HS'BI

Hochschule Bielefeld
University of Applied Sciences and Arts

do more for the environment and for society

never never ever quit

Sustainably Sustainable?!
Annual Report 2023

You may notice that there is a lot of German text in this English-language report. For sustainability purposes, the printing plates used to print the green layer of the German version were recycled for the English version of this report. In keeping with the report's leitmotif, this helps save resources, as the recycling of the aluminium plates is complex and energy-intensive.

This annual report was produced as sustainably as possible: It was printed on paper from residual stocks and recycled paper produced with the highest ecological standards. For the same reason, two inks were used instead of four.

Vorwort

Vorwort

Liebe Leserinnen, liebe Leser,

Dear reader,

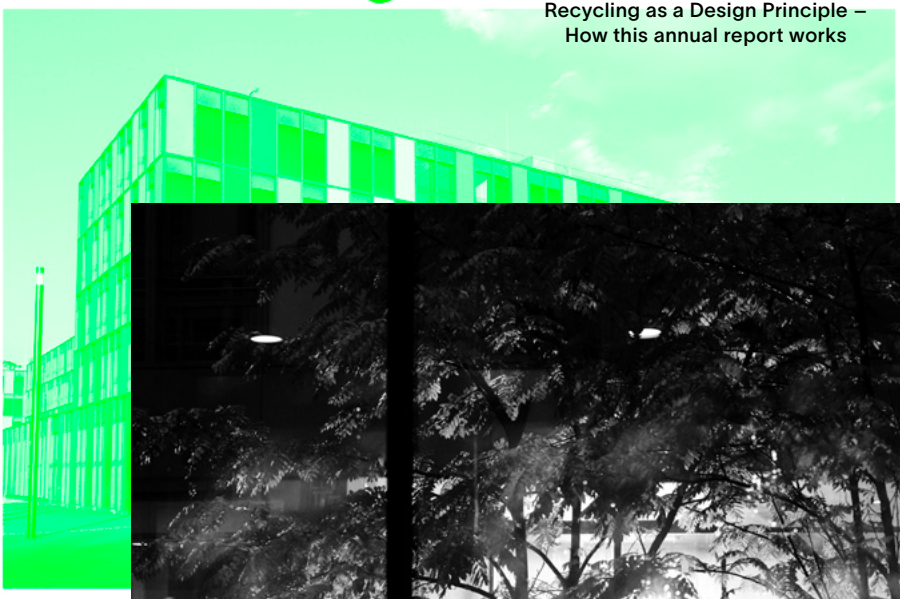
With over 10,000 students, Hochschule Bielefeld – University of Applied Sciences and Arts (HSBI) represents the highest standards in teaching, research and knowledge transfer. Its six faculties *Design and Art*, *Minden Campus*, *Engineering and Mathematics*, *Social Sciences*, *Bielefeld School of Business* and *Health* have a culture of close collaboration that is interdisciplinary and research-based. The work at the university's locations in Bielefeld, Minden and Gütersloh is characterised by regional and international cooperation, as well as genuine diversity. As a university, we also believe we have a responsibility to contribute to sustainable development. With our *Act2Sustain* programme, which is overseen by the Vice President Sustainability, People & Culture and her team and was awarded the 2023 German Employer Award for Education, we are thinking about sustainability at a university-wide level and are following a holistic, participatory process. So this report about last year, 2023, is entitled *Sustainably Sustainable?!* – notably a question and a demand at the same time. On the one hand, we want the title to highlight the fact that sustainability is one of the key cross-cutting topics at our university. On the other hand, we want to enter into the discussions about what sustainability can be. The bandwidth of activities in business and society is large. It includes important innovations and major efforts to retain the foundations for life on this planet, as well as the political debates about which regulatory course we should follow in order to stop climate change and retain biodiversity. Sustainability is not one-dimensional. As well as the "ecological" dimension – in the broadest of terms – it also has social, economic and health dimensions, among others. This often results in conflicting goals, which can be difficult to resolve. There is a good reason for the existence of the UN's 17 *Sustainable Development Goals* (SDGs), which are difficult to implement simultaneously, and which have sparked controversy – and not just at universities. All of these aspects will be discussed in more detail on the pages of this report, by the Executive Board of HSBI and by the deans and experts representing the various faculties. I would like to thank the entire editorial team, the Communications Office, the Department for Planning, Controlling and Quality Management and all of the staff members who have provided insights into their sustainability activities. I would also like to especially thank our alumni team at Nickels Design in Bielefeld, who have developed the graphic design concept and undertaken the production of this annual report, ensuring that it is of the very highest standard. This has enabled us to print the report on recycled paper, using ink that is not harmful to the environment. As a nod to our subject matter, you may spot snippets of text and layout aspects that have been "recycled" from previous HSBI annual reports!

I hope that this report provides you with some inspirational reading.

Ihre

Prof. Dr. Ingeborg Schramm-Wölk

(Präsidentin der Hochschule Bielefeld)



Inhalt

Inhalt

INHALT

werden wir

die Welt retten?

Sind Sie optimistisch,
dass der Umschwung in der Klimakrise gelingt?

schade

Uns bleibt nichts Anderes übrig.

Wir müssen halt etwas tun.

Der Mensch steht im Mittelpunkt

Why Should the Annual Report Be Printed?

Is it credible for an annual report on the topic of sustainability to be printed? Wouldn't a fully digital publication be better? And if we do opt for a hard copy version, how can we ensure that the report is produced in an environmentally friendly way? These were the questions that concerned the creative team behind this annual report. Read on for the answers.

Traditionally, every HSBI annual report has provided engaging background reading material while also being a little masterpiece of design. Alongside the obligatory financial figures, the report always features keynote texts, which are often challenging, about how the university is developing. These are combined with interesting reports and interviews with teaching staff, students and researchers from the various faculties. All of these aspects are united by one main topic, which also serves as a brief for the design team.

People often only "skim read" digital publications

Critics of print media say that annual reports could also take the format of a PDF or a website, arguing that this would save resources. Yet current research shows that readers often only skim read digital texts, especially longer ones. This is proven by a large-scale interdisciplinary metastudy from 2018/19, which was initiated by Anne Mangen, Professor at the University of Stavanger, and Adriaan van der Weel, Professor at Leiden University. The metastudy incorporated 50 individual studies and over 170,000 test participants. The goal was to discover how the way we read is changing in the age of digitalisation. One of the findings was that for informative texts, reading from a screen is significantly inferior to reading printed text.

HSBI's annual reports have been printed since 2017. This year's design builds on the foundations they have laid.

"Print is and will remain a timeless cultural technology."

Prof. Dirk Fütterer

"Print publications are still justifiable."

Dr. Lars Kruse

Strong content is more sustainable in print

People who read *properly* seem to be better served by print. This is also backed up by a 2022 study by the Content Marketing Forum and the research institute "Scion," which found that 89 percent of respondents in Germany, Austria and German-speaking Switzerland indicated that they preferred to read consumer magazines in print. By contrast, they found that readers of online content do more *short bursts*, *scrolling* and *clicking*. "Online platforms are now the most important channels for the university's Communications Office, as well," admits Dr. Lars Kruse, Head of HSBI's Communications Office. "But these channels are often about absorbing information quickly and obtaining an overview. More in-depth reading is often something that people put off for later. Our annual report, however, invites people to read it thoroughly. To read it in a way that is, figuratively speaking, more sustainable than the style of reading that is common in the online world – not least because of the visual and tactile experience."

"Readers of online content do more short bursts, scrolling and clicking."

CMF Study

Print is a vital cultural asset

Prof. Dirk Fütterer, Dean at HSBI's Faculty of Design and Art, highlights the importance of print for his faculty and for society – quite openly contrasting it to the use of digital media: "We train people who will still be designing books, magazines, brochures and posters in the future. We teach students the expertise that is required for the print sector in terms of typography, layout and production. This is to ensure that our designers are 'well prepared' for a digital and analogue future. Print is and will remain a timeless cultural technology that will continue to endure – albeit in a different form. We are therefore arguing that HSBI's annual report should continue to be made available in a printed format as well."

As well! The stipulation was not print *or* digital, but print *and* digital. In an effort to conserve resources, the Communications Office has been keeping the number of printed copies to a minimum for some time now. They have only been printing a fraction more copies than the number of annual reports ordered in advance. This approach will continue. For anyone who prefers to read online, the document is made available on the website as a PDF. Anyone who would rather have a printed copy, however, will be supplied with one.

In addition to this approach, the creative team used numerous other adjustments in order to make the production processes as sustainable as possible. They started with the layout. In order to work with fewer printing plates, this annual report only uses black and white images and only one feature colour, neon green, which is particularly easy to remove from the paper. Being easily *de-inkable* makes the material suitable for recycling. The paper itself, which is by far the most carbon-intensive aspect of the production process, is remnants from a variety of batches. The variations in the paper may be visible in each copy of the report, lending each individual copy its own aesthetic quality.

• Info

Schritt
1

The visual concept for the report builds on the idea of recycling.

Schritt
2

Schritt
3

Quotations about sustainability are photographed and collaged.

Fragments of previous annual reports mirror HSBI's debates concerning sustainability since 2017.

The carbon footprint of printed products

For a standard printing process, the estimated CO_2 emissions for the entire production process of this annual report, including transportation, would be roughly equivalent to two people taking a flight from Germany to Mallorca. Nonetheless, one of the design choices halved the number of aluminium plates used in the process – and thus the energy required for preparing them. Another design choice made it possible for paper remnants, which may have otherwise been recycled, to have another life cycle. Depending on the calculation method used, it could be assumed that these decisions halved carbon emissions. Yet as Fütterer explains, "Striving to make things as sustainable as possible is always associated with a certain level of failure, too. Ecologically speaking, the most sustainable thing would be to stop producing an annual report at all, even a digital one. After all, digital publications also require energy and expensive machines in order to store and access them."

Even digital publications use resources

Lars Kruse states that every form of communication requires resources. "In my experience, an interesting digital implementation often uses even more resources than a printed product – once you take into account the stages of developing ideas, designing, animating, fine-tuning, rendering and server capacity," he explains. It seems that some conflicting goals simply cannot be resolved. "Print publications are still justifiable as part of our cultural practice," Kruse continues. "We should not be playing print and digital off against one but we should still always be asking ourselves how we can work and live in a more sustainable way – without sitting in the judgement seat and pointing the finger at those who seem to have chosen a less sustainable route."

Learning about SUSTAINABILITY

Written by Prof. Dr. Ingeborg Schramm-Wölk

In the Report from the Executive Board, HSBI's President, Prof. Dr. Ingeborg Schramm-Wölk, considers the great importance of sustainability for the future trajectory of the university. This is supplemented by reports from the Vice Presidents concerning their respective specialist areas. They share about their achievements, goals and anything else that was noteworthy in 2023 – besides their sustainability endeavours.

REPORT FROM THE EXECUTIVE BOARD

Prof. Dr. Ingeborg Schramm-Wölk
President of HSBI

HSBI's UNDERSTANDING of SUSTAINABILITY

What does transformation mean?

193 member states of the United Nations adopted the *Sustainable Development Goals* (SDGs) and thus made a commitment to the pursuit of economic, social and environmental sustainability, see p. 25. In this decade of implementing Agenda 2030, we are courageously investing our experience, knowledge, creativity and energy into the areas of teaching, research and transfer – in order to shape a better world.

Transformation is about a willingness to engage with fundamental changes. HSBI describes itself as a learning organisation and is thus fulfilling one of the most important success factors for transformation: the willingness to learn! Without losing sight of the broader understanding of sustainability as is embodied by the 17 SDGs, the theme that unites all of the content in this annual report has a particular focus on the ecological dimension of the term "sustainability."

A ROUTE to a SOLUTION is not yet a solution

The goal and the process of sustainable transformation

The goal: Humans will only arrive at sustainability if there is a transformation of their social interactions, their economy and their approach to using the planet's natural resources – and if it is made practically impossible to relapse into their old ways, i.e. ruthless overexploitation of resources, disproportionate inequality and behaviour purely geared towards competition. This describes an ideal that societal players – including universities – can only strive towards and never fully reach. Of course, with the ecological crises, the numerous threats of severing international partnerships and the great number of armed conflicts and wars currently, there is no alternative except to strive towards this ideal. *The process*: On the journey towards reaching the ideal of sustainability, universities can make a contribution as centres for learning. Our understanding of our remit is to integrate the topic of sustainability into our study programmes so that we can give tomorrow's specialists and executives the skills they need for shaping a sustainable future.

SKILLS for the FUTURE

Strategically oriented towards sustainability

Even as early as 2021, there were over 200 individual measures in place for improving sustainability at HSBI. HSBI now has a team led by Prof. Dr. Natalie Bartholomäus, Vice President Sustainability, People & Culture, that is developing the university's integrated sustainability and climate protection strategy. The journey of developing this strategy involves a comprehensive, university-wide participation process, which is open to all students and staff. The concept sets out three sections of the journey, which we are calling Roads. *Road I* incorporates our *vision*, *purpose* and *mindset*. It has already been published as *Leitbild_kompakt*, a compact mission statement for sustainability at HSBI. The second section, *Road II*, *Act2Sustain – HSBI's sustainability programme*, has also been finalised and made available to all of our stakeholders. Our strategic fields of action in this programme are: *Study and Teaching*, *Research and Transfer*, *Administration and Governance*, *Campus Life* and *Building Life Cycle*. The aforementioned integrated sustainability and climate protection strategy for HSBI (*Road III*) will then be adopted in 2025. You can find more information about this starting on page 26 of this annual report.

Natalie Bartholomäus is systematically embedding the topic throughout the university. It was something that she emphasised when she assumed the role in 2021: "No student should leave HSBI without having learned about the importance of sustainability in their subject area and about the tools that are available for helping achieve sustainability. As a university of applied sciences, we play an especially important role due to our close relationships with relevant regional companies and organisations. By training talented young people who care about sustainability issues, we can make a considerable difference to the competitiveness of the region."

Prof. Dr. Michaela Hoke
Vice President for Study and Teaching

Study and Teaching
"Further development of study programmes"

In 2023, HSBI worked hard on the further development of its study programmes and of the Quality Management (QM) system in the area of Study and Teaching. We have successfully completed the reaccreditation of our QM system and have pressed ahead with implementing the requirements. By developing concepts for improving the flexibility and internationalisation of study programmes, we have improved the QM system – particularly in the area of accreditation. We have also started work on developing an accreditation scheme.

There are numerous other projects and activities underway. These include the announcement and awarding of HSBI's internal "ICL" funding for innovation in curriculum and teaching for the first time and the reworking of and university-wide vote on the General Examination Regulations, as well as the continuation of the "CAT" campus assistant project, which provides digital support for students for the entire duration of their studies. Through regular contact and discussions, we have also been able to ensure there is communication between the University Governance and the student representatives. Furthermore, we have offered workshops on artificial intelligence (AI) for teaching staff and created guidelines on the use of generative AI tools for students and teaching staff. Our goal is to continue promoting digital teaching and learning, in order to facilitate independent and collaborative learning. Digital teaching also helps to make studying more compatible with work and family life and it facilitates cooperation with (international) external partners.

These projects and themes remain relevant in 2024. We will optimise the process for planning teaching and room allocation and we will be announcing and awarding the new HSBI Teaching Prize for the first time. We will also be pressing ahead with developing a strategy for teaching and learning.

Research and Development
“The upward trend continues”

Forschung und Entwicklung

In 2023, there was a great deal of research activity at HSBI. In particular, there are numerous new activities in the area of artificial intelligence (AI). One noteworthy example is the newly established Institute for Data Science Solutions (IDaS), which already organised a successful congress about the opportunities and challenges associated with AI in autumn last year.

2023 was an exceptionally positive year in terms of successful funding applications. Once again, HSBI achieved a significant year-on-year increase in the level of third-party funds.

In relation to research framework conditions, we were able to adopt the new guideline for research professorship applications in 2023. In order to continue promoting internal networking and exchange between researchers at HSBI, we once again held the “Tag der Forschung” (Research Day) event, which was attended by around 80 participants.

Another special highlight was in the area of promoting emerging talent. Since the winter semester 23/24, it has been possible for PhD students to enrol at HSBI – as a result of the assignment of the right to award doctorates through the Graduate School for Applied Research in North Rhine-Westphalia (PK NRW). For the first time, HSBI currently has more than 100 PhD students (in cooperation with PK NRW and other universities and research institutions). In the coming years, we need to build on this and keep moving forwards with the strategic promotion of emerging talent.

By adopting the new Transfer Strategy and establishing a central unit for the transfer of ideas, knowledge and technology (HSBI Transfer), we have now laid an important cornerstone for sustainable transformation in the OWL region. As well as aiding the implementation of the Transfer Strategy, this will also help to consolidate our transfer activities and make them more visible.

The focal points for 2024 will be pooling PhD-related activities and the topic of “foresight.” The aim here is to further strengthen research and transfer activities at HSBI and make them even more effective. Other priorities include progressing and developing the cross-cutting topics – Digitalisation, International Activities and Sustainability – in the area of Research.

Bericht aus dem Pr

Prof. Dr. Anant Patel
Vice President for Research and Development

Studying with a FOCUS on SUSTAINABILITY

Sustainability in Study and Teaching

For this reason, this topic is also a top priority for Prof. Dr. Michaela Hoke, Vice President for Study and Teaching at HSBI. Together with the study programme directors and other representatives from the faculties, she is currently working to integrate sustainability into modules and other study content. Yet Michaela Hoke is not starting from scratch. "The topic is often already present in the curriculum, or in extracurricular activities," she says. "It just needs to be made clear, for instance with unambiguous naming."

In September 2023, for example, the focus of the master's programme offered by the Faculty of Social Sciences was adjusted and the study programme was re-named *Social Sustainability and Transformation Studies*. On this programme, students focus on the systemic level and learn to analyse contemporary society. In this way, students learn about various options for shaping the social and ecological transformation that is on the horizon. Graduates can go on to work in numerous professional fields such as business strategy planning, local government, journalism and NGOs, as well as in academia (see interview on p. 50). But it doesn't stop there. The *Sustainable Products and Processes* key profile area will soon be enriching the teaching available to students at the Faculty of Engineering and Mathematics. It will also further increase the attractiveness of the Renewable Energies, Industrial Engineering and Management, Mechatronics and Biotechnology and Instrumentation Engineering programmes (see interview on p. 34). These are just two of many examples. For the sake of completeness, it should of course be noted that the topic of sustainability is becoming increasingly important at the Faculty of Design and Art, Minden Campus, Bielefeld School of Business and the Faculty of Health, where it is already extensively integrated into modules and study content. The subsequent articles in this annual report are just one source of evidence for this.

Using the MOST EFFECTIVE LEVER

Building life cycle and energy-saving measures

Another extremely important field of action in our sustainability endeavours is the life cycle of our buildings. In terms of reducing the size of the university's carbon footprint, this aspect is the most effective lever that is directly available to HSBI. With this in mind, HSBI has now employed Masoumeh Abadi as a climate protection manager and has decided to participate in the "Klimaneutrale Landesverwaltung" project, whereby federal state administrations seek to become climate-neutral. Our climate protection manager is currently undertaking an inventory to discern HSBI's greenhouse gas balance. Her team will then consider which measures would be most efficient in order to further reduce our energy requirements and the emissions we cause. Furthermore, our Facility Management department is working on improving the room management system across the whole university, so that we can use our spaces even more efficiently. Together with the *room sharing* concept, which is being introduced in the university administration and incorporates a combination of working from home and neutral hot desks, we are in a position where we can tailor the concept for our urgently needed new building in the northern part of Bielefeld Campus so that it precisely meets our needs.

In summary, as was the case for the area of Study and Teaching, we should also take note of and be pleased with the progress that has already been achieved regarding the life cycles of our facilities. Indeed, Vice President for Finance and Personnel Management Gehsa Schnier comes to a positive interim conclusion. "Long before sustainability was an election topic," she says, "HSBI was using photovoltaics and geothermal energy. The energy supplied to meet HSBI's electricity needs is now one hundred percent renewable, too." Another aspect that has a positive impact on the university's carbon footprint is the fact that HSBI's main building is linked to Stadtwerke Bielefeld's district heating system. As such, the energy for heating is generated by combined heat and power (CHP) – a form of heating that generates relatively low levels of carbon emissions. Many smaller and medium-scale energy saving measures have been introduced, too. One of these is the use of exterior solar shading on the university's buildings, in order to reduce solar heating in the summer and save on the energy consumed for cooling the buildings. Another example is the retrofitting of LED lighting and the use of motion sensors to control lighting.

Involvement in every CLIMATE DECISION

Mobility

"In view of the progress made in implementing sustainable building technologies, the goal of being a climate-neutral university does seem possible in the medium term," says Gehsa Schnier. "What does remain a challenge for every university, however, is reducing CO_2 in the area of mobility – in the mode of transport chosen by each individual university member. Due to Bielefeld's location as a solitary built-up area in the rural OWL (Ostwestfalen-Lippe) region, HSBI is particularly affected by this; many people travel to the university from the surrounding area. This is all the more pertinent to our locations in Minden and Gütersloh." One way of seeking to improve our ecological balance sheet in the area of mobility could be to support e-mobility by facilitating the charging of electric vehicles in the area surrounding the university. This idea is currently being tested by our technical and administrative experts.

Sustainable RESEARCH ACTIVITIES that make an impact

Research and Transfer

Sustainability is one of the most important – if not the most important – topic in most of HSBI's *Research and Transfer* activities, too. Examples of this include the large-scale interdisciplinary projects *InCamS@BI* and *SAIL*. Prof. Dr. Anant Patel, Vice President for Research and Development, also draws our attention to the activities of the *Smart Recycling Factory* and of *RailCampus OWL*; both projects were successful in securing third-party funding, which lays the foundations for more excellent research. "At HSBI, more than 60 projects and activities within the in-demand fields – climate and energy, health, digitalisation, mobility and communication – contribute to making progress in the area of sustainability," Prof. Patel explains. "We take a certain degree of pride in this."

But it doesn't stop there. Whether it is the intelligent management of electric vehicle charging processes, or *attract and kill* formulations that offer an alternative to glyphosate, it *feels* as though the majority of PhDs in the field of engineering at HSBI are focused on finding sustainable technological and scientific solutions. It is expected that the *Graduate School for Applied Research in North Rhine-Westphalia* (PK NRW) will generate important stimuli for even more doctorates at HSBI. PK NRW was launched last year and HSBI was one of the 21 Universities of Applied Sciences (UAS) that collaborated to establish the concept.

The *Management and Governance* and *Campus Life* fields of action are also generating ever increasing numbers of large and small-scale activities, which are aligned with HSBI's collective orientation towards sustainability. The collaborators in the *Campus Life* work group represent a diverse range of status groups. They initiate a range of activities that enhance the development of a culture of sustainability at HSBI. Examples include "rescuing" food and encouraging people to be more mindful of their paper usage, which dovetails beautifully with digitalisation efforts in the university administration, such as the "eAkte" project for electronic record-keeping.

Championing climate protection at HSBI: Climate Protection Manager Masoumeh Abadi,
Vice President Prof. Dr. Natalie Bartholomäus and Stefan Plöger, Deputy Head of Facility Management.

The SYNERGY EFFECTS of the cross-cutting topics

International Activities and Digitalisation

Speaking of dovetailing, now is a good moment to cast an eye over last year's developments in the other two of HSBI's three important cross-cutting topics (the third being sustainability), starting with *Digitalisation* and then looking at *International Activities*. A systematic development process is underway for the digitalisation of our administrative processes, which was mandated by the federal government, and the integration of IT-driven processes and projects into everyday working life at our university. The development process began eighteen months ago in the context of the digitalisation forum and that is being led by Prof. Dr. Ulrich Schäfermeier, Vice President International Affairs and Digitalisation. Representatives from almost all of our administrative functions meet at this forum on a fortnightly basis. In 2023, they were able to reach important milestones along the road to modernising central systems. Some key topics here include the forthcoming introduction of electronic student files and the launch of a research information system.

Since the 1992 UN Conference on Environment and Development in Rio de Janeiro, the slogan "*think global, act local*" has been a guiding principle for specific sustainability endeavours and it highlights the international context of our regional efforts in this field. At HSBI, activities for increasing sustainability often go hand in hand with international activities. Which leads me neatly on to mentioning the record levels of participation at what was our fifth International Week event. In May last year, HSBI welcomed nearly 100 guests from 30 different countries at the event. Many of the guests gave talks and participated in workshops about topics such as the opportunity to utilise artificial intelligence (AI) for forecasting air pollution levels or achieving a geographically advantageous distribution of renewable energy.

Indeed, AI was probably *the* academic topic of the year in 2023, alongside sustainability. Numerous researchers at HSBI are sounding out the possibilities and integrating the topic into the project work that they assign to students. Some good news is that in November 2023, the German Bundestag's budget committee decided to provide up to 7.4 million euros of funding for the development of an AI academy in the OWL region. At this AI academy, HSBI, OWL University of Applied Sciences and Arts (TH OWL), Bielefeld University and Paderborn University will cooperate to approach the subject in an interdisciplinary manner and develop projects together.

