Corrugated took part in a series of "benchmarking events" to identify the best-case-scenario PLM system. The project documentation was so detailed that afterwards, it was still possible to include a further system in the selection process. Subsequent to a change in circumstances, the actual possibility of finding an ERP solution to the PLM problem had emerged.

Thanks to the support of the Steinbeis consultants, the selection process only lasted six months as agreed. Rollout preparations are already in full swing involving a team of key users. The first rollout wave is already planned for the end of this year on the site in Weiherhammer. This lays the foundations for a uniform global PLM system and efficient development processes at all company sites, even outside Germany. BHS Corrugated should be able to maintain a key edge over its competitors in the future.



## A cornerstone of innovation

### The Steinbeis House in Karlsruhe

**Foundations laid for a joint innovation center: The symbolic laying of a cornerstone for the new Steinbeis House in Karlsruhe took place in August. The building, which is currently taking shape on the campus of Karlsruhe University of Applied Sciences, will provide a working area measuring 5,000 m<sup>2</sup> – enough space for researchers to work on innovations for the university as well as small and medium-sized enterprises (SMEs). Steinbeis is developing the site which is due to open at the end of 2014.**

Steinbeis and the Karlsruhe University of Applied Sciences have been actively collaborating in knowledge and technology transfer for many years. There have been more ways to collaborate even more closely since 2008, through the jointly operated Steinbeis Transferzentren GmbH at the Karlsruhe University of Applied Sciences (STHK). A number of Steinbeis Enterprises at the university provide professors, students and other staff members with the means to explore the innovation potential of competitive transfer into industry – and provide SMEs with fitting solutions to their problems. This close interaction with business is reflected in the modern nature of teaching and training. Scientific advancements made at the university also directly facilitate competitive edge in business.

The partnership between Steinbeis and the Karlsruhe University of Applied Sciences will now intensify with the construction of the Steinbeis House. Aside from the university, a number of local SMEs are also collaborating on the project and they intend to rent rooms in the five-story building, which will not only house scientists and SMEs, but also have a cafeteria and a lecture room. The total cost for the project is estimated to be €17 million. "We're very proud and delighted to have partners on board who are also really interested in the welfare of the university," says the president, Prof. Dr. Karl-Heinz Meisel. "And it would mean a lot to us to be allowed to remain on the university campus for any further expansion." If agreement is reached, the university is considering renting rooms in the Steinbeis House to ease ongoing space problems.



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## Systematic expert knowledge in the field of oncology

### Steinbeis works with partners to develop software to provide overviews of guidelines

Demographic change and medical advancements are moving forward at breakneck speeds. Not only is the number of people suffering from common diseases such as diabetes, asthma, heart failure and depression on the rise, the number of cancer sufferers is also increasing. Thanks to targeted areas of research in oncology, the treatment options are growing as well – but this means that the field is becoming more complex and it is increasingly difficult to keep an overview. Doctors are now wondering which treatments are best for patients with certain physical constitutions or genetic predispositions. The Steinbeis Transfer Institute of Clinical Hematology–Oncology at Steinbeis University Berlin is working with partners to develop software showing guideline overviews that will help to make doctors' lives easier.

The past two decades have seen hundreds of thousands of publications come out, highlighting the various illness indications found in a vast array of medical areas. Add to that the results of experimental studies, which are published on an almost daily basis. Doctors have to take both areas into consideration in their decision-making processes. What's more, the number of diagnostic tests for assessing predictive therapy factors is also growing rapidly – making it harder to keep up to speed with advancements using conventional media. How should or can a doctor make decisions based on the latest medical findings?

Developing guidelines and directing therapies in line with these condensed recommendations is the method of choice. Evidence-based guidelines are derived from systematically compiled and processed information in the literature. They are regularly updated or contain

notes on their period of validity. After evaluating lab values and patient parameters, doctors refer to the guidelines to define the first stages of treatment. Depending on how treatment goes, further possible treatment is decided upon. Until now, doctors have had to do this by referring to printed guidelines, or have had to look them up online. Having software with the guidelines would make the work of a doctor much easier. In addition, decisions could be better documented and more easily traced.

The Steinbeis Transfer Institute of Clinical Hematology–Oncology and the Fraunhofer Institute of Optronics, Systems Technology and Image Processing (Karlsruhe) hope to develop an oncological expert system in a homogenous and transparent outpatient medical setting, and then test it in daily practice with the aim of implementing the solution in the



broader field of oncology care. The expert system will initially be developed and tested for a limited and manageable range of indications. The main field work will be carried out at regional, well-networked outpatient oncology centers north of Munich (Donauwörth-Dachau and Freising-Fürstenfeldbruck). The oncology centers treat nearly 3,500 tumor patients each quarter in close cooperation with nearby hospitals. This makes these structures ideal for delivering important practical and theoretical input on the development of the system. The medical database needed for the expert system can also be used to measure the standard of treatment offered in outpatient oncology. This is very important for specialized outpatient care.

The knowledge-based system will be implemented in a client-server architecture, where the server acts as a central data source, and something like an Internet browser can be used as a client. A technical solution of this nature would make it easier to update content as new research results emerge, giving it a clear advantage over standard guideline publications. It will allow doctors with the right qualifications to update content (for example findings presented at a tumor conference) which will then be available to other doctors in general practices. On the server side, the knowledge from guidelines and interviews

with experts needs to be formalized in some way. This means implementing approaches based on ontological or logic-based modeling. Quality management would make it possible to separate "confirmed" knowledge from new knowledge that has yet to be confirmed. On the client side, the system can recommend tests and support doctors making a decision on an individual patient by showing their previous entries made to the system. The underlying system is based on artificial intelligence techniques, such as reasoning, Bayesian inference, and machine learning.

The project partners are planning a multiphase project. Since developing a self-learning expert system for oncology is such a complex technical, medical, and even politically sensitive project, the project partners would like to start by developing software with guidelines on indications. In a further step, they envision extending the program to access the data in other databases – for example from tumor centers in the region or cancer registers.

The Steinbeis Transfer Institute of Clinical Hematology-Oncology will primarily work on the treatment research in outpatient oncology, with a particular focus on outpatient specialist care. It will also manage the transfer of results into practice and provide support research into ethical issues. In addition, a scientific advisory committee will work on the project with experts from the field of oncology as well as political and business partners.

### Steinbeis Transfer Institute of Clinical Hematology-Oncology

#### Portfolio of services

- Development of software-based expert systems in oncology and hematology
- Treatment research in hematology-oncology
- Development of tools to measure treatment quality in outpatient and inpatient oncology and hematology

#### Key areas

- Development of expert systems in hematology-oncology
- Treatment research in the field of outpatient hematology-oncology
- Development of tools to monitor the quality of treatment given to tumor patients
- Mentoring of doctoral candidates
- Teaching



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## Industrial quality steel hardening: energy efficient and environment-friendly

### An integrated approach to manage quality, environment and energy in industrial hardening plants

Industrial hardening shops take steel engineering parts and harden them. These companies use vast amounts of energy for processes that are not particularly kind to the environment. Many run several management systems in parallel and would welcome a single, integrated management solution that fulfills requirements relating to international enhanced efficiency standards. The Steinbeis Transfer Center for Risk Management has developed a generic management system that incorporates the individual content of several ISO management systems.

At the behest of customers, hardening shops frequently use certified quality management and environmental management systems, and some of the larger firms also have an energy management system in place. As a result, many hardening shops are keen to find a single, integrated management system. Integrating quality, environmental and energy standards into one management system is significant at the conceptual and process level. The integrated management system recently developed by the Steinbeis Transfer Center in Aachen compensates for the current deficits of ISO standards in its ability to integrate different areas. It already incorporates the imminent standardization of ISO standards according to Annex SL, the new ISO meta-standard. It adheres to all requirements laid down under individual ISO standards and is thus certifiable.

The generic management system manages values and thus adds value. Quality (product features) is a value that is important to hardening shop customers, the environment (environmental integrity) is a value that is meaningful to the interest groups of hardening shops, and energy (or how efficiently energy is used) is important to the hardening shops themselves. The new management system also encompasses a strategic and operational process to synchronize aspects that need to be managed individually, in keeping with required standards. It also provides an infrastructure for developing values.

A necessary assumption when introducing an integrated management system is that the company already has a quality management system in place under ISO standard 9001. At the "concept level," the value added by the product is laid down, as is the production of the product on the "process level." Integrated management is then implemented throughout the entire hardening shop. The aspects that need managing – quality, environmental factors and energy – are defined in value terms. The hardening shop's company policies relate to all aspects that need managing. The strategic management system is developed and operated as part of a strategic process. It is integrated into internal and external auditing and forms part of management evaluations within a PDCA cycle (plan-do-check-act). The operative process in the hardening shop

deals simultaneously with product quality, environmental integrity and energy utilization efficiency. It is also regulated by the PDCA cycle. Quality is managed along standard lines without the need for special or new methods or tools. There is a net material and energy equation, plus an integrated budget, containing KPIs on the operative management of environmental and energy tasks at the hardening shop. In the same way that there are quality targets to manage product features, there are material and energy targets to manage environmental integrity and energy efficiency. Under ISO management systems, the hardening shop has a free choice of relevant measurements and corresponding KPIs. For environmental integrity, an absolute value could be the carbon footprint. This value simply measures one gas entering the environment, but other materials entering the environment can be used. For energy efficiency, the standard industry measurement and KPI is energy input (kWh) in relation to volume of hardening goods (kg).

