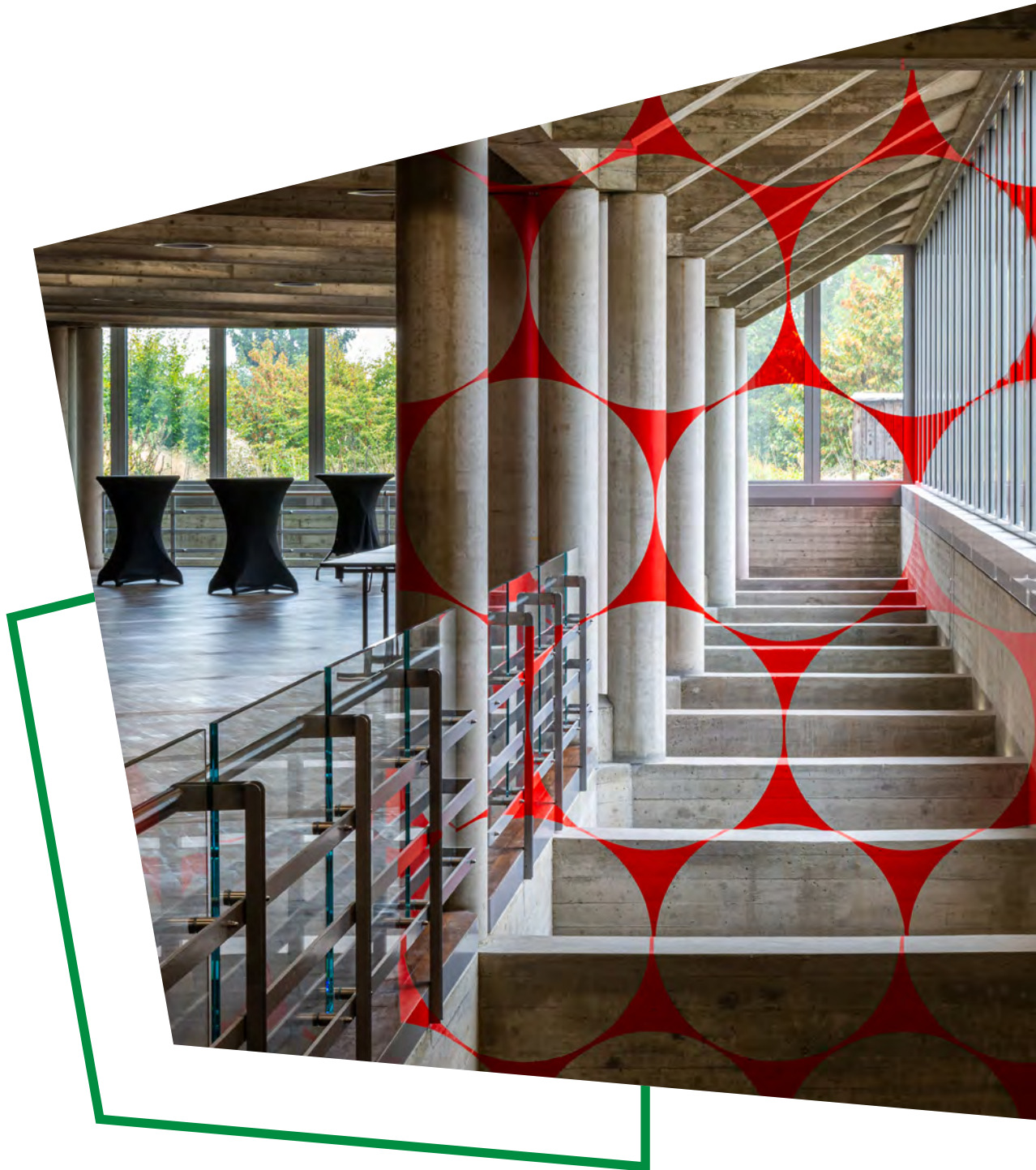




University of St.Gallen

Institute of Technology Management



Institute of Technology Management, University of St. Gallen

Annual report 2023



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1 / Highlights of 2023

The year 2023 was another challenging one for our society. We are faced with global conflicts such as the ongoing war in Ukraine and the armed crisis in the Middle East. Our core industries are facing fundamental change driven by novel technologies and digitization. In addition, the climate crisis asks for timely solutions. Thereby, a historically strong Swiss franc has burdened the export-oriented Swiss industry. At the same time, new technologies such as Gen AI (e.g. ChatGPT, Llama) offer new opportunities that are still difficult to grasp. More than ever, entrepreneurship and innovation are needed to overcome these challenges and grasp the opportunities at hand.

Our institute lives the universities mission «From Insight to Impact». We are united in our search for truth and our work for combining rigorous research with real world impact. Our research should create and secure jobs, promote personal responsibility in thought and action, and aspire to harmony with nature.

Research
Research is driven by our labs and highly engaged researchers. Our partners support our labs and enable us to live our university's mission 'From Insight to Impact.' This year we conducted large cooperation projects with Bosch, CSS, Siemens, Pfizer, the United States' NIH, and Singapore's NRF. Once again, the U.S. FDA awarded us a research project on quality risk in pharma production with Columbia University as a partner. At the newly founded Healthspan Lab we received GFF-funding for a project on sleep and entrepreneurial performance in close research collaboration with ETH Zurich and EPFL. We have been leading the 'Future of Universities' project which provides the basis for our university's 125-year anniversary and its bright future.

Research output regarding publications has been exceptional: Papers were accepted in leading journals like Journal of Business Research, Journal of Management Studies, R&D Management, Small Business Economics, Applied Energy, Energy Policy, Industry & Innovation, Drug Discovery

Today, Nature Review Drug Discovery, New England Journal of Medicine AI, Digital Biomarkers, Diabetes Care, and Scientific Reports to name a few prominent ones.


Teaching
Again, several lectures, like the Bachelor lecture 'Operations Management' (digital flagship lecture at HSG), 'Advanced Entrepreneurship' (with a pitch summit of sustainable tech scale-ups) or the master lecture 'Business Innovation I' (30 teams working on real world challenges) could only be conducted because of the large financial and personal support from our institute. We gave lectures at all levels from Bachelor, Master, PhD to Executive Programs. Due to our HSG Highlights program our university's ranking in open seminar has further improved.

People
Prof. Felix Wortmann was promoted to Vice Director of our institute per January 2023, congratulations! Assistant Professor Manuel Hess has been appointed Associate Professor by Grenoble École de Management. The University of St. Gallen has elected Professor Dietmar Grichnik as Vice President for Innovation and Quality.

Thanks
We are grateful to have the privilege of researching and lecturing, especially in these difficult times. We thank our teams for their extraordinary commitment and enthusiasm for driving our topics. With head, hands, and heart we strive to make a difference.

The Management Team, 31 December 2023





Prof. Dr. Dietmar Grichnik Prof. Dr. Thomas Friedli Prof. Dr. Oliver Gassmann Prof. Dr. Elgar Fleisch Prof. Dr. Felix Wortmann
(Chairman)

Overview

Directors

Chairman				
Prof. Dr. Elgar Fleisch	Prof. Dr. Thomas Friedli	Prof. Dr. Oliver Gassmann	Prof. Dr. Dietmar Grichnik	Prof. Dr. Felix Wortmann

Shared Services

Human Resources Sonja Baumgartner	Accounting Susanne Hefti
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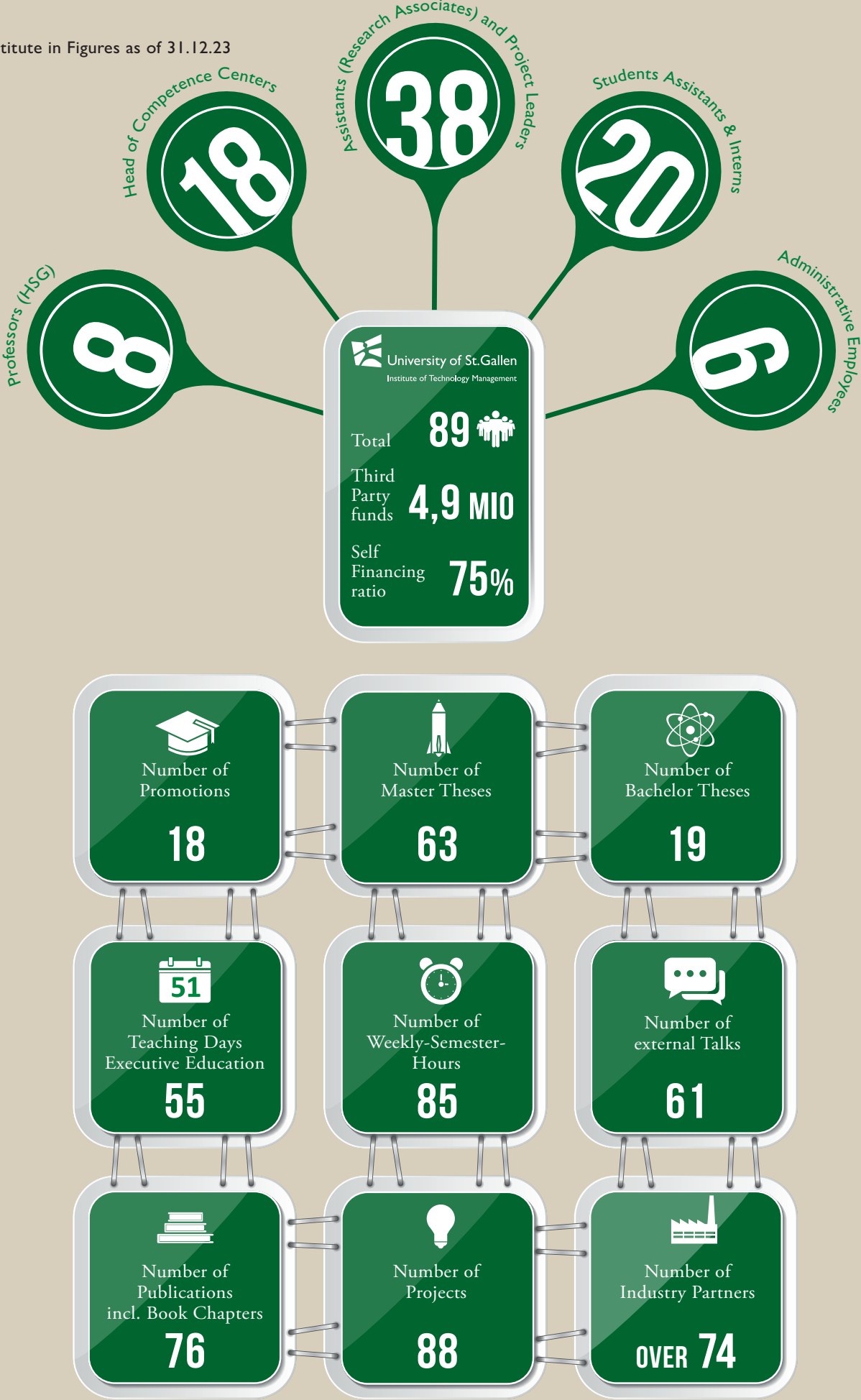
Divisions (Chairs)