Other EVENTS from the year

Startups, gender equality, committees

The activities of HSBI's Center for Entrepreneurship (CFE) are also a testament to our entrepreneurial activities. According to the startup radar calculations of consulting initiative "Stifterverband," HSBI is the top medium-sized university in North Rhine-Westphalia; it ranked 15th in the overall national ranking. This is a fantastic success and an amazing accolade for Prof. Dr. Tim Kampe and his team.

The same can be said of Prof. Dr. Yüksel Ekinci, our Gender and Diversity Officer, who was awarded the Order of Merit of the Federal Republic of Germany. Prof. Ekinci is an astute player in the fight for integration, tolerance and openness in society and against all forms of discrimination. In October 2023, Federal President Frank-Walter Steinmeier awarded Ekinci the Order of Merit of the Federal Republic of Germany for her projects concerning multilingualism and work with parents. And Ekinci was a key contributor to HSBI obtaining the right to officially refer to itself as a *Gleichstellungsstarke Hochschule* (a university that champions gender equality).

Last year marked the end of an era for HSBI's University Council, when its long-standing chair, Prof. Dr. Marianne Assenmacher, stepped down. HSBI could not have wished for a better advocate for our university's concerns. Following the departure of Assenmacher and three of her colleagues, four new members joined the supervisory and advisory committee, including its new chair, Dr. Sabina Schoefer, Vice President Digitalisation at Hochschule Bremen – City University of Applied Sciences.

Ina Brandes, North Rhine-Westphalia's Minister of Culture and Science, can be considered another advocate of HSBI. During her inaugural visit in early 2023, the minister emphasised that in her view, "connecting academia and practice" was what would guarantee the success of UAS institutions. She took the opportunity to visit Bielefeld a second time during the summer of that year – this time to familiarise herself with the inter-university collaboration between HSBI, Bielefeld University, the Chamber of Industry and Commerce and Bielefeld's municipal government at Bielefeld Research and Innovation Campus (BRIC).

Prof. Dr. Ulrich Schäfermeier
Vice President International Affairs and Digitalisation

International Affairs and Digitalisation
“Constantly making progress”

Over the last year, the areas of International Affairs and Digitalisation were simultaneously shaped by continuity and new developments. They were able to continue building on the basis of existing planning, following the course that had been set in previous years by the International Strategy. This included the launch of the Welcome Center. In 2023, the centre supported 161 research and teaching guests, including the first recipient of the “New Horizons” fellowship, which is awarded by the Central Gender and Diversity Officer to researchers from the Global South whose research has a connection to gender equality. Furthermore, we were able to significantly increase the number of learning mobility opportunities and continue offering our diverse range of training opportunities for refugees. In fact, there were as many as 290 participants at the Language Center last year. We are pleased that 2024 will bring the launch of two additional study programmes that are delivered entirely in English.

An event in the summer of 2023 that generated a great deal of interest was the launch of our first independent university in China: Hainan Bielefeld University of Applied Sciences (BiUH). This followed numerous years of preparation through the DAAD project. The university began its teaching activities last winter semester with 70 students. The study programmes offered at BiUH are based on the concept of work-integrated studies at HSBI. The long-term goal is for up to 12,000 students to complete their bachelor’s and master’s degree programmes at this university in southern China. Prof. Dr. Jürgen Kretschmann, former president of TH Georg Agricola and renowned China expert, was appointed President of BiUH.

In the area of Digitalisation, the digitalisation forum was developed as a format for discussing digitalisation plans and projects in the context of administrative support processes. This boosted the systematisation of the various digitalisation plans and projects across HSBI. We are about to implement the first eAkte project, to make student files digital. This also bears relevance to sustainability because it is an important milestone on the journey to becoming an almost paperless university.

Wirtschafts- und Personalverwaltung

Finance and Personnel Management
“Smooth renaming process”

In 2023, the process of renaming the university from “FH Bielefeld” to “Hochschule Bielefeld – University of Applied Sciences and Arts (HSBI)” affected the operations of the Data Processing Centre and all administrative areas, who thought through every last detail of the implications. After 52 years with the old name, they ensured that the transformation processes associated with the renaming went smoothly. Work is ongoing and progress has been made on the project goals set out in 2022. These focus on improving the existing way of doing things, firstly through process optimisation and digitalisation and secondly through remote working, the flexible use of office space and desk sharing. This includes offering modern, ergonomic office furniture as well as structurally remodelling office spaces. Lastly, HSBI continues to pursue its longstanding goal of becoming a more attractive employer, in terms of recruiting and retaining staff in a competitive labour market.

Gehsa Schnier
Vice President for Finance and Personnel Management

Nachhaltigkeit und strategisches HRM

Bericht aus dem Präsidium

Prof. Dr. Natalie Bartholomäus
Vice President Sustainability, People & Culture

Sustainablity, People & Culture
“Future-oriented HRM”

The main text of this report from the Executive Board already mentions the success of the Act2-Sustain programme for developing a sustainability strategy for HSBI and for systematising the numerous activities that seek to improve sustainability. In my second area of activity, 2023 saw us making a great deal of progress towards the goal of implementing sustainable Human Resource Management (HRM).

Our activities were guided by seeking to ensure that the activities, concepts and strategies of HSBI’s HRM are oriented towards long-term success and the affected stakeholders. This involves aspects such as employee satisfaction and the attractiveness of HSBI on the recruitment market. It also involves striving to develop a leadership culture that values showing appreciation of employees, as well as prioritising their health and skills development. Another success in this area would be the introduction of new job advertisements and the new careers site (hsbi.de/karriere). Pilots are underway for the use of active sourcing and executive search approaches. In parallel, we have developed an HSBI competency model that is designed to match the university’s strategies. We plan to evaluate it in 2024. In the area of staff retention, existing supervision meetings conducted by the human resources department will be supplemented by annual “Time2Talk” conversations for sharing views and reflecting, the introduction of sabbaticals (“Break2Grow”) and the implementation of a Health Day (Tag der Gesundheit).

HONING our positioning

Communication as a core activity

By the time of that visit, our university was already bearing its new name, which conveyed the identity it felt it had grown into: On 19 April 2023, FH Bielefeld became Hochschule Bielefeld – University of Applied Sciences and Arts, or HSBI for short. The logo and *corporate design* (CD) changed as well, to enable the university to react more effectively and flexibly to the requirements of the digital era. And these efforts paid off because the CD, which was developed by the Markwald Neusitzer Identity agency, the Faculty of Design and Art and the Communications Office, was awarded the globally prestigious *Red Dot* Award. Thus the jury attested to the futureproof quality of our brand identity, which is what we need in order to overcome the challenges of the coming years.

The main focus here will be on positioning HSBI, both in our concepts and our communications, as one of the most rewarding places in Germany for tomorrow's specialists and executives to embark on practice-oriented study programmes. The broad range of subjects, the variety of study models (e.g. full-time, work-integrated or part-time) and the close relationships with the region's businesses and institutions are all hallmarks of the exceptional teaching at HSBI. We convey these aspects to prospective students in a diverse range of ways on social media platforms, when exhibiting at fairs, during visits to schools and at our open day. Our strategic orientation towards our values of equality, gender equality and family friendliness also helps to present HSBI as an attractive overall package – as does our future-oriented focus on the topics of International Activities, Digitalisation and Sustainability. Recently, at Bielefeld's KlimaWoche (climate week), we saw how sustainability is becoming increasingly important to young people; 300 pupils came to HSBI's main building for the "Tag der Bildung" educational event and an additional 1,500 took part online.

This is yet another example of how we have successfully embedded the cross-cutting task of sustainability, so that it is always being pursued and given consideration – in every area of university life. Last year, this approach to sustainability led to us receiving one of the most notable accolades that a German university can receive: the German Employer Award for Education. To be precise, the prize was awarded to the *Act2Sustain* programme, (see pp. 26–27) which was developed by Natalie Bartholomäus and her team. This programme is currently developing HSBI's sustainability strategy and systematising the work into the five fields of action mentioned above. The prize money of 10,000 euros will of course be used for another measure to promote sustainability – for the development of an *Open Educational Resources* platform for best practices in sustainability-related teaching. This will enable other universities and educational institutions to benefit from our experience.

Learning about SUSTAINABILITY

Final reflections on the sustainability strategy

And so I return to where I started. If we want more sustainability, everyone needs to be learning. Politicians, wider society, business, culture, science and education. Here at HSBI, we are now on the home straight with developing our sustainability strategy. We want to develop performance indicators so that we can measure its success in the medium-term. In parallel, we want to consolidate existing sustainability activities and develop internal interdisciplinary networks that have participants from all status groups. As ever, learning will also mean questioning the status quo and allowing space for doubt. After all, not everything that is packaged as sustainability is sustainable. Time and again, we need to learn to get our priorities right, so that we can make a contribution that is in keeping with our capabilities. This is one of the main reasons for the title of this annual report: "Sustainably Sustainable?!" As well as a question mark, there is an exclamation mark because at HSBI, there really are some very efficient activities for increasing sustainability. As can be seen in the rest of this annual report. So I will close with a promise: Transformation, with sustainability as its goal, is in full swing – and there is no going back.

• Info

In 2016, all 193 of the UN states agreed on 17 Sustainable Development Goals (SDGs). The goals cover three dimensions of sustainability: Social, Environmental and Economic. There are also five "Ps" that guide the actions of all those who support the 17 SDGs: People, Planet, Prosperity, Peace and Partnership.

1. **No Poverty**
2. **Zero Hunger**
3. **Good Health and Well-Being**
4. **Quality Education**
5. **Gender Equality**
6. **Clean Water and Sanitation**
7. **Affordable and Clean Energy**
8. **Decent Work and Economic Growth**
9. **Industry, Innovation and Infrastructure**
10. **Reduced Inequalities**
11. **Sustainable Cities and Communities**
12. **Responsible Consumption and Production**
13. **Climate Action**
14. **Life Below Water**
15. **Life on Land**
16. **Peace, Justice and Strong Institutions**
17. **Partnerships for the Goals**

The SDGs are in place for 15 years, i.e., until 2030. The official English title of the SDGs is "Transforming our world: the 2030 Agenda for Sustainable Development" (or "Agenda 2030" for short). A catalogue of indicators was developed in order to track how much progress has been made. It was enacted in March 2016 by the United Nations Statistics Division. To the extent possible, Germany's Federal Statistical Office conveys its annual data concerning the global indicators to the UN.

Due to its multifaceted nature, pursuing sustainability is a complex task that seems to be overwhelming national governments and humanity as a whole – in the face of wars, continued environmental destruction and the unrestrained pursuit of growth. Nevertheless, the delegates at the most recent global Climate Change Conference in Sharm el-Sheikh, Egypt, decided in 2023 to establish a fund into which industrialised countries should pay 100 billion euros in order to support countries in the Global South with adapting to climate change and with navigating the social and economic upheavals that could be caused by an intensification of the climate crisis.

17 Sustainable Development Goals

What is Act2Sustain About?

Why do we pursue sustainability?

As a university, we believe we have a responsibility to contribute to sustainability and sustainable development – on a local level, a global level and everything in between.

What do we want to achieve?

At our university, we want to be giving consideration to sustainability at every level, so we want it to be part of all our activities: life on campus, study and teaching, research and transfer – even through to our management, our governance and the lifecycle of our buildings. We want to contribute to sustainable development. This is why we are holistically embedding the topic throughout the university and also stimulating sustainable development in the region.

Bericht aus dem Präsidium

What is our shared understanding of sustainability?

We understand sustainability – and acting sustainably – to be the holistic integration of the three pillars of sustainability (social, environmental, economic) into the activities of the university, as a way of taking responsibility for shaping the living environment of current and future generations.

What are our guiding principles for sustainability?

Bericht aus dem Präsidium

For us, sustainability is not an add-on; it is at the heart of all future activities. With every decision we make and every action we take, we ask ourselves, "Does this contribute to sustainability? Are there alternatives that are more sustainable?"

Which national and international networks are we part of?

On a national level, we are part of the "NAW NRW" sustainability alliance (hn-nrw.de/nachhaltigkeitsallianz/) and we endorsed the common position paper representing all of NRW's UAS institutions. (haw-nrw.de/wp-content/uploads/2021/10/Nachhaltigkeitsstrategie_LRK.pdf).

Internationally, we are a member of United Nations Academic Impact (un.org/en/academicimpact) and we are also pursuing the goal of contributing to sustainability and sustainable development on a global level. In these endeavours, we always orient ourselves towards the 17 SDGs, which serve as a shared point of reference.

What does the organisational structure look like for sustainability at HSBI?

Our Act2Sustain programme has its own organisational chart. Across the six strategic areas of action, independent working groups have been formed. These groups introduce their ideas, reflect on them and implement them. We currently have around 60 university members working across 20 "subteams." The topics range from sustainability in orientation week, sustainable entrepreneurship in research, reducing the use of paper and food "rescuing" initiatives, right through to managing space in buildings. Anyone who wants to participate is welcome at any time because: Any idea is welcome. Every contribution is important. Every Act2Sustain is valuable.

The second of three sections of *Act2Sustain – HSBI's sustainability programme* is currently underway. With every section that is completed, our university is becoming sustainably more sustainable. The first section was to develop a sustainability mission statement and the third section, which is also currently underway, consists of creating a sustainability and climate protection strategy. This is due to be adopted in 2025.

What are the key aspects of sustainability in teaching?

We have a 6-step concept for integrating sustainability into our programme of teaching and studies:

1. Sustainability as a component of existing courses
2. Sustainability in the form of independent courses
3. Sustainability as an independent option for specialisation
4. Sustainability as a separate bachelor's degree programme
5. Sustainability as a separate master's degree programme
6. Sustainability in the field of doctorates

Our goal is that no student leaves our university without having general knowledge about all of the Sustainable Development Goals and knowing the implications for their specific subject area.

What are the key aspects of sustainability in campus life?

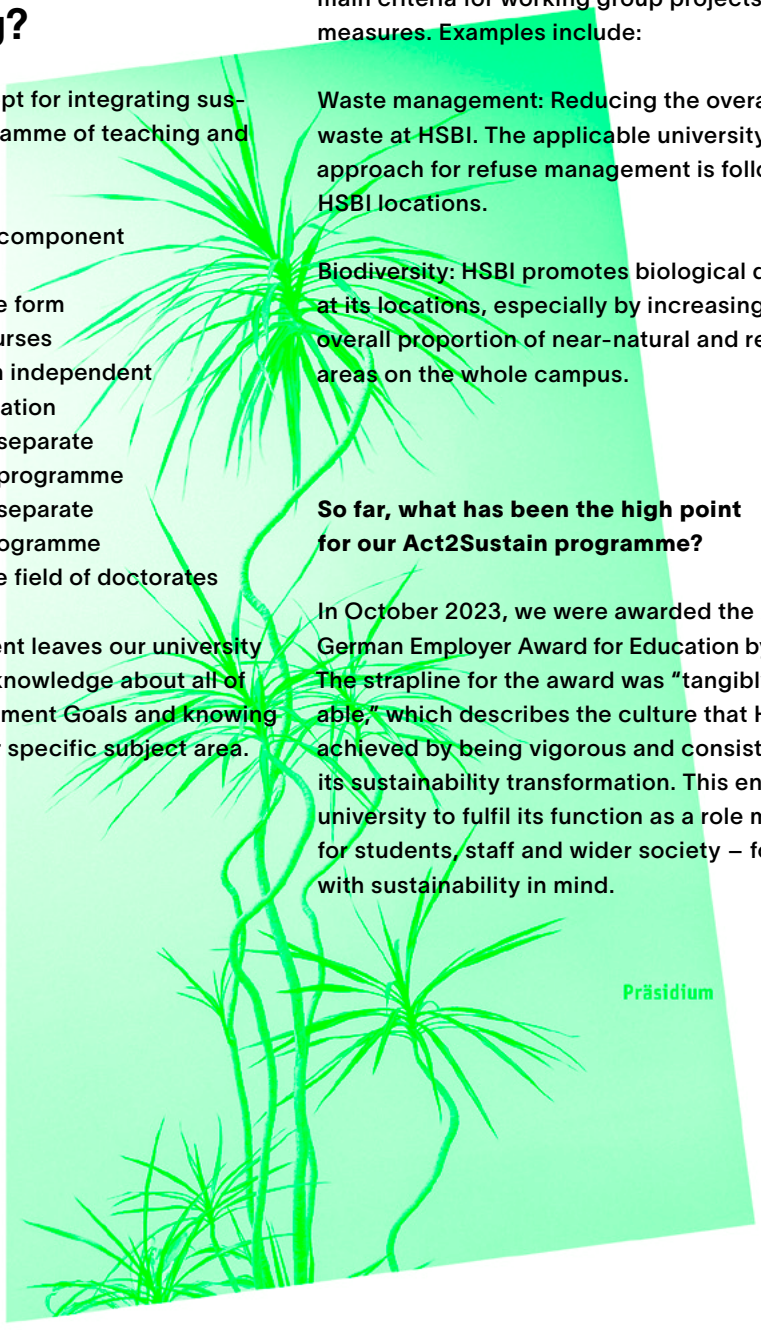
Resource conservation and biodiversity are the main criteria for working group projects and measures. Examples include:

Waste management: Reducing the overall levels of waste at HSBI. The applicable university-wide approach for refuse management is followed at all HSBI locations.

Biodiversity: HSBI promotes biological diversity at its locations, especially by increasing the overall proportion of near-natural and re-natured areas on the whole campus.

So far, what has been the high point for our Act2Sustain programme?

In October 2023, we were awarded the 2023 German Employer Award for Education by the BDA. The strapline for the award was "tangibly sustainable," which describes the culture that HSBI has achieved by being vigorous and consistent with its sustainability transformation. This enables the university to fulfil its function as a role model – for students, staff and wider society – for acting with sustainability in mind.



InCamS@BI: Circular Economy and Plastics

HSBI's InCamS@BI transfer project has brought together company representatives and students at a barcamp to discuss the questions and challenges related to the circular economy of plastics.

The corridors of HSBI's secondary building in Kurt-Schumacher-Strasse were busy on that day in September: InCamS@BI, the *Innovation Campus for Sustainable Solutions*, organised its first barcamp on *circular design*. A total of 45 students, representatives from industry, small and medium-sized enterprises and various networks as well as researchers came together to discuss circular economy, innovation and plastic products – the key topics of InCamS@BI, which is a joint knowledge transfer project of HSBI and Bielefeld University. The barcamp was hosted by the *Circular Economy* research group: Melina Gurcke, Katharina Schnatmann and Heike Wulf are technology scouts in the project and work as research associates at HSBI's Institute for Technical Energy Systems (ITES).

Katharina Schnatmann is a doctoral candidate specialising in R strategies. Her focus has been on the circular design of photovoltaic modules since her undergraduate studies.

R strategies for sustainable product design

Refuse, rethink, reduce, replace, reuse, repair, refurbish, remanufacture, repurpose, recycle and *recover* – these are the R strategies that Katharina Schnatmann explains to all participants at the start of the barcamp. "We look at the entire lifecycle of a plastic product and divide it into three phases: in the production or design process, it is important to either make a product or parts of it dispensable, to design them so they can be used smarter or to produce them more intelligently – refuse, rethink, reduce, replace. The use phase of products or their individual components can either be extended or their impact on the environment can be reduced – reuse, repair, refurbish, remanufacture, repurpose. And at the end of the product's lifecycle, we should think about how the individual materials can be recycled or at least recovered energetically – recycle or recover. In any case, the earlier the stage in the product's lifecycle at which we start to act, the more energy and raw materials we can ultimately save."

Her colleague Melina Gurcke adds: "A company that manufactures products – and this does not only apply to plastics processing companies – always has to question at which stage of its lifecycle a product consumes the most resources. At the beginning of production? During its use? Or at the end of its lifecycle? And the stage where most resources are consumed must be where we should act if we want to work more sustainably."

One of the key questions of the barcamp was: how can corporate culture be shaped with regard to circular economy?

"Every company that manufactures products has to question at which stage of its lifecycle a product consumes the most resources."

Melina Gurcke

What exactly is a barcamp?

Heike Wulf explains the barcamp format: "A barcamp is a hands-on conference at which everyone can contribute their own topics. Sessions are scheduled and can be switched ad hoc. Either way, the focus is on exchange – and exchange may well take place at the coffee counter." No sooner said than done! The group made various suggestions for sessions that took place during the morning: How can the R strategies be applied in practice in a way that they are still economic? Which "culture" does a company need to switch to circular economy? How do we find bioplastics that are durable and also available on the market in the long run? Recycled materials are of much better quality today than they were ten years ago – but legislation and standardisation are not catching up. How can this be initiated as quickly as possible?

The students of the Faculty of Engineering and Mathematics were particularly active in the session entitled *New Professional Fields in the Circular Economy*. Its participants agreed that in-company consultants for circular economy must be able to bring together different perspectives and build a good network within the company. In addition to their expertise, they need methodical skills – and intrinsic motivation is a must if they want to excel in their job. The entrepreneurs emphasised that they needed data scientists to bring together data systems as well as lifecycle balance experts who do not only know the rules and regulations, but also the industry. In this context, the relevance of circular economy for university teaching became clear.

About InCamS@BI

With InCamS@BI, the Innovation Campus for Sustainable Solutions, HSBI positions itself as an innovative knowledge transfer player in the field of circular economy. The interdisciplinary project generates ideas and develops solutions to optimise plastics and their management for a circular economy. InCamS@BI uses innovative formats and an interdisciplinary team to shape the exchange between academia, economy and society. Under InCamS@BI's roof, seven research groups focus on analytics and material development, innovation management, plastics technology and material testing, technology development, business psychology, business law and circular economy, respectively. Research-based structures for knowledge transfer are systematically developed, built and tested as part of the project. InCamS@BI is funded as part of the joint federal and Länder programme "Innovative Hochschule" from 2023 to 2027. hsbi.de/incamsbi

• Info

Always looking out for new ideas for circular economy: Doctoral candidate Melina Gurcke (left) and Heike Wulf are part of InCamS@BI's creative lab.

Transformation is a collaborative task

"The first barcamp was a great start, making it possible for our Innovation Campus for Sustainable Solutions team to get into conversation with different stakeholders from the plastics industry in East Westphalia-Lippe," said Melina Gurcke, summarising the event. "It is the ideal type of event for our knowledge transfer project: the companies were able to report their challenges, we were able to provide impetus and find approaches on which we will continue to work together in an interdisciplinary manner." The event ended with the conclusion that circular economy helps saving resources and using them more efficiently. However, for the transformation towards circular economy, society, academia and economy have to pull together.

Almut Rademacher, Managing Director of *owl maschinenbau*: "I thought it was great that the companies brought so many new, relevant issues to this event. The mix of participants – decision-makers, company owners, practitioners, students and researchers – was really good thanks to its diversity." Jessica Krüger, Project Manager Digitalisation & Innovation, Wirtschaftsförderungsgesellschaft Paderborn mbH, also gained a positive impression of the event: "I think that attending a barcamp like this one can help you form an opinion. Complex topics like sustainability, in particular, call for exchange at such events. They help everyone to align themselves and to gain new perspectives on their own position regarding sustainability."

Events as formats for knowledge transfer

As part of their project, the InCamS@BI team tries out various types of events to strengthen the dialogue between academia, economy and society, including events for the general public – such as the Science Bench in Bielefeld's historic city centre –, presentations and workshops for school pupils as well as the project's Demo Day. Makeathons bring together students and companies; experts from academia and industry meet at expert panels.

• Info

Circular Economy

Circular economy aims to achieve healthy, pollutant-free products that can enter into circulation. This means that circulation must be taken into account throughout a product's entire lifecycle: from development and design, to choosing materials and production, during its use and finally at the end of its lifecycle. The focus must thus be on the resource, not on the "waste." Circular economy is an economic system based on holistic and regenerative thinking.

InCamS@BI aims to take up impulses and initiate specific individual projects.