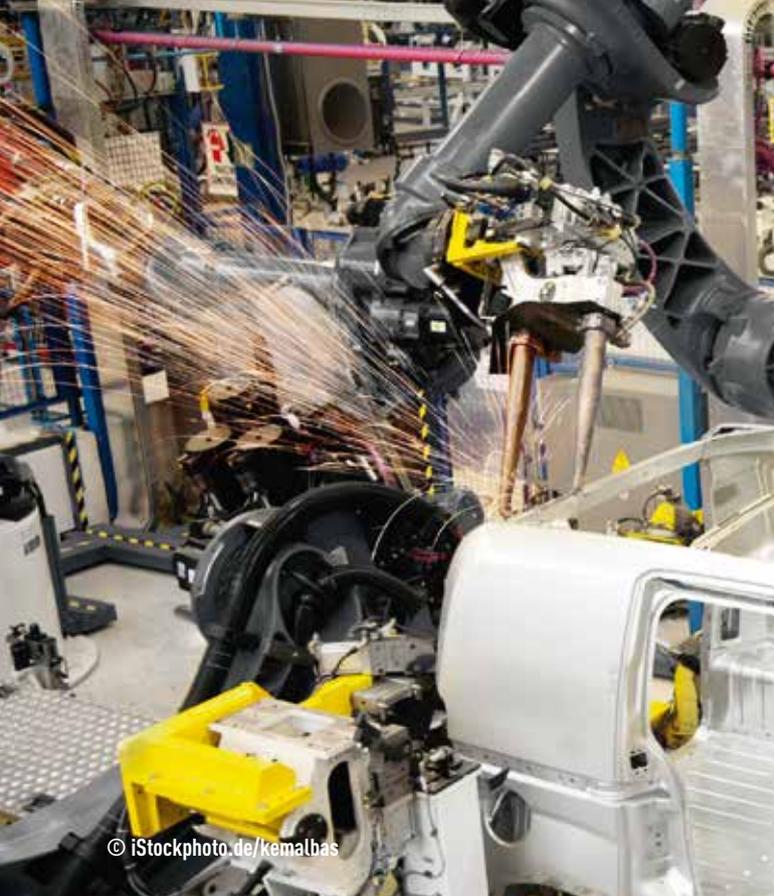
This value and process-based integrated management system is not limited to use in hardening plants or with environmental and energy aspects. It could basically be applied to any value-adding organization. It already matches the new structures and content of the next ISO standard revision.



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## Mechatronic Dialog Karlsruhe

### Mechatronics – safeguarding the future

The Karlsruhe Mechatronics Conference took place again in June, this time under a new name: Mechatronic Dialog Karlsruhe. The event at the Center for Advanced Technological and Environmental Training (FTU) at Karlsruhe Institute of Technology (KIT) was coordinated, managed and run by the Karlsruhe-based Steinbeis Transfer Center for Mechatronics and Sustainability in collaboration with the Karlsruhe University of Applied Sciences, the KIT and Landescluster Mechatronik BW GmbH (the Baden-Württemberg State Mechatronics Cluster).

The new name - Mechatronic Dialog Karlsruhe - was chosen to highlight the greater emphasis on different information and communication options. One important goal was to add more appeal by shifting the emphasis of the event, which has been running successfully for 13 years.

Around 150 organizers attended the conference with a healthy mixture of representatives from universities, research, trade and industry. The event featured information booths on research and industry providing plenty of things for visitors to talk about.

A keynote speech by Wulf Höflich, CIPD at EADS in Paris and Munich, on his vision of mechatronics, left the audience captivated, providing plenty of impetus for the entire day. The SMEs at the event were particularly interested in technology licensing. Prof. Thomas Bauernhansl (University of Stuttgart), Johann Soder (SEW-Eurodrive, Bruchsal) and René Ohlmann (ADDI-Data, Rheinmünster) gave three talks on Industry 4.0, inspiring the audience with their highly descriptive and realistic interpretations of the megatrend. There was also a section on e-mobility with Philipp Klein (SEW-USOCOME, Haguenau) expanding on the latest possibilities created by the technology. Renewable sources such as wind and solar power will help cover energy requirements through decen-

tralized storage solutions. These will make it possible to supply vehicles with energy while traveling, parking, or both. A live e-bike project is already proving successful and is especially popular among members of the public. Thomas Blank, from the Institute of Data Processing and Electronics (IPE) at the KIT examined related energy storage issues and possible short-term solutions, brought to life with some useful battery management concepts. Coming from the medical technology angle, Lena Ginzinger, Stefanie Hadon and Angela Hermes provided an insight into the use of mechatronics on the operating table and in surgical aspirators. Dr. Rudolf Gensler (Siemens AG, Erlangen) demonstrated the particularly impressive transformation of medical devices resulting from mechatronics and the benefits to developers and users, especially in terms of usability and patient safety.



All speakers were then available for a 30-minute Q&A discussion, the "dialog session," to address the audience's questions in depth. For everyone involved it was a fascinating and fruitful day, underscored by the feedback received through the Steinbeis Transfer Center's survey. The usefulness and novelty of content was scored "high to very high" by 78% of respondents. The Q&A sessions were clearly "very good" (87% of answers), and 86% said the project booth relevance was "high to very high." Topics suggested for future meetings included medical technology, sensors and production technology, with particular interest for robots and drones, as well as software development tools and simulation solutions.

For the organizers, the evaluation of the event confirmed that the concept is a winner, with some pointers on even better ideas for Mechatronic Dialog Karlsruhe 2014.



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# Making the most of differences: diversity in education

## SHB student examines diversity management issues

**Increasing globalization, demographic developments in an aging, yet shrinking society, and marked changes in commonly held values are external factors that can have a big impact on companies. Tognum AG, the largest subsidiary of the diesel engine provider MTU from Friedrichshafen, took a close look at these issues. As part of her bachelor studies at the School of Management and Technology (SCMT) at Steinbeis University Berlin (SHB), Yumiko Mathias researched ways in which diversity can be introduced to education and training programs as part of a strategic diversity management plan – and thus achieve the most heterogeneous staff structure possible, not only to counteract the effects of demographic change, but also to positively influence a company's competitive edge.**

The advantages that could arise from the diversity concept designed for Tognum include increased flexibility, increased staff satisfaction, and a stronger image as a company and employer. Mathias defined three aims at the start of her project. For the first aim, a survey of trainees and trainers should provide insights into how minorities feel working with members of a majority and whether minorities are treated differently in a training program. Mathias focused on two diversity issues: Gender (females in technical professions) and ethnicity (trainees and students from the Baden-Württemberg Cooperative State University (DHBW) with various immigrant backgrounds), since these demographic groups are considered minorities in apprenticeships. The second aim of the study was to identify potential for improvement, particularly with respect to diversity. Thirdly, the project hoped to raise awareness of diversity issues among training providers and engender a common understanding.

The survey method chosen by Mathias was to question trainees in focus groups. Training providers were then questioned using structured interviews. The most extensive part of the project was the evaluation of the results. Comparing the results obtained from both groups (trainees/trainers) proved very insightful, as did the reference to various findings from current research. The focus group for "females" clearly revealed that there were situations in which young women felt confronted with prejudices with respect to their choice of profession. They also reported occasional differential treatment in the form of preferential treatment or discrimination. The presumed reason for this treatment was stereotyping with respect to traditional gender roles. The presence of other women in a trainee group as well as the presence of females in technical specialist areas was seen as positive by group participants. The respondents also stated that they felt it was important to foster interest for technical issues within female target groups as early as possible – and not just when young women start thinking about a career.

The respondents also suggested a number of ideas and possible improvements, including some very simple ways to improve the situation with respect to applicants and training. Mathias added these ideas to a list of proposed actions. Other recommendations were derived from statements made in special workshops. For the most part, there was more demand for increasing awareness among training providers and to sensitize them to the impact of their behavior toward female trainees.

The focus groups of trainees and students with various immigrant backgrounds were also asked about prejudices and discriminatory treatment. One issue that was frequently pointed to was language. For the most part, insufficient German language skills were given as the main reason for difficulties on the training programs. On the other hand, the multilingual skills of trainees from immigrant backgrounds was also praised as a particularly valuable quality, which could definitely be beneficial to the company. The issue of religion was only mentioned by the training providers. This and other examples clearly showed that how people see themselves and how others see them often don't match up. The issue of coming from an immigrant background was rarely emphasized by people themselves, but it was by others. Much more often, these participants saw themselves as part of German society. Mathias' recommended actions included offering trainees more ways to improve their language skills and, if interested, to assign them to tasks where their multilingual capabilities and intercultural skills could be put to immediate use. A major issue with this focus was an increased awareness among training providers, as well as the importance not to overemphasize or ignore the topic.