Operations Management Prof. Dr. Elgar Fleisch	Production Management Prof. Dr. Thomas Friedli	Innovation Management Prof. Dr. Oliver Gassmann	Entrepreneurship Prof. Dr. Dietmar Grichnik	Information Management Prof. Dr. Felix Wortmann
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Competence Centers

Bits-to-Energy Lab Prof. Dr. V. Tiefenbeck Prof. Dr. T. Staake	Deputy Division Head Dr. L. Budde	Sustainability Innovation Lab Prof. Dr. M. Palmié	Startup@HSG Lab M.-L. Fuchs (seit 01.10.23) D. Probst (bis 30.09.23)	Digital Biomarker in Diabetes Management Prof. Dr. Felix Wortmann
Health-IS / CSS Lab Prof. Dr. E. Fleisch	Global Production J. Kaiser	Emerging Technologies & BMI Lab Asst.-Prof. Dr. N. Häfner	Startup Navigator Lab Asst.-Prof. Dr. M. Hess	Bosch IoT Lab Prof. Dr. Felix Wortmann
	OPEX Pharma M. Bernasconi	Bosch IoT Lab Prof. Dr. F. Wortmann	Healthspan Lab Dr. R. Schreiber	
	Smart Manufacturing & Services D. Wörner	Global Center for Entrepreneurship & Innovation Prof. Dr. Oliver Gassmann, Prof. Dr. Dietmar Grichnik, Prof. Dr. Isabella Hatak, Prof. Dr. Vivianne Fang He, Prof. Dr. Charlotta Sirén, Prof. Dr. Vangelis Souitaris, Prof. Dr. Silvia Stroé, Prof. Dr. Joakim Wincent, Prof. Dr. Thomas Zellweger		
	INOS Dr. L. Budde			
	TECTEM Prof. Dr. T. Friedli			

The Institute in Figures as of 31.12.23





2.1 / OPERATIONS MANAGEMENT

*Team members of the division Operations Management from the left to the right:
Front row: Kevin O'Sullivan, Fan Wu, Jinjoo Shim, Prof. Dr. Elgar Fleisch, Elisabeth Vetsch, Panitda Huynh, Odile-Florence Giger
Back row: Prof. Dr. Felix Wortmann, Dr. Filipe Barata, Maximilian May, Dr. George Boateng, Ugne Potthoff,
Tobias Brudermüller, Markus Kreft, David Schaurecker, Robin Deuber, Patrick Langer, Wasu Mekniran, Prabhakaran Santhanam*

Monica Heinz is missing on the picture.

2.1 / Operations Management

// Prof. Dr. Elgar Fleisch

Introduction

Like in the previous years, the teams of Professor Elgar Fleisch work in interdisciplinary projects across ETH and HSG. The Center for Digital Health Interventions combines the fields of medicine, machine learning, computer science, psychology, and economics. The Bits to Energy-Lab links machine learning, computer science, psychology, and economics to foster sustainable behavior.

Bits to Energy Lab in 2023

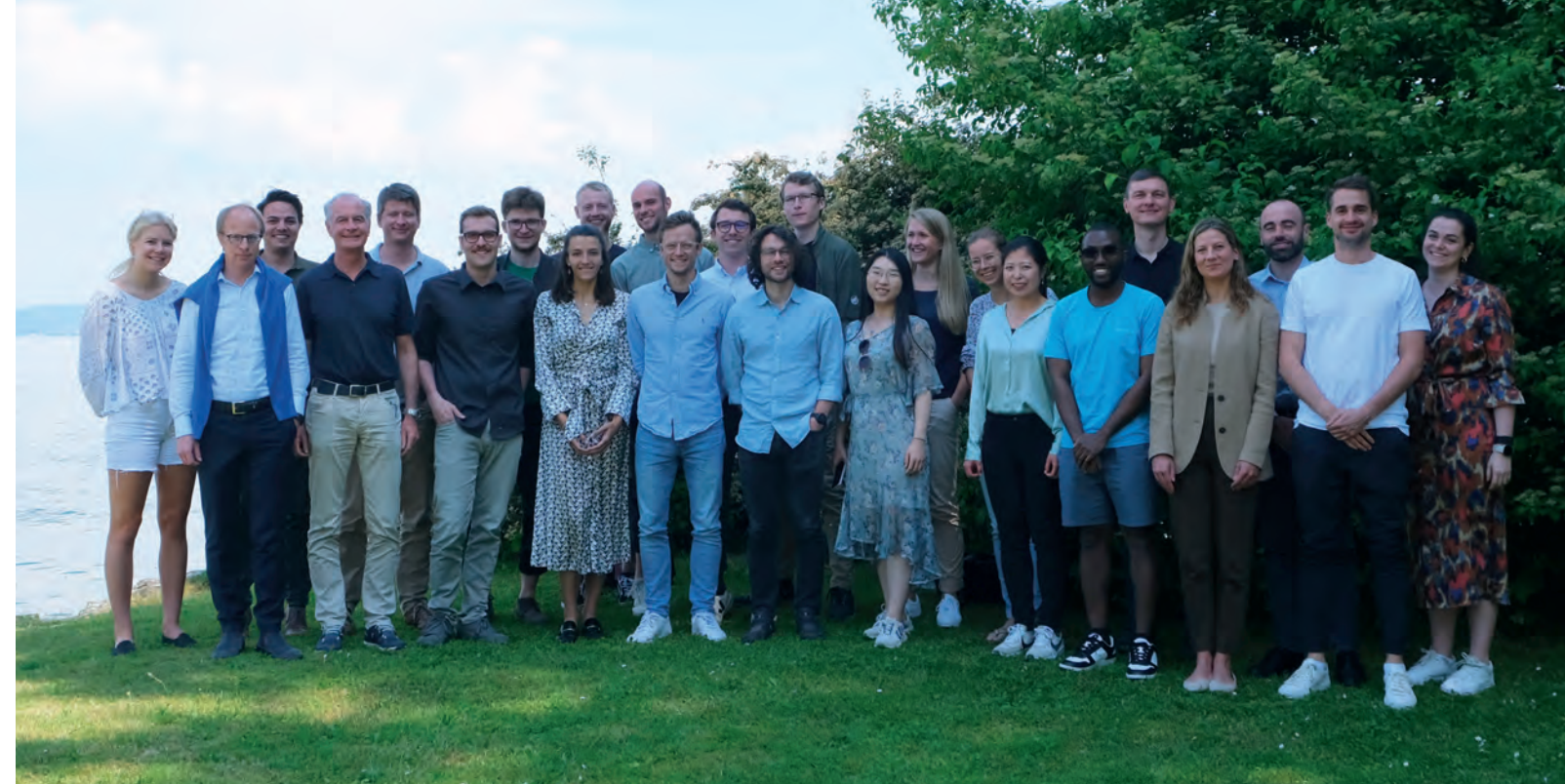
The Bits to Energy (B2E) Lab looks back on a productive 2023. With its research focus on data analytics and decision support in the energy sector, which the lab already chose back in 2010, its portfolio of publications and projects, as well as its spin-off companies, have received considerable attention. Noteworthy projects include «KIWO», which has completed its work on developing and validating algorithms



▶ CSS Demo Day, Rolex Center Lausanne, September 2023.

Because the teams are interested in the technical solution and the impact in the real world, they regularly employ a «full-stack» approach, which might include work on theoretical foundations, prototype construction, laboratory and field experiments, data analysis and business modelling. In some cases, they support spin-off and startup companies to carry an idea from research into society.

to automatically detect inefficient heat pumps in residential buildings by analyzing data from smart electricity meters. Results appeared in Applied Energy, Energy Policy, IEEE SmartGridComm, and ACM BuildSys, among other outlets, and the algorithms are already included in several digital platforms that support Swiss households in monitoring and optimizing their electricity consumption (e.g., PERLAS - a Switzerland-wide platform of the Swiss Federal Office of Energy). The project «OrtsNetz», a collaboration with the ETH Power Systems Lab and the utility EKZ, started



▶ DocSem Summer 2023, with partner teams.

in October of this year; over 500 customers will receive time-varying electricity prices designed to encourage grid-friendly electricity use, and more than 100 appliances - including more than 40 electric vehicles - are being prepared for control by smart digital agents that automatically optimize grid usage and customers' electricity costs. This year, the lab has expanded its involvement in energy forecasting - a topic that has become more important due to the increasing share of renewable energy. For more, please visit www.bitstoenergy.ch.

Centre for Digital Health Interventions in 2023

The group at Centre for Digital Health Interventions (CDHI) designs scalable digital biomarkers and health interventions to address the health and economic burden of non-communicable diseases.

CDHI successfully started new collaborations with MTIP (Switzerland) and Mavie Next (Austria). CDHI is also extending the collaboration with CSS for another four years, led by Dr. Jovanova, with a focus on metabolic health. Another highlight is the new research activity around female health, led by Dr. Nißen. The team received the Fitrockr & Garmin Health EMEA Research Award for VOGUE, in which the impact of a woman's menstrual cycle on receptivity to interventions is investigated. Additionally, the research team led by Dr. Barata has launched CLAUD (www.claud.ethz.ch), a new open-source software designed to incorporate consumer-centered devices into clinical research studies and to facilitate the integration of machine learning models into healthcare applications. Moreover, Dr. Boateng received the Pfizer Rheumatology Award 2023. The short films «Healthification» and the project «LvL UP» were awarded gold and silver at the World Media Festivals in Hamburg, Germany. Both highlight the relevance of preventive care and the importance of reaching and engaging vulnerable individuals.

In 2023 the CDHI teams were able to publish in prestigious journals such as the New England Journal of Medicine AI, Annals of Behavioral Medicine, Digital Biomarkers, Diabetes Care, Scientific Reports, and Computers in Human Behavior.



▶ New Book.

CDHI is also passionate about educating not only medical, technical, or management students but also healthcare professionals and executives. In addition to the CAS in Digital Health, the new lectures on digital biomarker development, optimizing digital therapeutics, and digital health forum offer relevant knowledge and hands-on exercises to those interested in pushing forward the boundaries of digital health. Please visit www.cdhi.org.