Kindern eine Stimme geben

jungen Menschen

Zuversicht geben

Sie müssen schließlich mit den Auswirkungen von Klimawandel und Umweltzerstörung leben

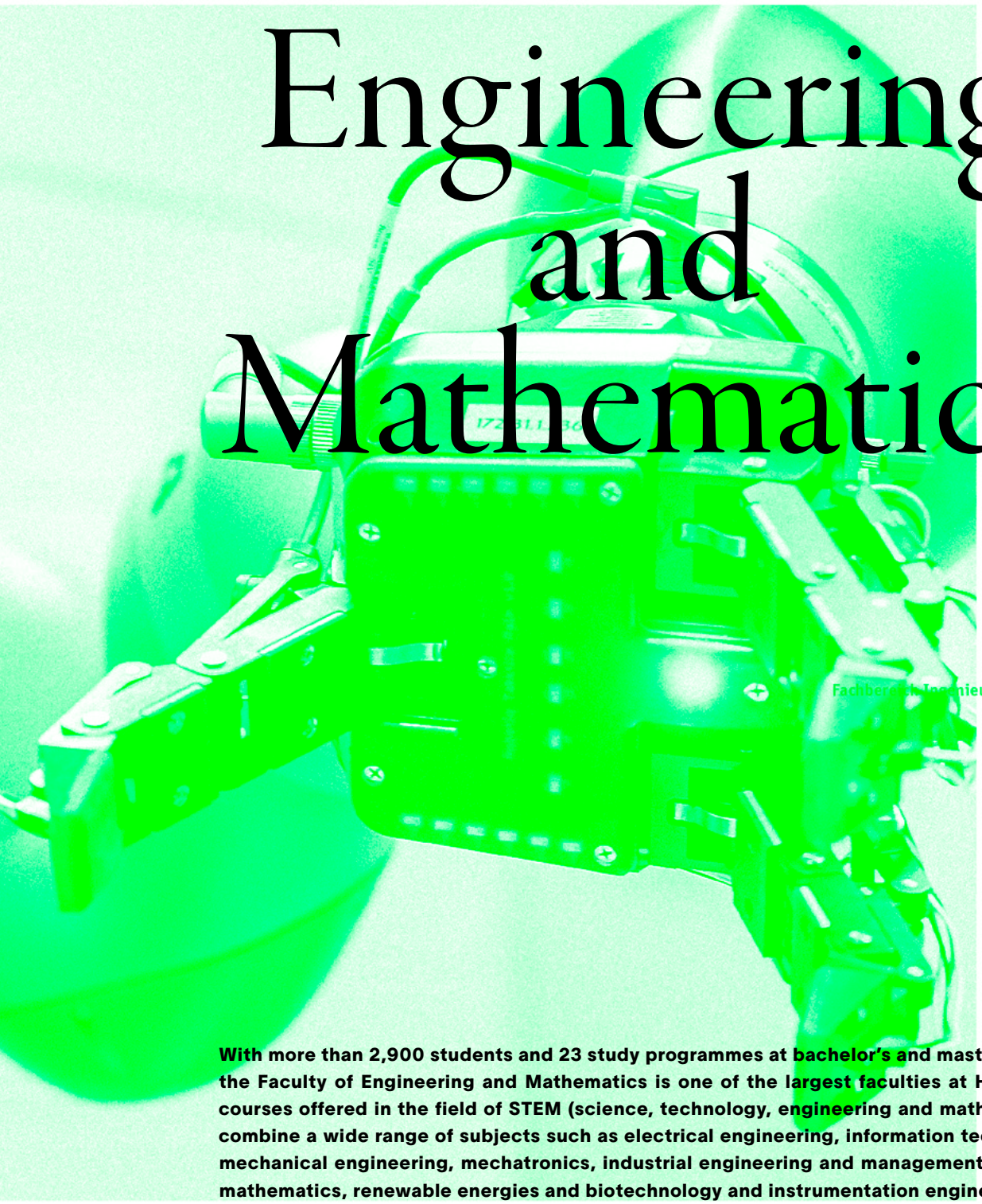
Das Predigen von Verzicht und einer umweltschonenden Lebensweise allein genügt nicht

„Wir brauchen den Einstieg in echte Kreislaufwirtschaft, ohne dieses feigenblattartige Downcycling.“

Wir müssen

das System umkrempeln!

Engineering and Mathematics



With more than 2,900 students and 23 study programmes at bachelor's and master's level, the Faculty of Engineering and Mathematics is one of the largest faculties at HSBI. The courses offered in the field of STEM (science, technology, engineering and mathematics) combine a wide range of subjects such as electrical engineering, information technology, mechanical engineering, mechatronics, industrial engineering and management, applied mathematics, renewable energies and biotechnology and instrumentation engineering. In addition to traditional full-time study programmes, there are also part-time, collaborative and work-integrated study models. As well as the locations at Bielefeld Campus, the faculty is also represented at Gütersloh Campus and RailCampus OWL in Minden.

Reforms to the study programmes are underway in order to re-orientate the faculty for the future. This will result in nine key profile areas: Automation Technology, Autonomous Systems and Robotics, Data Science, Mobility, Sustainable Products and Processes, Energy and Efficiency, Materials Technology, Medical Technology and Production and Logistics.

“Sustainable German Engineering”

How was 2023 for the Faculty of Engineering and Mathematics and what is currently on the agenda?

Prof. Dr. Rolf Naumann

At the moment, the most important topic for our faculty is the study programme reform, an area that is being led by Vice Dean Prof. Dr. Joachim Waßmuth. The reform will mean that our future programmes have nine key profile areas (see info box on p. 33). The “Sustainable Products and Processes” profile area focuses on the main topic of this annual report. This profile area will help us to become even more attractive to students who are interested in the topics of renewable energies, industrial engineering, mechatronics and biotechnology and instrumentation engineering. We are also working on introducing English-taught study programmes in order to open up our study content to students who do not speak German, or who wish to be internationally oriented.

Dr. Fabian Schoden

Our faculty has been offering the module “Circular Economy According to Cradle to Cradle” since 2017, which positions us as teaching pioneers in this area. Another important aspect in the area of teaching and research is our successful application to the German Research Foundation (DFG) for major instrumentation. We are therefore able to obtain a measuring instrument for photovoltaic modules worth around one million euros, plus three years of funding for the staff who will work with the device. Furthermore, through the Career@BI programme, we have been able to secure a post doc position in the area of hydrogen in energy technology. We were also successful in our application for the follow-on project CirQuality OWL Plus, which will continue to provide specialists and executives with training on the topic of the circular economy for the next three years. Furthermore, I will develop a new module for the summer semester of 2025 that will teach students how to develop indicators for improvements in the area of sustainability. As a post doc, I spend 50 percent of my time working for Schüco in Bielefeld, where one of my research topics is whether my PhD topic, dye-sensitised solar cells, can be used on the façades of buildings.

Fachbereich Ingenieurwissenschaften und Mathematik

The Faculty of Engineering and Mathematics integrates the topic of sustainability into its teaching. In this interview, Dean Prof. Dr. Rolf Naumann and *circular economy expert* Dr. Fabian Schoden tell us about the technologies that can slow the pace of climate change and make industry more sustainable.

What is the most effective way for sustainability to take root?

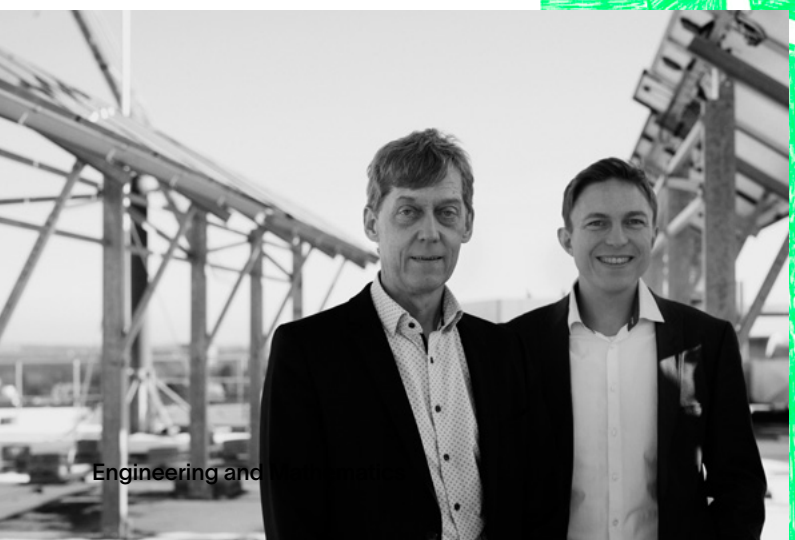
Schoden

I believe that what makes the greatest impact is being mindful of conserving resources in everything we do, while at the same time developing a circular economy in all areas of industry as quickly as possible. Being resolute in the utilisation of green energy production would have the second greatest impact. In my view, reducing social inequality would come in third place. It is well evidenced that the richest one percent of people in the world are responsible for 16 percent of global emissions. Political solutions are needed in this respect.

Naumann

That's true. The relationship between social inequality and sustainability on a global scale should also be viewed alongside two other aspects. Firstly, the international community and national policymakers are faced with the task of ensuring that the desire of large swathes of the population in countries of the global South for a higher standard of living, which is an entirely legitimate desire, does not lead to an explosive increase in the consumption of the planet's resources. After all, everyone has a right to decent infrastructure with mobility and a supply of water and electricity. Realistically, the drive for consumption will also increase in these countries. Secondly, here in Germany we need to be conscious that we are not the centre of the world; many countries will technologically "leapfrog" us because they will be able to skip some development stages in the implementation of a sustainable economy – steps that are still burdening us in Germany. Examples of this in our country include the sluggish development of digitalisation and the complications of transformation in the energy supply sector.

Fachbereich Ingenieurwissenschaften und Mathematik



Prof. Dr. Rolf Naumann and Dr. Fabian Schoden in front of the solar plant on the roof of HSBI's main building, which is used for research purposes.

What should we make of climate engineering?

Naumann

From an academic viewpoint it is certainly interesting but, as things stand, it is very cumbersome and the associated risks are difficult to calculate. We should instead be tackling the causes and promoting and utilising green energy. After all, the technologies do exist! It would also be important to focus more on adapting to the consequences of ongoing climate change. How should planning for cities and agriculture look in a warmer world, where the weather is more extreme and sea levels are higher? What might freshwater management look like in the future? Not enough time is being spent discussing these academic questions – and I'm sure our civil engineering colleagues at Minden Campus would be able to make some well-founded assertions about these matters.

Schoden

This brings to mind the work of our faculty colleague, Prof. Dr. Andrea Ehrmann, and her team. They are working on developing "green cities," which include, for example, the widespread use of green building façades. These façades can store water and CO_2 and bring temperatures down. Nonetheless, our faculty's primary expertise is in the development of machines and procedures that are as efficient as possible and in the optimisation of technologies for harnessing renewable energy.

What dampens engineering innovation in the area of sustainability?

Naumann

The main problems here in Germany are the lack of societal openness towards new mobility concepts and, linked to this, the political framework conditions. In politics, parties are often penalised if they preach about reducing consumption or seek to change habits that voters are fond of. Although our society and technologies have progressed significantly in the last 20 to 30 years, we must acknowledge that we have forfeited our position as a technological pioneer. Our politics and our economy were too slow in concentrating on the development, promotion and comprehensive implementation of sustainable technologies. Examples of this include the long wait for funding in the area of fuel cell technology and our late entry to the hydrogen industry. Mistakes have been made in terms of industrial policy. The German car industry didn't do itself any favours either, having focused exclusively on combustion engines for many decades.

Fachbereich
Ingenieurwissenschaften und Mathematik

Some people think that we in Germany have a relatively small carbon footprint...

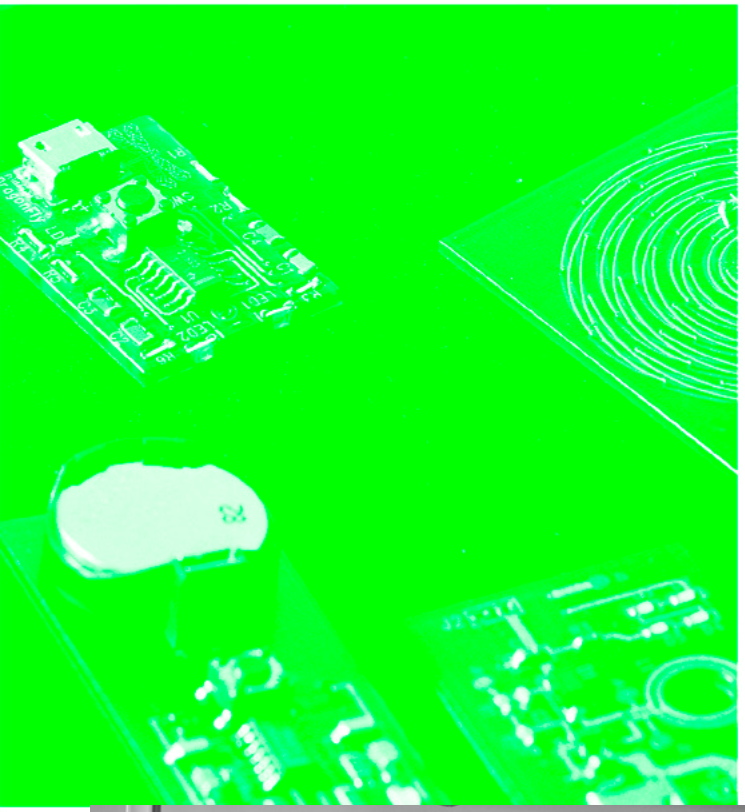
Schoden

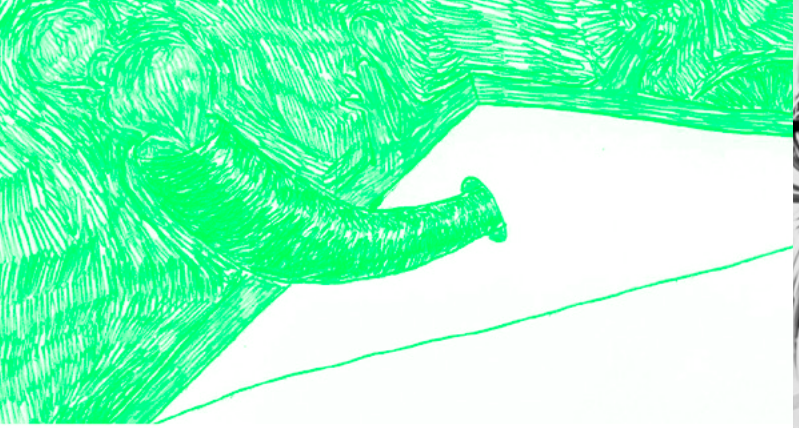
It is quite simple. In order to stop overloading the planet, the highly industrialised countries need to scale back their CO_2 emissions, so that the poorer nations can grow and emit more CO_2 than they previously did. That is the only realistic – and most importantly, fair – deal. In parallel, we need to establish closed-loop material cycles across all areas of the economy; we need to create a circular economy. If products are developed, produced, used and reused (without downcycling) in a climate neutral way, then we can afford to have more wealth in the world without violating our planet's thresholds.

Fachbereich Ingenieurwissenschaften und Mathematik

Naumann

Viewing this issue only through a national lens would be a fatal mistake. Here in Germany, we can make an important contribution to increasing sustainability, not only by reducing our emissions but also by setting an example and championing sustainability. German engineering still has an extremely good reputation around the world. We still have a great deal of influence. We should take this responsibility seriously.

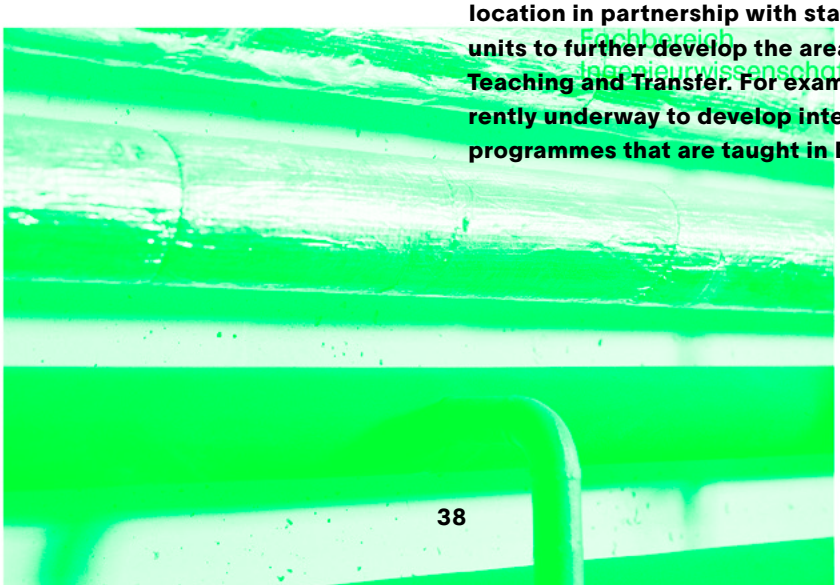




- Info

Gütersloh Campus

Gütersloh Campus, which was previously just a venue of study, has been a legally established HSBI location since 2021. Its recipe for success? Work-integrated study programmes – a mode of study that combines work terms at a company with academic terms at the university. This option is also offered in Bielefeld and Minden for specific HSBI study programmes. The cooperating companies offer both a job and a place on the degree programme; students are given an employment contract and are simultaneously enrolled at HSBI. In addition to the exciting learning opportunities that students have as they work closely with the cooperation companies, this model also gives students economic stability from day one of their studies. There are currently more than 500 students based at the campus – and there is an upward trend. The courses offered there include the five work-integrated bachelor's degree programmes: Digital Technologies, Mechatronics/Automation, Product-Service Engineering and Industrial Engineering and Management. In addition, there are four part-time study programmes with classes on Saturdays. These include the master's programmes in Industrial Engineering and Management, Applied Automation and Digital Technologies, along with the bachelor's degree programme in Business Administration. The Research Master Data Science programme, which follows a standard "full-time" model, is also offered at this campus. Leadership responsibility for Gütersloh Campus is held by the Faculty of Engineering and Mathematics and the Executive Board of HSBI, who work at this location in partnership with staff in the central units to further develop the areas of Research, Teaching and Transfer. For example, work is currently underway to develop international study programmes that are taught in English.



The Power Grid – AI Generating Data for AI

During his PhD, electrical engineer Dr.-Ing. Michael Kelker developed an intelligent control system for charging electric vehicles – quickly and without overloading the power grid. His approach, which uses an AI system to deliver data to another AI system, has the potential to further accelerate electromobility in Germany.

The cable snakes its way out of the garage, along the driveway and beyond. "The vehicle is not the only problem," says Michael Kelker, as he plugs the cable into the car's charging port and initiates charging. However, once most households have an electric vehicle, what about when everyone wants to charge their vehicle at the same time at the end of the working day? "That could potentially overload the power grid. The circuit breaker could trip and the buildings would be left without electricity," Kelker explains. And he doesn't think it should come to that. In his PhD, which he completed at HSBI, he successfully uses artificial intelligence (AI) to charge vehicles quickly and safely.

Fachbereich Ingenieurwissenschaften und Mathematik

The AI Grid project

The 32-year-old had already become very familiar with the energy transition during his bachelor's degree in *Renewable Energies*. During his master's studies in Electrical Engineering he specialised in electricity networks. He found that he enjoyed research. The *AGNES* working group, which focuses on grids and energy systems, is the perfect place for him. The working group is led by Prof. Dr.-Ing. Jens Haubrock, who oversees the teaching areas of Renewable Energy Systems and Electrical Engineering at the Faculty of Engineering and Mathematics. It has various research projects that are pursuing technological solutions for monitoring, managing and controlling electricity grids. Michael Kelker has been participating as a research associate since 2018 and is the first person in the group to complete a PhD. His doctoral thesis was completed in cooperation with TU Ilmenau (Ilmenau University of Technology).

The thesis was developed in the context of the AI Grid project, which uses AI to aid its research into how electric vehicles can be integrated into the power grid. "Electric vehicles are a large new load for the low-voltage grid," says Kelker. "Private households generally require 20 kW of power at the very most for all of their devices. If an electric vehicle with a maximum charging power of 11 kW is added to the household, the consumption at peak times increases by at least 50 percent." These new, high-level consumers are facing fluctuating levels of energy production. The researcher explains that this fluctuation is natural given the ever-increasing contribution of renewable energy sources – the sun is not always shining, for example.

Input from a neural network

The solution could be quite simple. Using a much lower power output to charge electric vehicles would prevent these grid overloads. But, as Michael Kelker states, this takes a long time. And if charging takes a very long time, this won't exactly help to improve public opinion concerning electromobility. Kelker had a better idea: "To use an AI system to control the charging procedure so that the charging output rises or falls depending on the capacity in the power grid. This enables charging to happen as quickly as possible without overloading the grid."

The snag? There is no way of the AI system knowing how much capacity there is in the grid. The technology for measuring capacity and supplying the required data is almost entirely absent from the low-voltage grid. Kelker's solution is truly innovative. "I also use an AI system – or more accurately, an *artificial neural network* or ANN – to generate this data," he explains. "I train it to supply the other AI system with an estimation of the grid status that is as accurate and realistic as possible. This facilitates the management of charging output levels. So two different AI systems are linked together."

FACHBEREICH Ingenieurwissenschaften und Mathematik

"[...] consumption at peak times increases by at least 50 percent."

Michael Kelker

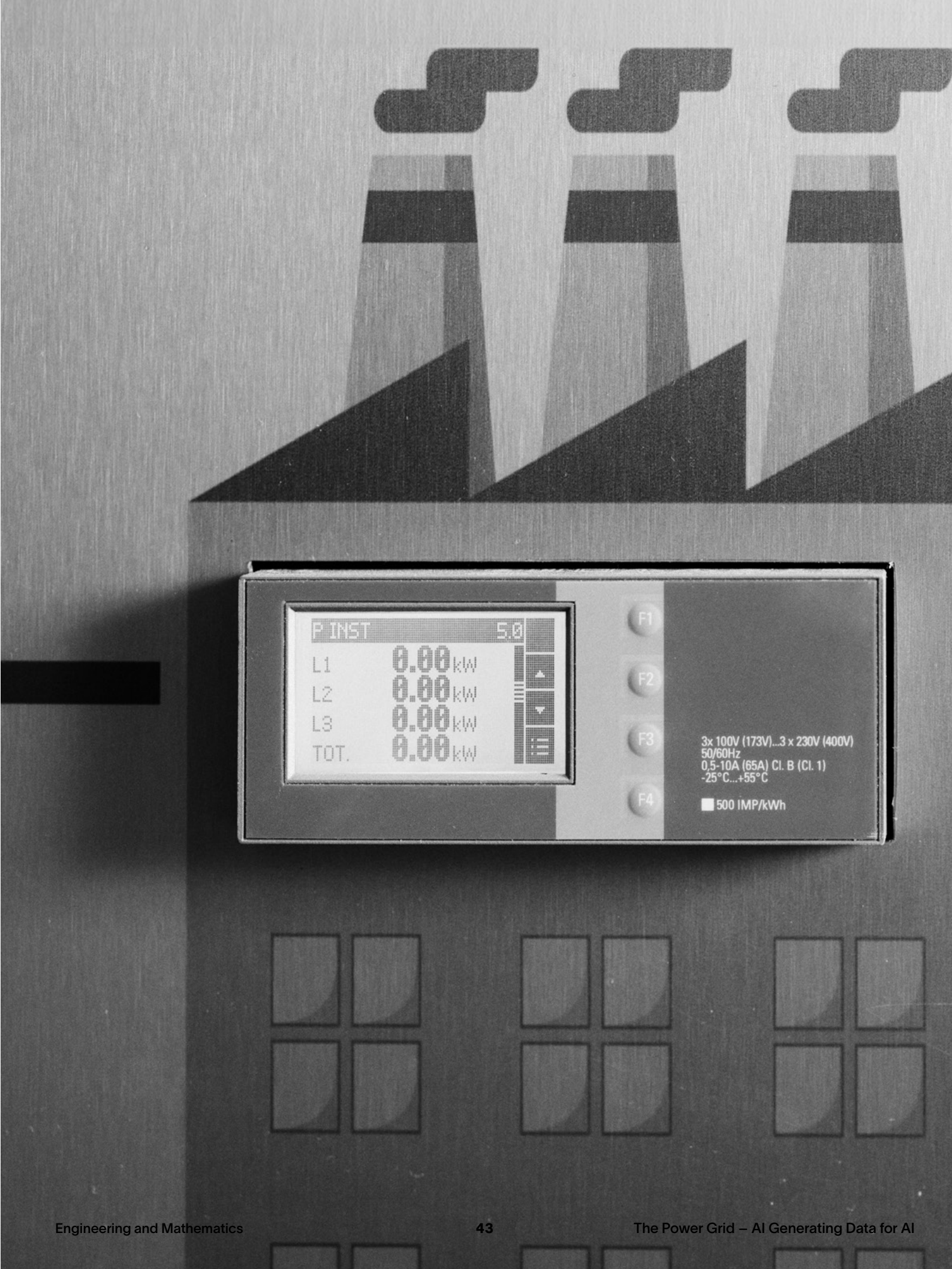
Long computation period

Despite the practical applications of his research, Michael Kelker did develop his approach in the lab rather than in the real power grid with real vehicles. After all, his research required him to try things out, make changes and try it out again – and there were failures here and there. "It is best that this happens in a safe environment and not in the real electricity grid," says Kelker. At the working group's laboratory, it is possible to generate computer simulations of real sections of the power grid. "These simulations helped me to generate the data that I used to train my ANN for estimating the status of the grid," Kelker explains. In the real low-voltage grid, the ANN could, for example, be placed at the regional grid stations (known as substations).

Setting up the second AI system was particularly challenging. It could, for example, be integrated into a charging station. From the input data from the first AI system, it would recognise whether it should increase or reduce the power output for charging. "The algorithm for this is so complex that you can only use a well-informed trial and error approach to find out which optimisation parameters need to be changed and how," Michael Kelker explains. For Kelker, this trial and error approach involved lots of patient waiting. "Because of the long computation period, one round of training lasts around a week. It really was frustrating if what had seemed like a sensible change ended up making things worse." But the waiting paid off in the end because the automated training of the AI system was successful. Michael Kelker's method reduced critical grid overloads by nearly one third. And first and foremost, he adds that the cars could be charged "nearly twice as quickly as when using the minimum charging output." As such, these are excellent conditions for continuing to increase the proportion of electric vehicles in Germany.