Mathias' conclusions make for interesting reading: all three of her aims were achieved. In addition, she noticed during the course of her project that for the female focus group, the issue of gender played a much bigger role in their technical training than immigrant backgrounds did for the other focus group. But the success of the project is also clearly reflected by the fact that the survey results have already been integrated into the training strategy of the company that commissioned the research. To gain sustainable awareness among training providers, the idea of inviting a guest speaker to talk about the issue is being considered. What's more, a further survey has been planned for next year to monitor whether action points have already been implemented, and whether the issue can be addressed again in order to attain long-term effects.



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Yumiko Mathias



## Backache? Never a welcome visitor!

### Steinbeis supports a startup company from Stuttgart as it walks the road to self-employment

Backache can severely cramp your lifestyle and wreak havoc on simple everyday tasks, as anyone who's literally been flat on their back will tell you. Most back problems are caused by shortened abdominal muscles, usually due to lack of exercise. Help is on hand from the **bauchkröte**® ("belly turtle"), an exercise aid made out of foam. The cushion is being marketed by Florian Schweer. The entrepreneur from Stuttgart was assisted on the road to self-employment by the Steinbeis Consulting Center for Business Startups, spearheaded by consultant Udo Schmid who, with his client, successfully developed a marketing, sales and acquisition strategy.

The **bauchkröte**® can be used at home or at the workplace as part of a company health care program. Exercise involves carefully stretching the stomach muscles using the bodyweight of the exercise aid. The aim is not to address the symptoms, but rather the original cause of back problems.

Florian Schweer was so won over by the efficacy of the foam turtle that he jumped at the opportunity to go out and sell it. He set up his own limited company, FSBV, and entered the realms of self-employment. To make sure nothing went wrong with this not insignificant undertaking,

he brought in professional support from the Steinbeis Consulting Center for Business Startups. As he limbered up for the startup phase, consultant Udo Schmid exposed Florian Schweer to the importance of selling, highlighting the problems encountered and how to solve issues by presenting professionally and in a way that matches the target group. How can I differentiate myself from less professional salespeople, and how do I sell to companies? Or in other words: What distinguishes a sustainable and lasting sales organization?

Udo Schmid and Florian Schweer started by analyzing the target group for **bauchkröte**®. Which groups of people suffer the greatest losses as a result of backache? Which activities are most likely to result in backache, and where are these people? Based on these questions, a concept was drafted which revolved around the idea of not just marketing the exercise aid by itself. Instead, users should be motivated to use and keep using the aid, and company clients should be convinced that they are making a long-term investment in the health of their staff. An analysis of the number of working days lost due to back conditions and the associated costs showed that for the company, the payback period on a "belly turtle" would be relatively short as fewer working days would be lost. Fewer back problems, less absenteeism and higher work performance. And the impact a company makes by showing that it values its people by responding to their individual requirements should not be underestimated. The concept also encapsulated communication aspects of selling and the important role that instruments like social media could play. Udo Schmid and Florian Schweer also placed emphasis on ensuring that all parts needed to make the **bauchkröte**® were sourced from local suppliers.

The young entrepreneur is also not short of ideas and visions for the future. Using his limited company as a springboard, he would like to develop and launch other products with health benefits on the market. He is already drafting plans for a computer workplace with a training apparatus to aid the recovery of joint and muscle injuries in the feet and legs. Naturally, he is turning again to the expertise and advice of the specialists at the Stuttgart-based Steinbeis Consulting Center.



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## Mobile marketing – hype or a hope?

### Steinbeis student sets up new international communication channel

For many companies, the advent of smartphones has pushed mobile marketing – the use of mobile devices for marketing purposes – to the top of the agenda. In 2011, the commercial power tools division of Robert Bosch GmbH saw this as a key opportunity. As part of his degree project, Claudius Pscheidl, a graduate of the School of International Business and Entrepreneurship at Steinbeis University Berlin, and now an e-marketing manager at Bosch Power Tools Asia Pacific, was in charge of establishing mobile marketing as an innovative communication channel.

For corporations like Google, mobile business is an integral part of the company strategy. But for others, it's completely uncharted territory. They all face the same challenge, however: how to successfully promote products via mobile devices, convey the brand positively in the mobile environment, and strengthen the connection between customers and the company. All this may have to be worked out for target groups that in socio-demographic terms are nothing like early adopters. These were challenges that Claudius Pscheidl faced with his project, as well as the complexities of coordinating a project with international stakeholders, inside and outside the company.

These days, mobile marketing is in a variety of campaigns in all areas of the marketing mix. It can involve using the communication channel to place advertising in third-party campaigns, use of the company's own website, or even stand-alone mobile solutions such as apps. The aim of the Steinbeis project carried out by Pscheidl was to set up mobile marketing as a new communication channel and establish a bridgehead from which to expand into further areas of the marketing mix.

Pscheidl's degree at the School of International Business and Entrepreneurship (SIBE) at Steinbeis University Berlin ran in parallel to his full-time work, and this helped him define a strategic foothold for the project. The design concept for the communication instruments focused strongly on users, and it was based on an underlying principle called utility marketing. The aim of this is to provide users with offerings that provide real benefit (utility) and high levels of user relevance, thus leaving a positive imprint on the brand. This relevance dimension is central to success, especially in mobile marketing, as smartphones have evolved into one of modern society's most personal companions in everyday life.

Pscheidl implemented his project through key instruments such as an analysis of the requirements of his target group and the market, and a definition of potential benefit-based app functions. Services were tested through market research with handymen to assess whether they were actually user-relevant and to check certain hypotheses. The main output of Pscheidl's project was a Bosch toolbox app – the first-ever digital toolkit for handymen. It contains a variety of professional tools tailored to their needs, such as a digital measurement camera.

Pscheidl's project is certainly a success: Having racked up over one million app downloads within a year, it has established a new and unique communication channel for the company. This has allowed Bosch to communicate directly with handymen and other professional users, and feed them with relevant information, such as new products.

The Bosch toolbox app also resulted in a number of positive spin-offs, polishing the brand image as a leading innovator and helping differentiate the company from competitors. It provides a springboard for developing the solution into a comprehensive marketing instrument. And with it, Bosch Power Tools has become part of the future of marketing. Claudius Pscheidl laid the foundations for this success during his degree at Steinbeis University Berlin.



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Claudius Pscheidl  
Bosch Power Tools Asia Pacific

Participants of the company mission to Sweden learn more about the Stockholm Royal Seaport, a sustainable urban development project

## Kick into market

### The “KIC Innoenergy” innovation platform gives its backing to a sustainable energy concept

Selected four years ago as one of the three flagship “Knowledge and Innovation Communities” by the European Institute of Innovation and Technology (EIT), the European company KIC InnoEnergy now has approximately 150 partners from business, universities, research institutes and business schools throughout Europe. KIC InnoEnergy drives innovation in the energy sector and is promoting a sustainable energy system for Europe. The Steinbeis-Europa-Zentrum (SEZ) is involved as a partner and hereby particularly supports medium-sized companies in accessing financial resources, entering new markets and new achievements through technology transfer.

KIC InnoEnergy aims at identifying market-ready technologies for the sustainable supply of energy and to foster the continuing professional education and training of people who develop these technologies. Therefore, KIC InnoEnergy brings together businesses, research and education institutions in a project consortium and supports these through investments. The company is organized into six regional co-location centers (Benelux, Germany, Spain, France, Poland and Sweden), each coordinates a different thematic field for the overall consortium. The SEZ in turn offers support by evaluating project ideas, to the assembly project consortia, and to the submissions of project proposals. During innovation projects, the SEZ is providing project management, as well as carrying out market and feasibility studies. It is also an active promoter of more participation of women from science, education and business in the energy sector.

KIC InnoEnergy's activities are arranged within the knowledge triangle education, technology, business development and start-ups. In the area of education, KIC InnoEnergy promotes business-oriented professional development and training. For example, the academic partners offer master programmes that combine basic engineering education with entrepreneurial thinking and actions. Within the PhD school, students are additionally offered courses related to the field of entrepreneurship. Furthermore, KIC InnoEnergy develops together with its education partners on a concept for “lifelong learning”. These allow businesses to create targeted professional development programs for their own personnel in research and development departments and gives young executives the opportunity for an occupational master degree in “Energy Engineering and Management”.



KIC InnoEnergy also invests in innovation projects with medium to high technological readiness level, which are conducted as European consortia and the participation of industry. As partner in innovation projects, the SEZ carries out market studies in the thematic field "energy from chemical fuels" and subsequently develops exploitation approaches. Along the project duration, the market analyses are being extended towards business opportunities and appropriate exploitation strategies are being worked out. At the same time, KIC InnoEnergy shares the costs for development and financial risks associated with the project, with the expectation of a return on investment. Business start-ups in the energy sector are supported through the "KIC InnoEnergy Highway." By joining forces with entrepreneurs, KIC InnoEnergy is working on four key factors which are the most important components of successful start-ups: technology, market, people and financing. Following an initial due diligence check, the entrepreneur is matched with his personal business coach and together they select services for each of the four key factors. The KIC InnoEnergy Highway complements the traditional offers of venture capital and conveys initial customers for the start-up. In order to open up the Swedish energy market to German companies and to foster German-Swedish collaboration in innovation in the sector "intelligent

energy networks" and "electrical energy storage", the SEZ organised a company mission with German entrepreneurs to the co-location center Sweden. The German participants learned about innovation projects and business activities in Sweden, presented their products and got to meet potential Swedish project partners. All of these services are made available to enterprises through this partner network. KIC InnoEnergy provides support by investing in such services and in return receives equity participation in the future start-up. In the future, KIC InnoEnergy will also support SMEs with successful business development.