2.2 / PRODUCTION MANAGEMENT

Team members of the division Production Management from the left to the right:

Front row: Gian-Andri Steiger, Prof. Dr. Thomas Friedli, Jessica Helbling, Jens Kaiser, Moritz Häussler, Karl Schalm, Fabian Klinkner

*Back row: Benedikt Saretz, Jean Paul Potthoff, Michael Vejmla, Daniel Wörner, Dr. Mark Grothkopp, Matteo Bernasconi, Lorenzo Pirrone, Fabian Specht, Dr. Lukas Budde
Serge Jacovis is missing on the picture.*

2.2 / Production Management

// Prof. Dr. Thomas Friedli

«The farther backward you can look, the farther forward you can see....» [Winston Churchill]

There are many voices today talking about a VUCA world or stating that currently crisis comes after crisis leaving no breathing space. However, looking back we have to realize that there have been times much more destructive than everything we experience today (e.g. the two world wars in the 20th century). We can still learn from history if we are willing to do this and able to derive lessons adapted to today. 2023 was again quite a challenging year for us but also a year where we could again live up to our belief that we should do research for practice and leave visible traces of our work in the companies we work with. The management of global production networks remained a key topic for companies in this year. Global production networks cannot be changed



Innosuisse Project Kickoff at Weidmann.

overnight despite of all the political discussions about de-risking and de-coupling. There is a need for sound analytics based on data and facts and that is what we brought in not only in several large projects but also in dedicated workshop for companies looking for first inputs into their own journey. We were also successful in extending our collaboration with the US FDA for another two years, demonstrating the global lead we have in Operational Excellence in Pharma Production. In the field of Smart

Manufacturing and Services we won a new Innosuisse financed project towards the end of the year in the field of autonomous maintenance. Additionally, we got awarded an Innosuisse Flagship Projects as the leading house of a large research consortia dealing with the transition towards a net zero plastics industry. This project will start at the beginning of next year.

Coming back to the introductory quote above: we developed and conducted as a world innovation a workshop about the fundamentals of lean based on the Berlin Airlift from 1948. The leading question for the participants was how to build a system that allowed the allied troops to land a plane every three minutes on the available airfields in blockaded Berlin serving 2.5 million people in the Western Sectors. With looking back the participants could derive dozens of learning for their next challenges in becoming leaner including recognizing the crucial importance of leadership in lean.

We are already looking forward to the next challenges and will grow with them how we always did. Below are a number of highlights from our three dedicated research groups *Global Production*, *Operational Excellence*, and *Smart Manufacturing and Services*.

Global Production

Numerous research and industry collaborations characterized 2023. We gained deep insights into the current state of global production networks – partly still in the post-COVID corona blues – fueling also our publication pipeline.

In our company-specific projects, we continued our collaborations from last year with multinational companies headquartered in Germany, Switzerland, and Denmark. We supported several companies in choosing a suitable production site outside their home country. Besides the individual projects, we finished a benchmarking project, «AI (Artificial Intelligence) in Operations», which we started last year together with our research partners from RWTH Aachen. On the research side, we finished our Innosuisse project titled «Triple-R: Resilience, Responsiveness, and Robustness



AI Summit 2023.

in Global Production Networks» and kicked off a new one dedicated to managing risks in production networks. Together with our industry partners Endress+Hauser, Weidman, Phoenix Contact, and IT Logix, we aim to develop a surveillance dashboard and scenario tool enabling the firms to monitor the ecosystem of their global production networks.

In October, we hold our annual St. Gallen Production Management Conference 2023, where many exciting speakers from industry and science, such as Geberit COO Martin Ziegler, Swissmem president Martin Hirzel or WZL Professor Günther Schuh discussed current challenges facing manu-



Global Production Academy at FACC.

facturing companies and associated solutions. As is already our tradition, we also awarded the winner of our Swiss Manufacturing Survey (7th edition) at the conference. This year's prize went to KOMAX for exceptional contributions to Switzerland as a production location – congratulations to CEO Matijas Meyer, Director Operations Patrick Isenschmid, and the entire team. For the second time at this conference, we also awarded the REHAU Prize for Business to outstanding master theses from German-speaking countries.

Operational Excellence

2023 has been a year with many exciting activities. We successfully concluded our two-year research project «RiskSurve» funded by the U.S. Food and Drug Administration (FDA) in collaboration with Columbia University and Technological University Dublin. We refined the advanced data analytics performed during the first research year with numerous qualitative interviews. The findings obtained from the «RiskSurve» project provided the baseline for submitting a new research proposal «Predictive Continuous Improvement Acceleration (PCIA)» building on the results from the former project.



St. Gallen Production Management Conference 2023.

Furthermore, our offerings have been extended with a new format, the «Production System Platform (PSP)». The group consists of six globally operating manufacturing companies and focuses on discussing and shaping the future of production systems. This provides us with the opportunity to delve into operational excellence approaches across industries. Meanwhile, our pharma specific groups continued as well. The St. Gallen Operational Excellence Research group brought together ten companies from small to big pharma



InnoSuisse, KickOff at SQUARE.

manufacturers. Similar, the Quality Control Exchange Group provided the opportunity for 14 major pharma companies to exchange on the specific topic of quality control laboratories. All groups were hosted at the respective meetings by one of the participating companies. This provided the groups with the unique opportunity to combine exchange sessions with guided tours to observe the latest advancements in operational excellence.

In addition, our team has supported numerous companies with data-based analytics to back decisions and direct continuous improvement. We have conducted a total of four workshops with major pharmaceutical companies in different locations to help them in prioritizing their improvement areas and linked programs. After successfully initializing our pharma quality assurance benchmarking



Production Systems Platform Vienna.

towards the end of 2022, we started collecting data from several participants this year and could release the first reports just recently. We have also started the initial conceptualization of a med-tech OPEX benchmarking to be launched next year.

Our team engaged in several scientific and practical conferences to disseminate our work and insights globally. Group members have attended conferences in Europe and

the Americas sharing our research results and receiving valuable feedback. Additionally, we have intensified our collaboration with the ETH Zürich to further increase our publication output.

Smart Manufacturing and Services

In our upcoming lighthouse research project «Towards a NetZero Plastics Industry», which is one out of eight approved Innosuisse Flagship projects, we will explore disruptive solutions to accelerate the transition towards a net zero world over the next 4 years. Together with a consortium of four additional research partners (ETHZ, EPFL, HSOst, SUPSI) and 18 implementation partners, the project addresses the rising CO2 emissions from plastics by building a Circular Economy in Switzerland. By using digital technologies, innovative materials, and new processes, we will foster collabora-



Quality Control Exchange Madrid.

tion and driving systemic change within the plastics industry to achieve a sustainable future. Furthermore, we are supporting an Innosuisse project with 10 partners that deals with the recycling of polypropylene (PP) from used food packaging. Currently, PP packaging is scarcely recycled in Switzerland, despite growing calls from both politicians and the public to establish a close cycle for PP. The Innosuisse project aims to experimentally test, optimize, and develop processes to address existing technical challenges in PP recycling and

reuse alongside the assessment of the value potential which is our core focus. Establishing a Circular Economy for PP in Switzerland holds a market potential of approximately CHF 72 million. Additionally, we are working with a leading global manufacturing company to develop a circular business model centered on a comprehensive take-back and recycling initiative to drive a large-scale Circular Economy.

Another core research focus of our group is the interplay of digitalization, new technologies, and service business models, which is strongly influenced by Generative Artificial Intelligence (GenAI). In this context, we are collaborating with 6 industrial and 2 research partners in a new Innosuisse Project to bridge the gap «From Human Expertise to Autonomous Maintenance Services». Manufacturers struggle to provide customers context- and user-specific knowledge due to labor shortages and skill gaps in maintenance. Thus, an Autonomous Maintenance Service (AMS) will leverage GenAI, i.e., Large Language Models to systemize and provide manufacturers' existing expert knowledge as a service. Furthermore, we are collaborating with a leading international consultancy firm to assess the significance of GenAI for industrial services. This study investigates key areas of application in the sector of industrial services, identifies successful practices, and provides a basis for assessing the maturity of industrial companies concerning their commercial GenAI adoption. Importantly, we further strengthened our regional footprint through our continuous support of the Innovation Network Eastern Switzerland (INOS). Additionally, we teamed up with HSLU (Lucerne University of Applied Sciences and Arts) in the Innosuisse project «ReInvent» to develop a Swiss-wide platform for the direct delivery of steel scrap to steelworks. In another project, we supported and challenged a leading European optics manufacturer in preparing its customer experience strategy for the future to further strengthen its position as market leader.

Outlook

We are grateful that we could further strengthen our role as a leading global player in production management research



Customer Workshop with Site Visit.

and that we had a real and visible impact on industry practices. Behind our success is always a team of colleagues who stand up for each other and who thrive for impact irrespective of the challenges faced or the efforts needed.

We will continue to shape our activities globally while living up to our regional responsibility.



2.3 / INNOVATION MANAGEMENT

*Team members of the division Innovation Management from the left to the right:
Sonja Baumgartner, Prof. Dr. Oliver Gassmann, Selina Lorenz, Prof. Dr. Maximilian Palmié, Asst.-Prof. Dr. Naomi Häfner,
Manuel Wlcek, Mario Mühlematter, Sebastian Otto, Anna Mader, Uliana Schmiück, Susanne Hefti, Dr. Monica Barroso,
Johanna Knapp, David Wagner, Prof. Dr. Felix Wortmann, Ursula Elsässer*

Dr. Alexander Schumacher, Dr. Wolfgang Bronner are missing on the picture.

2.3 / Innovation Management

// Prof. Dr. Oliver Gassmann

In 2023 the team at Prof. Dr. Oliver Gassmann's Chair for Innovation Management produced excellent work. The labs pursued their goal of combining rigor with relevance successfully.

Bosch IoT Lab

Headed by Dr. Wolfgang Bronner (Executive Director Bosch) and Prof. Dr. Felix Wortmann (Scientific Director), the Bosch IoT Lab investigates business model innovation in the Internet of Things (IoT). In addition, the Bosch IoT Lab

explores disruptive IoT products and services. The lab operates in three research streams. The first research stream investigates ecosystems and platform business models that disrupt existing industries. The second research stream is geared towards novel go-to-market strategies and disruptive channel architectures for established product companies. Finally, the lab investigates new opportunities in the realm of safe mobility (in-vehicle hypoglycemia and drunk driving detection) and sustainable energy (heat pump optimization). In 2023, the lab published the book «Produkte als Dienstleistung verstehen: Wie das Internet der Dinge die produzierende Industrie verändert», with the English version being available in 2024. The interdisciplinary research results were published in outlets such as Electronic Markets, Business Horizons, Diabetes Care, and the 2023 CHI Conference on Human Factors in Computing Systems.

