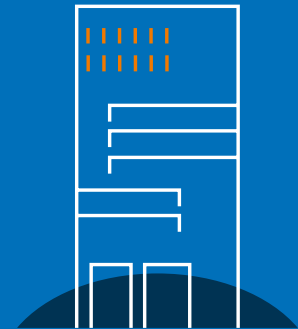
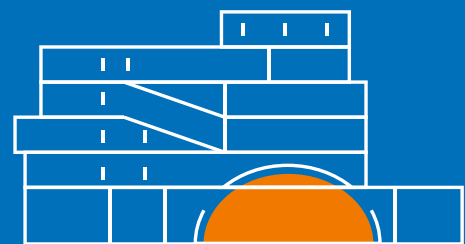
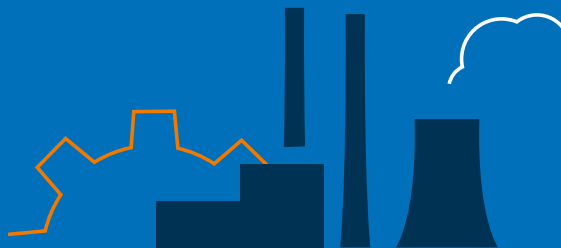


# Mindshift

Impulses for change – Campus Heilbronn



Heilbronn



## Grounded

Partnership with successful companies from the Heilbronn-Franconia region

– page 8 –

## Interconnected

Pragmatic and open-minded: cultural diversity as a global competitive advantage

– page 10 –

## Responsible

“Detecting problems – developing solutions”: interview with Prof. Dr. Helmut Krcmar

– page 14 –

# Contents

## Our network

“The Entrepreneurial University” at the educational campus Heilbronn

– page 4 –

## Research centers

Digital transformation, family businesses, computer sciences

– page 6 –

## Research projects

Science for concrete applications

– page 7 –

## Corporate cooperations

Strong partners in training and practice

– page 8 –

## Who we are

What makes us special?

– page 10 –

## Activities

Events on Campus: the transparent University

– page 12 –

## Interview

“Detecting problems – developing solutions”: interview with our founding dean, Prof. Dr. Helmut Krcmar

– page 14 –

## Imprint

– page 15 –



“A magnet for high-performing talents from the region Heilbronn-Franconia and the whole world.”

Prof. Dr. Thomas F. Hofmann,  
President of the TU Munich

Our TUM Campus  
Heilbronn – also architecturally  
outstanding



# Dear Readers

The TUM Campus Heilbronn is developing into a significant scientific and economic impulse generator for Germany and – with an outstanding academic offer for computer science and economics – to a beacon for shaping the digital change. The youngest campus of the TUM houses unique educational and research opportunities, and as an integral element of the TUM's network of locations it is in fruitful interaction with the scientific and technological excellence of the university.

We are delighted that the Dieter Schwarz Foundation has placed its trust in us and in doing so expands its portfolio as one of the most important foundations in the history of German higher education. With 22 new professorships in Heilbronn, we are creating a place for the exchange of knowledge on the highest academic level – unparalleled in Germany. The study circumstances are characterized by small groups with intensive supervision by professors of international reputation. This means that the location in Heilbronn, the city on the Neckar River, is well on the way to becoming a respected scientific institution and a magnet for high performing talents from the region Heilbronn-Franconia and the whole world.

Our students are educated at the interfaces of topics that are steadily gaining importance in companies of any size: our teaching and research focus reaches from management of digital change to medium-sized family businesses and information engineering. The study programs from bachelor's and master's to extra-occupational programs provide skills that build a bridge between otherwise independent research and professional fields. Thus we make an important contribution to shaping the digital transformation and are taking the initiative to preserve employment and prosperity in Germany.

Architecturally, the campus promotes the interplay between life and learning, research and teaching – thereby facilitating the uncomplicated exchange between students, teachers, and employees. The protruding high-rise, designed by the architectural firm Auer Weber, underlines this claim with a varied space offer and modern design freedom. The light-flooded Campus Mensa ensures a healthy body for a healthy mind. The library is technologically on the highest level, flexible and modern: it offers space for interaction and individual learning and gives the TUM family access to a constantly growing collection of specialist literature.