Fachbereich

Grids and Energy Systems Working Group (AGNES)
hsbi.de/ium/forschung/arbeitsgruppen/
netze-und-energiesystem-agnes/overview


P INST
50
L1
0.00 kW
L2
0.00 kW
L3
0.00 kW
TOT.
0.00 kW
F1
F2
F3
F4
3x 100V (173V)...3 x 230V (400V)
50/60Hz
0,5-10A (65A) Cl. B (Cl. 1)
-25°C...+55°C
500 IMP/kWh

Mathematically Optimised

Fachbereich
Ingenieurwissenschaften und Mathematik

One of the UN's 17 Sustainable Development Goals is "Reduced Inequalities." The municipality of Werther has shown its commitment to this goal by the way it allocates plots of land for building. They are being sold according to social criteria, using a mathematical solution that seeks to promote social sustainability and has been developed by HSBI students on the *Optimisation and Simulation* master's programme.

The smell is almost mesmerising – this former farmland on Bielefelder Straße in Werther is densely carpeted with white chamomile blossoms. Standing in the middle of the field is Sarah Huxohl, who is pointing at the wide trenches that cut through the plot at regular intervals. "These are called test pits. They have been dug for archaeological excavations," explains Huxohl, who is the deputy head of the town's planning and construction department. According to Huxohl, the excavations revealed evidence of settlers dating back to the Iron Age. And the plan is for people to live here again, since the municipality is planning a construction site at this location.

Business mathematics expert Prof. Dr. Jonas Ide was among those who heard about these plans. He is the Academic Programme Director of the *Optimisation and Simulation* master's degree programme at HSBI and he is always on the lookout for specific application scenarios for his students. "We teach robust, theoretical knowledge of mathematical models and methods, especially in the areas of optimisation and simulation. Our students learn to create computer simulations of technical or planning processes and to optimise them. We are particularly interested in the real life application. In real-life projects, students can utilise their theoretical knowledge." This construction site in Werther (Westphalia) provided Prof. Ide with an application scenario – the scenario of allocating building plots.

"We are particularly interested in the real life application."

Prof. Dr. Jonas Ide

Fachbereich Ingenieurwissenschaften und Mathematik

Four potential buyers per plot

This is because Werther's municipal authority does not allocate its sought-after building plots by drawing lots or by the order in which applications are made. For a long time it has instead been using social criteria to allocate plots, each of which will have on average four potential buyers. "We take into account things like the number of people in the household, the number of children, the current size of the living space and current home and work locations," Sarah Huxohl explains. The decision about who is awarded the building plot is made following the evaluation of application details. And in the past, this process has not exactly been smooth. "We received the details on paper and then transferred the data by hand onto huge tables in Excel, where we evaluated the data. The procedure was error-prone and extremely cumbersome." What Jonas Ide was offering exceeded her hopes.

Modelling a question as a mathematical problem

The HSBI professor's suggestion was to develop a mathematical solution for the optimum allocation of building plots as part of a student project. "To do this, we turn a real-life problem into a mathematical model, or, in our language: we model it as a mathematical problem." In this way, the real-life problem can be programmed in a way that enables a computer to process it – and then calculate the ideal solution. And an ideal person to take on the project was Jan-Hendrik Lange. During his bachelor's de-

gree in Applied Mathematics at HSBI, he discovered that optimisation was the topic for him, so he went on to study the master's degree programme in Optimisation and Simulation. "The technical aspects did actually scare me off initially," explains Lange. The master's programme is designed to be consecutive and is open to mathematicians and engineers alike. "But the interdisciplinary cooperation with the other students was helpful and we complemented each other very well. I was able to help a fellow student, whose specialism was mechanical engineering, with the area of differential equations; he explained electrical circuits to me." According to Jonas Ide, this kind of knowledge exchange is very much intended: "In their future professional lives, they will work in interdisciplinary teams and familiarise themselves with new topics."

Jan-Hendrik Lange had a virtual meeting with Sarah Huxohl and defined the problem as well as some specific requirements. "Mathematically speaking, the implementation isn't rocket science. It calls for standard algorithms," says Lange. Prof. Ide explains that these algorithms did then need to be interpreted accordingly and adapted: "The mathematical language does function independently of the specific application, so at the end of the day it doesn't matter whether the issue is allocating building plots or optimising scheduling. But the solution is always tailor-made for the relevant application." An example of this is Lange's suggestion to apply a weighting to the prioritisation of expressions of interest:

"Mathematically speaking, the implementation isn't rocket science."

Jan-Hendrik Lange

"People who are interested in a building plot can apply for numerous plots and indicate their order of preference. Their first choice plot is now weighted at 100 percent and their alternative choices are weighted at 80 percent," the student explains. The score that is generated reflects the preference ranking that is associated with the plot being allocated. "The higher the score, the closer it is to the first choice." The algorithm combines this with the score awarded on the basis of social criteria and calculates the optimum allocation of every building plot. "The goal is to have the highest possible overall score for the construction site as a whole. That will mean that all of the criteria and weightings have been taken into account as well as possible," explains Lange.

Implementing the student project

Theoretically speaking, the creation of this solution marked the end of the student project. But Werther liked the solution so much that they also wanted it to be deployed. They commissioned HSBI to implement the solution. As such, it was an excellent example of knowledge being transferred from HSBI into the local region. "This shows that modelling real-life problems as mathematical problems develops a key skill for the workplace," concludes Prof. Jonas Ide. "Just like the municipality of Werther, many small and medium-sized businesses in particular aren't aware of the mathematical tools that can be used to solve all kinds of problems and make a huge difference."

Fachbereich
Ingenieurwissenschaften und Mathematik

A partnership with a future: Together with students such as Jan-Hendrik Lange, Prof. Dr. Jonas Ide and Sarah Huxohl are seeking to expand on and implement this collaborative endeavour between HSBI and the municipality of Werther.

Mathematics at HSBI

In the “Applied Mathematics” bachelor’s programme and the “Optimisation and Simulation” master’s programme, mathematical modelling and methods take centre stage. These models and methods are used for purposes such as the numerical simulation – and optimisation – of experimental arrangements and plans in a variety of sectors and of the technological processes that precede manufacturing. In contrast to pure Computer Science degree programmes, in these courses programming is only used as a tool to enable the computer to understand real-life problems as mathematical models – and to then calculate the best possible solution. Applications are welcome for the “Applied Mathematics” bachelor’s degree (start date in the winter semester) and the “Optimisation and Simulation” master’s programme (start date in either the summer or the winter semester).

FACHBEREICH

Social Sciences

At the Faculty of Social Sciences, HSBI trains professionals in the fields of social work and education. The faculty offers the (Early) Childhood Education and Social Work bachelor's programmes, as well as the master's in Social Sustainability and Transformation Studies. In addition to their standard course content, students on the bachelor's programmes can enrich their knowledge in three areas of qualification: "Culture and Media," "Methods of Empirical Social Research" and "Musical Education." Across all programmes of study, teaching is interdisciplinary and is designed to be heavily dialogical and project-oriented. This means that students do not simply assume the role of recipients; they are actively involved as well.

“Humans Are Wired for Collaboration!”

Fachbereich Sozialwesen

Professor Bamberg, you coordinated a teaching and research seminar entitled “Social Work in an Era of Socio-Ecological Crisis.” What did you discover?

Prof. Dr. Sebastian Bamberg

Around three quarters of the participating students are worried about the societal consequences of the socio-ecological crisis. They see the crisis as being very relevant to the field of social work but think that it has not yet been adequately addressed during their studies. According to those surveyed, the fields of social work that are particularly relevant are climate change-induced migration (climate refugees), preventing natural disasters caused by climate change and delivering interventions when disasters do occur. Many of the students who were surveyed expressed an interest in sustainability-related internships. These findings are important and they will flow into the ongoing development of the study programmes offered by the Faculty of Social Sciences.

You talk about a socio-ecological crisis rather than a sustainability crisis or an environmental crisis. Why?

Bamberg

Climate change has already had huge social consequences and in all probability, these will further intensify as time goes on. Take migration, for example. The lack of climate justice, which is currently the status quo, highlights the strong connection between social work, ecological crisis and social crisis. Demand for competent social work provision for refugees is increasing. In my view, another important question for us as researchers and teaching staff is this: How will the field of social work go about tackling these challenges? The current approach, known as case management, is predominantly focused on the individual. Yet in order to overcome this socio-ecological crisis, social work will need to take a collective approach; the field as a whole needs to be empowered to respond to the challenges collectively. Since the overarching topic of this interview is “Sustainability,” there is also the medium-term question about how social work is to be financed in a post-growth society – and a post-growth society cannot be avoided if we want to get a handle on the planet’s sustainability problems.

The only way to establish a sustainable lifestyle for everyone on the planet is through a process of transformation. This process would need to focus everyone's attention on climate justice, generate an alternative to the ideology of growth and re-organise key societal systems such as energy production and mobility. These are the arguments outlined by Prof. Dr. Sebastian Bamberg and Alena Kuhlmann-Sellenriek, research associate and sustainability expert at the Faculty of Social Sciences.

Ms Kuhlmann-Sellenriek, you completed the master's degree in Social Sustainability and Transformation Studies at the Faculty of Social Sciences. What do students learn on this programme?

Kuhlmann-Sellenriek
In relation to the topic of sustainability, the first thing is to learn about the problems. That's all about tipping points and planetary limits – the limits that are currently being exceeded, which is threatening the earth's ecosystem and the basis of human existence. Another central aspect is learning about goals, such as the UN's 17 Sustainable Development Goals, and about transformative knowledge. One example is the multi-level-perspectives approach, which maps the main trends of socio-technological development. There were a lot of lightbulb moments for me during my studies! There is a great deal of societal analysis and learning about different options for shaping transformation. Alongside ecology, we also looked at topics such as feminism, post-colonialism, inequality, digitalisation and post growth. They are all aspects of socio-ecological transformation and they are all interconnected. Viewing things at a system level helped me to develop an appreciation of the extent to which different people are structurally disadvantaged, and how this then impacts what their life looks like – and I also saw how individuals can be empowered to collectively transform the system.

Alena Kuhlmann-Sellenriek
It is imperative that everybody is included in the process of developing possible solutions. Nonetheless, many places do not yet have the framework conditions that would facilitate this kind of universal participation. For example, in activist groups and movements there are a greater proportion of privileged people, who are able to be politically active because they have sufficient resources and connections. Yet it is people who are marginalised, and who suffer the consequences of the crisis more intensely, who absolutely must be involved in order to find the right solutions. Social workers can play an important role here by bringing the concerns of their clients into the political discourse. Furthermore, networking is an important skill in social work that can be utilised to lessen the barriers for participation in transformative projects with marginalised groups and to prevent people from missing out on what they are entitled to.

Prof. Dr. Sebastian Bamberg and Alena Kuhlmann-Sellenriek are interviewed for the annual report. Bamberg is responsible for the subject area of Social Psychology (among others) at the Faculty of Social Sciences; Kuhlmann-Sellenriek completed a master's in Social Transformation Studies at HSBI and now works as a research associate.

Where do graduates from this master's programme typically go on to work after completing their studies?

Kuhlmann-Sellenriek

I stayed in academia initially and am working on a transfer project that has been established by HSBI in partnership with "Bethel.regional" and Bielefeld University. But there are lots of other possible professional fields to go into, such as business strategy planning, mediation, local government, journalism, NGOs or working on transformation processes that are the responsibility of public bodies.

On the topic of sustainability, societal and political culture often tend towards polarisation. Someone will use the phrase "climate catastrophe" and someone else will counterattack with the phrase "climate lies." How can we maintain political culture and societal peace and ensure that solutions are developed?

Bamberg

There are social science theories that offer good explanations for the processes of polarisation. From these theories it is possible to derive interventions, such as the Common Identity Approach. For example, we are currently working on a project with Bielefeld's transport authorities. The project is trialling a participatory, co-design approach to planning a road with fewer parking spaces. The hope is that fostering active participation will lead us to productive solutions. This is applicable to other challenges, too. Humans are wired for collaboration. Staying with the same example, a promising strategy for weakening polarisation is to intentionally not focus on motorists versus cyclists but instead to remind people of an overarching shared identity – such as being residents of a certain district or city. The mobilisation potential of this approach has recently been seen again in Germany at a larger scale – the national mass demonstrations against racism, marginalisation and antisemitism. At these demonstrations, millions of people had a sense of shared identity as democrats and supporters of the German constitution.

In the face of wars, the ongoing destruction of the environment and the unchecked pursuit of growth, it seems as though the idea of sustainability is currently too much for humanity to handle...

Bamberg

I don't know if it is too much for humanity to handle. For anyone looking for solutions to environmental problems, it soon becomes clear that there are always social, economical and ecological dimensions to these kinds of problems. If solutions upset this balance, there are conflicts. One problem is the way that politics – and our own brains – conceptualise time. We see short-term costs as painful and long-term costs as still being a long way off. As a result, politicians and the population at large choose short-term thinking. Yet the task of politicians is to make it clear that today is always the cheapest time to invest resources in solving tomorrow's serious problems.

The dates on the steps up to the Faculty of Social Sciences are reminders of nuclear accidents; they emphasise the focus on social science research into sustainability and transformation. They were put in place in cooperation with the Faculty of Design and Art.

Kuhlmann-Sellenriek

In 2016, all 193 of the UN states agreed on the SDGs. Although some of the sub-points are open to critical scrutiny, overall the goals set out a vision for the future that would be worth striving for. Even some cities such as Bielefeld have integrated the SDGs into their own sustainability strategies. Despite having such a wide reach, most people still are not familiar with the SDGs. That's why it is important to give these goals more publicity and to talk about them in education settings. One example is the "Global Goals" cycle route, which has been created by the developmental organisation "Welthaus Bielefeld." During the conversations that I have as a tour guide for the route, I have often discovered that people do have a great desire to see change. However, they then go on to say, "But what difference can I make on my own?" So it is important to encourage people that they have in their hands what is needed in order to bring about structural changes. For example, there is the concept of the handprint, which originates from Germanwatch. This involves collecting ideas for how the framework conditions could be changed in an individual's surroundings, such as their neighbourhood or workplace. But also how people can get involved politically, right up to EU level politics.

The main topic of this year's annual report is "Sustainably sustainable?!" The thought behind this title is the proposition that not everything that is packaged to look sustainable is truly sustainable. Are we doing the right thing in this country?

Bamberg

The consistent eco-friendly behaviour of individuals is only one aspect. What is more important is the sustainable restructuring of central social systems such as mobility, energy supply, food supply and housing. This is where appropriate regulatory framework conditions must be put in place. At the moment I observe a tendency for policymakers to individualise their solutions for the socio-ecological crisis, appealing to citizens' sense of individual responsibility but not addressing the transformation of societal systems.

We are sometimes accused of living in a western bubble of affluence and morals, in which sustainability is often lived out like a trend or a lifestyle choice...

Bamberg

I think that is too denunciatory. Anyone who tries to do something to alleviate the crisis has my respect. On the other hand, justice is a central aspect of social work, as I mentioned. Our goal must be to develop economic models and lifestyles that, in the medium term, improve the quality of life for ten billion people on this planet.

Kuhlmann-Sellenriek

The thing that makes the socio-ecological crisis so difficult is its vastness – it affects the whole world. And it not only affects us today but also in a future that, to us, still feels a long way off. Although some parts of Germany have experienced disastrous flooding, we still don't feel the sense of urgency to take action, which is in contrast to the state of affairs in the Global South. It is also still the case that many raw materials are mined in the Global South while the commodification and the sale of the product tends to be undertaken by businesses in the Global North. In this respect, I think it would be fair to say that there is not yet enough awareness in Germany of these kinds of ecological and social inequalities.

Giving Rubbish a New Life

Students at the Faculty of Social Sciences get creative in their exploration of waste and the value of rubbish in society. They present their findings in the exhibition entitled *Wasteland*. This includes items of clothing, musical instruments, toys and even an umbrella that made its big appearance at Bielefeld's Carnival of Cultures.

Fachbereich Sozialwesen

Each year, two hundred and thirty million textile items end up in the shredder. Supermarket refuse containers overflow with food that is still good to eat. Germany is Europe's largest producer of waste – few European countries generate such high levels of refuse.

But to look at it from a philosophical angle, when does rubbish become rubbish? When does something cease to be useful? When does packaging, which protects a product – or clothing, which keeps us warm – become refuse? A seminar coordinated by the Faculty of Social Sciences took a creative approach to addressing the question of how society relates to waste. The students shared their outcomes at an exhibition entitled *Wasteland*. The exhibition tells the story of the new life that the students breathed into the rubbish.

"Die Trompete" [The Trumpet]

How can we redefine waste?

An art exhibition by the Faculty of Social Sciences? It was the Coronavirus pandemic that sparked the idea for the seminar. During the lockdowns, clothing shops burned entire collections because it was cheaper to destroy the clothing than to store it. What's more, after a few months the clothing would no longer have reflected the current trends. To these shops, they had no value – they were rubbish. Katharina Stephan, a Professor at the Faculty of Social Sciences, was able to get hold of an entire container full of clothing that had been destined for burning. "That was the material from which this seminar was born."

For over 20 years, Prof. Stephan has been working at the interface between social work and theatre. Her work in this area also includes artistic research, accessing academia through art and vice versa. These were the origins of the idea to develop a seminar in which students create their own pieces of art. Can our waste become something more than useless, superfluous, bothersome refuse? That was the seminar's key question. The question was answered by the students' diverse artistic creations.

Prof. Stephan summarises the seminar as follows: "For us, it wasn't just about using art to give a clear answer. We wanted to create a space for addressing these questions." She was encouraged by high levels of student engagement, which validated her use of this concept. Prof. Stephan also wants to integrate the topic of refuse and sustainability into future seminars, perhaps even incorporating interdisciplinary aspects.

Carolin Lange's exhibit, "Ludo," can be worn as a cape and also functions as a playmat when spread out on the ground.

"Die Kutsche" [The Coach]

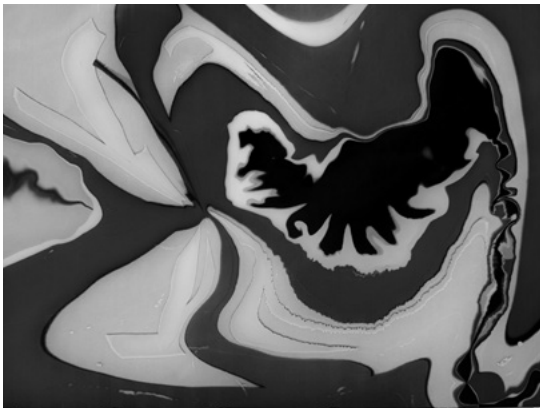
"Rubbish affects every single one of us."

Fabienne Warmann

Gegenwart und Zukunft – Leben im Müll
by Fabienne Warmann

"Rubbish affects every single one of us," says student Fabienne Warmann. Having already done some experimental upcycling in her free time, she was excited to see this seminar on offer. From the moment when Prof. Stephan showed the students the *Trash People* sculptures by artist HA Schult, Warmann knew that she too wanted to create a human form out of rubbish. HA Schult used compressed cans to create human forms, which have previously been exhibited at the Great Wall of China, Moscow's Red Square and the Pyramids of Giza – as a monument to warn against consumer society.

The student's exhibit, *Gegenwart und Zukunft – Leben im Müll* [Present and Future – Life in Rubbish], was inspired by the Trash People sculptures. "The sculpture shows how the current generation influences – and passes its burdens on to – the next generation. All that the next generation will be able to do is sweep together the shards of what it inherits." The exhibit is constructed from a combination of discarded glass, clothes and packaging. "I wanted to create something where the rubbish is easily identifiable. At the same time, I wanted the sculpture to depict something natural and full of life."



Fachbereich Sozialwesen

"Der Regenschirm" [The Umbrella] by Mihriban Özal-Colak

Ludo, the wearable playmat by Carolin Lange

Ludo is a Latin word meaning "I play." And play is the main topic that student Carolin Lange addresses in her final piece. Her exhibit, *Ludo*, can be worn as a cape but when it is spread out on the ground, it serves as a playmat. It is designed to inspire nursery age children about the creative possibilities for crafting with what is designated as waste. In this way, Ludo uses play to raise children's awareness of sustainability. Alongside her studies, Lange works at a nursery and is hoping to give Ludo a field test soon: "I am very excited to observe the different ways that the children respond."

From the seminar room to the Carnival of Cultures – the adventures of Mihriban Özal-Colak's exhibit

It was when she was feeding her cat that Mihriban Özal-Colak had the idea for her creation. Surely there must be a use for all of these little aluminium tubs? And she soon answered her own question. They have now been cleaned and pressed and are adorning an umbrella, like golden raindrops. "I made matching waterproof boots out of tomato trays and crown caps from drinks bottles. The laces are made of old headphone wires," the bachelor's student explains. She adds that the crown caps were a chance find one lunchtime: "A little fast food restaurant around the corner had been collecting the lids and was happy to let me have them."

And where did these works of art end up? After an initial exhibition in the Magistrale (main hallway) at HSBI, one of the exhibits went on to have a bigger audience: Özal-Colak presented her umbrella as part of the parade at Bielefeld's Carnival of Cultures in the summer. The other exhibits were taken home by the students, or were used in their fields of work – as was the case with Ludo. Some of them did, however, end up going to their original destination: HSBI's waste compactor facility. But not before they had been carefully dismantled and separated out according to their materials.

With her sculpture entitled "Gegenwart und Zukunft" Fabienne Warmann seeks to use refuse to depict everyday life.

Ehrenamtliches Engagement

weniger CO_2-Ausstoß

Circular Economy

Digitale Souveränität

Es sind definitiv technische Lösungen gefragt.

Overload

Was

wie

wann

warum

Fachbereich
Fachbereich
FACHBEREICH

Health

Fachbereich Gesundheit

The Faculty of Health currently has around 700 students and there is a high degree of commitment among students and teaching staff alike. The range of courses focuses on academised nursing and midwifery training, as well as teacher training courses for healthcare professions. The faculty's part-time certificates offer additional qualifications that are up-to-date and academically grounded. Topics include fields of action for vocational teachers in the health sector, management and development of health-sector schools and digitalisation in health. By offering these courses, the faculty makes an important contribution to healthcare provision in the region.

“New External Stimuli”

How was 2023 for the Faculty of Health?

Prof. Dr. Michaela Brause and Prof. Dr. Christa Büker in HSBI’s central library, pictured holding a classic textbook on the topic of global health.

Prof. Dr. Michaela Brause

Once again, our evaluation process and the centralised KOAB (Cooperation Project Graduate Studies) study showed that students are very satisfied with their studies at this faculty. They are particularly happy with the teaching, the transfer between theory and practice and the fact that our graduates are very well equipped for the employment market. Nevertheless, as is the case across the board, we too are seeing a decline in student numbers. In the affected study programmes, we are taking important steps for modernisation in the area of accreditations. And there is a lot of focus on the area of accreditation in general at the moment because it is being imposed on us by Germany’s new legislation concerning nursing study programmes. Within the scope of the “bundle accreditation” concept, we are currently accrediting four study programmes at the same time, plus an additional “bundle” consisting of two study programmes. We very much welcome the new law, which strengthens the academisation of nursing. For instance, it creates financial parity between nursing students and nursing apprentices because from now on, students will also receive pay for vocational training. The problem that it does introduce, however, is that the study programme will need to quickly undergo reaccreditation because from 2025 at the latest, medical tasks will need to be integrated into the curriculum.

Prof. Dr. Christa Büker

On behalf of those colleagues who are active in this area, I can add that we are very involved in key projects such as Career@BI – or at least, very involved considering the size of our faculty. Through this involvement, we are promoting interdisciplinarity in our teaching and gathering new external stimuli. We have also continued to see great success in the area of research. In this area there are numerous projects concerning digitalisation and sustainability, which help us to move towards HSBI’s overarching goals. We are staying mindful of the goal to enable students to gain international experience. It is still difficult to make progress in this area because our students have a heavy workload due to the relatively long work terms or due to working part time in their original jobs.

In this interview, Prof. Dr. Michaela Brause, Dean of the Faculty of Health, gives a positive interim assessment of her relatively new faculty and her expert colleague Prof. Dr. Christa Büker emphasises the importance of sustainability in the healthcare sector – and thus its importance for teaching, research and transfer.

How do you understand the topic of sustainability?

Brause

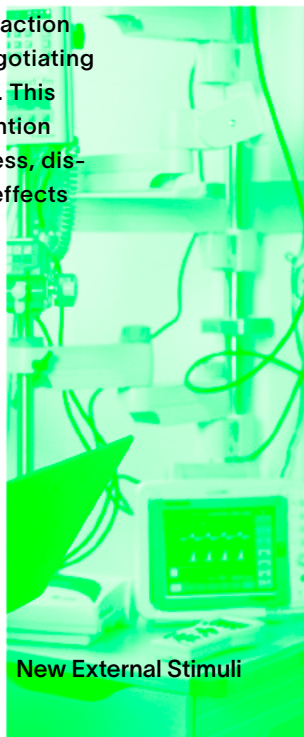
In keeping with HSBI's understanding of sustainability, we want to integrate the three dimensions of sustainability – social, ecological and economic – into the way we do things. This means taking responsibility in our area for shaping the world that current and future generations will live in. In concrete terms, this means raising student awareness of this subject and integrating it into study and teaching as well as research and transfer.