Sustainability Innovation Lab (formerly, Energy Innovation Lab)

The activities of the Sustainability Innovation Lab, headed by Prof. Dr. Maximilian Palmié, continued to revolve around three core questions: How can organizations progress towards social, environmental, and economic sustainability? How can they utilize digital technologies to do so? And how can they scale sustainable technologies? In addition to executing its tasks in the NRP 77 project on the replication and upscaling of Smart City solutions (funded by the Swiss National Science Foundation) and in the project on sustainable, multi-modal mobility in rural areas (funded by the Swiss Federal Office of Energy), the Sustainability Innovation Lab was able to initiate several long-term projects around these questions. It began its work on the "Horizon Europe" project ASCEND (funded by the European Commission) and the 10-year project SWEET CoSi (funded by the Swiss Federal Office of Energy), while two further project applications with prospective start dates in 2024 were approved by Innosuisse and the Swiss National Science Foundation, respectively. In 2023, research results of the Sustainability Innovation Lab appeared in various leading academic journals, including the Journal of Business Research, Long Range Planning, and Technovation.



Winner team Business Innovation 1, lecture.

Emerging Technologies Lab

The Emerging Technologies Lab, headed by Asst. Prof. Dr. Naomi Haefner, studies the impact of next-generation technologies on firm innovation and strategy, as well as entrepreneurship. The lab focuses on technologies such as artificial intelligence and machine learning as well as

technologies enabling the metaverse, investigating how they influence firm value creation, capture, and delivery processes. Our research projects study the effect of artificial intelligence on managerial decision-making and innovation as well as the broader competitive implications of pursuing artificial intelligence-based strategies. Additionally, we are exploring



BCW Berlin.



VL BI Final Presentation Day.



Future of Universities Symposium.



Future of Universities Symposium.



Future of Universities Symposium.



Future of Universities Symposium.

the opportunities and strategic potential of the metaverse for industrial firms. We also continued our work on the impact of emerging technologies on the future of learning and work. This year our research on the future of universities culminated in our participation in the University of St.Gallen's international symposium on «Universities in an Age of Uncertainty.» We were able to present our research at leading conferences such as the Strategic Management Society's annual conference and publish in high-impact journals such as Technological Forecasting and Social Change.

Teaching

Prof. Gassmann taught a module on technology and innovation, as well as business model innovation in the MBA program. The master course 'Business Innovation I' in the master program was again a highlight: 12 companies including Bosch, Deutsche Telekom, Feldschlösschen, Helvetia, KSB, Nesttal, PostFinance, Siemens, Swisscom, Vircom as well as non-profit organizations like WWF submitted challenges on business model innovations. This coaching-intensive course was a true teaching innovation: The MBI students learned the entire content before



Workshop on Collaborative Business Models, Helsinki.

the course and focused during the whole course in teams on problem-solving real challenges. The final presentation day has been a great event with 200 students and practitioners in the Atrium of the SQUARE.

With Sportradar, a worldwide leading sport data company, we conducted a CAS on Business Innovation with participants from Europe, US, Singapore, and Australia and active involvement of the CEO and founder Carsten Koerl. The university's flagship seminar «HSG Highlights 2023», which Prof. Gassmann developed and led for the Executive School and the HSG Alumni, was again very successful.



CAS Sportradar 2023.



Create and capture value: BI1.



2.4 / ENTREPRENEURSHIP

*Team members of the division Entrepreneurship from the left to the right:
Stefan Gahrens, Sarah Nordt, Dr. Robert Schreiber, Dr. Torben Antretter, Maria Luisa Fuchs, Carolin Kaufmann,
Besart Kajdomqaj, Corinne Metzger, Bernd Schneider, Sahana Sivachelvam, Janine Crivelli, Prof. Dr. Manuel Hess,
Michael Greger, Prof. Dr. Dietmar Grichnik*

Tatjana Christen is missing on the picture.

2.4 / Entrepreneurship

// Prof. Dr. Dietmar Grichnik



▶ HSG-Jubiläumsreihe 2023.

At the Chair of Entrepreneurship, the team members achieved a great impact in all research areas, teaching and services:

New HealthSpan Lab

In 2023, Dietmar Grichnik spent his research semester at the LUISS Business School in Rome, where he was able to dedicate himself to new research topics such as sustainable

scaling, longevity and healthspan. In this vein, he co-initiated with Dr. Robert Schreiber and Professor Tobias Kowatsch the HealthSpan Lab at HSG. Initially delving into Neuroentrepreneurship studies, the lab is now focusing on enhancing healthy lifespans. One of the ongoing projects zooms in on the impact of sleep, nutrition, and physical exercise on the health and performance of entrepreneurs by investigating an array of digital and biochemical biomarkers. Collaborating



▶ HSG Founder of the year 2023 Melanie Gabriel Yokoy.



▶ Books.

closely with Caroline Lustenberger from ETH's Neural Control of Movement Lab and the startup Biolytica, the primary objective is crafting non-invasive interventions. These interventions aim to improve both the decision-making abilities and overall health of entrepreneurs. Recently, Sahana Sivachelvam, with a health sciences background from ETH, has joined as a new PhD student, fortifying the research efforts.

Startup Navigator Lab

This year, the Startup Navigator Lab closed the submissions of three significant book publications. «The Corporate Venturing Handbook,» authored by Dietmar Grichnik, Manuel Hess, Jana Reuther, and Alexander Stoeckel, explores the intricacies of corporate venturing strategies. Accompanying this is «The Scale-Up Navigator,» penned by Dietmar Grichnik, Manuel Hess, Michael Greger, Andreas



HSG-Jubiläumsreihe 2023.

Goeldi, and Florian Schweizer, which focuses on the effective scaling of business operations after the startup phase. Additionally, an updated and expanded German edition of the «St.Galler Startup Navigator» was published with Hanser Verlag, offering new insights and strategies. These publications are distinguished by their unique case studies, resulting from collaborations with industry leaders like Siemens Healthineers, Shell Ventures, DeepL, SumUp, Pixability, Piavita, and others. These cases provide invaluable insights, making the books essential for readers interested in practical knowledge in applied business development and corporate venturing. In addition to publishing a special issue editorial on cognitive biases of top-managers in the Journal of Management Studies, Dietmar Grichnik and co-authors have published «The Two Faces of Hierarchy: CEO Power and TMT Learning Diversity in Technology Venture Innovation» in Small Business Economics.

Teaching

Beyond publishing, Professors Dietmar Grichnik and

Manuel Hess have made significant strides in academia. They successfully launched the second cohort of the Certificate of Advanced Studies (CAS) program in Entrepreneurship and incorporated various executive modules on entrepreneurship into the EMBA programs, enriching the curriculum with practical and contemporary business insights. With the support of Besart Kajdomqaj and Stefan Gahrens, Manuel Hess taught the large compulsory course Entrepreneurship II in the Master of General Management with many practice partners for the first time. Michael Greger and Sarah Maria Nordt provided support in other Bachelor's and Master's courses.

Startup@HSG Lab

A team of Startup@HSG – Dietmar Grichnik, Diego Probst, Maria Luisa Fuchs and Bernd Schneider – successfully developed and presented the «Startup Strategy for the canton of St Gallen» after several months of working together with the regional government and several key actors of the ecosystem. Together with a colleague from the



Entrepreneurial Talents 2023.

Law School (Prof. Markus Müller-Chen) Dietmar Grichnik and Sarah Maria Nordt conducted and published a study about the UNICORN Nation Switzerland for the Swiss Entrepreneurs & Startup Association SWESA. The continuous efforts of promoting entrepreneurship and the incubation of innovative ideas with the Entrepreneurial Talent Program, succeeded with 18 new Startups in different areas including Health Tech, Sustainable Energy, Financial Services, and Robotics, among others. This year several Entrepreneurial Talent Alumni have achieved fruitful funding to scale their Startups, Jessica Farda from Noriware and Oliver Meyer from Storabble are some examples, while others have been among the winners of prestigious prizes such as the Startfeld Diamant with Anna Rosenkranz from HealthYourself. During the «START Summit» in spring, Melanie Gabriel has been awarded the «Founder of the Year» prize on behalf of Yokoy. During the 2023 edition of Top100 Startups in

Switzerland Yokoy together with Planted were among the top 3 ventures, both proud carriers of the HSG Spinoff Label. In Autumn Startup@HSG welcomed more than 150 students during the «Startup Workshop and Founder Talk» at the HSG Kickoff Days, an absolute record, and a sign that entrepreneurship and innovation are top of mind among the newcomers. After 9 years heading the Startup@HSG Lab, Diego Probst left to pursue other challenges staying close in the region. Maria Luisa Fuchs has taken over the lead of the team with several projects ongoing to build the Lab further.

New Rectorate

Professor Grichnik was elected Vice-Rector for Innovation and Quality at the HSG this year. He will take up his new post in February 2024 and is looking forward to contributing to the vision of an entrepreneurial university in the new Rectorate.



Teamevent Seealpsee, September 2023.



2.5 / INFORMATION MANAGEMENT

*Team members of the division Information Management from the left to the right:
Prof. Dr. Felix Wortmann, Manuel Wlcek, Sebastian Otto, Johanna Knapp, Robin Deuber, Ugne Potthoff,
Maximilian May, Elisabeth Vetsch*

2.5 / Information Management

// Prof. Dr. Felix Wortmann

The team around Felix Wortmann is working very closely with the chairs of Prof. Fleisch and Prof. Gassmann at the intersection of digital business models, machine learning, ubiquitous computing, and human computer interaction. The research projects are embedded in real-world settings and truly interdisciplinary. They focus on digital innovations in mobility, industry, energy, and healthcare. In 2023 significant work was dedicated to the topics of platform business models for product companies and explainable machine learning in healthcare. Throughout the last years, our research has been published in journals including Information Systems Research, Applied Energy, Transportation Research, IEEE Internet of Things and at leading Computer Science and Information Systems conferences such as ACM CHI Conference on Human Factors in Computing Systems.

Bosch IoT Lab

Headed by Dr. Wolfgang Bronner (Executive Director Bosch) and Prof. Dr. Felix Wortmann (Scientific Director), the Bosch IoT Lab investigates business model innovation in the Internet of Things (IoT). In addition, the Bosch IoT Lab

explores disruptive IoT products and services. The lab operates in three research streams. The first research stream investigates ecosystems and platform business models that disrupt existing industries. The second research stream is geared towards novel go-to-market strategies and disruptive channel architectures for established product companies. Finally, the lab investigates new opportunities in the realm of safe mobility (in-vehicle hypoglycemia and drunk driving detection) and sustainable energy (heat pump optimization). In 2023, the lab published the book «Produkte als Dienstleistung verstehen: Wie das Internet der Dinge die produzierende Industrie verändert», with the English version being available in 2024. The interdisciplinary research results were published in outlets such as Electronic Markets, Business Horizons, and the 2023 CHI Conference on Human Factors in Computing Systems where we received an Honorable Mention.