Especially in times of the coronavirus pandemic we provide with the TUM Campus Heilbronn an important contribution to the design of the digital transformation and set a powerful impulse to secure jobs and prosperity in the future within our country. With all of my heart I invite you to visit the TUM Campus Heilbronn.



**Prof. Dr. Thomas F. Hofmann,**  
President of the TU Munich

# Global player meets hidden champions



High up: our architecture fits to the high striving plans of the students

Students from all over the world come to Heilbronn and, after graduation, carry their new knowledge and their fresh thinking back out into companies around the globe



Even in times of digitalization indispensable: the modern and inviting library on the campus

Building bridges is in our DNA: bridges between science and practice, bridges to students' countries of origin, and bridges between institutions on the education campus

**At the ultramodern educational campus of the Dieter Schwarz Foundation in Heilbronn, research and teaching meet the most exciting entrepreneurial challenges of our time – in one of the most innovative regions in Germany**

**E**

Economics, management, technology, computer science. With these focal points in research and teaching, the TUM Campus Heilbronn sees itself as a beacon for shaping digital change. Always in view: the implementation in practice. The geographical choice of the Heilbronn-Franconia region as our location naturally fits in with this. Thanks to numerous family-run, high-tech companies and the automotive industry based here, it is one of the most prosperous and promising pillars of our economy.

The focus of the student programs at the Heilbronn campus is on the management of digital change, the future-oriented management of family-owned companies, and topics related to information technology and management. In the context of executive education, it is also possible to take customized courses while working.

Research and teaching are closely linked and create a bridge between economics, engineering, and computer science in a dynamic, international environment. In this way, modern fields of research are created, such as those related to digital transformation and platform economics, which are used by innovative companies in the region as well as worldwide.

Cooperation with strong partners in science and business and worldwide networking are additional hallmarks of The Entrepreneurial University. Thanks to them, the best possible symbiosis of academic excellence and practical relevance is also achieved. For the TUM at the Heilbronn campus also acts as an academic link and career springboard to a region that already has an extensive academic, cultural, and economic infrastructure. For those who aspire to take on leadership positions here and master the challenges of the digital transformation, the university's study programs are tailored to their needs. ●



Stress-free learning atmosphere on our sustainable campus

Quality of life, lifestyle, and beautiful cultural landscape – we know the advantages of the Heilbronn-Franconia region



## The 3 centers of the TUM in Heilbronn

The TUM at the Heilbronn Campus concentrates its research and teaching on three focal points that are decisive for the future viability of our country:

### Digital transformation

It is the megatrend in the global economy: digitalization. It is dramatically changing our everyday life and the way companies work. With our Center of Digital Transformation, we ensure that our students and our cooperation partners in business are always up to date. Our goal is to develop solutions through practice-oriented research and thus generate direct benefits for companies and society.

### Family businesses

We know them as the backbone of our German economy. However, their structure and their challenges are still largely unexplored: family businesses. They also play a major role in the region. The Global Center for Family Enterprise focuses precisely on their concerns. The spectrum of topics ranges from succession issues to strategy and innovation to governance. Our self-imposed task: to further strengthen the successful model of family enterprises through scientific research.

### Computer science

It is already the foundation of our economic world – and this role is likely to grow even further: computer science. At the Center for Informatics, we research the entire process, from the sensor to IT systems and business models from the perspective of small and medium-sized enterprises. The regional economy receives new impulses, support, or even concrete solutions from the scientific community.

# Science for concrete applications

**Research, teaching, and practice are closely linked at TUM.  
This is how knowledge is created that helps the innovative companies  
in the Heilbronn-Franconia region in a concrete way**



## Success with digital platforms

--- Digital platforms are becoming an increasingly dominant business model. They offer considerable opportunities for companies in all industries, which are risky and still insufficiently known in this country. Prof. Dr. Jens Förderer and his team want to support decision-makers in the conception, development, and control of digital platforms and ecosystems. “Platforms and ecosystems are the key to digital innovation. We provide the scientific basis for companies.”



## The right spare part always at hand

--- If the right spare part is missing, it can paralyze the whole production. Prof. Dr. Gudrun Kiesmüller is therefore investigating how spare parts inventories can be better planned in advance. Together with her team, she also deals with the maintenance of technical systems. “I am particularly interested in how these processes can be optimized by using modern technologies such as real-time sensors. I also find the question of how augmented reality can help with maintenance very exciting.”