What are the current fields of sustainability activity in the healthcare sector?

Büker

It is important to differentiate between the three different levels. At the micro level, the level of direct patient care, the focus is on protecting people with care requirements from the effects of climate change, enacting preventive measures, evaluating risks, tailoring care interventions and providing advice about protecting patients from extreme temperatures – as well as safeguarding employees. Then there is the "meso" level, the institutional level, which is about our contribution to embedding sustainability in the corporate strategy. Examples include waste management, procurement management and energy consumption at nursing homes and hospitals. Other important areas include devising heat action plans, crisis management concepts, further training programmes and occupational safety measures. And finally, the macro or societal level is about being an active advocate for protecting the environment in the arenas of politics and vocational policy. We want to help develop national action plans, strategies and programmes for negotiating the risks associated with climate change. This extends to involvement in disaster prevention measures, which incorporate preparedness, disaster management and dealing with the effects of disasters.

Fachbereich Gesundheit



And what specific things are you already doing at the Faculty of Health?

Büker

One example is that in the context of our "Planetary Health and Nursing" project (see next page, editorial team), we are developing training materials on the topic of sustainability for our nursing study programmes. We are hosting specialist conferences about this topic and we are helping to set a trend by signing the "Nursing School Commitment" declaration. The topic of sustainability is also permanently integrated into our introduction for first-year students and numerous colleagues and students are involved in the "Act2Sustain" Studies & Teaching working group.

What conflicting goals are you encountering in this area?

Brause

Integrating this topic into syllabuses that are already densely packed is a challenge. Finding fellow campaigners among the teaching staff is not easy either because they have such heavy workloads. But we are working on it. It is important and we want to play our part!

Planetary Health

Heatwaves are putting some groups of vulnerable patients at risk. Hospitals and nursing homes are generating huge piles of packaging waste from medication and care products. These are just two examples of how climate change and sustainability are becoming increasingly important topics in the healthcare sector. The Planetary Health and Nursing project at HSBI's Faculty of Health has now developed teaching content about this subject for its students.

The *World Health Organisation* (WHO) describes climate change as being the greatest threat to human health. The consequences of climate change include extreme weather events such as periods of hot weather and droughts, heavy rainfall, flooding, storms, high levels of UV radiation and ozone, as well as the transmission of diseases by tropical insects.

Yet to date neither apprenticeships nor degree programmes have offered enough climate-related educational opportunities. "We wanted to change that," says Prof. Dr. Änne-Dörte Latteck, Vice Dean of the Faculty of Health at HSBI. And change it they did. The outcome was four *teaching and study units,* which were developed using funding from the "Innovation in der Hochschullehre" foundation as part of their *Freiraum 2022* programme. The project, which is entitled *Planetary Health and Nursing,* involved developing and trialling teaching content at HSBI over the period of one year. And in this context, trialling did not just mean simply trying it out. At numerous workshops, the project team was joined by students, experts and practitioners to help design the content, which was already being taught and evaluated by the summer semester of 2023.

The duration of each of the four teaching and study units is around two weekly hours per semester. They focus firstly on the impact of climate change on health and secondly on the resources in day-to-day nursing that are climate-dependent. Two of the units are offered as part of the bachelor's degree programmes at HSBI's Faculty of Health and two are included in the *Vocational Education* and *Advanced Nursing Practice* master's programmes. But the idea is not for the content to be used exclusively at HSBI. All of the materials will also be made available to other educational institutions and other interested parties, free of charge online as *Open Educational Resources* (OER).

Fachbereich Gesundheit

Prof. Dr. Änne-Dörte Latteck

"It focuses on how businesses such as hospitals [...] can act in a climate-friendly way."

30 °C: dehydration and cardiovascular problems

The teaching and study unit *Effects of Climate Change on Health* is designed with undergraduate students in mind. Students learn about the health implications of climate change – including respiratory conditions due to higher levels of air pollution and increased physical stress responses in heatwaves – and infer the consequences for their professional practice.

In the teaching and study unit *Handling Climate-Dependent Day-to-Day Nursing Resources*, students focus on the resources that are consumed during everyday nursing. These resources include water, energy, clinical materials and food. Students also consider which consequences could arise due to a scarcity of resources. The lack of nursing staff is also discussed in this context.

One of the other teaching and study units, which can be used at master's level, is entitled *Acting in a Climate-Sensitive, Sustainable Way*. "It focuses on how businesses such as hospitals or nursing service providers can act in a climate-friendly way. The students also learn about science-based climate protection concepts and gain insights about hospitals that are already actively engaged in protecting the climate," explains Latteck. These teaching and study units developed during the project were aimed at students on the Vocational Education master's degree programme. As such, students are also given the task of developing some initial ideas for a teaching or tutoring concept about one aspect of sustainability.

The subject matter of the fourth teaching and study unit, which is also for master's level teaching, is the role of nursing in relation to climate change. In this unit, students start by addressing topics from the field of *Planetary Health and Nursing* and then go on to develop their own project ideas that focus on education and sustainability. The aim is to bring personal responsibility into focus as well, asking what the nursing sector can and should do. In view of the global changes to the climate, what is the responsibility of nursing professionals?

Project lead Prof. Dr. Christa Büker clarifies: "The nursing sector is jointly responsible for protecting the environment and tackling the climate-related challenges. In addition to the reason of being rooted in the code of ethics of the *International Council of Nurses* (ICN), our mandate flows from two key reasons: Nursing professionals are one of the largest groups within the healthcare sector and numerous studies show that they, along with other care professionals, are highly trusted by the general public. So we have a great opportunity to be pioneers or role models in the area of sustainability."

Climate change and psychological stress

The experts who attended the project workshops showed a particular interest in the topic of young people's fears and worries. "There were also some students who indicated during the workshops that they sometimes felt overwhelmed, anxious and powerless," explains project member Karina Ilskens. "This shows that in addition to the teaching and study units that have already been developed, young people and also nursing professionals are in need of specialised services that address how to deal with these stresses, strains and fears."

The evaluation shows, among other things, that students gained awareness of the vast challenges facing the nursing sector due to the impact of climate change and resource scarcity. A key goal – raising awareness of the topic – has therefore been achieved. Nevertheless, students would have liked to see some specific examples of best practice. "This confirms our surprising finding: we discovered how few practical examples there are for this topic," Prof. Latteck reports. On the other hand, the project participants were pleasantly surprised by the numerous networks and committed people within the healthcare sector who are already taking action in the area of climate change and health. "Organisations such as *KLUG* (the German alliance for climate change and health), *Health for Future* and the sustainability working group of the *DBfK* (a German association of nursing professionals) are actively campaigning for a sustainable healthcare system. These networks provide a platform for exchanging knowledge and experience and they facilitate the collaborative development of solutions – the sorts of solutions that students noticed were still absent from our teaching and study units," says Prof. Büker.

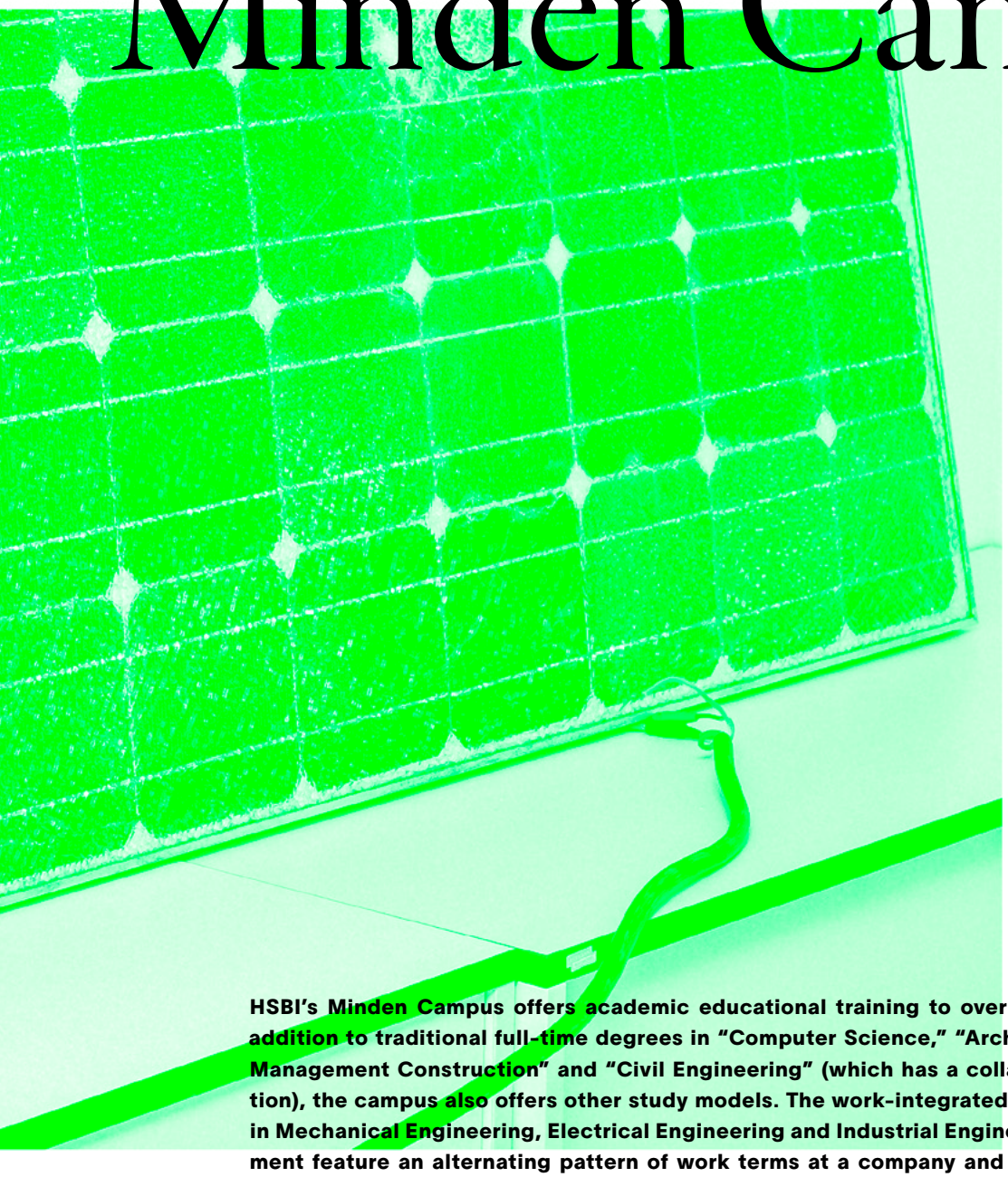
Prof. Dr. Christa Büker

"The nursing sector is jointly responsible for protecting the environment [...]."

The team responsible for developing the teaching concepts consisted of various players, including professors, research associates and students.

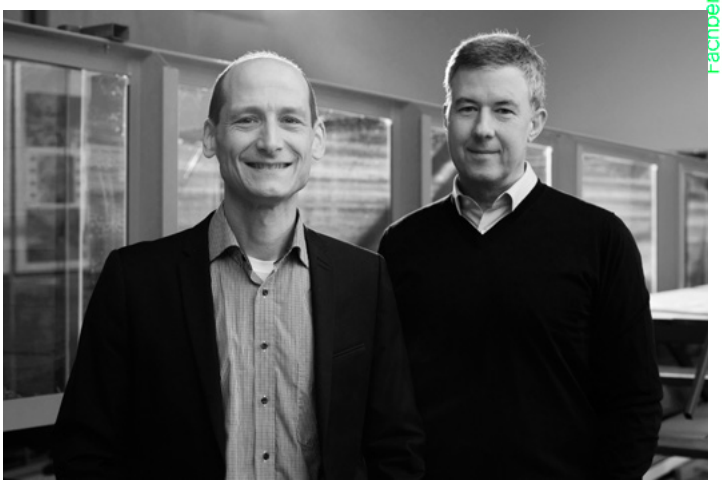
chbereich

Minden Campus



HSBI's Minden Campus offers academic educational training to over 1,500 students. In addition to traditional full-time degrees in "Computer Science," "Architecture," "Project Management Construction" and "Civil Engineering" (which has a collaborative study option), the campus also offers other study models. The work-integrated study programmes in Mechanical Engineering, Electrical Engineering and Industrial Engineering and Management feature an alternating pattern of work terms at a company and academic terms at the university. Graduates of the bachelor's degrees can also continue onto master's programmes such as "Computer Science," "Integral Construction," or the "Integrated Technology and System Development" (ITSD) master's programme, which can be studied either part-time or full-time.

“Facts not Ideologies”



Prof. Dr. Sven Battermann, Vice Dean at Minden Campus, and Prof. Dr. Oliver Nister, Dean.

What kind of sustainability expertise is making its mark at Minden Campus?

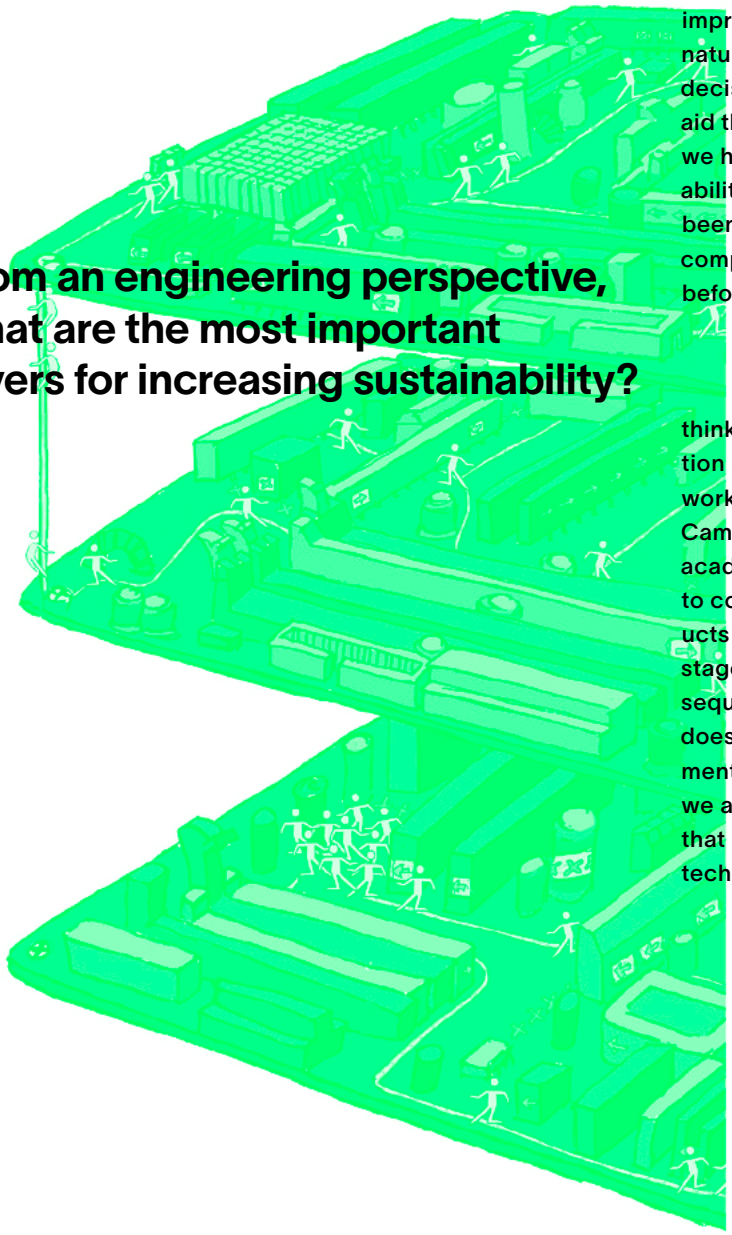
Prof. Dr. Oliver Nister

Sustainability is a complex topic and, depending on the aspect you’re addressing, you either need specialists or generalists. That’s why an interdisciplinary approach is important. Which is why Minden Campus has a wide range of experts available in the fields of architecture, civil engineering, project management, computer science, electrical engineering, mechanical engineering and industrial engineering and management. Pooling this expertise on campus opens up opportunities for us to make a substantial contribution to addressing the numerous questions associated with sustainability. At our institutes and in our research projects, experts are tackling tomorrow’s challenges. Examples include our Institute for the Intelligent Building (InfinteG) and our projects about environmental informatics, downhole heat exchangers and photovoltaic systems. Sustainability is firmly rooted in every study programme so that tomorrow’s experts are well positioned to tackle the challenges posed by the future.

Prof. Dr. Sven Battermann

One specific example from the faculty’s teaching concerns the field of electrical engineering, where the efficiency of devices is becoming increasingly important. Current eco-design legislation is calling for ever-increasing degrees of energy efficiency – and ever-decreasing standby power consumption for devices such as phone chargers. For a long time, the mechanical and electrical engineers on our work-integrated study programmes have made it their goal to develop devices and machines that are as energy efficient as possible and that minimise raw material consumption as much as possible.

Minden Campus has a long history of integrating sustainability issues into its research and teaching in the fields of architecture, civil engineering and electrical engineering; it is a faculty that knows the power of interdisciplinary collaboration. Among other topics, this interview with Prof. Dr. Oliver Nister and Prof. Dr. Sven Battermann, the faculty's dean and vice dean respectively, addresses how the construction industry can contribute to tackling the challenges of a growing global population.



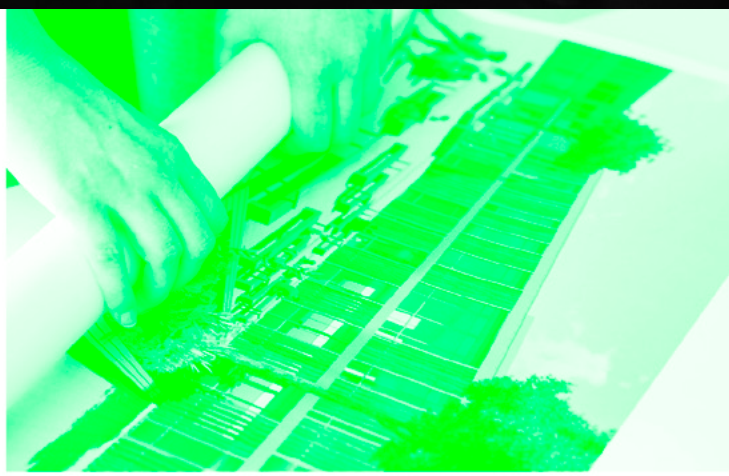
From an engineering perspective, what are the most important levers for increasing sustainability?

Nister

The most important requirement will be to reconcile the demands of a rapidly growing global population, which needs to significantly improve its living standards, with the levels of natural resources that are available. Political decisions need to be made in this area, too. To aid these decisions, we must first ensure that we have the facts concerning the various sustainability issues. In our view, the facts that have been compiled so far are only rudimentary. The complex interrelationships must be understood before following a specific course of action.

Battermann

The most important lever is interdisciplinary thinking within systems – and the formal depiction of these systems as models. This kind of work is happening in many projects at Minden Campus and HSBI as a whole. As engineering academics, we would argue that another lever is to conceptualise the entire life cycle of products – including buildings – from the planning stage right through to decommissioning and subsequent uses. Sustainable life cycle management does increase product development requirements. In this respect, we need to make sure that we are not led by ideologies, for example those that might dogmatically exclude or prefer certain technologies.



What kinds of measures are needed to reduce the huge quantities of resources consumed by the construction industry?

Nister

Globally speaking, in the future we will need to create accommodation and infrastructure for significantly more people. In his book "non nobis," civil engineer and architect Werner Sobek concludes that the construction industry has "by far the greatest impact on global warming and on the destabilisation of our natural environment." Sobek works on the premise that if building standards in developing countries were to be brought in line with standards in industrialised nations, the quantity of building materials required would be around 2,200 gigatonnes. To give an idea of scale, he estimates that the buildings currently erected amount to 1,170 gigatonnes. As such, this building work must be undertaken in a way that uses materials efficiently and keeps emissions as low as possible. It will not, however, be possible for the predominantly high building standards in industrialised nations to be implemented for everyone globally.

That sounds extremely sobering.

Battermann

Those wouldn't be my words. As engineering academics, our conclusion is that we need to create buildings and projects that will last. The focus here is on circular value creation, which includes repairability, a timeless design and the use of high-quality, recyclable materials that are sourced as locally as possible. If these requirements are fulfilled, the chances are much higher that people will be happy – and able – to use the buildings and products for a long time. This is the fundamental idea behind circular value creation.

When looking at the 17 Sustainable Development Goals, it quickly becomes clear that it is not possible to achieve everything in parallel. In your view, which goals conflict with each other the most?

Battermann

In our view, the biggest trade-off is between protecting the climate and increasing the living standards of people in developing and emerging economies. Improving living standards will put considerable strain on the climate. After all, having more modern conveniences also means more energy is consumed. Here are some concrete figures: Global energy consumption is expected to increase from around 673 exajoules in 2022 to 902 exajoules by 2050. If India, with its population of approximately 1.4 billion, were to match the per capita energy consumption of Germany, the energy consumption of India alone would be around 203 exajoules. That would be over 16 times higher than Germany's figure and would represent around one third of global energy consumption. Although these figures are subject to uncertainties, the proportions alone provide a dramatic depiction of the challenges that are facing the world and its inhabitants.

What can the architecture and construction sectors do? Surely simply returning to timber houses won't be enough?

Nister

Wooden houses, if they are made of sustainably produced materials, will only be able to make a relatively small contribution to sustainable construction. The construction industry could return to the goals set out by the architect, engineer and architectural theorist Vitruvius around 2,000 years ago. Vitruvius proposed that buildings should be useful, beautiful and durable. I think that if a building has these qualities, it will be used for a very long time. Buildings don't get much more sustainable than that! We need to think carefully about the necessity of new buildings. Most of the emissions that are harmful to the climate are released during when building materials are manufactured and transported to the building site. Emissions levels can be reduced by making increased use of existing architectural structures, for example by modernising or repurposing buildings. And if we do need to construct a new building, potential subsequent uses should be considered at the planning stage.

Fachbereich Campus Minden

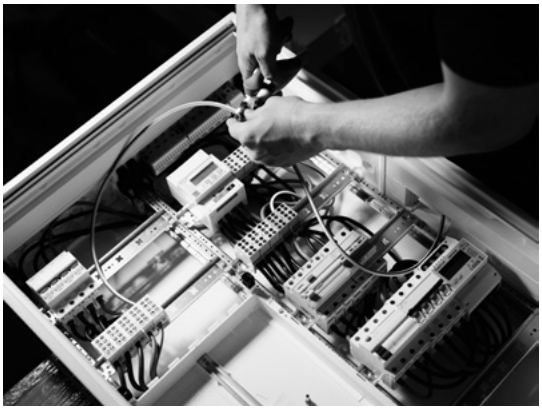
How was 2023 for the Faculty of Minden Campus? What are the focal points on the agenda for the next few years?

Nister

2023 went well for Minden Campus! By making progress on renovating the historical section of the campus and reaching the milestone of completing the southern wing of the main building, we are even closer to our goal of making Minden Campus more attractive. The "Animal-Aided Design" concept that was created for re-designing the outdoor spaces is now being implemented. In the coming years, there will continue to be a strong focus on making Minden Campus a high-quality environment that provides the best conditions for research and teaching. By putting on open lecture events, lecture cycles and "Kinderuni" (children's university) events, we are seeking to disseminate Minden Campus' expertise to the wider public. Other projects that are in the pipeline include renovating the second part of our main building and filling future-oriented professorship vacancies. Last but not least – and in keeping with the topic of sustainability – we will be increasing the energy efficiency of the campus, which will include the use of photovoltaic systems.

More Solar Energy for the OWL Region

With his business *SE Solutions GmbH*, HSBI graduate Jonathan Dertenkötter wants to accelerate the expansion of renewable energy systems. It was his work-integrated electrical engineering studies, his master's degree in *"Integrated Technology and System Development"* at HSBI, plus additional support from the university, that prepared the way for him to start the business.



The "SE" in the "SE Solutions" stands for *Sustainable Energy* and through this company, Jonathan Dertenkötter and his team offer solutions for sustainable energy systems. In more specific terms, the engineer, who studied Electrical Engineering at HSBI's Minden Campus, designs, builds and commissions roof-mounted photovoltaic systems – including systems with low, single-digit MW ratings. If required, his company can also incorporate heat pumps, charging points and energy management systems. He offers the service for residential buildings (single-family homes and apartment buildings) and commercial buildings, as well as mixed use properties. He also advises public sector and commercial clients on how to move towards holistic, sustainable energy solutions.

The strong demand for harnessing solar power pre-dates the conflict in Ukraine. It is increasingly the case that households and businesses are just as interested in sustainability and protecting the climate as they are in having an energy supply that is permanently affordable and independent. Germany's national government is also providing strong incentives – arising from the 2022 Annual Tax Act, the amended feed-in tariff clauses in the German Renewable Energy Sources Act and from various national, federal and municipal funding programmes – for switching from gas or oil-powered heating systems to heat pumps, in combination with photovoltaic or solar thermal energy systems.