Digital Biomarkers in Diabetes Management

Hypoglycemia is a dangerous and acute complication of diabetes. It is associated with impairments of cognitive,

executive, and psychomotor functions. Thereby, it can have significant impact on many everyday activities such as driving. Our research in the realm of ‘digital biomarkers in diabetes management’ is geared towards improving the lives of people with diabetes. More specifically, we leverage explainable machine learning to identify critical states of glycemia through wearables (a) and in-vehicle sensors (b). The activities are part of the Center for Digital Health Interventions (CDHI). As in previous years, we were able to publish in high outreach journals such as Diabetes Care and Diabetes, Obesity and Metabolism.

Teaching

Prof. Wortmann taught multiple modules on technology and innovation, as well as business model innovation, in the Executive MBA, Executive MBE and EmbaX program of the University of St. Gallen/ETH Zurich. The master course

‘Platform Economy’ (with Prof. Gassmann) was once again conducted in close collaboration with a company. Together with Bosch, the master students were able to work on two specific platform business models. The bachelor course «Designing Digital Business Models» was all about the Internet of Things, Product as a Service, and Platform Business Models. Bachelor students had the opportunity to develop a Product as a Service business model for Gallus, a leading manufacturer of label printing and folding carton presses. Finally, together with Prof. Fleisch, we developed a new vision for the bachelor course «Introduction to Operations Management.» We aim at developing a ‘Copilot’ for students that is leveraging Generative AI to answer individual student questions. In addition, the Copilot will provide personalized and actionable feedback for each student. We are excited to collaborate with Prof. Staake from the University of Bamberg on this promising research endeavor.



Company visit at Gallus, Bachelor course «Designing Digital Business Models».



Bosch IoT Lab Steering Committee Meeting



Team Event Alpstein.

2.6 / Global Center for Entrepreneurship & Innovation

// Prof. Dr. Charlotta Sirén, Prof. Dr. Joakim Wincent,
Prof. Dr. Oliver Gassmann, Prof. Dr. Dietmar Grichnik

The GCEI, in 2023, continued to deliver excellent results with a significant impact on research, teaching, and practice. The establishment of the Institute of Responsible Innovation (IRI-HSG), which is part of the GCEI, further strengthened the visibility and impact of entrepreneurship and innovation research at HSG and beyond.

This year was highly successful for GCEI researchers. GCEI professors had several top-tier publications, an editorial, a series of new books, and disseminated scientific knowledge

Matthias Tröbinger, and co-author's article, «The crowd beyond funders: An integrative review of and research agenda for crowdfunding», was accepted at the Academy of Management Annals. Prof. Vangelis Souitaris and his co-author published a paper in Organization Studies titled «Bureaucracy meets digital reality: The unfolding of urban platforms in European municipal governments» an impactful study on smart cities in Europe. The paper «Job burnout and work engagement in entrepreneurs: How the psychological utility of entrepreneurship drives healthy engagement»



through videos. To mention a few highlights from the research side, Prof. Thomas Zellweger and his co-authors published the article «Entrepreneurs as scientists: A pragmatist alternative to the creation-discovery debate» in the Academy of Management Review. This article attracted a large amount of interest from the scientific community. In terms of knowledge synthesis, Prof. Viviana Fang He,

by Prof. Joakim Wincent and co-authors was published at the Journal of Business Venturing. Furthermore, two papers were published in the Journal of Business Ethics. The first by Prof. Charlotta Sirén, Prof. Wincent, and co-authors was «A meta-analysis of the impact of entrepreneurs' gender on their access to bank finance». The second by Prof. Isabella Hatak and co-authors was a paper titled «Ethical orientation



Global Center for Entrepreneurship and Innovation 2023.

and research misconduct among business researchers under the condition of autonomy and competition». In addition to publishing a special issue editorial on cognitive biases in the Journal of Management Studies, Prof. Dietmar Grichnik and co-authors have published two new books – Scale-up Navigator and Corporate Venturing Navigator. Prof. Oliver Gassmann and his co-authors published a cross-discipline study in Nature Reviews Drug Discovery. As a testament to the impact of the research and contributions to the scientific community, Prof. Wincent received the Academy of Management's Foundational Paper Award at the 2023 Academy of Management Meeting. At the same conference, Prof. Souitaris and colleagues won the Kauffman Best Paper Award in Entrepreneurial Cognition.

The scholars at the GCEI continue to excel in teaching and were acknowledged for their innovative teaching methods. Two courses won the School of Management Teaching Innovation Award. The course «From earth to space and back - Lessons for responsible innovation from CERN» by Prof. Fang He and Prof. Sirén takes students to a virtual travel to «Planet B». The task is to find responsible solutions to challenges in this alternative reality, and bring the lessons learned back to planet Earth. Students will also travel to CERN in Geneva for a two-day design sprint. By working in groups, the course encourages innovative collaboration and thinking outside the box. In Prof. Gassmann's «Business Innovation I» course student groups worked in parallel on 13 challenges from Bosch, Siemens, Swisscom, Feldschlösschen Getränke AG, WWF, Vircom, Deutsche Telekom, KSB Company, Netstal, Helvetia Insurance Group and PostFinance. By presenting their solutions to real-life challenges to business leaders, students learn to master professional presentation situations and deal with situations they will encounter in practice.

In 2023, the GCEI team maintained strong external collaborations with academia and industry. GCEI members are not

only contributing as continuous editors to leading entrepreneurship and management journals, but also organized several research talks with internationally renowned speakers. In addition, the GCEI held the «On Common Grounds» continuing professional development series together with ETH Zurich and EPFL in person in St.Gallen.



To further strengthen collaboration with these technical universities and practitioners, Prof. Grichnik and his team founded a new Healthspan Lab. In a GFF-funded project on sleep and entrepreneurial performance, they are working in close research collaboration with ETH Zurich, EPFL and Biolytica, the leading AI health platform in Switzerland.

3.1 / Institute Structure

Directors

Prof. Dr. Oliver Gassmann	Chairman
Prof. Dr. Elgar Fleisch	Director
Prof. Dr. Thomas Friedli	Director
Prof. Dr. Dietmar Grichnik	Director
Prof. Dr. Felix Wortmann	Vice-Director

Executive Committee

Prof. Dr. Dr. Torsten Tomczak	President
Franziska Tschudi Sauber	Vice-President
Prof. Dr. Johannes Rüegg-Stürm	
Prof. Dr. Thomas Zellweger	



«Stiftung zur Förderung von Technologiemanagement, Technologiepolitik und Technologietransfer» – Advisory Council of the ITEM-HSG

Board

Franziska Tschudi Sauber / Weidmann Holding AG / CEO	President
Prof. Dr. Dr. Torsten Tomczak, IMC-HSG / Director	
Prof. Dr. Johannes Rüegg-Stürm, HBM-HSG / Director	Quaestor
Prof. Dr. Thomas Zellweger, KMU-HSG / Director	
Prof. Dr. Oliver Gassmann, ITEM-HSG / Director	Secretary

Honorary Member

Peter J. Hauser	Honorary Member
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Members

Philipp Amstutz	SCHOTT Schweiz AG / Managing Director
Martin Blum	Julius Blum GmbH / CEO, Board Member
Prof. Dr. Roman Boutellier	ETH Zürich / Universität St. Gallen
Reinhard Braun	Pantec Biosolutions AG / CEO
Jens Breu	SFS Group AG / CEO
Dr. Bruno Damann	Kanton SG Gesundheitsdepartement / Regierungsrat
Prof. em. Dr. Walter Eversheim	WZL RWTH Aachen
Prof. em. Dr. Fritz Fahrni	ETH Zürich / Universität St. Gallen
Alfred Felder	Zumtobel Group AG / CEO
Dr. Christof Germann	Illwerke VKW AG Bregenz / Vorstandsmitglied
Peter Gerner	Hoval Gruppe Vaduz / co-CEO
Dr. Martin Henck	Hilcona AG / CEO
Urs Kaufmann	HUBER+SUHNER AG / VR-Präsident
Dr. D. Bijan Khezri	Marquard Group AG / CEO
Günther Lehner	ALPLA Werke Alwin Lehner GmbH & Co. KG / Chairman
Dr. Christoph Loos	Hilti AG / Chairman
Christian Mehling	Lista Office LO AG / CEO
Daniel Risch	Regierung Fürstentum Liechtenstein
Thomas H. Rüegg	Baumann Group AG / CEO
Fabian Rupprecht	Helvetia Gruppe / Vorsitzender der GL, CEO
Urs Ryffel	HUBER+SUHNER AG / CEO
Dr. Frank Schaum	Gallus Ferd. Rüesch AG / CEO
Stefan Scheiber	Bühler AG / CEO
Peter Schönenberger	Altregierungsrat St. Gallen
Prof. Dr. Günther Schuh	WZL RWTH Aachen / Direktor
Dr. Pepe Sonderegger	ks treuhandexperten ag / Universitätsrat
Beat Tinner	Kanton SG Volkswirtschaftsdepartement / Regierungsrat
Thomas Trachsler	Die Mobiliar / Mitglied der Geschäftsleitung
Dr. Daniel Tschudi	Weidmann Holding AG / Co-Owner, Board Member
Alexander von Witzleben	Arbonia Management AG / exekutiver Verwaltungsratspräsident
Jürg Zumtobel	Zumtobel Group AG

3.2 / Education

Prof. Dr. E. Fleisch

- » Introduction to Operations Management - German, Bachelor Level (4./6. Sem.)
- » Research Seminar: Operations and Information Management
- » Research Seminar: Current research topics in technology and information management
- » EMBA ETH HSG (emba X2), Module: Product & Services Technologies

Lectures at ETH Zurich

- » Management of Digital Transformation, Masterstufe D-MTEC

Prof. Dr. Thomas Friedli

- » Business Excellence (4. Sem.)
- » Management of Industrial Companies (4. Sem.)
- » Doktorandenseminar: Kolloquium zur Forschung im Produktionsmanagement
- » Produktionsmanagement (7. Sem.)
- » Operative Exzellenz (OPEX) (7. Sem.)
- » Industrie 4.0 - Smart Production und Services (7. Semester)
- » Seminar militärische und zivile Führung - Entscheidungsprozesse als Grundlage (Kontextstudium)
- » Doktorandenseminar: Methoden des Technologiemanagements

Lectures held at other Universities:

- » IIMT, Universität Fribourg, Process & Excellence Management
- » SMBS, University of Salzburg Business School, Executive MBA, Qualitäts- und Prozessmanagement