#### Women4Energy International Conference | December 12, 2013 in Stuttgart

Women4Energy, the European Network of Women for Innovative Energy Solutions, was established in December 2012 in the framework of KIC InnoEnergy as a networking platform for women in the field of energy. The SEZ initiated the founding process and is inviting women from science and industry to an international conference. The conference will focus on new developments and future challenges facing the energy market as well as innovative long-term solutions, new business models and concepts.

#### KIC InnoEnergy Germany GmbH

KIC InnoEnergy Germany GmbH was established in October 2012 in order to strengthen the operational power of the InnoEnergy site in Germany. Founding members include the Karlsruhe Institute of Technology (KIT), the University of Stuttgart, EnBW and the Steinbeis-Europa-Zentrum. The LBBW and Fraunhofer ISI are also partners.

#### Connect Ideas2Business 2013 – Your marketplace for sustainable energy solutions

KIC InnoEnergy Germany Conference | November 4, 2013, IHK Karlsruhe

This conference offers technology providers and end consumers the ideal opportunity to network in the sector of sustainable energy. European entrepreneurs, research institutes and start-ups meet with key players from industry and research, as well as investors from all over Germany. The conference's interactive approach gives participants the chance to present their products, services and innovative business ideas to trade professionals and investors through pitches and booths on the marketplace.



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## Nachhaltigkeit an unserer Schule

- Ökonomie<sup>①</sup> — Ökologie<sup>②</sup> — Soziale<sup>③</sup>
- Energie sparen → 1+2
  - Solarzellen → 1+2
  - Recycling → 1+2
  - der grüne Schulhof! → 2
  - Bewegungsmelder → 1+2
  - Heizung → 1+2
  - Schulgarten → 2+3
  - Pflanzen im Klassenzimmer → 2
  - Werttrennung → 1+2
  - Energiesparlampen → 1+2
  - Kompostierung in der Schule → 2 + 1 (Landwirtschaft)
  - sparsamer Papierverbrauch → 2
  - Abfalltrennung → 1+2
  - Schulsozialarbeit → 3

## This is how sustainability works!

### School students explore aspects of sustainability in Kraichgau

We bump into "sustainability" everywhere nowadays. But most of the time, sustainability is not always pursued in the truest sense of the word. Just the impetus the Steinbeis Innovation Center for Logistics and Sustainability needed to implement the "School students exploring and transferring sustainability in Kraichgau (NiK)" project. The scheme involved two school classes each (8th and 9th grade) at four schools in Baden-Württemberg, from Bruchsal, Bad Rappenau, Eppingen and Sinsheim. The project was sponsored by the Baden-Württemberg Ministry for Environment, Climate and Energy and the lottery organizer GlücksSpirale. The students visited neighboring cities to get an overview of existing or upcoming activities related to sustainability.

The project focused on seven spheres of action, each corresponding to a different category. Groups of four students were assigned to each category. During the first step, Jens-Jochen Roth, Director of the Steinbeis Innovation Center, taught the students the fundamentals of the four dimensions of sustainability with various learning modules on economy, ecology and society. To maximize learning, students received, for example, concrete tasks to be completed in groups and presented in front of the entire class. Internet research was another component.

To prepare the subsequent empirical part of the project, each group created question guidelines centered on the various themes within the different spheres of action. The questions were then fine-tuned in an interactive discussion with the students during the class. The question guidelines served as an investigation aid for implementation.

During a field trip day, each class visited one of the neighboring cities. Then they carried out the project in the form of interviews with passers-by, expert interviews with employees in the city administration, key local decision-makers, representatives of the appropriate forestry offices, as well as other experts. After the empirical part of the project was complete, the results were pooled together by city and evaluated. The children presented their results to the representatives of the different city administrations as part of a culminating event in Sinsheim.

With this project, the Steinbeis Innovation Center for Logistics and Sustainability in Sinsheim gave young people the opportunity to familiarize themselves with the topic of sustainability through practical know-how transfer. The project marked the first attempt to integrate sustainability into the classroom at the Realschule level (secondary education). "The children were really interested and contributed actively to the project. The field days, in particular, demonstrated that the schoolchildren could absorb countless impressions on sustainability via practical activities on site, and that they were able to take these ideas with them," says Jens-Jochen Roth.



Jens-Jochen Roth

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## New centers in the Steinbeis Network

The Steinbeis Network comprises around 1,000 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 February 2013.

### Freiburg



#### Educational Management

Director: Dr. Ekkehard Lippold  
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*“European citizenship gives citizens of the EU the right to reside, study and work in any member country. Open borders also open the door to new training and continuing professional development opportunities. Individual member states are still responsible for laying down admission requirements and the nature of the education, but the EU plays an important role in developing high education standards by fostering collaboration between the member states. To this end, a series of training programs was developed to promote collaboration between education institutions through more intense exchange of teacher staff, more mobility and a stronger command of foreign languages. The Steinbeis Transfer Institute of Educational Management offers advice and support with the development and delivery of training and continuing professional development projects as part of European support programs.”*

#### Services

- Development and implementation of training and professional development projects



#### Sustainability - Strategy - Innovation

Director: Dipl.-Volkswirt Christel Rosenberger-Balz  
E-mail: SU1724@stw.de

*“We support our customers with the writing of sustainability reports and the development of sustainability strategies. Our focus lies in the link between economic, environmental and social sustainability with a view to promoting innovation.”*

#### Services

- The Steinbeis Consulting Center Sustainability – Strategy – Innovation assists businesses and public institutions with strategic and operational issues in the area of sustainability management with
  - Seminars, workshops
  - Coaching and consulting

### Esslingen



#### STZ Rechereinsatz

Director: Prof. Dr.-Ing. Nikolaus Kappen  
E-mail: SU1692@stw.de

#### Services

The focus of this Steinbeis Enterprise is the planning and implementation of computer applications and automation projects in the areas of research, advanced development and production.



#### Bioprocess Engineering

Directors: Prof. Dr.-Ing. Richard Biener, Prof. Dr. Winfried Linxweiler, Prof. Dr. Dirk Schwartz, Prof. Dr. Bettina Weiß  
E-mail: SU1709@stw.de

*“Bioprocess engineering is a key discipline in the pharmaceutical and industrial biotechnology sector. We see ourselves as a flexible and reliable partner to bioprocess engineering enterprises in the genetic development of production strains, the cultivation of microorganisms and cells (upstream processing), and the processing of biotechnological products (downstream processing).”*

#### Services

- Consulting in the field of bioprocess engineering
- Assistance with planning
- Implementation of research and development projects
- Assistance with training and continuing professional development

### Kronau



#### Automation in Software Systems Analysis

Director: Dr.-Ing. Jan Aalmink  
E-mail: SU1693@stw.de

*“In major companies, the value-adding process is typically steered by enterprise software systems. For process definition, optimization and adaptation to work, it is crucial to possess the right technical integration know-how. Competitive advantage can be gained by continually extending integration – which in practical terms can be an intense consultation process associated with high costs. We see ourselves as a reliable partner to industrial enterprises. Our innovative approach paves the way for automated system analysis.”*

### Services

- Diagnostics tools and systems for root cause analysis
- 360° tomography
- Introspection
- Simulation, calculation and evaluation of settling networks
- Search Engines in networks

### Bremen



#### Health Care Industry and Organization (SIGO)

Director: Diplom-Pflegepädagoge Gerrit Krause, M. A.  
E-mail: SU1694@stw.de

*“The health care industry faces major challenges. The new health care market needs fundamental innovations and new areas of know-how to meet these challenges. The Steinbeis Transfer Institute of Health Care Industry and Organization (SIGO) was set up to give health care professionals an opportunity to expand their skills through academic study, and implement new projects within their company. SIGO graduates should see themselves as important drivers of innovation in the health care industry.”*

### Services

- Certification courses
- Bachelor degree programs
- Master degree programs

### Donauwörth



#### Clinical Hematology-Oncology

Director: Dr. med. Dirk Hempel  
E-mail: SU1695@stw.de

*“Science from business practice for businesses!”*

### Services

- Development of software-based expert systems in oncology and hematology
- Research treatment in hematology-oncology
- Development of tools to measure treatment quality in outpatient and inpatient oncology and hematology

### Bad Oeynhausen



#### Business Management and Innovation

Director: Daniel Heine, MBA  
E-mail: SU1696@stw.de

*“More and more people these days are seeking module-based training opportunities that build on one another. Companies, organizations and associations also increasingly need customized services for their staff/members. We see ourselves as an innovative and reliable partner in the development and implementation of such training.”*

### Services

- Certified higher education programs
- Bachelor degree programs
- Master degree programs
- Innovation management

### Kassel



#### Technology Consulting BWDesign

Director: Prof. Dr. Bernd Witzigmann  
E-mail: SU1697@stw.de

*“Computer-based modeling used in photonic and electronic development forms an important part of our understanding of the function of components and systems, even before the laborious task of technological implementation. We work on collaborative projects, developing optimal design solutions with industrial enterprise partners involved in optoelectronic components and their application in communication, lighting, material processing and sensors.”*