Using photovoltaics – living by example

"The technology is there, we just have to finally start using it!" says Derenkötter. And since there is currently also a shortage of skilled professionals to implement the technology, the 28-year-old decided to start SE Solutions. "Having a PV system makes electric vehicles a lot more fun!" the enthusiastic Tesla driver reports. "Our fleet is fully electric and it currently consists of two vans and five passenger vehicles, which serve as sales vehicles. We have the funding we need and we are 100% behind our mission. I can't exactly drive to meet a customer in a diesel car and then start talking about renewable energy systems and charging infrastructure without living by example," Dertenkötter explains.

An indirect route

There were, however, a few pauses and U-turns on the road to starting up the business. After training as an audiovisual media designer at the regional public broadcasting corporation "Südwestfunk," Dertenkötter changed tack and started looking for a dual study programme in Electrical Engineering. This search led him to the Bielefeld-based company *Goldbeck* and to HSBI's Minden Campus. During this work-integrated degree programme, there is an alternating pattern of 12-week academic terms at the university and 11-week work terms at the company. "I liked the concept because theory and practice complement each other so well," the young father explains.

During his studies, his life was derailed by a tragic climbing accident and he has been paraplegic ever since. "At least I can now walk fairly well again using crutches," he comments. Despite long hospital stays and numerous operations and recovery periods, he graduated top of the class in 2020. He then enrolled

on the *Integrated Technology and System Development* (ITSD) master's degree programme, also at Minden Campus. During his studies, he repeatedly chose topics that focused on renewable energies and intelligent energy systems.

When the university's communications team was undertaking research about a tool that he had helped to develop for the commercial evaluation of and the correct design of charging infrastructure, renewable energy generation plants, storage systems and grid connections, the editor asked him whether he would like to start a business. It was something he had thought about but he lacked the expertise and the risk appetite for founding a business. The editor suggested HSBI's *Center for Entrepreneurship* (CFE), which guides and coaches people who are interested in starting a business.

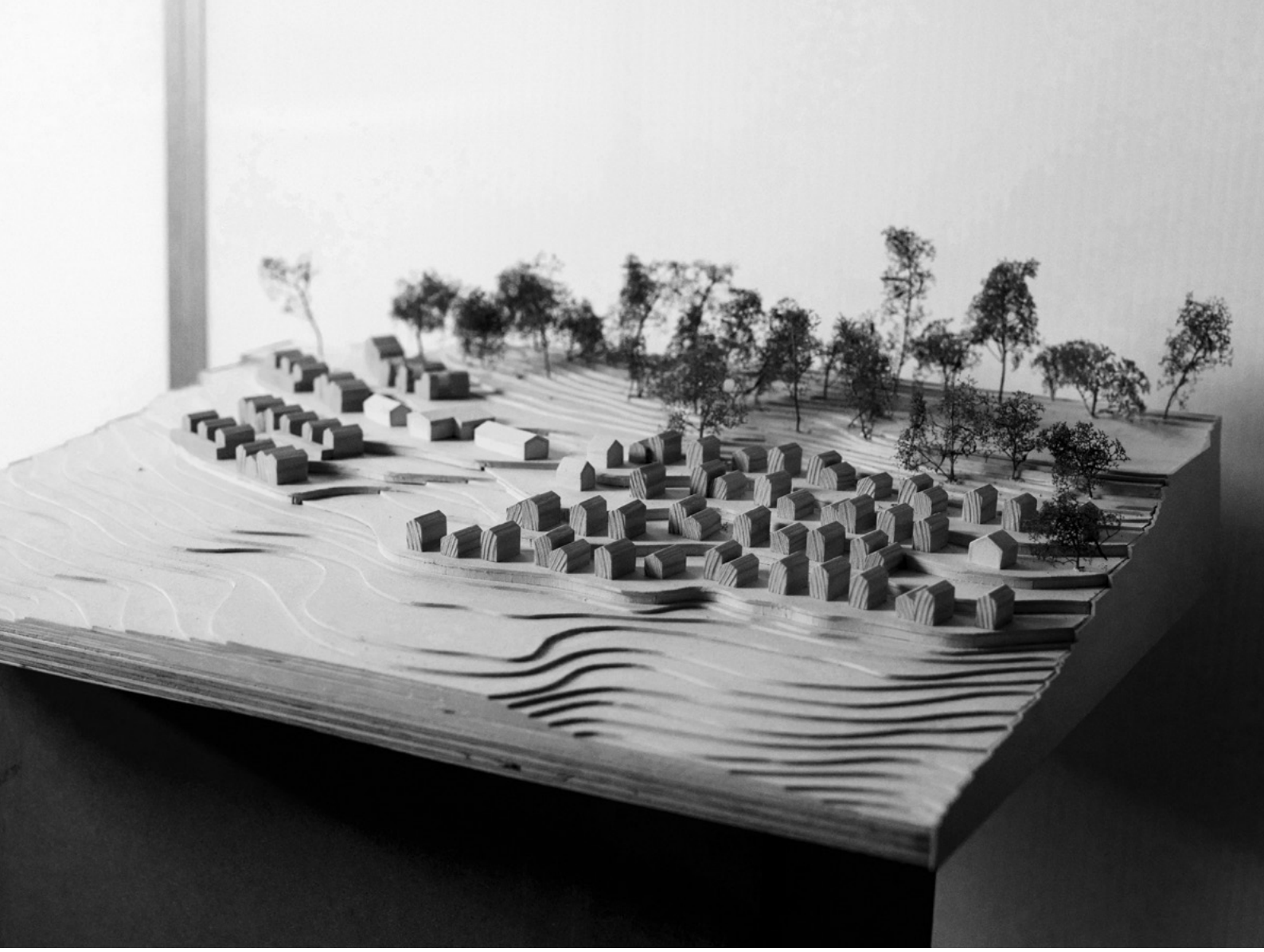
Support from professors and the CFE

No sooner said than done! Before long, the master's student had access to expert advice from the CFE incubator programme. In combination with the ITSD master's degree programme, he further developed his thinking regarding the decentralised management and control of renewable energy systems. "In the Information Systems Engineering module, we designed energy system control software that functions as a decentralised system for building complexes that operate at medium voltage. We developed it as far as the *proof of principle* stage," says Dertenkötter. A proof of principle is a concept that is very detailed but that has not yet been implemented in practice. In the summer of 2022, he made an application to the *EXIST-Forschungstransfer* research transfer funding programme, which is run by Germany's Federal Ministry for Economic Affairs and Climate Action. His proposal was to evolve the software for commercial use and to develop a *proof of concept* (real life implementation).

But the application was not accepted. "The arguments given were not things that we could have acted upon, in view of the funding guidelines. We would have needed another two years and a product that was pretty much ready to go, which would have meant we were no longer at the right stage of development for this type of funding," Dertenkötter concludes. He decided to stop pursuing research transfer funding for the time being and instead chose to establish SE Solutions GmbH. It was officially founded in September 2022 and by early 2023, the volume of orders was already a seven-digit figure. "And that was only from word of mouth and some initial reference projects, which we had previously completed with a few cooperation partners," the young entrepreneur explains.

"The technology is there,
we just have to finally start using it!"

Jonathan Dertenkötter



Sustainably Inclusive

Students on the Integral Construction master's programme at HSBI's Minden Campus are designing a new residential district to be located on the site of the *Wittekindshof* centre in Bad Oeynhausen. In line with the goals of social sustainability, this project seeks to create an inclusive district in which people with and without disabilities can live alongside one another.

There is plenty of room for new ideas. It is a grey Friday morning in early February and Anna Nagel, Rita Jüngling and Pablo Thiemig enter the empty foyer of the lecture theatre building at Minden Campus. It isn't long before they fill the space with the designs and models that they are presenting today. Together with around 50 other participants, the three *Integral Construction* master's students have been taking part in the *Integrated Project* module, which is overseen by Prof. Dr. Matthias Kathmann. In the weeks leading up to today, they have had plenty of freedom to implement their ideas in response to this question: How can a residential district with a variety of types of residential housing and a community centre be created on around five hectares of the original Wittekindshof site in the Volmerdingsen area of Bad Oeynhausen?

Inclusivity at Wittekindshof

Wittekindshof is a large, regional social foundation offering care provision for people with or without disabilities. The main reason for its remodelling plans is the shifting landscape of social work. Increasing numbers of people with disabilities are no longer cared for in large care institutions but receive ambulatory care at home – or somewhere very nearby. 20 years ago, nearly 1,500 permanent residents were still being cared for at the site in Volmerdingsen, whereas there are now only around 550. Hence the plan to open up this plot for residential use as well. The hope is that this dynamic, whereby *people with and without disabilities live alongside one another* on this southern-facing slope, will continue to be an important part of the future as well. For this reason, the social ministry organisation was keen to gather as many ideas as possible for the re-development of its original nucleus, which was established in 1887.

Prof. Dr. Matthias Kathmann coordinated the module, which involved interdisciplinary teams working together on a real-life project.

Realistic cooperation

This is where the students and their professor enter the scene. As he does every semester, Kathmann was looking for live construction projects that would enable his students to let their ideas play out in realistic conditions. "The best way to practise is to work on a real construction project with a real construction client. The students have to work to the client's specific requests and conditions and develop their own solutions within a fixed time frame," says Kathmann as he outlines the concept for his module.

During the first week of the module, participants formed interdisciplinary project groups in preparation for the large-scale project. Each group would ideally have one student from each of the three master's programmes that were represented in the module: Architecture, Civil Engineering and Project Management Construction. "For the Integrated Projects, it is often the first time during our degree programme that we have worked in mixed teams, which gives us an understanding of the interdependencies and problems of the other fields of study. In other academic projects, students often plan independently," explains Pablo Thiemig. For his fellow student Anna Nagel, the challenge was to "repeatedly adapt our designs to accommodate the specifications and any critical feedback. Both of these aspects will be important in our future jobs."

"The guiding principle for our design was multigenerational living."

Pablo Thiemig

Anna Nagel, Rita Jüngling and Pablo Thiemig worked together on an architectural design for an inclusive living environment.

Wittekindshof tasked the project groups with opening up its site on the south-facing slope of the Wiehen Hills – the slope that gave the foundation its name – to the rest of the Volmerdingsen area by remodelling existing buildings and adding new ones. After some of the existing buildings have been demolished, the aim is not simply to add single-family homes and apartment buildings to this sloped landscape. The planners also want to include a cafe and medical practices, in order to make the new Wittekindshof an attractive meeting place for external visitors, too. So in addition to designing a range of residential buildings, the assignment also included developing a social centre for the new district.

Another task that all the groups needed to tackle was the steep slope of the site. Pablo Thiemig's group decided to create a stepped effect by setting their apartment buildings into the side of the hill and they used the roof surfaces as green terraces that are safe to walk on. "The guiding principle for our design was multigenerational living. We wanted to integrate that principle with the various forms of assisted living on the site. The roof areas are designed to be an accessible place where people can interact with one another and enjoy the magnificent landscape."

Following an on-site meeting with a briefing at the start of the semester, the nine project teams had from September 2022 to early February this year – around 20 weeks – to get their ideas ready for the final presentation. They received support from the module coordinator and his team of academic staff. The module was accompanied by a weekly *open lecture*. At these lectures, there were Q&A sessions with various speakers from the construction industry. Halfway through the module, the groups also received feedback from architect Jörg Henke, Wittekindshof's project manager.

Impressive outcomes

Henke – who himself is a graduate of Minden Campus – seems impressed by the concepts that the project groups have designed and developed during the semester: "The students had to fulfil an extremely broad range of different requirements and they did so in a holistic, practical way. I'm sure it wasn't always easy for the nine groups to allocate the weekly tasks among the team members, follow up on the tasks and then bring everything together for the final presentation."

Fachbereich Campus Minden

Evolution

Wirklich disruptive Veränderungen sind eher singuläre Ereignisse

statt

Revolution

Die Plastikdeckel gibt es jetzt gar nicht mehr.

Info

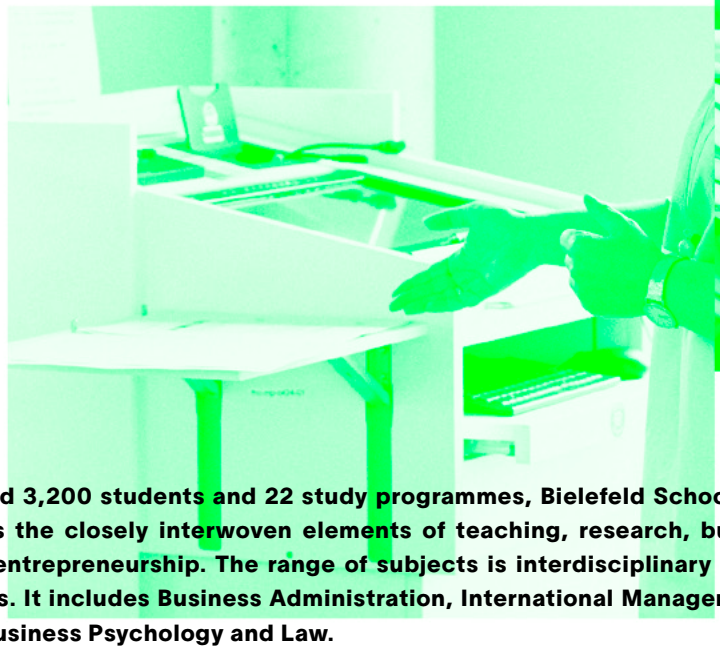
Jeder und jede kann sich einbringen.

Kaffeebecher mitbringen
und öfters mal mit dem Fahrrad fahren.

Fachbereich

FACHBEREICH

Bielefeld School of Business



With around 3,200 students and 22 study programmes, Bielefeld School of Business at HSBI offers the closely interwoven elements of teaching, research, business partnerships and entrepreneurship. The range of subjects is interdisciplinary with an international focus. It includes Business Administration, International Management, Computer Science, Business Psychology and Law.

“Sustainability Begins in the Mind”

Fachbereich Wirtschaft

What is an economics-based understanding of the term sustainability?

Prof. Dr. Riza Öztürk
Sustainability or sustainable development means fulfilling the requirements of the present time in a way that does not impair the possibilities of future generations. Economic sustainability is one of the pillars in the three pillar model (economic, environmental, social), which is also part of HSBI’s Leitbild_kompakt mission for sustainability.

Bernhard van Lengerich
Economic sustainability is important in a very general sense, in order to fund and bring about transformation towards more sustainability, both in businesses and in wider society.

Öztürk
Exactly! In no way does sustainability mean zero growth for businesses. Quite the opposite is true, actually. The concept of sustainability is an entrepreneurial opportunity for well-established companies and start-ups to truly safeguard the long-term success of their businesses. Figuratively speaking, the same applies to HSBI, which is one of the reasons why its university-wide strategic initiative, Act2Sustain, was awarded the German Employer Award for Education 2023 by the Confederation of German Employers’ Associations (BDA).

Prof. Dr. Riza Öztürk and sustainability expert Bernhard van Lengerich, pictured in front of HSBI’s main building.

How do economic imperatives fit with the pursuit of sustainability? How does Bielefeld School of Business integrate the topic into the range of courses that it offers? Answers from its Dean, Prof. Dr. Riza Öztürk, and the faculty's sustainability expert, Bernhard van Lengerich.

What are the key sustainability initiatives at Bielefeld School of Business?

Öztürk

We are wanting to develop a master's programme that focuses on sustainability – and to launch it as soon as possible. The economy in the OWL region and beyond urgently needs skilled new talent in this area. We also want to integrate the concept of sustainability into existing modules in order to make the faculty's study programmes even more attractive and to ensure that the training we provide to young, talented students aligns even more closely with the economy's current requirements. Examples of this include integrating the topic of "Financial Ethics" into the teaching of my colleague Prof. Dr. Andreas Uphaus and the "Strategic Marketing and Sustainability" module, which is coordinated by Bernhard van Lengerich.

What conflicting goals arise when striving to increase sustainability?

Van Lengerich

It is easy to view the pursuit of sustainability from the angle of conflicting goals because there are of course huge challenges that are very difficult to overcome. One of these conflicting goals is that on the one hand, we all want to maintain our prosperity and we are currently using too many resources to do so. On the other hand, however, we know that it would be sustainable to significantly reduce our resource consumption and to somewhat limit ourselves to what we truly need for a good life. In any case, I am convinced that we need not conceptualise these inconsistencies as being inextricably conflicting goals. Instead we can view them as complementary concepts. In this context what I mean by complementary is that in reality, these goals complement each other well. In terms of resource consumption, for instance, an example would be that we can only retain our prosperity if we use fewer resources in the future.

Öztürk

That is indisputable but it is not a governmental policy in the making. It is important to offer solutions that people find convincing and that bring about transformation in a way that is socially viable.

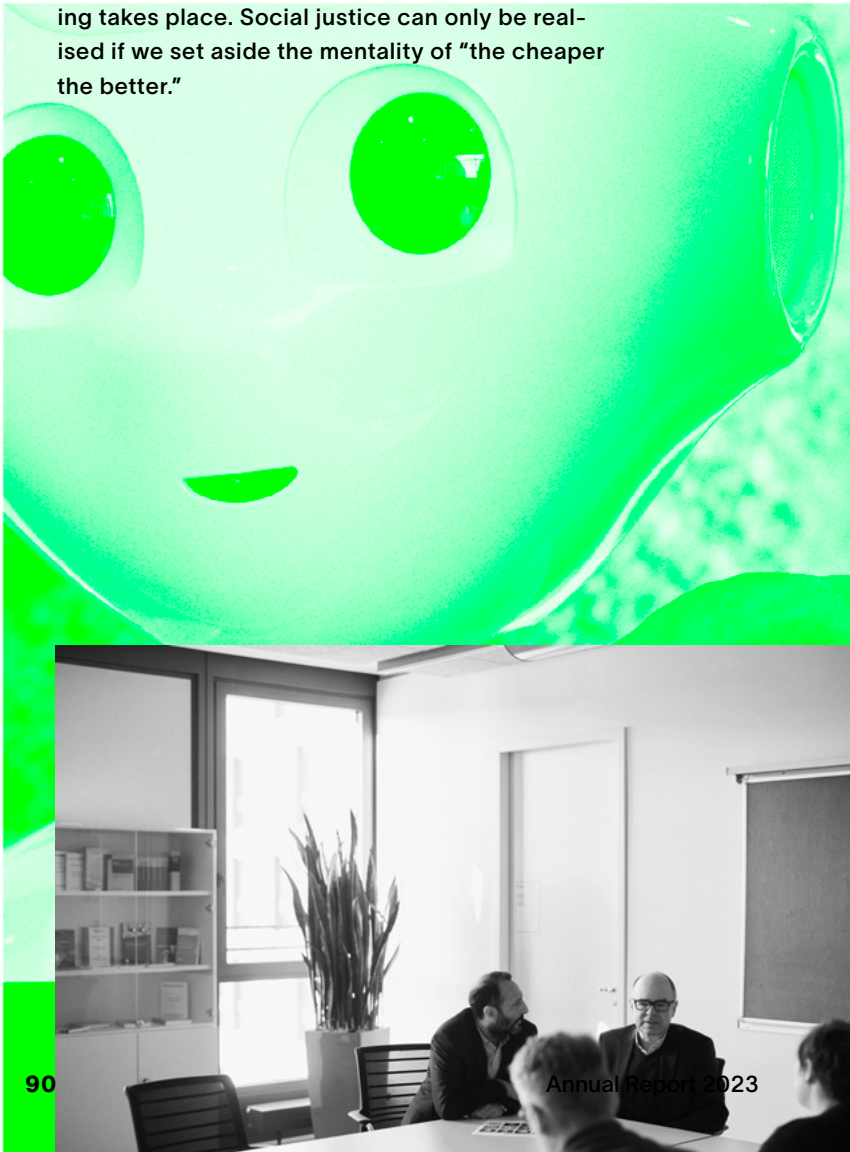
Complementary concepts or goals that are pre-programmed to clash? The UN's 17 SDGs are the starting point for the interview.

Globally speaking, what is the greatest lever for increasing sustainability?

Fachbereich Wirtschaft

Öztürk

Sustainability always begins in the mind. That is the most important thing, all over the world. Every person, every company and every country should shoulder their responsibility and exert their influence as effectively as possible. For Germany, that means that we should make do with fewer finite resources and do business in a smarter way. In this respect, there are wonderful concepts for introducing a circular economy to almost every area of industry. I would also cite technological innovations such as the entry into the hydrogen industry, which makes "Made in Germany" attractive again on the international stage, as examples of key levers for becoming more sustainable. Another important lever is to work towards changing our consumer behaviour. If you look at the global division of labour, the prevalent consumer behaviour in western countries is often mismatched with the requirements of social sustainability in the countries of the Global South, where a great deal of manufacturing takes place. Social justice can only be realised if we set aside the mentality of "the cheaper the better."



Prof. Dr. Riza Öztürk and his team want to develop a master's programme that focuses on the topic of sustainability.

There are instances of greenwashing and tokenism, as well as sustainability activities that are truly sustainable. How would you describe the current situation?

Van Lengerich

Greenwashing has already been banned by the EU Parliament and it will probably be significantly curbed this year by a corresponding EU regulation. It is already the case that many companies are no longer resolutely communicating their sustainability endeavours. This is partly because these endeavours have already become their standard approach and partly because they are worried about being accused of greenwashing. After all, almost every player in today's market could easily be accused of having deficits in the area of sustainability. This annual report is questioning which endeavours are truly sustainable. From an economics perspective, it is evident that the endeavours that will make a real difference are predominantly long-term concepts that give consideration to the globalised nature of our world.

Vegetarian or Meat Option?

Fachbereich Wirtschaft

Business Psychology students investigate how they can influence consumer behaviour at HSBI's cafeteria. Their findings? Making reference to the *collective efficacy* of individual behaviour makes opting for a vegetarian meal more attractive.

It would be hard not to hear the student shouting in the cafeteria. "Now they want to ban meat, too!" he cries in feigned horror. But that is exactly the opposite of what Michelle Metzinger and her fellow students Svenja Kulbrock and Luca Schellin want to do."We investigated whether the consumer behaviour of cafeteria guests could be influenced in a way that results in them making a sustainable choice by opting for the vegetarian meal, which is more eco-friendly and more humane for animals. Without banning anything, just by using a gentle nudge," the 21-year-old explains. She points to a small sign on the cafeteria's serving counter, which asks, "How's your plate looking today?"

The three field researchers are in the fifth semester of their bachelor's degree in Business Psychology, which focuses on people in economic contexts – from employees and executives to consumers and customers. "Business Psychology seeks to understand how individual, situational, social and cultural factors influence the behaviour and actions of people in economic contexts," explains Prof. Dr. Manuel Stegemann, who is responsible for the subject area of market and advertising psychology and marketing at HSBI's Bielefeld School of Business. "This knowledge can then be put to use in HR or marketing, for example."

Promoting sustainable consumption

In their field study, the three students have now tested its use in the context of marketing. But this was not a traditional marketing activity that promoted a certain product or service. Instead, as Svenja Kulbrock explains, they wanted to "promote sustainable consumer behaviour." "In our lives and in general," she continues, "sustainability plays a very important role and it needs to keep growing in importance." One example of a target area is our diets. Michelle Metzinger summarises the benefits of a meat-free diet: "We now know that vegetarian dishes are significantly more sustainable than meat-based dishes.Less CO_2 is emitted and no animals need to be slaughtered – and they are healthier, too." The students did some more specific research and learned that meat consumption per person in Germany, even after taking into account people who eat no meat, is around 52 kilograms per year. If the figure were in line with the recommendations of Germany's Ministry of Health, it would be no more than 31 kilograms. "The figures are horrifying," says Metzinger. It was clear that the students had found a topic they wanted to address.

"We wanted to promote sustainable consumer behaviour."

Svenja Kulbrock

Luca Schellin

"We were most interested in the way that social factors would affect decision-making behaviour."

Nudging instead of banning

Manuel Stegemann, the supervisor of the students' project, is aware that this topic can be thorny: "Diet is something that affects everyone. People's eating habits are well-established and deeply embedded. These routines also provide a sense of security. If they are changed – or are expected to change – people can respond very emotionally and show resistance. We call this kind of behaviour *reactance*." For this reason, the approach that the students chose for their experiment used a soft method called *nudging*. "Nudging refers to influencing people's behaviour or decision-making with gentler methods, such as using text or images to convey messages. People still have full freedom of choice," Stegemann explains. "Examples of 'harder' interventions than nudging would include banning certain things or introducing financial incentives." The students soon found a suitable location for their experiment: the cafeteria in HSBI's main building.They obtained the backing of the Studierendenwerk (student services) and of Prof. Dr. Natalie Bartholomäus (Vice President Sustainability, People & Culture at HSBI).

Social factors

The research trio then designed the concept for their experiment. "We were most interested in the way that social factors would affect decision-making behaviour," says Luca Schellin. Would guests base their own actions – and their sense of what is appropriate behaviour – on what many other people are doing, without questioning it any further? "We call this phenomenon *social proof*," Stegemann explains. "It refers to people's tendency to view the behaviours or opinions of others as a reference point or evidence for the correctness or appropriateness of a course of action."