## Functioning supply chains in the crisis

--- Functioning supply chains are vital for companies. The coronavirus crisis was an example of how quickly production comes to a standstill when suppliers are in trouble. In his research on supply chain management, Prof. Dr. David Wuttke focuses on how companies can financially support their suppliers, in case of payment bottlenecks. “We develop optimal strategies that specifically contribute to the stability of supply chains and can help companies to become more resilient during crises.”



## Successfully negotiate contracts

--- Contract negotiations are of particularly high practical relevance for companies. It depends on the skill of the parties involved whether a contract is concluded at all and, if so, how advantageous it is for the company. Prof. Dr. Stefanie Jung holds the professorship for Corporate Law and deals intensively with this topic: “All companies need very good contract negotiators – and we train them.” A particular focus of her research is the technique of tactical negotiation. ●





# Cooperation with partners from the region

# A

At the TUM Campus Heilbronn, young academics are trained to become real masterminds with the help of our cooperation partners. Management skills – such as analytical thinking, an understanding for working at interfaces, strong communication skills and assertiveness, as well as a sound knowledge of operational functions and processes – are among the core competencies of every manager.

To be able to apply them to a real existing business problem and to reveal hidden optimization potentials – this is the focus of the Master in Management & Innovation program at the TUM Campus Heilbronn. The reason: only through the skillful networking of theory and practice do young professionals qualify for the really big careers in technology-driven companies.

To be best prepared for this, tomorrow's managers are given the chance to baptize their academic knowledge and gain real project experience while they earn their master's degree. The following statements by employees of leading companies and "hidden champions" illustrate how real, solution-oriented changes are created in the course of study-related practical phases – in the case of the 2020 summer semester, even despite COVID-19 and the associated contact restrictions.





“Both students were very motivated and focused during their project phase and managed to complete their tasks responsibly, independently, and without much support or guidance. What also really impressed me was the very comprehensive and holistic competitive analysis they conducted. It was extremely broad and detailed and included all relevant topics of the analyzed competitors. I am sure that this analysis will be used in the future not only for this project and the direct link to the market entry of the next robot, but for all future projects.”

*Petra Kowald – Product Management and Marketing for Window Cleaning & Robotic – Alfred Kärcher SE & Co. KG*

The Kärcher logo is displayed in a white circle. It consists of the word "KÄRCHER" in a bold, black, sans-serif font, with a thick yellow horizontal bar underneath the letters "Ä" and "R".

**KÄRCHER**

“The cooperation with TUM has been a very interesting opportunity for our product management team to gain new insights into our expanded market landscape and the trends emerging in it. Bringing in new perspectives and ideas has made the project particularly interesting for us.”

*Sebastian Steck – Vice President Product Management  
Hydrodynamic Couplings – Voith*

The Voith logo is displayed in a white circle. It consists of the word "VOITH" in a bold, dark blue, sans-serif font.

**VOITH**

“The students were enormously committed and motivated from the very first minute. We operate in a very complex and dynamic market, but the students quickly became familiar with the problems they were faced with and presented suitable solutions. And although the project timeline was tight, they managed to gain a deep understanding of the challenges we and our customers face. The results are very valuable for us.”

*Sarah Seyboth – Cloud Application Consultant,  
Global Business Service – IBM*

The IBM logo is displayed in a white circle. It consists of the letters "IBM" in a bold, black, sans-serif font, with horizontal lines through the letters.

**IBM**

# What makes us special?

Our values shape the work of the TUM at the Heilbronn campus.  
They are the basis for success and ethical action

## Internationally positioned – and at home in the region

--- Internationally positioned – and at home in the region. This is probably the best way to sum up our special perspective at the TUM Campus Heilbronn. We train young professionals who are optimally prepared for working in technology-driven, local companies. Our founding dean Prof. Dr. Helmut Krcmar: “We place great value on entrepreneurial skills by training our students to become responsible managers. They should not only put what they have learned into practice, but also ask the right questions in their jobs in order to be able to work in a solution-oriented manner.”

## Cultural diversity as a competitive advantage

--- Despite the down-to-earth nature of the local economy – we teach and learn in English. About 80 percent of our students do not come from Germany. Barbara Tasch, Managing Director of the TUM School of Management: “We consider this great diversity to be a huge advantage of our TUM Campus Heilbronn – for students from countries around the globe, for their German fellow students, and especially for their future employers. Because we know: the companies in the region are desperately looking for experts with excellent scientific, technical, and entrepreneurial training who are culturally open and fluent in English.”