### Services

- Technology consulting based on theoretical model calculations
- Technology consulting in the field of nanoscience
- Consulting on simulation issues in optics or electronics, the field of numerics and algorithms

### Leinfelden-Echterdingen



#### New Technologies to Market

Directors: Dr.-Ing. Jürgen Streng, Dipl.-Ing. (TU) Lars Schubert  
E-mail: SU1698@stw.de

*“New technology used in the contact-free control of software, equipment and machines with hand gestures and body movements offer vast development and application potential across a broad variety of industries and technology fields: e. g. in mechanical and aerospace engineering, safety technology, automotive construction or medical technology. Previous projects point to the major potential of this form of technology to identify movements and gestures and process these using IT. Data can be called up, equipment and machines can be controlled and movement profiles can be recorded for diagnostic and therapeutic purposes in medicine. The Steinbeis Innovation Center of New Technologies to Market carries out research and development work drawing on new types of technology aimed at developing market-ready systems.”*

### Services

- Research and development
- Development of functional samples and prototypes
- Consulting
- Expert reports
- Software development, integration of Hard- and Software

## Kaiserslautern



### Technical Processing Applications in the Field of Mechanical Engineering

Director: Dipl.-Ing. (FH) Rüdiger Jung  
E-mail: SU1699@stw.de

*“Researching and developing with companies to engender innovation.”*

#### Services

- State-funded research projects
- Commissioned research for industry
- Education and training in the field of food processing technology

## Gundelfingen



### Applied Statistics

Director: Prof. Dr. Marco Wölfle  
E-mail: SU1701@stw.de

*“It is becoming more and more important to work properly with mathematical and statistical methods to investigate and describe increasingly complex business interconnections in a clear way. The aim of this Steinbeis Transfer Institute is to transfer statistical theorems into business practice.”*

#### Services

- Development of Web-based modules for calculations
- Market research projects
- Setup and academic administration of databases for the finance and real estate sectors
- Seminars regarding market research statistics and business mathematics

## Gerlingen



### Process and System Consulting

Director: Prof. Dr.-Ing. Harald Stuhler  
E-mail: SU1702@stw.de

*“We support you with the optimization of complex processes and products. One key approach we use involves the statistical planning of experiments to control closely intertwined systems.”*

#### Services

- Consulting: Assessment of the potential of statistical methods and optimization methods in product development and process optimization
- Seminars and continuing professional development: Participants gain the skills needed to implement specific statistical methods for the optimization of their own products and processes.
- Support: Assistance with design and help for production engineers with the planning, development and application of new processes and products



### Energy and and Electromagnetic Compatibility

Director: Dr.-Ing. Thomas Heck  
E-mail: SU1704@stw.de

*“The focus of the center lies in energy and the aspects of quantity and quality. Based on the DIN standard EN ISO 50001, the center offers consulting, support and the delivery of organizational frameworks (a basis for action, system design, organization, structures, processes) and technological operating systems (operative energy management, agent system, measures, implementation).”*

#### Services

- Risk reports, export reports, auditing documents on CE declaration
- Consulting, planning, implementation and approval of energy generation and usage instructions
- Energy controls and monitoring related to the supply, conversion, distribution and use of electrical energy
- EMC consulting and EMC approval measurements, EMV reports, drafting of EMC project data sheets and confirming with (sub-)suppliers

## Göggingen



### International Management Studies

Director: Dipl.-Betriebswirtin Neslihan-Sibel Sagdic-Gümüs  
E-mail: SU1703@stw.de

*“Through a combination of strategic partnerships with a variety of business organizations and our vocationally integrated, project- and transfer-based degree programs, we help our clients provide comprehensive training and continuing professional development-services. Our specially selected partners enhance our offering with their specialist knowledge, boosting the benefit of close collaboration for our clients.”*

#### Services

- Bachelor degree programs
- Master degree programs
- Continuing professional development seminars

## Münster



### Institute for Ethics, Leadership and Human Resources Management

Director: Prof. Dr. Thorn Kring  
E-mail: SU1705@stw.de

*“Genuine business and management ethics are key to success – when managing people, businesses, and when providing services to clients.”*

## Services

- Research
- Study programs and teaching
- Certified training and professional development
- Consulting

## Tübingen



### Hemocompatible Medical Devices

Director: Prof. Dr. Hans Peter Wendel  
E-mail: SU1706@stw.de

*“The hemocompatibility of medical products that come into contact with blood is a decisive part of sustainable clinical success. We see ourselves as an innovative and reliable partner to medical technology enterprises. Drawing on many years of expertise, we can provide support on anything from the systematic evaluation of hemocompatibility to the development of new kinds of intelligent implant surfaces.”*

## Services

- Consulting
- Analysis
- Organization of research and development projects
- Expert reports
- Consulting on acquisition of funding
- Development of models and testing procedures
- Recruitment of partners for preclinical and clinical studies
- Training, continuing professional development, seminars
- Tapping into new markets
- Scientific human resources decision-making and recruitment
- Selection of consultants
- Evaluation of scientific projects

## Cologne



### Building Materials and Structural Engineering

Director: Prof. Dr.-Ing. Sören Eppers  
E-mail: SU1708@stw.de

*“A prerequisite of successful construction and maintenance is the ability to select the right construction materials and use them properly. The selected materials must also have the properties they were supposed to have. We check, plan and research, as well as advise manufacturers, developers and users of construction materials – reliably and precisely.”*

## Services

- Consulting and expert reports
- Research and development
- Project planning and management
- Testing and analysis of building materials
- Quality assurance

## Bochum



### Microtherapy, Minimally Invasive Therapy and Diagnostics

Director: Prof. Dr. med. Dietrich Grönemeyer  
E-mail: SU1710@stw.de

*“Less is more – micro is more! The future of medicine is individualized, gentle, integrative and humane.”*

## Services

- Dual study programs
- Continuing education and professional development for doctors and their medical teams
- Continuing education and professional development for non-doctor medical professionals, technicians and engineers
- Continuing education and professional development for non-doctor support personnel, medical assistants and nurses

## Berlin



### Location-Based Marketing

Directors: Dipl.-Betriebswirt Ariane Derks, MBE,  
Anke Müller, M. A.  
E-mail: SU1711@stw.de

*“We bring teaching, research and consulting under one roof and see ourselves as a contextual and strategic know-how and consultation platform on all issues relating to the complex field of location marketing/nation branding.”*

## Services

- Certification courses
- Consulting



### DUW Deutsche Universität für Weiterbildung

Director: Dr. Udo Thelen  
E-mail: SU1727@stw.de

## Services

Setting-up and operation of the university „Deutsche Universität für Weiterbildung (DUW)/Berlin University for Professional Studies“.



### DUW-Steinbeis-Institute for further education

Director: Prof. Dr. Ada Pellert, Dr. Udo Thelen  
E-mail: SU1729@stw.de

*“He who develops can achieve great things.”*

## Services

- Master degree programs
- Certification programs
- Company programs
- Consulting

## Garmisch-Patenkirchen



### IEaPE Industrial Engineering and Process Excellence

Director: Prof. Dr.-Ing. Vera Hummel  
E-mail: SU1712@stw.de

*“In times of Industry 4.0, industrial engineering will enrich business processes in completely new ways with information, as well as network different areas in real time. Intelligent production systems will evolve from people, machines, systems, work pieces and products. These systems will form a basis for enhanced flexibility, learnability, adaptability and, thus, future competitiveness. Appreciating people for who they are, taking demographic change into account, and embracing life-long learning will be key to the success of implementation.”*

## Services

- Applied research projects
- Implementation projects
- Design of thematic and customized seminars and advanced training offerings geared toward know-how transfer
- Sectors: industry, health care, social services institutions

## Gernsbach



### Process Management

Directors: Prof. Dr. Peter Dohm, Norman Dohm  
E-mail: SU1713@stw.de

*“Client orientation and process optimization are our calling!”*

## Services

- Training in the area of process management
- Consulting in the area of process management
- Support and services

## Greifswald



### Business Intelligence

Director: Dipl.-Päd. Jan-Erik Schmidt  
E-mail: SU1714@stw.de

*“Data, information and knowledge help push and promote decent decisions. Business intelligence systems can do more than pull content together and analyze, processes and present it. Our aim is to design systems with our customers that empower people res-*

*possible for making key decisions to deal more successfully in the future with the consequences of their actions and inaction.”*

## Services

- Planning, preparation, implementation and management of BI projects
- Specialist consulting in the area of financial management
- Support in software selection processes
- BI-related organizational development measures
- BI-related HR development measures

## Düsseldorf



### LifeCycleServices

Director: Prof. Dr.-Ing. Jörg Niemann  
E-mail: SU1715@stw.de

*“The hallmark of service excellence is sustainable customer benefit combined with measurable success.”*

## Services

- Development of services
- Development of service concepts
- Life cycle cost analysis
- Lean management methods for production optimization

## Filderstadt



### Business and Public Governance

Director: Dipl.-Ing. Vlad Freymann, MBA,  
Dipl.-Ing. (FH) Rainer Gehrung, Dimitri Lieder  
E-mail: SU1716@stw.de