Or would they adjust their behaviour if they got the impression that they, together with others, could make a collective difference? "This is known as *collective efficacy*," says Stegemann. In order to measure the "social proof" factor, the students incorporated these two "levers" into their wording as follows: "Germany's diet is becoming more vegetarian: In 2021, there were double the number of vegetarians in Germany than in the previous year!" In order to determine the influence of the *collective efficacy* factor, they provided information about how many cows, pigs and chickens could be *saved* if everyone at the university stopped eating meat. And finally, they created a version that combined the two approaches.

FACHBEREICH WIRTSCHAFT

Fachbereich Wirtschaft

Michelle Metzinger

"We now know that vegetarian dishes are significantly more sustainable [...] and they are healthier, too."

Vegetarian Turkish pizza?

On each day of the experiment, which ran over several days, one of the messages was displayed on posters and free-standing signs throughout the cafeteria. They were positioned on pillars and serving counters, where they were easily visible. From their seats, Svenja Kulbrock, Michelle Metzinger and Luca Schellin discreetly looked at the plates of the cafeteria guests to see if they had chosen the vegetarian Turkish pizza or the one with meat. "For the sake of comparison, we also gathered data on a day when none of these interventions were in place," says Schellin. The findings of their software-supported evaluation? "The text that made reference to collective efficacy showed a significant effect on the number of people choosing the vegetarian dish. Nonetheless, the effect size was relatively moderate," says Metzinger. "So these signs can make a difference but only to some extent, of course."

Yet in some cases, the other effects were all the more dramatic. "Some people exhibited reactance very clearly," explains Kulbrock. Such as the shouting student. And another guest wrote an e-mail, defending himself in the strongest of terms against interventions in his choice of food; he suspected that this was an area that the university management wanted to regulate. Nonetheless, the group received positive feedback much more frequently. "We were encouraged in our efforts to promote vegetarian food; many people were requesting ongoing activities of this kind and were making suggestions for extending the range of vegetarian food on offer, especially vegan dishes."

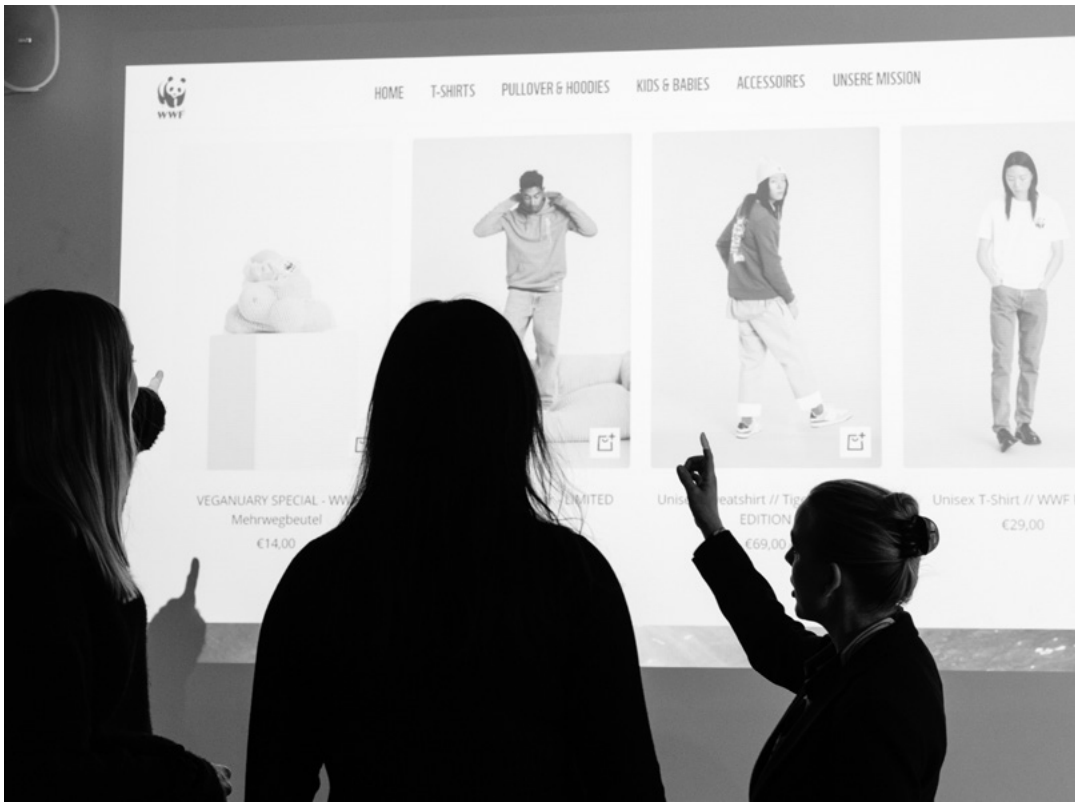
"Examples of 'harder' interventions than nudging would include banning certain things or introducing financial incentives."

Prof. Dr. Manuel Stegemann

The cooperation project with WWF, overseen by Prof. Dr. Denise Demisch, combines entrepreneurial thinking with a contribution to helping protect the environment.

Marketing for WWF

Students on HSBI's *International Business Management* master's programme have developed concepts for WWF Germany's online shop, social media channels and digital fundraising activities. They presented their ideas to WWF in Berlin.



The students use storytelling to create a connection to a promotional deal for WWF's recently launched online shop. With orders over 70 euros, customers receive a free gift of three mesh produce bags.

Business students get creative for their partnership with *WWF Germany* (WWF stands for World Wide Fund For Nature). One of their classes involves developing digital marketing strategies for the charity. All kinds of fundraising methods are on the table: from social media campaigns to storytelling moments in WWF's online shop. The students analysed some of these strategies for WWF, with a focus on addressing a young target group and using new, digital communication channels.

"We are combining entrepreneurial thinking with a contribution to helping protect the environment and society," explains Denise Demisch as she outlines the main idea behind the class. Demisch is a Business Administration lecturer at Bielefeld School of Business, who specialises in marketing. She is also Academic Programme Director for the Business Administration bachelor's degree. In the class, which is part of the "Digital Business" module, 16 students address various questions surrounding WWF's marketing concept. This provides them with insights into the work of a *non-governmental organisation* (NGO). "The central aspect is working on a real-life case study," says Demisch. "This enables students to experience the way that their ideas can make a real contribution."

Strategies for social media

The students' ideas are developed and implemented in partnership with the marketing team at WWF Germany. One study group works on developing innovative digital fundraising methods. Another group focuses on WWF's young target group. "Young people have a keen interest in sustainability but a limited budget. The marketing needs to take these factors into account," explains one of the class participants, Dilara Haci. "One of our suggestions for WWF was to address the target group on an equal footing and to use a friendly, informal tone in social media content."

"We are combining entrepreneurial thinking with a contribution to helping protect the environment and society."

Denise Demisch

Clara Stadtmann is one of the 16 students who make a lasting contribution to the project.

Another group of students has a task that is particularly good work experience, which is to integrate storytelling techniques into the development of a promotional campaign for the WWF online shop. WWF asks the students to focus on a particular product: reusable mesh produce bags, which are intended to replace single-use packaging. Together, they consider how they can present these bags as a product in the charity's online shop. "We had actually hoped to do a social media campaign with well-known influencers and pithy stories but there wasn't enough time," says student Clara Stadtmann. "Instead, after an intense brainstorming session, we created a connection between the mesh bags and the overfishing of the seas." The students combine the storytelling approach with a promotional campaign for WWF's recently launched online shop, where customers receive three mesh produce bags as a free gift with orders over 70 euros. The students' ideas go down well with WWF and are implemented. "The campaign for the shop is even featured in WWF Germany's e-mail newsletter and implemented on the website," says Dilara Haci proudly.

Haci and Stadtmann are full of praise for the dedication of the marketing team at WWF, who always took the time to answer the students' questions. "From the outset, the staff at WWF always communicated honestly during the rounds of feedback, saying whether an idea had potential or giving us ideas for reworking it," says Haci.

Fachbereich Wirtschaft

Dilara Haci and her team can celebrate some successful outcomes from the partnership with WWF – HSBI's campaign has been featured in a digital publication.

Dilara Haci

"One of our suggestions for WWF was to address the target group on an equal footing [...]."

Fachbereich Wirtschaft

About WWF

- Info

The World Wide Fund For Nature (WWF) is one of the world's largest and most experienced conservation organisations. It is active in nearly 100 countries and has more than six million supporters around the world. The global network consists of 90 offices in more than 40 countries. All over the globe, WWF staff are currently working on around 1,300 biodiversity conservation projects.

International cooperation

Since it was part of the *International Business Management master's degree programme*, the class had an international orientation. Students from the Turkish-German University (TDU) in Istanbul, one of HSBI's partner universities, also participated as part of their Semester Abroad.

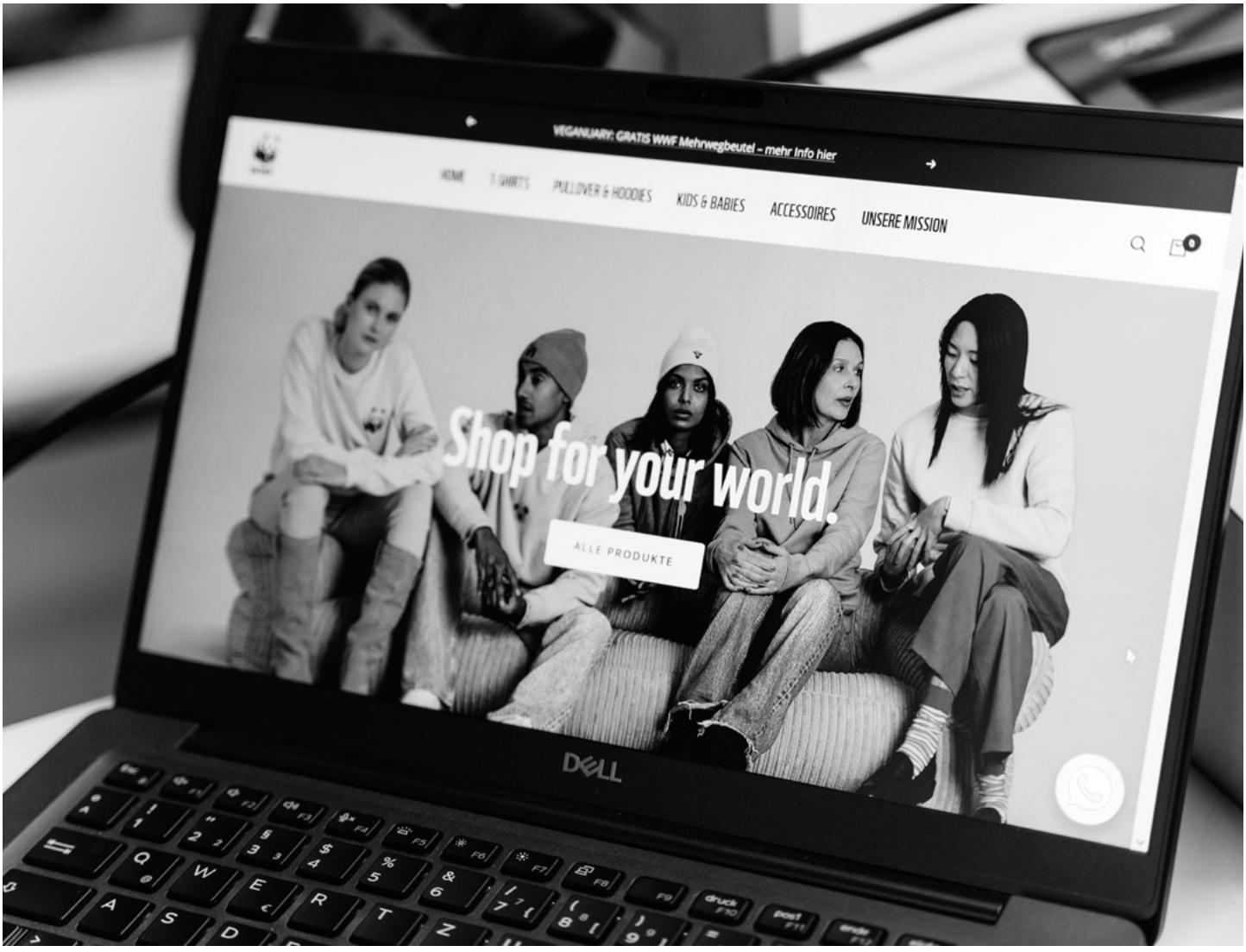
Throughout the semester, the students worked in their small groups. The teams organised themselves and their projects independently. "My role was essentially that of a coach," says Demisch. The two high points of the semester were an interim progress presentation and the class trip to Berlin. In Berlin, the groups were able to present their ideas to WWF and receive feedback.

Demisch's research and teaching specialism is marketing, especially the marketing effects that arise when companies work together with NGOs. As such, she is constantly seeking NGOs and businesses who can be used as case studies in her teaching. Just as she did in her *Principles of Marketing* course. She invited Karl Nowak from WWF Germany to be a guest lecturer on the course. Nowak, who is involved in WWF's online business development, discussed with Demisch's students the benefits of new technologies in marketing – including the metaverse and "non-fungible tokens" (NFTs). It was this guest lecture that sparked the idea of initiating a more far-reaching partnership between WWF and HSBI. "Over lunch after the lecture, we discussed the idea of establishing a teaching collaboration," Demisch recalls.

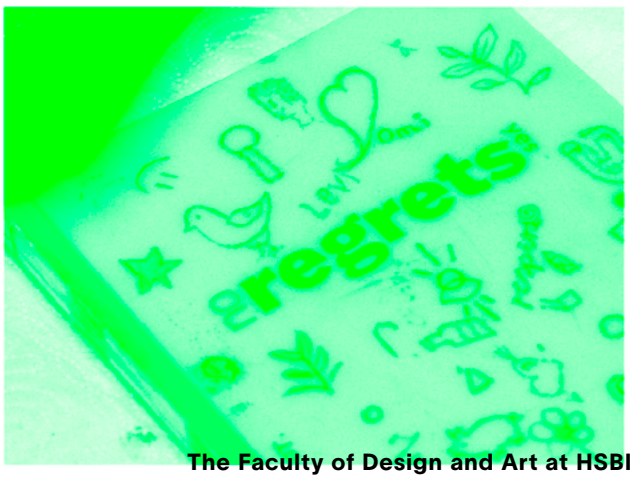
Fachbereich Wirtschaft

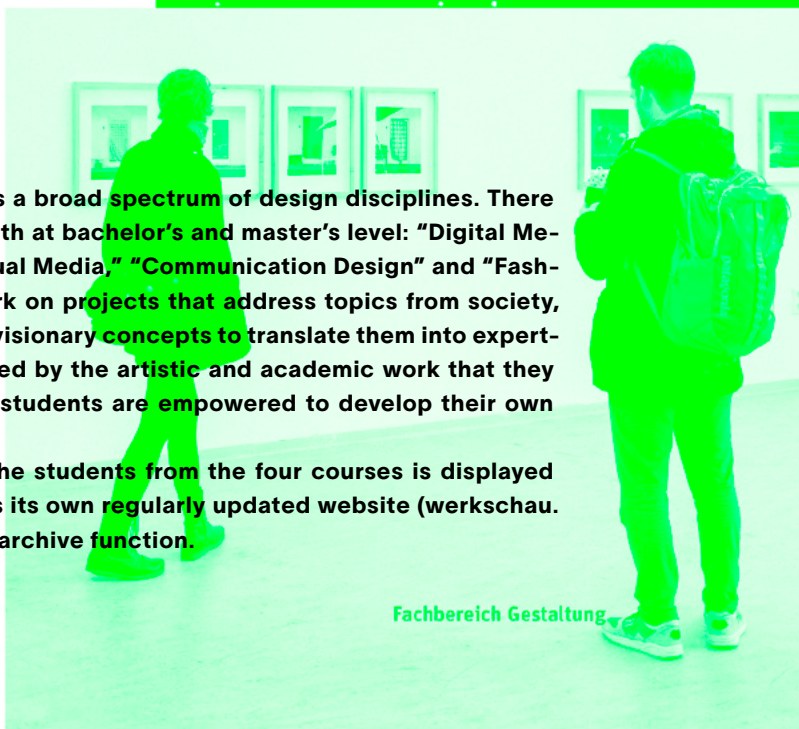
One of the reasons that the collaboration with WWF came about so quickly was the fact that sustainability is one of the key pillars of the university's profile. "HSBI's teaching is consistently addressing issues concerning the future, so because WWF is one of the largest nature conservation organisations, it is the perfect cooperation partner for our university," says Demisch.

The future positioning of the WWF shop is based on sustainable products, a tailored approach to addressing the target group and a range of different campaigns.



Design and Art





The Faculty of Design and Art at HSBI offers a broad spectrum of design disciplines. There are four courses that can be pursued in depth at bachelor's and master's level: "Digital Media and Experiment," "Photography and Visual Media," "Communication Design" and "Fashion." In this inspiring context, students work on projects that address topics from society, art and culture and use their own ideas and visionary concepts to translate them into expertly implemented contemporary designs. Aided by the artistic and academic work that they complete in the interdisciplinary modules, students are empowered to develop their own unique approach as a designer.

Each semester, the work created by the students from the four courses is displayed in a three-day exhibition. The exhibition has its own regularly updated website (werkschau.gestaltung-bielefeld.de), which also has an archive function.

“Holistic Societal Change”

Where can sustainable design be found today?

Prof. Dirk Fütterer

Sustainability already plays an important role in some areas of design, such as product development and packaging design. Yet at the same time there are still some great deficits. Many designs remain oriented towards short-term trends, rather than towards durability and reusability. The challenge is to think about the design – for the very beginning of the process – in a way that fulfils not only economic criteria but also ecological requirements and societal needs.

Dean Prof. Dirk Fütterer calls for more sustainability in teaching.

Hochschule Bielefeld

How do you arrive at this kind of design?

Prof. Dr. Anna Zika

It is rather complex. This kind of design takes into account social aspects and resource consumption. This requires large teams that consider all of the factors during the development and production process. After all, global supply chains are so intermeshed that it is difficult and expensive to unpick them. Furthermore, so far not many individuals or companies around the world are very interested in changing things.

As we know, the fashion industry seems to be particularly problematic...

Prof. Philipp Rupp

In the overwhelming majority of businesses, it remains standard practice to distribute production steps across multiple countries. Production takes place in the countries with the lowest wage costs or the lowest environmental requirements. A change in thinking, such as asking critical questions of fast fashion or developing durable materials, is starting to set in. But it is happening slowly. To date, sustainable fashion has been practically non-existent on the market, with a market share of less than one percent. Digital aids such as the simulation software CLO3D, which can already realistically present the tailoring, feel and drape of garments, can reduce the costs associated with travel and transport during the drafting stages. Nonetheless, this doesn’t change consumer behaviour patterns at all. In fact, at the moment simulation technology is predominantly used to speed up production processes, which can go on to fuel the problem of overproduction.

Sustainability in design, such as in product development and packaging design, is important. Nonetheless, what is needed is a much more fundamental change to our lives, our consumer behaviour and the way we evaluate societal priorities. Otherwise innovations will not be used to enhance sustainability but instead to maximise profits, according to Prof. Dirk Fütterer, Prof. Philipp Rupp and Prof. Dr. Anna Zika.

Prof. Philipp Rupp is critical of the ecological impact of his discipline, fashion.

How do you address this in your teaching?

Rupp

In the Fashion course, we place a great deal of value on giving students the knowledge that enables them to produce high-quality, durable clothing. Students are increasingly using textile remnants and surplus garments produced by large fashion stores so that they can implement upcycling in fashion. Knitting workshops show how material can take the desired shape directly, without generating offcuts. Furthermore, our staff seek to initiate projects that work with fabric sponsoring and that raise awareness about the enormous quantities of water consumed by the fashion industry. There are also trips to local production sites in order to increase awareness of sustainable manufacturing processes.

So can design solve the problem of sustainability?

Fütterer

Regardless of specific production processes, our society is still too deeply stuck in an economic rationale that fundamentally opposes sustainability. At the moment, design is still all too often being used for giving a product or service a competitive advantage. And this is often less about increasing functionality and more about emotional added value and personal advantage. Convenience products would be one example. The pre-prepared salads in the fruit and veg aisle and the doorstep dinner deliveries do not make sense from an ecological perspective. But they promise to save us time and therefore make our lives less stressful. But in the end, the time that is saved results in acceleration in other areas of life. This is because today's rationale says that time should be used more and more efficiently and effectively, as we can see in many areas of self-optimisation.

Prof. Dr. Anna Zika argues that transformation should be a sustainable restructuring of our way of life.

What does this mean for the orientation of the university and the Faculty of Design and Art?

Zika

An initial step would be to introduce a Chair for Transformation. This would provide a platform for the interdisciplinary discussions that are so badly needed – discussions about steering our society towards sustainability and social justice. We need to be in a position that enables us to prepare our students for a world that is fundamentally changing. For this, they will need training that goes beyond the traditional approaches and empowers students to be actively involved in shaping this transformation. If we as a university do not have the resources and vision to create this sort of Chair position, who does?

So how do you think we can part ways with these economic rationales?

Zika

We need to talk about this topic at a more fundamental level. I prefer the term "transformation" to "sustainability" because it incorporates a more holistic change in society and in the field of design. It is about more than just ecological sustainability. It is also about social justice, gender equality and the overhaul of our current production and consumption habits. For me, transformation means thinking beyond simply the choice of materials and the durability of products. It means striving for a fundamental reworking of how we live and work, in which our shared life on earth is more intentional and more just.

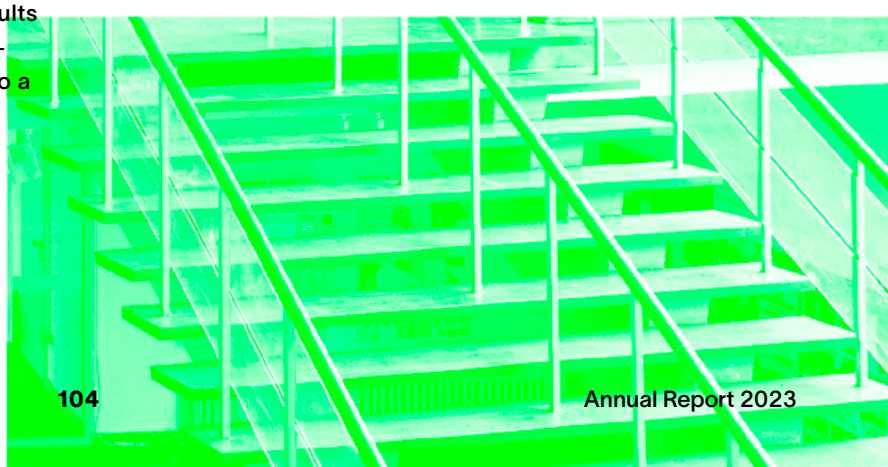
Rupp

Maybe we can talk about it as a different kind of hedonism, where consuming less results in more time for other things. This kind of abstinence is attractive because it could lead to a more satisfied life.

So it's not going to be a simple solution delivered by AI?

Fütterer

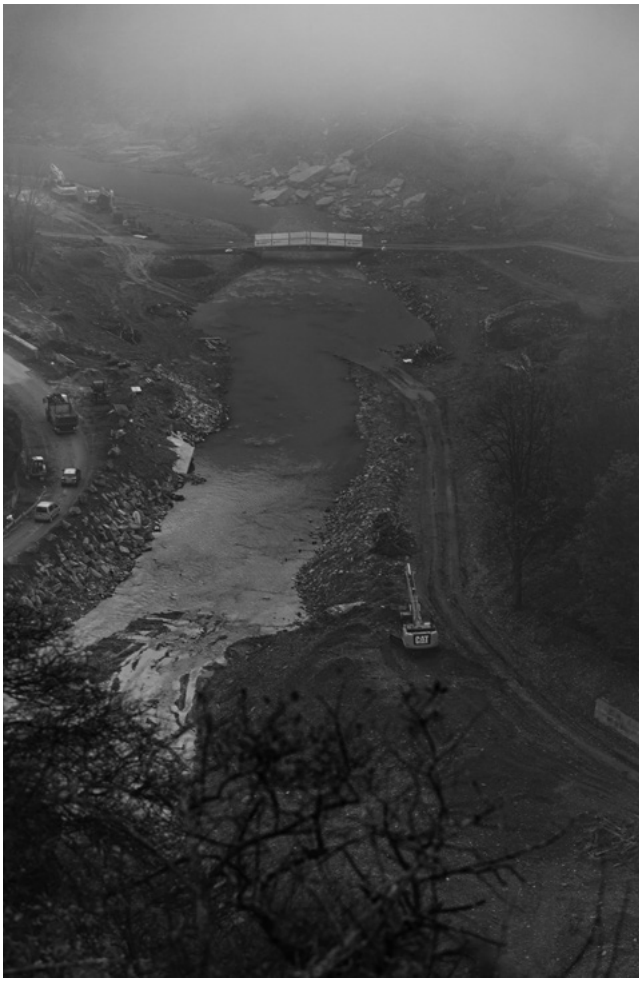
AI has the potential to analyse complex data and to facilitate design decisions that are more sustainable. It can help with making more efficient use of materials and with improving the durability and recyclability of products. But we mustn't forget that unless there is a fundamental change in consumer behaviour, increasing efficiency will simply displace the problem and not solve it. Instead, we need a new way of evaluating and defining quality – especially quality of life.