Prof. Dr. Oliver Gassmann

- » Business Innovation I (7. Sem., Master)
- » Platform Economy (8. Sem., Master)
- » Business Model Design (8. Sem., Master)
- » Theories in Business Innovation (PhD)
- » Publishing in Management, Technology, and Innovation (PhD with ETH und EPFL)
- » CAS Smart Mobility
- » EMBA X
- » MBA-HSG, Business Model Innovation
- » Academic Director of «HSG-Highlights 2023»
- » Academic Director of CAS Business Innovation, Sportradar AG

Prof. Dr. Maximilian Palmié

- » Capstone Project: Operations and Innovation Management (5. Sem., Bachelor)
- » R & D Management (7. Sem., Master)
- » Innovation und Führung (8. Sem., Master)
- » Managing Global Innovation (8. Sem., Master)
- » FPV: Innovationsmanagement in Smart Cities (8. Sem., Master)
- » Theories in Organization & Information Systems (PhD)

Asst. Prof. Dr. Naomi Häfner

- » Innovation Management (5. Sem., Bachelor)
- » Innovationsmanagement (6. Sem, Bachelor)
- » RPV: Developing an AI Strategy (9. Sem., Master)

Prof. Dr. Christoph Wecht

- » Kreativität/Creativity: Social Design (3. Sem., Bachelor)
- » RPV: Business Ecosystems (7. Sem., Master)

Prof. Dr. Maximilian von Zedtwitz

- » Managing Innovation in China (4. Sem., Bachelor)

Prof. Dr. D. Grichnik

- » Entrepreneurship (Bachelor)
- » PhD Colloquium Entrepreneurship I
- » Entrepreneurship (EMBA 62 Program: Main Lecturer)
- » CAS Unternehmertum (Main Lecturer)
- » Weiterbildung zum Anlagespezialisten für VC-Publikumsfonds

Dr. Manuel Hess

- » Start Fellowship (Bachelor)
- » Start Global (Bachelor)
- » Entrepreneurship II (MGM))
- » Entrepreneurial Finance (MBI)
- » CAS Unternehmertum (Co-Lecturer)
- » Weiterbildung zum Anlagespezialisten für VC-Publikumsfonds

Prof. Dr. Joakim Wincent

- » Paper clinic in general management (PhD)
- » Entrepreneurship (Bachelor)
- » PhD Colloquium Entrepreneurship II
- » International Entrepreneurship (Master)
- » Essence of Entrepreneurship at Hanken School of Economics (Master)
- » Entrepreneurship for PhD candidates in Finland (PhD)
- » Business experience at Hanken School of Economics (Master)
- » International business experience at Hanken School of Economics (Master)

Prof. Dr. F. Wortmann

- » Einführung in das Operations-Management – German, Bachelor
- » Introduction to Operations Management – Englisch, Bachelor
- » Designing Digital Business Models – Englisch, Bachelor
- » Platform Economy – Englisch, Master
- » EMBA ETH HSG (emba X2), Modul: Product & Services Technologies
- » EMBA-HSG 64, Modul: Technologie- und Innovationsmanagement
- » EMBA-HSG in Business Engineering 2023/24, Modul: Business Innovation
- » EMBA-HSG in Business Engineering 2023/24, Beitrag zu Modul: Digitale Transformation
- » HBM Unternehmerschule (ES-HSG), Leadership Development Program, Beitrag zu Modul: Digitalisierung
- » CAS HSG Innovation durch IT 2023/24, Beitrag zu Modul: Digitale Transformation
- » CAS Digital Innovation and Business Transformation 2023, Beitrag: Internet of Things – Digitalisierung der physischen Welt
- » Certificate in Transformational Business Design 2023, «Platform Business Models»

3.3 / Publications (Selection)

(for full publication list see: www.alexandria.unisg.ch)

Books

Grichnik, D., Hess, M., Reuther, J., Stoeckel, A., Hilb, M. (2023): The Corporate Venturing Handbook – A step-by-step guide to the value creation process. Kogan Page Limited, London, ISBN 978-1-3986-1358 4 (Print)

Wortmann, F., Gebauer, H., Lamprecht, C., Fleisch, E. (2023): Produkte als Dienstleistung verstehen. Wie das Internet der Dinge die produzierende Industrie verändert. Campus-Verlag, Frankfurt, 2023. ISBN 978-3-593-51753-7 (Print)

Book Chapters

Bérubé, C., Fleisch, E. (2023): Voice-based Conversational Agents for Sensing and Support: Examples from Academia and Industry. In N. Jacobson, T. Kowatsch, & L. A. Marsch (eds.), Digital Therapeutics for Mental Health and Addiction: The State of the Science and Vision for the Future (1st ed.), Elsevier, Academic Press: Cambridge, MA, USA, <https://doi.org/10.1016/B978-0-323-90045-4.00017-4>

Refereed journals

Barata, F., Cleres, D., Tinschert, P., Shih, I., Rassouli, F., Boesch, M., Brutsche, M., Fleisch, E. (2023): Nighttime Continuous Contactless Smartphone-Based Cough Monitoring for the Ward: Validation Study. JMIR Form Res. 2023 Feb 20;7:e38439. doi: 10.2196/38439.

Bencsik, B.; Palmié, M.; Parida, V.; Wincent, J.; Gassmann, O. (2023): Business models for digital sustainability: Framework, microfoundations of value capture, and empirical evidence from 130 smart city services, Journal of Business Research 160, 113757.

Bernasconi, M., Grothkopp, M., & Friedli, T. (2023): The role of social and technical lean implementation in improving operational performance: insights from the pharmaceutical industry. International Journal of Industrial and Manufacturing Engineering.

Boemelburg, R.; Zimmermann, A.; Palmié, M. (2023): How paradoxical leaders guide their followers to embrace paradox: Cognitive and behavioral mechanisms of paradox mindset development, Long Range Planning. 102319.

Brudermueller, T., Kreft, M., Fleisch, E., Staake, T. (2023): Large-Scale Monitoring of Residential Heat Pump Cycling Using Smart Meter Data. In: Applied Energy (Elsevier), Volume 350, 15 November 2023, 121734, <https://doi.org/10.1016/j.apenergy.2023.121734>

Castro, O., Mair, J., Salamanca-Sanabria, A., Alattas, A., Keller, R., Zheng, S., Jabir, A., Lin, X., Frese, B., Lim, C., Santhanam, P., Van Dam, R., Car, J., Lee, J., Tai, E., Fleisch, E., von Wangenheim, F., Tudor Car, L., Müller-Riemenschneider, F., Kowatsch, T. (2023): Development of «LvL UP 1.0», a smartphone-based, conversational agent-delivered holistic lifestyle intervention for the prevention of non-communicable diseases and common mental disorders. PUBLMED, Front Digit Health. 2023 May 10:5:1039171. doi: 10.3389/fdgth.2023.1039171. eCollection 2023.

Haefner, N.; Palmié, M.; Leppänen, PT. (2023): With (out) a little help from my friends? Reconciling incongruous findings on stakeholder management, innovation, and firm performance, Entrepreneurship Theory and Practice 47 (1), 142-171.

Haefner, N.; Parida, V.; Gassmann, O.; Wincent, J. (2023): Implementing and scaling artificial intelligence: A review, framework, and research agenda, Technological Forecasting and Social Change 197, 122878, DOI: 10.1016/j.techfore.2023.122878.

Hodgkinson, G. P., Burkhard, B., Foss, N. J., Grichnik, D., Sarala, R. M., Tang, Y., van Essen, M. (2023): The Heuristics and Biases of Top Mangers: Past, Present, and Future. In: Journal of Management Studies (JMS), 60(5): doi:10.1111/joms.12937

Künzler, F., Kramer, J., Kowatsch, T., Kotz, D. (2023): Detecting Receptivity for mHealth Interventions, GetMobile: Mobile Computing and Communications, Volume 27, Issue 2, pp 23–28, <https://doi.org/10.1145/3614214.3614221>

Lehmann, V., Zueger, T., Maritsch, M., Kraus, M., Albrecht, C., Bérubé, C., Feuerriegel, S., Wortmann, F., Kowatsch, T., Styger, N., Lager, S., Laimer, M., Fleisch, E., Stettler, C. (2023): Machine learning for non-invasive sensing of hypoglycaemia while driving in people with diabetes. Journal: Diabetes, Obesity and Metabolism, Obes Metab. 2023;25(6):1668-1676. doi:10.1111/dom.15021

Lehmann, V., Föll, S., Maritsch, M., van Weenen, E., Kraus, M., Lager, S., Odermatt, K., Albrecht, C., Fleisch, E., Züger, T., Wortmann, F., Stettler, C. (2023): Non-invasive Hypoglycemia Detection in People with Diabetes Using Smartwatch Data. Diabetes Care 2023, dc222290, 10.2337/dc22-2290. <https://doi.org/10.2337/dc22-2290>

Lingens, B.; Seeholzer, V.; Gassmann, O. (2023): Journey to the Big Bang: How firms define new value propositions in emerging ecosystems, Journal of Engineering and Technology Management 69, 101762

Miehé, L.; Palmié, M.; Oghazi, P. (2023): Connection successfully established: How complementors use connectivity technologies to join existing ecosystems–Four archetype strategies from the mobility sector, Technovation 122, 102660.

Mishra, V., Künzler, F., Kramer, J., Fleisch, E., Kowatsch, T., Kotz, D. (2023): Detecting Receptivity for mHealth Interventions. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous TechnologiesVolume 5Issue 2Article No.: 74pp 1–24<https://doi.org/10.1145/3463492>

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Palmié, M.; Rügger, S.; Parida, V. (2023): Microfoundations in the strategic management of technology and innovation: Definitions, systematic literature review, integrative framework, and research agenda, *Journal of Business Research* 154, 113351.

Schäfer, F., Gebauer, H., Gröger, C., Gassmann, O., Wortmann, F. (2023): Data-driven business and data privacy: Challenges and measures for product companies. *Elsevier - Business Horizons*, Volume 66, Issue 4, July–August 2023, Pages 493-504. <https://doi.org/10.1016/j.bushor.2022.10.002>

Schuhmacher, A.; Hinder, M.; Boger, N.; Gassmann, O.; Hartl, D. (2023): Is the blockbuster imperative broken, *Drug Discovery Today*, 103789, DOI: 10.1016/j.drudis.2023.103789.

Schuhmacher, A.; Hinder, M.; Dodel, A.; Gassmann, O.; Hartl, D. (2023): Investigating the origins of recent pharmaceutical innovation, *Nature Reviews Drug Discovery*, DOI: 10.1038/d41573-023-00102-z.

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Wesemann, H., Sirén, C., He, V., Grichnik, D., Wincent, J. (accepted, 2023): The Two Faces of Hierarchy: CEO Power and TMT Learning Diversity in Technology Venture Innovation. In: *Small Business Economics*

Conference Contributions

Hess, M., Siren, C., Wincent, J., Grichnik, D. (2023): How Women gain centrality in VC-backed board networks and its effect on new venture performance. Accepted at EURAM, Dublin (Ireland).