## Services

- Consulting, coaching, training courses and seminars on:
  - Compliance management
  - Media law
  - International management
  - Public management
  - Business and public governance
- Bachelor of Arts
- Bachelor of Science
- Master of Business Administration
- Master of Business Engineering
- Master of Science

## Visakhapatnam (Indien)



### GVPCE-Steinbeis Center for Energy Efficiency & Renewable Energy

Director: Prof. Dr. Chennapragada Bhanu  
E-mail: SU1717@stw.de

*“Various studies in different countries have shown that significant energy-efficiency improvement opportunities exist in the industrial sector, but many industrial plants are not always aware of energy-efficiency improvement potential. This center conducts energy audits on any industrial facility and suggests possible improvements with an action plan to improve energy efficiency.”*

#### Services

- Energy auditing
- Design of Solar PV System (off-grid and on-grid systems)
- Training

## Cochin (India)



### Steinbeis Centre for Solar Technologies Training

Director: Ajit Kottara, MBA  
E-mail: SU1718@stw.de

*“Solar training for engineering students and electrical professionals, thus establishing a knowledge pool across the length and breadth of Kerala State, India.”*

#### Services

- Training on solar

## Chennai (India)



### Steinbeis Centre for Solar Technologies and Training, Chennai (SCSTC)

Director: Ponnusamy Palanimuthu  
E-mail: SU1719@stw.de

*“Cleantech/renewable energy technologies have the potential to eliminate dependency on fossil fuels. India is positioned to meet its energy needs through renewable energy, and solar energy is a natural choice as sunlight is abundant. Our focus areas are PV technology, energy efficiency and technical automation.”*

#### Services

- Renewable/Solar/PV Technologies Training Services
- Knowledge Transfer
- Automotive Technologies Transfer/Training
- Research & Development

## Lingen



### Vocationals Schools Lingen

Director: Hermann Jänen  
E-mail: SU1720@stw.de

*“We are a regional technology center for staff training and continuing professional development in commercial fields. We see ourselves as a service provider for the region and carry out technology transfer in the fields of communication and system integration with a focus on process engineering, network engineering and automation technology. We act as flexible and reliable partners to the manual trades and industry.”*

#### Services

- Advanced training and professional development
- Consulting
- Funding
- Project collaboration
- Certifications

## Constance



### Applied Water Protection and Sustainable Water Management

Director: Dr. Almut Gerhardt  
E-mail: SU1721@stw.de

*“Water: blue gold! Innovative and sustainable solutions to problems relating to water resources management during water shortages and pollution. We work holistically, on an interdisciplinary basis, internationally.”*

#### Services

- Research and development of innovative methods and products in the water sector

## Waldkirch



### Smart Home | RF & Fixed Network Systems

Director: Dipl.-Ing. (TH, FH) Peter Krämer  
E-mail: SU1722@stw.de

*“Mobility is key to our society – and mobile systems are the prerequisite.”*

#### Services

- Technology transfer for SME with the aim of developing embedded RF systems
- Innovation consulting: concepts for new products and transfer of know-how into implementation
- Technology screenings (which new technologies lead to innovative products)

- Project management for multiple-company projects (MMUs + universities of applied science + high-tech companies)
- Core competence consulting (new products with existing and "add-on" core competences)

## Bruchsal



### Software - Certification - Management

Director: Dipl. Betriebswirt (FH) Ulrich Gnädinger  
E-mail: SU1723@stw.de

*"We support and consult companies in the field of software, certification and management. This ranges from evaluations and certification of ERP system introductions to the certification of product safety/tamper-evident protection, management consulting relating to customer focus/markets/sales, key technology/platforms, and the general competitiveness of medium-sized companies in industry."*

### Services

- Software
  - ERP system evaluation and certification involving a 10-step profiling process
- Certification
  - Certification and preparation of tamper-evident protection for products: development and implementation of concepts ("ink tracer systems"; counterfeit protection systems)
  - Certification of processes, redesign of processes to improve efficiency, restructuring of companies
  - Certification for employees: managers, excellence, method competence
- Management
  - Management/business consulting
  - Customers/markets: market expansion, marketing controls
  - Technologies/platforms/products
  - Competitiveness
  - Business issues (finances, financial management)
  - Management support

## Braunschweig



### Energy+

Director: Prof. Dr.-Ing. Norbert Manfred Fisch,  
Dipl.-Ing. Mathias Schlosser  
E-mail: SU1725@stw.de

*"Sustainable buildings need more than just high-tech solutions. Only by bringing together integrated concepts, new technology, experience, innovative tools, teamwork and communication in one and the same project, do you create buildings that are more than energy-efficient. Architecture, function, user involvement, economic viability and quality management: That's really sustainable. That's Energie+ !"*

### Services

- Independent research projects
- Research projects within a research association with partners from science and business
- Expert reports
- Simulation studies

## Frankfurt



### Institute for Complementary Methods

Director: Dipl.-Geront. Ingeborg L. Weber, M.Sc.  
E-mail: SU1726@stw.de

*"Transferring knowledge into practice is the foundation of successful careers. At the same time, personalities develop, another key resource for client/patient intervention."*

### Services

- Bachelor of Science: Triannual vocationally integrated Project Competence Concept (PKS) with the degree Bachelor of Science (B.Sc.).

## Astana (Kazakhstan)



### International Technology Transfer Center - Astana

Director: Prof. Dr. Manen Omarov  
E-mail: SU1728@stw.de

*"The goal of 'International Technology Transfer Center - Astana' is to foster more intensive technology transfer between Kazakhstan and Germany, to promote the knowledge sharing needed for this through teaching modules, and to offer the required consulting and specialist know-how."*

### Services

- International Technology Transfer
- Consulting
- Vocational Further Education
- Research and Development

## Augsburg



### Knowledge Management

Director: Dipl.-Kfm. Oliver Lehnert,  
Dipl.-Kfm. Wolfgang Scharf  
E-mail: SU1731@stw.de

*"Knowledge is the only resource that multiplies when you share it."*

### Services

- End-to-end project consulting based on the TOM model (Technology – Organization – Man)



## P.E. classes in the saddle

### A Steinbeis University student develops an equine preventative health program

A number of studies point to the crucial role social and emotional skills play in helping children and adolescents fit in at school and other social settings. These include the ability to recognize and understand one's own and others' feelings, to learn to empathize with others and control one's feelings, and the ability to assert oneself and deal with conflict. Deficits in any of these areas are frequently associated with behavioral disorders. Frauke Schneider-Franzen, a business coach and consultant, has been studying at the Steinbeis Business Academy at Steinbeis University Berlin (SHB) since 2012. As part of her Bachelor of Arts degree in Social, Healthcare and Education Management, she has specialized in equine-assisted therapy. She has been working to introduce children's riding classes at elementary schools. As part of her degree project, she has been looking at ways to develop social and emotional skills and improve the health and general happiness of children at elementary schools. Her instrument to achieve this: horses.

Horses are uniquely well suited to pedagogic and therapeutic topics such as cooperation, patience, approachability and human relationships.

When adults and children interact with horses, emotions are aroused that can be put to good use in pedagogic processes. Horses are herding

animals with a pecking order, and they are sensitive to their surroundings. Based on the assumption that children have a natural affinity for horses, these equine attributes can play a significant role in preventative education programs focused on development.

"The use of horses in therapeutic and pedagogic activities is rising continuously. But we still have a long way to go in German-speaking countries when it comes to degree programs and evidence-based practice in the field of equine-assisted intervention. Methodically sound studies are needed to prove the efficacy of equine-assisted intervention in each individual area," reports the project manager Jennifer Kurré, a psychology graduate at the University Medical Center in Hamburg-Eppendorf. Kurré is advising the Steinbeis Transfer Institute of Equine Assisted Therapy and Management, which was founded by Dr. med. Rosemarie Genn in 2010 to qualify specialists in equine-assisted therapy, to lay down quality standards and carry out systematic research.

This is where the project being carried out by Frauke Schneider-Franzen comes in. "My personal objective is to provide empirical evidence of the positive effects of therapeutic and pedagogic activities, which have only been witnessed subjectively," she explains. Her pilot project, "The role of equine-assisted intervention in promoting social and emotional skills," examines the efficacy of equine-assisted therapy with respect to social and emotional skills development, and its role in improving the health and general happiness of children at elementary schools.

The design of Frauke Schneider-Franzen's study involves a quasi-experimental approach based on three surveying periods. An intervention group takes part in the equine-based preventative program while a control group takes part in conventional physical education (P.E.) activities over the same period. The design makes it possible to make observations about short-term changes and the long-term effects of equine-based intervention.

Following approval from the Lower Saxony state education authorities, the project is taking place at the Heideschule school in Buchholz. Heideschule is an elementary, junior high and "cooperation" school whose principal, Anke Stenzel, is open to the innovative approach toward educating her students and has been an exemplary advocate and practitioner of inclusion for years. For 24 students in grades 1 to 4, P.E. lessons now include the equine-assisted preventative program. Over a period lasting 12 weeks, children are spending supervised time once a week with and on horses at nearby stables called Franzenhof. The equine-assisted intervention not only involves riding, but also preparation and feeding horses afterwards. As part of the pedagogic concept, two children interact with each pony. The content of each lesson has been planned by Frauke Schneider-Franzen and agreed with the homeroom teacher and a project manager. To help supervise each session, there is a riding instructor with four other assistants.