## Intensive student support

--- In order that first-year students from abroad can settle in well with us, we have the Buddy Program. These are experienced students who act as contact persons for about eight newcomers each, as Managing Director Barbara

Tasch explains: “They have long been helping not only with questions about the organization of the studies, but also generally with getting used to the German culture and language. This ranges from support in finding accommodation, to joint activities in their free time, to an introduction to the intricacies of the German administrative bureaucracy. Anyone who has ever seen the doubtful looks of international students who are confronted with the German waste recycling system for the first time can appreciate how indispensable the work of our Buddies is.”

## Further training of skilled workers from local companies

--- But we do not only care for young people at the beginning of their academic and professional career: an equally large focus is on the further education of professionals already in working life. Lifelong learning is one of the keys to enabling Germany to hold its own in global competition. This is particularly clear in light of the upheavals brought about by digitalization. We are the right contact for companies that want to provide their employees with further training and prepare them for this future. This is particularly true for the crucial interface between management skills and the use of modern technologies.

## Equal opportunities

--- Women are still underrepresented, especially in technical professions and industries. We at the TUM Campus Heilbronn see it as our task to change this. Equal opportunities – regardless of gender, origin, world view, age, physical abilities, or sexual identity – are an integral part of our canon of values. We are actively working to get girls and young women interested in mathematics, computer science, natural sciences, and technology. ●



First-class prospects  
for inquisitive and respon-  
sible young people





# The transpare

Openness is our trademark. We specifically seek contact with the Heilbronn-Franconia region and local companies and network them with our students and researchers. To this end, we have created a whole range of event formats and are continuing to expand them



## The Pirates of TUM conquer the Neckar at Dragon Boat Cup

This really has nothing to do with serious science. But this, too, is the TUM in Heilbronn. Driven by the drum rhythm of our founding dean, Prof. Dr. Helmut Krcmar, our team of 16 students rowed at the Dragon Boat Cup on the Neckar River in 2019. And afterwards, we celebrated extensively together with the numerous spectators.



## Welcome Day for the “newcomers”

The feeling of togetherness is very important to us at the Heilbronn campus of the TUM. And that includes giving new students an appropriate welcome. Of course, this includes welcoming speeches by our university administration and a tour of the campus. But we also show the newcomers what a wonderful environment they will be able to live and study in, in the future. Despite our international orientation, we see ourselves explicitly as a Heilbronn institution.





# nt university



## Night of Science

The Heilbronn Night of Science is a highlight for the TUM. And we are doing a lot to make sure that it will also be a highlight for the many interested visitors. In 2019, for example, we let them immerse themselves in the virtual world with our Digital Reality Lab (XR-Lab). With the help of this innovative technology, managers who come to us for further training, for example, can immerse themselves in stressful situations and thus practice them. These can be personnel discussions with difficult characters or lecture situations with a bad-tempered audience or even challenging negotiation training.



## Barcamp – creative contact exchange between students and companies

Successful regional companies and international students work together in teams on various topics – that is the concept of the TUM Campus Barcamp. In the first round, around 70 future specialists and managers conversed with 12 experienced company representatives from various sectors. ●



Our founding dean and representative of the president, Prof. Dr. Helmut Krcmar, has had a decisive influence on the development of TUM at the Heilbronn campus to date

# “Detecting problems – developing solutions”

Founding dean Prof. Dr. Helmut Krcmar speaks in the Interview by Dr. Bernhard Stumpfhaus from Heilbronn’s “HANIX” magazine about family businesses and the management of digital change

**How do you view the digital position of small and medium-sized businesses and local companies and how do you see the potential for upgrading and implementing digitalization?**

I would describe the attitude of the domestic economy as a whole – with all due caution – as cultivated skeptical. They know that something is happening. But for them, the central questions are: Is this going to be useful relatively quickly? Is it important for my existing customers? Or is it just a gimmick? I think we really do have some work to do. Digitalization is the megatrend of the economy. We cannot afford to miss it.

**Are there big differences between companies?**

There are industries that are already very much digitalized and there are industries where you feel a little bit like you are back in the Stone Age of paper. We know from studies that there is a kind of three-way split. Just under a

third say: Yes, wonderful, we are using all the possibilities of digitalization. About a quarter say: I am rather skeptical. And some people who move between these poles still need to be convinced that digitalization is really useful.