Kaufmann, C., Hess, M., Wincent, J., Grichnik, D. (2023): The Unspoken Challenge For Women In Boards. Accepted at Academy of Management PDW, Paris (FR)

Koch, K., Maritsch, M., van Weenen, E., Pfäffli, M., Fleisch, E., Weinmann, W., Wortmann, F. (2023): Machine learning using driver monitoring cameras to detect drunk driving. Conference on Human Factors in Computing Systems – CHI23, Hamburg, Germany (Hybrid).

Nordt, S. M., Hess, M., Grichnik, D., Wincent, J. (2023): Is it a match? – The role of social identities in business angel decision making and the investor-founder relationship. Accepted at JBVl Entrepreneurship Academy 2023, Durham, UK.

Pirrone, L., Bernasconi, M., & Friedli, T. (2023): Investigating the role of digitalization in OPEX programs – A case study from the pharmaceutical industry. CPSL 2023.

Schäfer, F. Rosen, J., Zimmermann, C., Wortmann, F. (2023): Unleashing the Potential of Data Ecosystems: Establishing Digital Trust through Trust-Enhancing Technologies. European Conference on Information Systems – ECIS 2023, Kristiansand, NORWAY

Schmidt, B., Sirén, C., Grichnik, D., Wincent, J. (2023): Empowering leadership and work identity in times of crisis. Accepted at 83rd Academy of Management Conference, Boston (USA).

Schreiber, R., Hess, M., Grichnik, D., Shepherd, D., Tobler, P., Wincent, J. (2023): How Women Entrepreneurs' Physical Appearance Affects Men's Investment Decisions. Accepted at 83rd Academy of Management Conference, Boston (USA).

Steiger, G.A., Klinkner, F., & Friedli, T. (2023): Quality assurance excellence in the pharmaceutical industry. 30th EurOMA Conference

Von Dzengelevski, O., Specht, F., Netland, T., Friedli, T. (2023). Reshoring and operational performance: the moderating effect of digitalization. 30th EurOMA Conference.

Wlcek, M., Knapp, J., Marheine, M., Wortmann, F. (2023): Revisiting the IIoT platform graveyard: Learnings from failed IIoT platform initiatives. International Conference on Information Systems - ICIS 2023, Hyderabad, India

Wörner, D., Friedli, T. (2023): Role of Recycling Towards a Sustainable Business Model: A Perspective on Industrial Assets. In: Kohl, H., Seliger, G., Dietrich, F. (eds) *Manufacturing Driving Circular Economy*. GCSM 2022. Lecture Notes in Mechanical Engineering. Springer, Cham.

White papers

Gassmann, O.; Haefner, N., Wagner, DM. (2023): Co-Cultivating the Future of Universities, International Symposium on Universities in an Age of Uncertainty, St. Gallen. White Paper.

Practical journals, Reports, Interviews, Media Articles, Videos

Bernasconi, M., Friedli, T., & Calnan, N. (2023). Shaping the future of pharmaceutical manufacturing quality: from quality metrics to quality management maturity and beyond. American Pharmaceutical Review

Fleisch, E. (2023): Länger leben, länger krank? Warum evidenzbasierte Prävention wichtig wird und welche Rolle die Digitalisierung dabei spielt. NZZ, 23.10.23

Grichnik, D., Müller-Chen, M., Nordt, S. M., Koch, J., Boss, N. M. (2023), Start-up-Nation Schweiz: Wie lange noch bei Food- und Medtech, Die Volkswirtschaft, Bern, online 31.08.2023.

Grichnik, D., Müller-Chen, M., Nordt, S. M., Boss, N., Koch, J. (2023), UNICORN Nation Switzerland – Wirtschaftliche Analyse des Schweizer Wirtschaftssystems und juristische Analyse der regulatorischen Rahmenbedingungen für identifizierte Handlungsfelder, Swiss Entrepreneurs & Startup Association SWESA mit Unterstützung durch die Schweizerische Mobiliar Genossenschaft, Bern

Grichnik, D., Probst, D., Fuchs, M.-L., Schneider, B. (2023), Startup-Strategie für den Kanton St. Gallen, Standortförderung des Kantons St. Gallen, St. Gallen

Roesler, J., Budde, L., Friedli, T., Oghazi, P., & Palmié, M. (2023): Scaling Digital Solutions in Healthcare: Paradoxical Tensions in Provider–Customer Relations and Coping Strategies. IEEE Transactions on Engineering Management, 1–15.

Tienken, C., Rösler, J., Friedli, T. (2023): Enhancing the Customer Journey with Digital Self-Services. In: Schneider, U., Hoika, J. (eds) Digital Marketing in the Automotive Electronics Industry. Management for Professionals. Springer, Cham.



3.4 / Talks (Selection)

Prof. Dr. E. Fleisch

Towards evidence-based well-being and prevention. Guest Speech at ETH-Center for Digital Health Interventions, Singapore, 19.01.2023

Die digitale Pille. Annual conference of DeGPT and ZPTT at the UZH, Zurich, 16.02.2023

Diagnosis of backlog demand: Digital health economy, problem solving and growth opportunities. Panel discussion, Research Summit 2023, Berlin, 28.03.2023

Towards Evidence-based Wellbeing and Prevention: Why prevention doesn't work today and how we can fix it. Keynote for Future of Health Grant, Rolex-Centre, Lausanne 25.09.2023

Digitale Helferlein für Kranke und Gesunde. ETH Science City Kids, Audimax, Zurich, 05.11.2023

Digitaler Blindflug im Gesundheitswesen: Ist ein Ende in Sicht? Panel discussion, NZZ Live Event, Zurich, 07.11.2023

Prof. Dr. Th. Friedli

Globales Produktionsmanagement 2023+ – Was KMU berücksichtigen sollten, Nectanet, Offenburg, 11.01.2023

Shaping the Future of Manufacturing Quality in Pharma, ISPE Aspetic Conference, Bethesda, 06.03.2023

OpEx: Die Zukunft der Qualität in der Pharmaproduktion gestalten, Pharma Packing 2023, Chem-Academy, Bonn, 25.04.2023

The Future of Manufacturing Quality in Pharma, ISPE Europe 2023, Amsterdam, 10.05.2023

Understanding OPEX in the Pharmaceutical Industry – Peculiarities, Challenges, and Similarities, POMS Conference 2023, Orlando, 23.05.2023

When IOM Meets IB: Creating Frameworks to Answer to the Resilience Challenges, AIB 2023 , Warsaw, 07.07.2023

Building Quality Science: Insights from St. Gallen's Research, PDA/FDA Joint Regulatory Conference 2023, Washington, 19.09.2023

Digging Deeper in Plant Roles – How to deal with the «De-Risking» and «De-Coupling» Discussions, St.Galler Produktionsmanagement-Tagung, St. Gallen, 17.10.2023

Could AI become a Game Changer in Lean Programs, Eröffnungsreferat St.Galler Produktionsmanagement-Tagung, St. Gallen, 18.10.2023

AI In Action, AI Summit, Cincinnati, 15.11.2023

Prof. Dr. O. Gassmann

Fit for Future? Swiss Manufacturing Days, Innoteq, Bern, 07.03.2023

Megatrends, Geschäftsmodelle und strategische Schwerpunkte, Klausurtagung WIPF-Gruppe, 21.03.2023

Driving Corporate Innovation, OpenGrid Europe, 18.04.2023

Geschäftsmodelle und deren Treiber in Health Care, Med Maxx Ärzteberater Forum, 10.05.2023

Business Model Transformation – and how to lead it, Business Model Conference, Forli, 07.06.2023

Managing Innovation under Uncertainty, Global Management Meeting, Huber + Suhner, 14.06.2023

Innovation in an increased digital Environment, SFS International Management Conference, 16.06.2023

Multi-actor Business Model Innovation: Winning in complex Ecosystems, BMI Think Tank, Helsinki, 19.06.2023

Wie kann die deutsche Innovationslücke überwunden werden? Stormarn Exzellenzcluster, 22.08.2023

Auf dem Wege zur Exzellenz, HSG-Highlights, 05.09.2023

Geschäftsmodelle für neue Technologien, Fraunhofer Forschungsmanager, 20.09.2023

Transformative implications of AI on the Landscape of Innovation Management, Berkeley, 02.10.2023

Business Model Innovation in the Age of Data, DIA IVW, 01.11.2023

Collaborative Advantage – Leading in an uncertain World, Keynote International Board Certificate Program der SWISS BOARD SCHOOL IMP-HSG, HEC Lausanne, 04.11.2023

Smart City – Von der Utopie zur Realität, CAS Smart Mobility, 06.11.2023

AI und Innovation, Stiftungsrat, 08.11.2023

Business Innovation erfolgreich meistern, Best of Business-get ready for Excellence, Kärnten, 15.11.2023

New work – and how we do prepare for it, Six Group IT Townhall, 22.11.2023

AI: Exploiting uncertainty and redefining organizational governance, Keynote at graduation ceremony, Albukhary International University, 16.12.2023

Prof. Dr. D. Grichnik

Corporate Innovation and Venturing, Swiss Board School, St. Gallen, Panel Discussion, January 2023

HSG Founder of the Year, Melanie Gabriel, START Summit, St. Gallen, Laudatio, March 2023

HSG forscht! ... zu Langlebigkeit, HSG Jubiläumsreihe, St. Gallen, Panel Discussion, May 2023

HSG Talentförderung & Startup@HSG, HSG Stiftung, Keynote, September 2023

HSG Talent- und Innovationsförderung, Senatsklausur, Rapperswil, Workshop, September 2023

Vision Entrepreneurship@HSG, Promoting Innovation and Excellence, HSG Alumni Club Presidents Meeting, St. Gallen, Talk, September 2023

Longevity – Neue Technologien für das gesunde Altern und Investieren, HSG Community Festival, St. Gallen, Keynote, September 2023

HSG und Innovation, Schweizerische Post AG an der Universität St. Gallen, St. Gallen, Keynote, November 2023

Corporate Venturing; Stiftungsratssitzung ITEM-HSG, Schaan, Talk, November 2023

Scale-up Navigator and Corporate Venturing, Bosch IoT Lab SteerCo, St. Gallen, Panel, November 2023

Wie lange werden wir in Zukunft leben? Longevity – Neue Technologien für das gesunde Altern, HSG Jubiläumsreihe, St. Gallen, Keynote, December 2023

Prof. Dr. M. Hess

The Unspoken Challenge For Women In Boards, Academy of Management (PDW), Paris, France, Talk, March 2023

How women gain centrality in VC-backed board networks and its effect on new venture performance, EURAM, Dublin, Ireland, Talk, June 2023