The students are thrilled by the sessions, and the extremely positive initial reaction from the teachers and parents point to the hope that the scientific approach will result in positive results. After the first session, Corinna Vogt, a teacher and the deputy principal at the school said, "It was impressive to be allowed to witness the change in their social interactions with each other, even after a short time. Especially when it clearly happened during normal school time as well."

Anke Stenzel, the principal, was also delighted: "Lots of students exceeded their own expectations and overcame huge fears – not just of the horses – and at the end of the project they were much more self-aware and self-confident in their manner and their behavior." She said that she would welcome having equine-assisted sessions like Schneider-Franzen's scheme as part of the regular elementary school program and that she was looking forward to seeing the results of the final evaluation.

As head of the Steinbeis degree program, Rosemarie Genn is delighted with the aptitude of Frauke Schneider-Franzen and other students in the program, not only for achieving "curriculum transfer" in such a short time but also for translating their scientifically methodical projects into practice.

### Steinbeis Transfer Institute Equine Assisted Therapy and Management

#### Services

B.A.: 3-year executive Bachelor of Arts (B.A.) Project Competence Degree (PCD)

#### Field: Social, Healthcare and Education Management

##### Electives:

- Pedagogy
- Psychology
- Equine-assisted therapy

##### Other services:

- Planning, implementation and assessment of certified training
- Planning, implementation and assessment of studies and professional development programs in the field of equine-assisted therapy and management
- Research in the field of equine-assisted therapy and management
- Organizational consulting in the equine and veterinary field
- Organizational consulting in the social and healthcare field



Dr. med. Rosemarie Genn | Jennifer Kurré  
Steinbeis Transfer Institute Equine Assisted Therapy and  
Management (Berlin/Vechta)  
su1441@stw.de | www.horses-and-health.de

Frauke Schneider-Franzen  
frauke.schneider@franzenhof.eu

# Florian Rösch

## Obituary



TQU International and the Steinbeis Network deeply mourn the loss of Florian Rösch, who died very suddenly and unexpectedly on June 25, 2013 at the age of 40.

Florian Rösch studied social pedagogy at what is now known as the University of Applied Sciences Munich. He initially worked in the field of sociology as a counselor of

children and adolescents with behavioral problems, as well as people with multiple serious disabilities. Further professional activities led him to the field of quality management and organizational development. In 2001, he started working with Steinbeis as a project manager at the TQU in Ulm, a Steinbeis enterprise founded by Prof. Dr.-Ing. Jürgen P. Bläsing. Based on his very successful project work, Florian Rösch then founded the Steinbeis Center TQU ifqm as part of the TQU Network, which was the predecessor of today's TQU International. He served as founder and shareholder of the center since its establishment in 2002. In 2006, he successfully completed a degree at Steinbeis University Berlin, earning him a Master of Business Administration.

Florian Rösch saw his calling in working with people to help businesses face change and the future. His motto was not to dream one's way through life, but to live one's dreams. Florian Rösch possessed much empathy for people and he listened to them with genuine interest and understanding. He had the keen ability to touch people and to inspire them to work toward shared success. His passion was to relate closely to people and bring them on board with his projects and seminars. Florian Rösch was taken away from us suddenly while living this passion.

His personal and professional abilities, his calm manner, and the many years of partnership and faithful collaboration in the founding and development of the enterprise made Florian Rösch such a highly esteemed part and much valued partner of TQU International and Steinbeis. He leaves behind a huge gap in the organization and we will all dearly miss him.

Prof. Dr. Michael Auer | Manfred Mattulat  
Steinbeis Foundation Board

## An award-winning value stream tool

### Steinbeis Transfer Center wins the 2013 Göppingen Innovation Award

The Göppingen Innovation Award has been awarded for the tenth time by the Göppingen Kreissparkasse (savings bank) and the WiF, an innovation and economic development association operated by the local authority. Among the award winners is the Göppingen-based Steinbeis Transfer Center for Logistics and Factory Planning, which was awarded the honor for its Steinbeis Value Stream Tool, which helps companies optimize processes.

All companies within the Göppingen district were eligible for the award for developing innovative products, processes, organizational concepts, projects or services, and making them "market-ready." By the application deadline, there were 43 award submissions, each of which was assessed by a jury. For the first time, an award (and prize money worth 15,000 euros) was bestowed in the categories of manufacturing, manual trades, and services. A lifetime achievement award for a businessman from the district of Göppingen was also initiated. The latter was bestowed upon Prof. Dr. Dieter Hundt, chairman of the supervisory board of Allgaier Werke GmbH. The award ceremony was marked by a speech by EU Commissioner for Energy, Günther Oettinger.

"How is an order completed, from the offer to delivery? Who is responsible for what? How long does each process take? What can be done better? All of these processes can be displayed, optimized and documented on the Steinbeis Value Stream Tool," explains Dietmar Ausländer, director of the Steinbeis Transfer Center for Logistics and Factory Planning. Until now, the task of mapping each process was too time-consuming and complicated with conventional tools, especially for bigger process streams. Also, any retrospective changes caused a wholesale shift in the overall value stream, resulting in even more time investment to readjust the entire process. The Steinbeis Value Stream Tool combines a unique method for analyzing value streams used in process optimization with the possibility to incorporate process diagrams and calculations.



Dietmar Ausländer (3rd from left)  
and the members of the jury



Dietmar Ausländer  
Steinbeis Transfer Center Logistics and Factory Planning (Göppingen)  
su0344@stw.de | www.tzlog.eu



## The e.Stall goes full throttle in Esslingen Steinbeis supports "Formula Student" event

Formula Student pits the wits of students from all around the world and their self-designed, self-made racecars. Esslingen University of Applied Sciences entered two teams into the contest: Rennstall ("racing stable") in the category for combustion engine-powered vehicles, usually a frontrunner, and E.Stall ("E.Stable") in the category for electric-powered vehicles. After participating for the first time in 2012, E.Stall is switching into high gear for 2013. One of its main sponsors is the Steinbeis Transfer Center for Microelectronics (TZM).

The objective in Formula Student Germany is to design and build a one-seater formula racing car. The contest has two categories, one for combustion engine-powered vehicles, another, introduced in 2010, for electric-powered vehicles. Extending the contest to electric cars is designed to promote much needed talent in this area. The teams are expected to develop a car that is only driven by electricity. The TZM is supporting the project with an internship, financial backing and the consulting services of Steinbeis engineers.

For would-be engineers, Formula Student is a particular challenge. Students from a variety of international universities and institutions of further education construct their own formula racecars to go head-to-head in several competitions. Which one wins in the end depends on which car puts in the best racing performance and offers the best technical solution on the racetrack. But it's just as important for the teams to have a strategy that will check all the boxes in terms of financing and marketing, with a flawless synopsis of costs and a detailed outline of the technical solution. In other words: the winner must have the whole package.

The Esslingen-based E.Stall team is set to develop a racing car geared to a hypothetical annual volume of 1,000 vehicles. A key role will be played by the innovative technology, reliability and economic viability. The engineers will have to defend the overall concept at each of the events. The contests have a number of fixed elements – the business plan presentation, a cost report and a design report – but there are also variable disciplines. The jury is made up of experts from motor racing, OEMs and the automotive supply industry.

The E.Stall crew unveiled its EVE'13 racecar in June. The Esslingen University of Applied Sciences students will enter the car into a variety of European races. The events will take place in Germany, the Czech Republic, Spain and Italy.



Vanessa Wiest  
Steinbeis Transfer Center Microelectronics (Göppingen)  
su0130@stw.de | www.tzm.de

## Beating the bottlenecks

### First TOC Congress held in Stuttgart

In July, stw unisono training+consulting and Alkyone Consulting GmbH & Co. KG organized the first TOC Congress in Stuttgart. The auditorium at Steinbeis headquarters was filled to the last seat. The day revolved around the presentation of a customer project and six workshops looking at the topic of bottleneck management, or in technical terms: Theory of Constraints (TOC).

Paul Seifriz, director at Alkyone, used a variety of examples to introduce the fundamentals of TOC. Simply applying the principles of TOC and implementing TOC software within a company can result in a reduction of faulty part incidents to almost 0%. Representing the user side, Michael Jander, head of work planning at SATA GmbH & Co. KG in Kornwestheim, talked about work at his company with the TOC philosophy since 2011 and its extraordinary successes. The company has been completely reorganized according to lean production principles. Throughput times are over 40% faster, stocks are down 30%, productivity is up 20% and delivery reliability stands at 99%. In the workshops after lunch, delegates discussed bottleneck theory and related factors affecting the coordination between markets and production.