**But not everything is possible anyway...**

Absolutely right. Especially for medium-sized companies, for example, it is also important: When is a virtual visit via videoconference an appropriate form of appreciation for the customer? And then there is another question: the keyword is home office. What work do I have to do in the office, and what work can I do from home? This requires practice and trial and error. It also raises the question of a possible “digital divide” between those in the company who can easily work from the home office and those who, for example, have to be on site in the production department. There is still a lot to be discussed and redesigned.

**Designing, also in terms of jobs and infrastructure?**

Indeed, that even has to do with urban development. What kind of neighborhoods am I building? How do I create opportunities for coming together? For companies, the very real question is: how much rent do we actually pay? And why pay for offices for 60 employees when most of them are in their home offices? Here at the educational campus in Heilbronn, various institutions share the premises. That is a really great thing.

**How can TUM at the Heilbronn location help companies find the right solutions?**

A university is not just a gathering of people who write papers, but also a community of discourse. We are the ones who want to create new knowledge. We ask questions and discuss with others whether the question is important to them. This is a typical TU Munich approach: let us find the problems of those who are directly involved and then try to solve them. ●



“In the tradition of the Technical University of Munich (TUM), we also focus our research at the Heilbronn location on the concrete questions of practice in an interdisciplinary manner. Here, excellent science and teaching meet the exciting, entrepreneurial challenges in one of the most innovative regions in Germany. TUM acts as an entrepreneurial university that promotes talent and thus creates significant added value for the region with its large number of technology and innovation-oriented corporations and family businesses. Cooperation with strong partners and worldwide networking are therefore our trademarks.”

*Professor Dr. Gunther Friedl, Dean of  
the Faculty of Economics*



“Why computer science? Actually no question in these digital times. We are ‘the newcomers’ at the TUM Campus Heilbronn – and at the same time the largest faculty at the TUM in terms of student numbers and always at the top of international rankings. We look forward to expanding the spectrum of this unique location with digital technologies from sensors to computer science systems. Together with our local partners, we will work on exciting and challenging questions from science and business on issues of digitalization. In addition, we will set an important, innovative and complementary educational accent with our ‘Information Engineering’ study programs.”

*Professor Dr. Hans-Joachim Bungartz, Dean  
of the Faculty of Computer Science*

**Imprint:** Mindshift is a publication of the TUM School of Management at the Heilbronn Campus **Publisher:** TUM School of Management, Bildungscampus 9, 74076 Heilbronn **V.i.S.d.P.:** Prof. Dr. Gunther Friedl **Editorial office:** Kerstin Besemer (kerstin.besemer@tumheilbronn-ggmbh.de), Kerstin Arnold-Kapp (kerstin.arnold-kapp@tumheilbronn-ggmbh.de) **Authors of this issue:** Prof. Dr. Thomas F. Hofmann, Prof. Dr. Helmut Krcmar, Prof. Dr. Gunther Friedl, Prof. Dr. Hans-Joachim Bungartz, Barbara Tasch, Prof. Dr. Gudrun Kiesmüller, Prof. Dr. Jens Förderer, Prof. Dr. David Wuttke, Prof. Dr. Stefanie Jung, Sebastian Steck, Petra Kowald, Sarah Seyboth **Design and production:** IAN In A Nutshell GmbH, Augustenstraße 52, 80333 Munich, E-mail info@nutshell.de **Printing:** Eberl Print GmbH **Circulation:** 8,000 copies **Image sources:** p. 2: Matt Stark photography, p. 3: Astrid Eckert, p. 4: Matt Stark photography, p. 5: Uschi Pohl, TUM gGmbH, Matt Stark photography, iStock/Frederica\_Barone, p. 8–9: iStock/matdesign24, p. 11: Matt Stark photography, p. 12: Heilbronner Stimme, TUM gGmbH, Matt Stark photography, Mario Berger, p. 13: TUM gGmbH, Mario Berger, p. 14: HW, p. 15: Heddergott **Status:** October 2020



In all our **research and teaching activities** at the TUM Campus Heilbronn, we have a strong focus on both **basic research** and **application orientation**. We work for and with industry. **Our focus: shaping digital change.**

TUM at the Campus Heilbronn