Prof. Dr. F. Wortmann

Geschäftsmodellinnovation im Internet der Dinge, Universität Göttingen, Göttingen, 12.01.2023

Driver health, safety and well being: From drunk driving and hypoglycemia detection to ‘fit to drive’, University of Zurich, Zürich, 09.03.2013

Monetizing Smart, Connected Products and Services, Volkswagen, online, 10.03.2023

Towards the Healing Car, Universität Würzburg, online, 21.06.2023

How The Internet of Things Drives Business Model Innovation, CAS Digital Innovation and Business Transformation, St. Gallen, 03.04.2023

Produkte als Dienstleistung verstehen, Stiftung zur Förderung von Technologiemanagement, Technologiepolitik und Technologietransfer, Lustenau, 26.04.2023

Platform Navigator – Facilitating the platformization of product business, Stiftung zur Förderung von Technologiema-nagement, Technologiepolitik und Technologietransfer, Lustenau, 26.04.2023

Digital Platforms: Leveraging network effects in multi-sided markets, Adobe, St. Gallen, 03.05.2023

Designing and Implementing Platform Business Models, CAS Entrepreneurial Excellence, St. Gallen, 12.05.2023

In vehicle real time drunk driving detection, Stellantis, online, 15.05.2023

The Value of Data in Enterprises and Ecosystems, Bosch Data Strategy Advisory Board, online, 17.07.2023

In vehicle real time drunk driving detection, Toyota, online, 19.08.2023

Driver health, safety and well being: From drunk driving and hypoglycemia detection to ‘fit to drive’, Bosch TECH|CON, online, 7.9.2023

From Connected Products to Products as a Service, CAS Innovation durch IT, St. Gallen, 04.10.2023

Prof. Dr. J. Wincent

Where is research? Helsinki, 27.4.2023

Top level research in business. Expert panel, 5.6.2023

Business ecosystems. 21.6.2023

3.5 / Permanent Tasks

Prof. Dr. E. Fleisch

» Co-Chair Bits to Energy Lab

» Co-Chair of the Center for Digital Health Interventions

» Member of the steering committee of the CSS Health Lab

» Permanent guest on the steering committee (without voting rights) of the Bosch IoT Lab

» Permanent guest on the steering committee (without voting rights) of the Mobiliar Analytics Lab

» Member of Senate and Department SoM HSG

» Member of the Habilitation Committee of the HSG

» Member of the Executive Committee of the Institute for Retail Management IRM-HSG

» Member of the Executive Committee of the Institute for Computer Science ICS-HSG

» Member of various academic associations

Prof. Dr. Th. Friedli

» Associate Member of the International Academy for Quality

» Lecturer EMBA Program «Process & Excellence Management» and Scientific Council Member at iimt, University of Fribourg

» Lecturer EMBA at the University of Salzburg, Process- and Quality Management

» Advisory Board Member at SQS – Schweizerische Vereinigung für Qualitäts- und Managementsysteme

» Responsible for the Military Liaison Office at the University of St. Gallen

» President of the jury, REHAU-Wirtschaftspreis

» Member of the Innovation Board for the NTN Photonics

Prof. Dr. O. Gassmann

» Co-founder and Director of the Global Center for Entrepreneurship and Innovation (GCEI-HSG)

» Co-founder and Director of Center for Innovation (CfI-HSG)

» Faculty Member of Senate and School of Management HSG

» Member of Executive Education Committee HSG (WBK)

» Member of the Tenure and Promotion Committee

» Member of the board of directors at Institute for Marketing and Customer Insight (IMC-HSG)

» Member of the board of directors at Institute for Mobility (IMO-HSG)

» Member of the board of directors at Center for Mobility (CFM-HSG)

» Steering Committee Bosch IoT Lab (HSG/ETH)

» GLORAD-Research Center, Shanghai-St. Gallen

» Member of the board of the Swiss Federal Institute of Intellectual Property (Bern)

» Member of Scientific Advisory Board, Alexander von Humboldt Institute (Berlin)

» Member of the board (Hoffmann Neopac, Weidmann, Zühlke)

» International Advisory Board of California Management Review

» Editorial Board of R&D Management; Creativity and Innovation Management; IJEIM

Prof. Dr. D. Grichnik

» Co-Founder and Co-Director Global Center for Entrepreneurship and Innovation,
University of St.Gallen (GCEI - HSG)

» Director of the Center for Entrepreneurship, University of St.Gallen (CfE-HSG)

» Member of the School of Management, University of St.Gallen (SoM)

» Member of the Senate and Representative of the School of Management in the Senate Committee

» President of the Executive Committee, Institute for Media and Communications Management,
University of St.Gallen (MCM-HSG)

» Member of the Executive Committee, Institute of Business Education and Educational Management,
University of St.Gallen (IWP-HSG)

» Member of the Executive Committee, Institute of Behavioral Science and Technology (IBT-HSG)

» Member of the Executive Committee, Institute of Computer Science, University of St.Gallen (ICS-HSG)

» Member of the Advisory Board, Swiss Venture Group

» Member of the Editorial Board of the JBV – Journal of Business Venturing, Entrepreneurship Theory and Practice

» Member of the Research Committee University of St.Gallen

» President of the Jury «HSG Founder of the Year»

» Member of the Committee HSG Spin-off Label

» Member of the Foundation «Switzerland Innovation»

» Expert at various Research Institutes, Funding Institutions and Universities

Prof. Dr. F. Wortmann

» Scientific Director of the Bosch IoT Lab

» Core Director of the Centre for Digital Health Interventions

» Member of the Bosch Data Strategy Advisory Board

Prof. Dr. J. Wincent

» Professor of Entrepreneurship and Management, Hanken School of Economics, Finland

» Regular reviewer for management journals such as the Academy of Management Journal,
Journal of Management Studies

» Current member of editorial review board of Journal of Business Venturing

» Action Editor of the academic journal Entrepreneurship: Theory and Practice



3.6 / Doctoral Theses

Spring 2023

Dr. Caterina Bérubé (ETH)

Voice Assistants in Digital Health: Towards an In-Vehicle Hypoglycemia Warning for Drivers with Type-1 Diabetes
Prof. Dr. Elgar Fleisch, Prof. Dr. Tobias Kowatsch, Prof. Dr. Ahmed Baki Kocaballi

Dr. Kevin Koch (HSG)

Taking Mental Health and Well-Being to the Streets: A Longitudinal In-
Prof. Dr. Elgar Fleisch, Prof. Dr. Thomas Berger, Prof. Dr. Felix Wortmann

Dr. Yanick Xavier Lukic (ETH)

Breathe to Play - Design and Evaluation of a Microphone-Based Breathing Detection Algorithm and Gameful
Breathing Training App
Prof. Dr. Elgar Fleisch, Prof. Dr. Felix Wortmann, Prof. Dr. Tobias Kowatsch

Dr. Martin Maritsch (ETH) – Winner of ETH medal 2023 for outstanding doctoral theses

Leveraging Machine Learning to Achieve Vision Zero: In-Vehicle Hypoglycemia Detection for Drivers with Diabetes
Prof. Dr. Elgar Fleisch, Prof. Dr. Dietrich Manstetten, Prof. Dr. Felix Wortmann

Dr. Philipp Miedler

Giving a Voice to Global Production: Rethinking Global Operations Strategy
Prof. Dr. Thomas Friedli, Prof. Dr. Johannes Rüegg-Stürm

Dr. Jana Reuther

Corporate Venturing: Decoding Returns on Innovation
Prof. Dr. Dietmar Grichnik, Prof. Dr. Joakim Wincent

Autumn 2023

Dr. Ferdinand Deitermann

Leveraging location factors to strengthen manufacturing networks: theory and empirical evidence from Switzerland
Prof. Dr. Thomas Friedli, Prof. Dr. Dietmar Grichnik

Dr. Simon Föll (ETH)

Machine Learning for Wearable-Based Digital Biomarkers for Diabetes Management and Beyond
Prof. Dr. Elgar Fleisch, Prof. Dr. Felix Wortmann, Prof. Dr. med. Markus Laimer

Dr. Mark Grothkopp

Managing Production Systems A corporate-wide improvement program perspective
Prof. Dr. Thomas Friedli, Prof. Dr. Oliver Gassmann

Dr. Barbara Heigl (Bencsik)

Leveraging Digitally Enabled Business Models for Greater Sustainability:
Empirical Evidence from Smart City Services
Prof. Dr. Oliver Gassmann, Prof. Dr. Kuno Schedler, Prof. Dr. Anja Schulze

Dr. Julian Hess

Performance-based contracting to foster the adoption and dissemination of hydrogen trucks in road freight transport
Prof. Dr. Thomas Friedli, Prof. Dr. Jan Marco Leimeister

Dr. Michael Hudecheck

Exploring the Resiliency of Entrepreneurs and Ventures in the Face of Adversity
Prof. Dr. Dietmar Grichnik, Prof. Dr. Charlotta Sirén

Dr. Lucas Miehé

Alignment Structure of Ecosystems: An Explorative Study of Ecosystem Designs
Prof. Dr. Oliver Gassmann, Prof. Dr. Peter Maas

Dr. Jonathan Rösler

Innovating Industrial Companies’ Business Models with Smart Products, Services, and Software –
A Multi-Theory Approach
Prof. Dr. Thomas Friedli, Prof. Dr. Elgar Fleisch

Dr. Barbara Schmidt

Contextualizing Management and Organization Research in Healthcare
Prof. Dr. Dietmar Grichnik, Prof. Dr. Charlotta Sirén

Dr. Robert Schreiber

A Neuroscientific Study on Decision Making of Entrepreneurs and Early Stage Investors
Prof. Dr. Dietmar Grichnik, Prof. Dr. Elgar Fleisch

Dr. Gisbert Wilhelm Teepe (ETH)

Towards Digital Biomarkers for Subclinical and Clinical Depression
Prof. Dr. Elgar Fleisch, Prof. Dr. Tobias Kowatsch, Prof. Dr. Nicholas C. Jacobson

Dr. Everharda Gerdina van Weenen (ETH)

Towards Scalable Digital Biomarkers for Diabetes Management and Beyond: Insights from Interventional and
Observational Studies
Prof. Dr. Elgar Fleisch, Prof. Dr. Felix Wortmann, Prof. Dr. Stefan Feuerriegel



University of St.Gallen

Institute of Technology Management

Dufourstrasse 40a
9000 St.Gallen / Schweiz

Fon +41 71 224 73 00

Fax +41 71 224 73 01

Mail contactitem@unisg.ch

Web: www.item.unisg.ch



University of St.Gallen (HSG)

Dufourstrasse 50

CH-9000 St.Gallen

+41 71 224 21 11

info@unisg.ch

unisg.ch

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