Alongside quality management and lean production, TOC belongs to a trio of current management philosophies. First developed in the 1980s by Dr. Eliyahu M. Goldratt, it is based on the fundamental physical principle that in any chain there is only one weakest link. Relating this weakest link to the company or a process chain can thus influence throughput and performance, or even company profits. At first glance, the approach seems to contrast with classic CIP principles which involve trying to make improvements throughout the company, but TOC focuses

primarily on the area of constraint. The first step is to investigate whether the constraints are inside or outside the company. An external constraint can be in the market, so one option for a company is to produce more and sell whenever the market requires it. In this case, the focus is on achieving a tangible and sustainable competitive edge. The aim is for sales and marketing to work with development and analyze the situation to address the customers' problems. With internal constraints, a company may not be able to deliver all products in the right quantity at the right time, as required by the customer.



Gudrun Jürß | Paul Seifriz  
stw unisono training+consulting (Ulm)  
su0645@stw.de | www.steinbeis.de/su/645

## The Steinbeis IBI Symposium

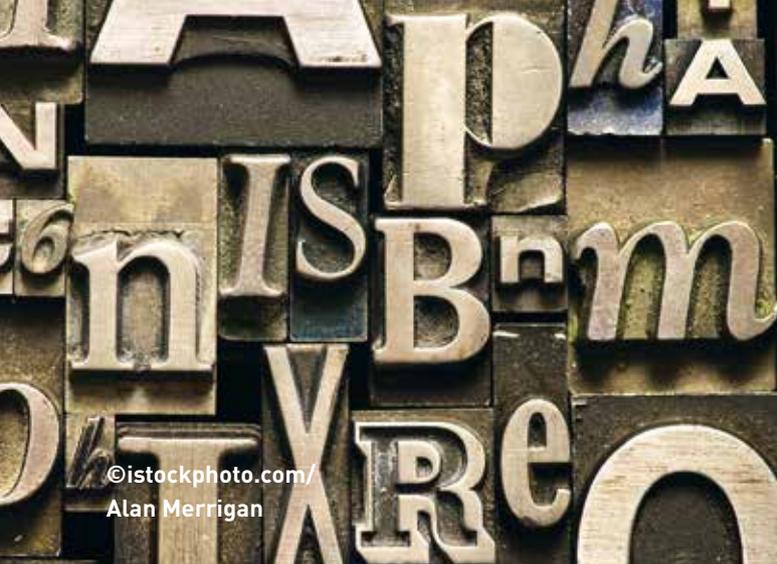
### Ten-year anniversary

Business intelligence (BI) is a key success factor for companies, and it has become an established building block for forward-looking strategic management. The Steinbeis Transfer Institute of Business Intelligence (IBI) at Steinbeis University Berlin takes stock every year as part of the IBI symposium. The event will take place for the 10th time on December 2, 2013, as usual in the Stuttgart Haus der Wirtschaft.

What have people experienced? What seems to work? What still needs doing? These are common questions discussed by users, solution providers and university staff. The IBI has been staging this symposium for a decade to provide a platform for exchanging opinions. Business intelligence is now anchored in the thoughts of entrepreneurs everywhere. Given huge developments at the moment, such as access to totally new data sources, different analysis options and adapting value chains, firms face new challenges when identifying innovative BI and big data solutions.



Prof. Dr. Andreas Seufert  
Steinbeis Transfer Institute Business Intelligence (Berlin)  
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Alan Merrigan

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Associate professor Dr. habil. Gernot Barth has been working as a mediator and trainer of mediators since the foundation of IKOME® (the Institute of Communication and Mediation), the Steinbeis Consulting Center for Corporate Mediation and the Academy for Social Aspects and Law (Steinbeis Transfer Institute at Steinbeis University Berlin). He is a qualified attorney and has been working for more than twelve years as a mediator and expert in mediation and extrajudicial conflict management. He is also an executive project manager at the state-approved conciliation office of the Steinbeis Consulting Centers.



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#### About the authors

Prof. Dr. Jens Kleine has been director of the chair of Financial Services at Steinbeis University Berlin since 2004. His research revolves around banking, asset management and payment transactions. Alessandro Munisso has been a scientific assistant at the Steinbeis Research Center for Financial Services at Steinbeis University Berlin since 2009. Hans-Günter Ritter has been director of the metal-trading company Heraeus Metallhandelsgesellschaft since 2005 where he is responsible for precious metal trading in four locations: Hanau, Hong Kong, Shanghai and New York.



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#### About the authors

Prof. Dr. Jens Kleine has been director of the chair of Financial Services at Steinbeis University Berlin since 2004. His research revolves around banking, asset management and payment transactions. Matthias Krautbauer has been a scientific assistant at the Steinbeis Research Center for Financial Services since 2008. Prof. Dr. Markus Venzin is a Professor of Global Strategy at the L. Bocconi University in Milan and director of the Institute of Strategic Management. His research projects examine the management of processes and leadership in multinational companies.



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Jens Kleine, Matthias Krautbauer

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Anette Anthrakidis, Roland Jahn, Thomas Ritz, Mirjam Schöttler, Ramona Wallenborn, Gisela Warmke

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ISBN 978-3-943356-70-0

#### About the co-author

Prof. Dr.-Ing. Thomas Ritz is head of the Mobile Media and Communication Lab (m2c Lab) at Aachen University of Applied Sciences. m2c Lab looks at mobile applications, the future of the retail trade and future mobile end device solutions. Prof. Ritz has been director of the Steinbeis Transfer Center for Usability and Innovative Interactive Systems for Information Logistics since 2012.



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### Steinbeis Engineering Study 2012 Successful Product Development Processes Factors and Conditions Steinbeis Foundation (publ.)

2013 | e-book, color | 86 pages, English  
ISBN 978-3-943356-76-2

#### About the study

This 2012 Steinbeis Engineering Study examines the factors and conditions that are conducive to the product development process (PDP) at successful companies. Apart from providing an initial overview of current success factors, issues and the problem-solving approaches of the PDP, the aim of the study is to reveal unexploited potential and demonstrate how to make use of it. The study is based on a survey of 280 people working at German companies involved in manufacturing. The res-

pondents came from companies of all sizes and all departments involved in product development processes.



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### 5th iNTeg Risk Conference 2013 Horizon 2020: From iNTeg-Risk to the European Emerging Risk Radar Aleksandar Jovanovic, Ortwin Renn (eds.)

2013 | paperback, color | 152 pages, English  
ISBN 978-3-943356-71-7

#### About the proceedings

The iNTeg-Risk Conference 2013 was the last of a series of events organized under the auspices of the iNTeg-Risk EU project (early recognition, monitoring and integrated management of emerging, new technology related risks). Similar to previous conferences, it was an excellent opportunity to present and discuss issues relating to the key topic of emerging risks. Attended by leading representatives of the EU, OECD, trade and industry, there were over 70 papers dedicated to the iNTeg-Risk topic from the EU, the United States, Japan, China and other countries. The conference focused on the final results of the project and other insights gained from work on the project. The conference proceedings provide an overview of this work and the various contributions made by delegates.



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### Safe China Final Report Promoting the EU and German standards and practices of Environmental Protection and Industrial Safety in China A. Jovanovic, R. Guntrum, Y. Liu (eds.)

2013 | paperback, color | 230 pages, English  
ISBN 978-3-943356-64-9

#### About the project

This publication presents the results of Safe China, an international technology transfer and cooperation project ("Promoting the EU and German standards and practices of Environmental Protection and Industrial Safety in China"). The aim of the project was to create an infrastructure for education, training and certification and provide Chinese engineers and other specialists with the opportunity to discover more about EU HSE methods and regulations, and subsequently gain qualifications in keeping with EU criteria, guidelines and methods to become environmental safety engineers. The key partners on this project are Steinbeis University Berlin, through the Steinbeis Transfer Institute of Advanced Risk Technologies, and the German Investment and Development Corporation DEG, which is a subsidiary of KfW Bank

Group. The key Chinese partners are the Beijing Municipal Institute of Labour Protection and the Capital University of Economics and Business in Beijing.



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An assessment and case study

**Bärbel Held, Alexander Herzner,  
Norman Sowada**

2013 | paperback, color | 278 pages, German  
ISBN 978-3-943356-43-4

#### About the authors

Bärbel Held has been a professor in Steinbeis University Berlin's faculty for Public Management since 2011 where she is director of the Institute of Economics and scientific director of the Academy of Public Administration and Law. Alexander Herzner has been a guest lecturer in cost accounting and management accounts at the Amberg-Weiden University of Applied Sciences since 2011. Norman Sowada graduated in 2012 with a Master in Public Management at Steinbeis University Berlin. His current research focuses on the fields of financial management, budgeting and public risk management.



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### The 2012 Steinbeis Consulting Day Enhancing business success with innovative networks

**Steinbeis Foundation (publ.)**

2013 | paperback, color | 64 pages, German  
ISBN 978-3-943356-42-7

#### About the proceedings

These proceedings contain a summary of speeches given at the conference, examining the key topic of the Steinbeis Consulting Forum from a variety of angles: key success factors for the setting up and running of networks, experience exchange groups and their importance for small and medium-sized enterprises, collaboration and networks on the regional and community level. There was also discussion of networked engineering and its role within companies, as well as the issue of how consulting and innovations can be promoted through networks.



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### New edition: Quality Management in the Service Sector

**Jürgen G. Kerner, Bernd Kentner**

2010 | paperback, B&W | 66 pages, German  
ISBN 978-3-943356-62-5 | 2nd unedited edition, 2013



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