Master thesis overseen by Prof. Robert Paulmann and Prof. Dr. Anna Zika: Carolin Stertz seeks to mobilise others to pursue sustainable design with her project entitled *Form Follows Environment*. The main focus is a website where designers can find everything they need to know in order to make their projects sustainable. It contains all of the information that is needed: from a calendar of events through to recommendations for sustainable and innovative materials, printing companies and specialised agencies.

Form follows Environment

Dear Ahr Valley, How Are You Doing?



A photography project focusing on catastrophic flooding: Louisa Klose and her boyfriend had to evacuate their top floor flat to escape the muddy floodwater. Klose, who had been studying Photography and Visual Media at HSBI at the time, experienced the flooding in Bad Neuenahr-Ahrweiler at close range. Afterwards, she took numerous photos documenting the destruction of the region and the people working to rebuild it. The project gives the catastrophe a human face, while serving as a reminder of the sustainability requirements for construction design and regional planning in the era of climate change.

Fachbereich Gestaltung

Bielefeld-based upcycling fashion label: Nou.Niss, which is Persian for *it is not new*, is the name of the new sustainable fashion label. Fashion alumni Jutta Meisen and Faraaz Sedaghati are dedicated to upcycling. At their studio, they work with damaged woollen garments from Herford's "Recyclingbörse" re-use scheme, transforming the material into new tops, jackets and accessories. The resulting creations are vibrant, unique garments, which are made to order. The designers also offer a creative repair service and workshops for DIY upcycling.

Nou.Niss

Fachbereich Gestaltung

klimaneutral 2030

deutlich über 200 Maßnahmen

134 Photovoltaikmodule

Unterm Strich wollen wir bei allem, was wir tun, Nachhaltigkeit mitdenken

Trotz des bedrohlichen Klimawandels
konstatierte die Studie bei
der jungen Generation ein eher

optimistisches Weltbild.

es braucht
Know-how, gute Ideen
und innovatives Denken.

In Zeiten der Krise muss Hochschule
vor allem eines vermitteln:

Zu
versicht.

REVIEW 2023

Last year's highlights

The timeline reflects upon the special moments and milestones that left a mark on HSBI in 2023. Students' and researchers' personal moments of success, strategic decisions that will shape our future – we look back at a year full of sustainable commitment and progress.

TIMELINE

JANUARY

01 January
Institute for Data Science Solutions (IDaS) – New HSBI institute is *the* regional point of contact concerning all aspects of digitalisation and data

11 January
When the Bed Takes Pulse Measurements – university conducts research at the new "GesundZentrum" health

11 January
Visit From NRW's Minister of Science, Ina Brandes: "Connecting academia and practice is a guarantee of success"

FEBRUARY

02 February
Nursing Students Receive Scholarships from Klinikum Bielefeld

03 February
Science-Seeing Instead of Sightseeing – Science-focused city tour for local residents

14 February
Digital detox: University Startup Teaches Businesses to Reduce Stress and Boost Productivity – without smartphones or computers

14 February
Adaptive Fashion for People with Disabilities – Participation trophy for HSBI's Faculty of Design and Art

20 February
Computer-Based Learning for Today's Students – HSBI's digital learning scouts develop learning sequences

28 February
Using Fungus to Make Pest Control More Ecological – Summa Cum Laude for HSBI employee's doctoral project

MARCH

02 March
First Place in NRW for Entrepreneurship – HSBI scores well in *startup radar* calculations of the "Stifterverband" association

15 March
Climate Week – Around 1,500 pupils attended the university's "Tag der Bildung" (Education Day) event

APRIL

11 April
Bielefeld's Universities Exhibit at *Hannover Messe 2023* – Solutions for making industry climate-neutral and networked

19 April
Renaming and New Corporate Design – Fachhochschule Bielefeld becomes *Hochschule Bielefeld – University of Applied Sciences and Arts*

21 April
A Job Well Done – Esteemed members of HSBI's *University Council* resign their posts

27 April
Focusing on STEM – Nearly 50 pupils attend HSBI's *Girls' Day* event

MAY

02 May
Announcement of the Right to Confer a Doctorate – UAS institutions agree the details of cooperation for "PK NRW" graduate school

03 May
Sweden, Bulgaria, Germany – HSBI students experience *intercultural exchange from home*

03 May
Sustainability Transfer Day – Cooperation activities across the OWL region for a sustainable future

04 May
HSBI Mourns the Death of Founding Rector, Prof. Dr. Germanus Wegmann

05 May
Official Launch of OWL Region's Inter-University AI Research Project, SAIL

MAY

06 May
Over 5,000 Guests at HSBI's Open Day

09 May
International Week – A trip around the world at HSBI, with lectures, lively exchange and culinary delights

12 May
International Nurses Day: HSBI students wear a simulation suit to experience the trials of old age

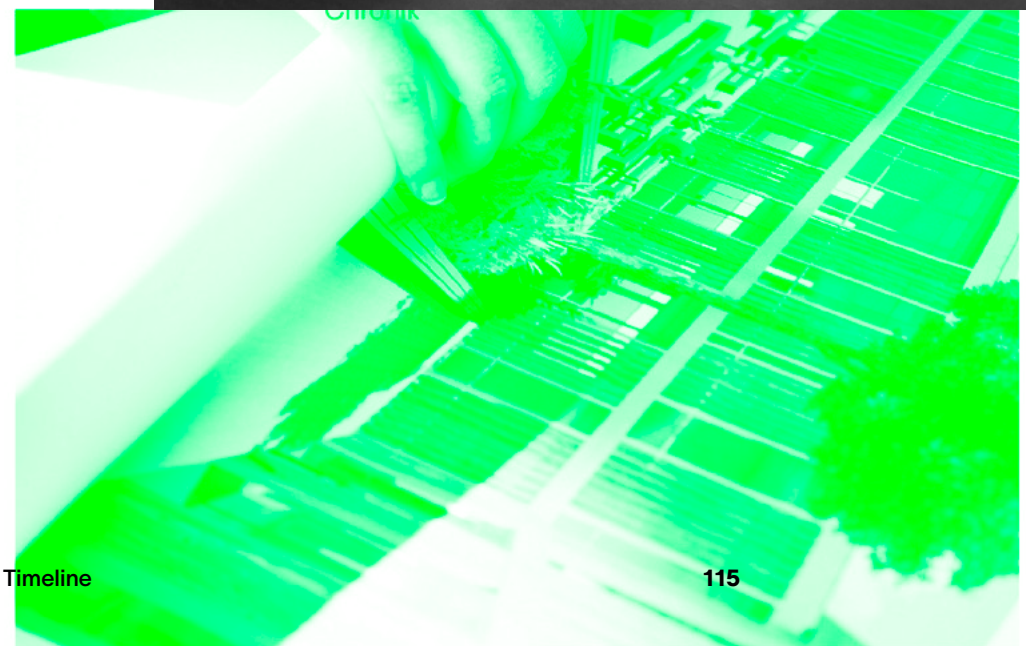
12 May
HSBI Hosts First Regular Meeting for Discussing Hydrogen

16 May
Inclusive Research: Explanatory videos developed at HSBI help to improve the health literacy of people with learning disabilities

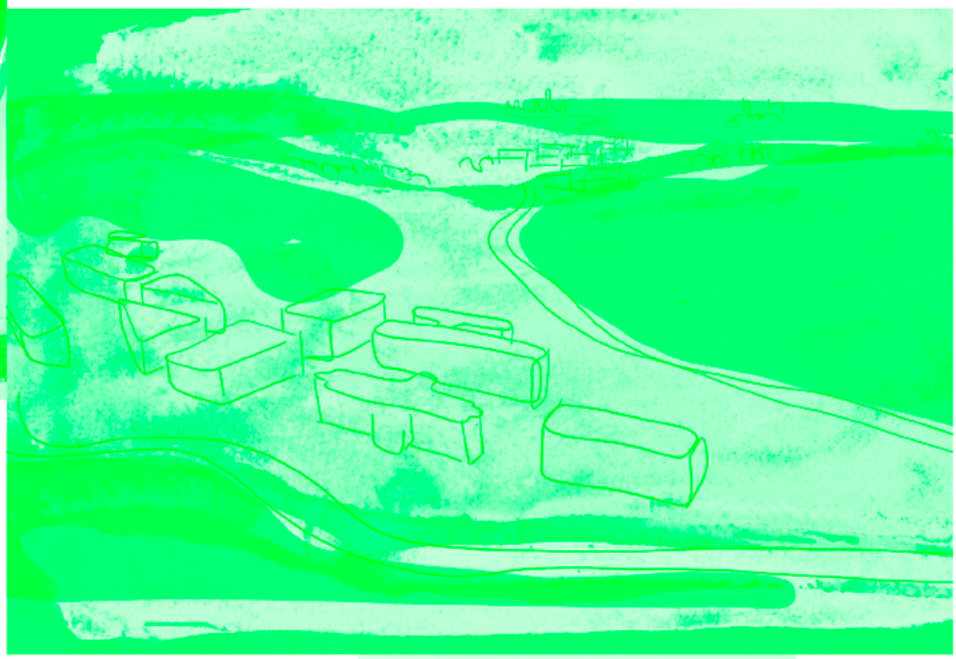
17 May
best of architecture Exhibition – projects from the 2022/23 winter semester at Minden Campus

FB 1

FB 2



Rückblick



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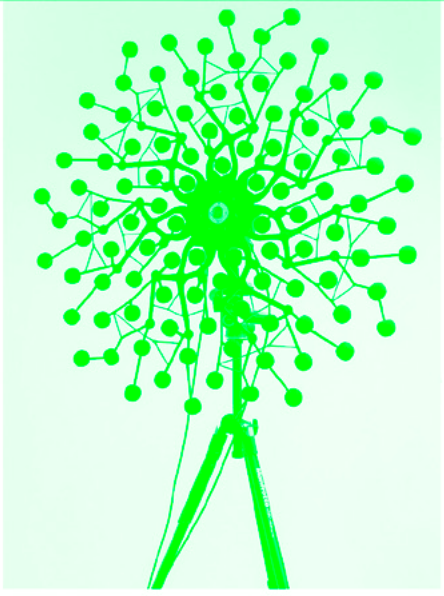

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FB 5

FB 6

JUNE

02 June
NRW's Minister of Science, Ina Brandes, Familiarises Herself with *Bielefeld Research and Innovation Campus (BRIC)*

05 June
University Information Day at Minden Campus – 180 prospective students get a taste of university life

09 June
HSBI Student from Syria Receives DAAD Award for *Exceptional Social Commitment*

14 June
Orientation, Information and Exploration – At the *vocatium event*, HSBI answers the question: "What should I study?"

JUNE

26 June
Accolade for Social Commitment – ViSiB e.V. awards prize to international students

27 June
BiCAB – *International business conference* focuses on the importance of sustainable innovation

28 June
Design Conference in Partnership with HSBI – Meta, Škoda and Jokolade exhibit at CXI 2023

28 June
New HSBI University Council Begins Its Work

JULY

3 July
12.5 Million Euros for Research at RailCampus OWL

12 July
Following the Incidents of Abuse in Lügde: HSBI Professor works with the district municipality of Hameln-Pyrmont to develop a safe-guarding concept to protect children from sexualised violence

15 July
Cooperation Agreement Signed by HSBI and v. Bodelschwingh Foundation Bethel

18 July
First of Its Kind in China – HSBI establishes an independent university on a tropical island: *Hainan Bielefeld University of Applied Sciences ("BiUH")*

28 July
Successful Reaccreditation – Constantly improving the quality of study and teaching at HSBI

AUGUST

8 August
HSBI Student Constructs Steel Structure of New Observatory for School Pupils in Minden-Lübbecke

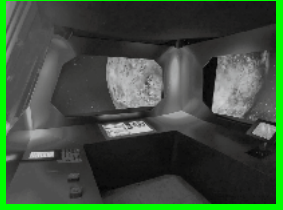
10 August
Kosmos Wissenswerkstadt Exhibition in Lobby of a Local Volksbank Gives a Taster of What is Coming in September 2024

18 August
HSBI's Gütersloh Campus Welcomes 100 First-Year Students as they Begin Their Work-Integrated Studies

22 August
Accolade For New Corporate Design – HSBI receives the Red Dot Award

24 August
HSBI Team Takes Part in Large Leonardo Exhibition at Wuppertal's *Visiodrom*

30 August
Launch of Escape Game – HSBI and Bielefeld University commence their search for Alpha Centauri and micrometeorites



SEPTEMBER

12 September
Landfill Site in Minden-Lübbecke to Become a *Smart Recycling Factory* – The project is being overseen by HSBI researchers

19 September
"A Warm Welcome at HSBI" – Welcome Center supports fungus researcher from Brazil

21 September
HSBI Annual Reception 2023: Focusing on GenZ – Nearly 450 guests, including around 150 who joined remotely from all over the world

25 September
Beginning of the 2023/24 Winter Semester – More than 2,200 *new first-year students* welcomed at HSBI

OCTOBER

2 October
Completion of HSBI's "ViRDiPA" Project – *Virtual reality* is becoming part of *nursing training*

10 October
Prof. Adrian Sauer Wins SPECTRUM Prize for Photography – Exhibition at Sprengel Museum

11 October
Integration on Equal Footing – Order of Merit of the Federal Republic of Germany for HSBI Professor Dr. Yüksel Ekinci

17 October
HSBI Becomes the Only University in Germany to Receive the *German Employer Award for Education*

18 October
InCamS@BI and Much More – "it's OWL Transfertag" event at Bielefeld Campus

26 October
HSBI Study: Transparent structures can improve job satisfaction in early years childcare provision

NOVEMBER

20 November
Bundestag Resolution: Universities in the OWL region can establish an AI academy

21 November
Travelling on Just One Rail: 7 Million Euros for MONOCAB – HSBI team contributing to the development of the chassis

23 November
HSBI's Digital Learning Conference – Focusing on AI and future skills

30 November
2023/24 OWL Study Fund – 1.75 million euros to provide bursaries for 510 students

30 November
HSBI and the University of Tübingen Are Developing an Alternative to Glyphosate

DECEMBER

1 December
Three Model Projects in NRW: How do caregiving relatives achieve a *care-life balance*?

7 December
HSBI's Director of Midwifery Programme Praises UNESCO's Decision: Midwifery included in the "Intangible Cultural Heritage of Humanity"

11 December
HSBI Focuses on AI – Congress outlines the potential and challenges associated with artificial intelligence

19 December
HSBI Awarded Funding for the *Final Mile of Deliveries*: A robot will soon be out and about in Bielefeld

20 December
Introducing Modern Elements While Preserving Historical Buildings – The renovated south wing of the main building at Minden Campus

OVERVIEW 2023

Überblick

In the following chapter, we present the key figures and statistical developments at HSBI in 2023. It will provide a transparent and comprehensive insight into the development of our student numbers, research activities, academic achievements and financial resources.

FACTS AND FIGURES

Full-time studies

Full-time studies are the "classic" university studies with classroom teaching during the lecture period as well as their preparation and follow-up work, written examinations and possibly term papers during the lecture-free period. Depending on the study programme, there are also practical projects, internships or additional offers such as language courses.

Part-time studies

These are studies that, due to their duration and workload, permit students to work in a regular job alongside studies, also taking into account the aspect of "family-friendly university" by spreading out the contents from the full-time degree over a higher number of semesters.

Part-time studies also comprise study offers such as combined studies, in which elements of distance learning are combined with classroom teaching, which usually takes place on Saturdays during the lecture period. Thus, the studies can be combined with a full-time job or an apprenticeship. HSBI offers both bachelor's and master's degree programmes as part-time studies.

Work-integrated studies

During work-integrated studies, students are enrolled at HSBI and employed in a company at the same time. Work terms in the company alternate approximately quarterly with academic terms at the university. The work experience can be gained in vocational training/an apprenticeship or in a study-related internship. It is also possible to study while you work. In addition to study programmes from the fields of engineering and business, in which HSBI cooperates with companies, the university has also been offering the work-integrated bachelor's degree programme "Midwifery" since the winter semester 2021/22. In this study programme, the university cooperates with the *Praxiszentren für angewandte Hebammenwissenschaft* (PZHW) in Minden and Paderborn.

Collaborative studies

This model combines a practical apprenticeship for skilled workers or journeymen with bachelor's degree studies. The Mechanical Engineering bachelor's degree programme in Bielefeld in the variant of collaborative studies is in combination with vocational and technical training in the metal industry. At Minden Campus, apprenticeship in a traditional occupation in construction is combined with the Civil Engineering bachelor's degree programme. In the collaborative bachelor's degree programme "Health (Nursing)," studies are combined with vocational training to become a nurse. In the collaborative bachelor's degree programme "Health (Therapy)," studies are combined with vocational training to become an occupational therapist, speech therapist or physical therapist.

Dual studies/studies with professional qualification

Since the winter semester 2020/21, HSBI has been offering the bachelor's degree programme "Nursing," which includes professional qualification. The bachelor's degree programme with primary qualification combines university learning at HSBI with practical learning in a wide range of fields of nursing care. After completing their studies, students receive a higher-education degree (Bachelor of Science) as well as a professional qualification (qualified nurse).

Continuing education (certificates)

Continuing education studies (certificates) are not bachelor's or master's degree studies, but consist of structured units (e.g., courses) and conclude with a continuing education certificate. In principle, persons who have successfully completed a university degree are eligible for these studies.

1 Doctoral candidates who are enrolled at HSBI as fully registered students. As of 1 September 2023, in addition to the previous option of doing a doctorate at HSBI in cooperation with an *Universität*, it is also possible to do a doctorate with PK NRW as a partner. In addition, there is a group of doctoral candidates who do a cooperative doctorate.

2 Without doctoral programmes

3 "Non-female" comprises non-binary and male. This statistic has sparked discussion in the past, which is why we would like to offer a brief explanation: HSBI's aim and legal duty is to promote women and communicate the status quo transparently. These figures are taken from HSBI's data warehouse. Due to personality and data protection, and given the relatively small groups at our university, we have to prevent people from "looking out" for individuals' sexual identity.

Studierendenzahlen

Students by degree	Total
Students in bachelor's degree programmes	8,803
Students in master's degree programmes	1,474
Students in doctoral programmes[1]	13

Students by study location[2]	Total
Bielefeld	8,186
Gütersloh	552
Minden	1,552

Students by study model	Total
Full-time studies	10,228
Part-time studies	62
Collaborative	84
With professional qualification	40
Work-integrated	1,117
Part-time combined	1,097
... thereof continuing education	249
Doctorates	13

10,290

students in total

trailblazers for tomorrow

thereof 4,437 female and 5,853 non-female[3]

Students by faculty	Total	Female	Non-female[3]
Design and Art	574	380	194
Minden Campus	1,541	391	1,150
Engineering and Mathematics	2,732	347	2,385
Social Sciences	1,607	1,217	390
Bielefeld School of Business	3,153	1,542	1,611
Health	683	560	123

2,881

first-semester students in total

young talents and new beginnings

thereof 610 in the summer semester 2023 and 2,271 in the winter semester 2023/24

1,878

graduates in the examination year 2023

successfully completed chapters of life

50 + 35

refugees in German courses at HSBI

foundations for a new life

50 in the summer semester 2023 and 35 in the winter semester 2023/24

Bachelor-studiengänge

Bachelor's degree programmes	Study model	Bachelor	Faculty	Location
Applied Mathematics	Full-time studies	of Science	Engineering and Mathematics	Bielefeld
Architecture	Full-time studies	of Arts	Minden Campus	Minden
Biotechnology and Instrumentation Engineering	Full-time studies	of Science	Engineering and Mathematics	Bielefeld
Business Administration	Part-time combined	of Arts	Bielefeld School of Business	Bielefeld
Business Administration	Part-time combined	of Arts	Bielefeld School of Business	Gütersloh
Business Administration	Full-time studies	of Arts	Bielefeld School of Business	Bielefeld
Business Administration	Work-integrated	of Arts	Bielefeld School of Business	Bielefeld
Business Information Systems	Full-time studies	of Science	Bielefeld School of Business	Bielefeld
Business Information Systems	Work-integrated	of Science	Bielefeld School of Business	Bielefeld
Business Law	Full-time studies	of Laws	Bielefeld School of Business	Bielefeld
Business Psychology	Full-time studies	of Science	Bielefeld School of Business	Bielefeld
(Early) Childhood Education	Full-time studies	of Arts	Social Sciences	Bielefeld
Civil Engineering	Full-time studies / collaborative	of Engineering	Minden Campus	Minden
Computer Science	Full-time studies	of Science	Minden Campus	Minden
Design and Art	Full-time studies	of Arts	Design and Art	Bielefeld
Digital Railway Systems	Full-time studies	of Science	Engineering and Mathematics	Minden
Digital Railway Systems (working title)	Work-integrated	of Science	Engineering and Mathematics	Minden
Digital Technologies	Work-integrated	of Engineering	Engineering and Mathematics	Gütersloh
Electrical Engineering	Part-time combined	of Engineering	Engineering and Mathematics	Bielefeld
Electrical Engineering	Full-time studies	of Engineering	Engineering and Mathematics	Bielefeld
Electrical Engineering	Work-integrated	of Engineering	Minden Campus	Minden
Engineering Computer Sciences	Full-time studies	of Engineering	Engineering and Mathematics	Bielefeld
Health	Full-time studies	of Arts	Health	Bielefeld
Health (Nursing / collaborative) (in collaboration with vocational schools)	Collaborative	of Arts	Health	Bielefeld
Health (Therapy / collaborative) (in collaboration with vocational schools)	Collaborative	of Arts	Health	Bielefeld
Industrial Engineering (English-taught)	Full-time studies	of Engineering	Engineering and Mathematics	Gütersloh
Industrial Engineering (English-taught)	Work-integrated	of Engineering	Engineering and Mathematics	Gütersloh
Industrial Engineering and Management	Full-time studies	of Science	Engineering and Mathematics	Bielefeld
Industrial Engineering and Management	Work-integrated	of Engineering	Engineering and Mathematics	Gütersloh
Industrial Engineering and Management	Work-integrated	of Engineering	Minden Campus	Minden
International Studies in Management	Full-time studies	of Arts	Bielefeld School of Business	Bielefeld
Mechanical Engineering	Full-time studies / collaborative	of Engineering	Engineering and Mathematics	Bielefeld
Mechanical Engineering	Part-time combined	of Engineering	Engineering and Mathematics	Bielefeld
Mechanical Engineering	Work-integrated	of Engineering	Minden Campus	Minden
Mechatronics	Full-time studies	of Science	Engineering and Mathematics	Bielefeld
Mechatronics / Automation	Work-integrated	of Engineering	Engineering and Mathematics	Gütersloh
Midwifery	Work-integrated	of Science	Health	Bielefeld
Nursing	With professional qualification	of Science	Health	Bielefeld
Project Management Construction	Full-time studies	of Engineering	Minden Campus	Minden
Renewable Energies	Full-time studies	of Engineering	Engineering and Mathematics	Bielefeld
Social Work	Full-time studies	of Arts	Social Sciences	Bielefeld
Software Engineering	Work-integrated	of Engineering	Engineering and Mathematics	Gütersloh

BACHELORSTUDIENGÄNGE

Master und Zertifikat

Masterstudiengänge

Master's degree programmes	Study model	Master	Faculty	Location
Advanced Nursing Practice	Continuing education part-time combined	of Science	Health	Bielefeld
Applied Automation	Continuing education part-time combined	of Engineering	Engineering and Mathematics	Gütersloh
BioMechatronics (in collaboration with Bielefeld University)	Full-time studies	of Science	Engineering and Mathematics	Bielefeld
Business Information Systems	Full-time studies	of Science	Bielefeld School of Business	Bielefeld
Business Law	Full-time studies	of Laws	Bielefeld School of Business	Bielefeld
Business Psychology	Full-time studies	of Science	Bielefeld School of Business	Bielefeld
Computer Science	Full-time studies	of Science	Minden Campus	Minden
Controlling Finance Accounting	Full-time studies	of Arts	Bielefeld School of Business	Bielefeld
Data Science (Master of Applied Research)	Full-time studies	of Science	Engineering and Mathematics	Gütersloh
Data Science (Research Master; English-taught)	Full-time studies	of Science	Engineering and Mathematics	Gütersloh
Design, 3-semester	Full-time studies	of Arts	Design and Art	Bielefeld
Design, 4-semester	Full-time studies	of Arts	Design and Art	Bielefeld
Digital Technologies	Continuing education part-time combined	of Engineering	Engineering and Mathematics	Gütersloh
Electrical Engineering	Full-time studies	of Engineering	Engineering and Mathematics	Bielefeld
General Management	Continuing education part-time combined	of Business Administration	Bielefeld School of Business	Bielefeld
Human Resource Management and Organisation	Full-time studies	of Arts	Bielefeld School of Business	Bielefeld
Industrial Engineering and Management	Continuing education part-time combined	of Engineering	Engineering and Mathematics	Gütersloh
Integral Construction	Full-time studies	of Arts / of Engineering	Minden Campus	Minden
Integrated Technology and System Development	Part-time studies	of Engineering	Minden Campus	Minden
Integrated Technology and System Development	Full-time studies	of Engineering	Minden Campus	Minden
International Business Management (mainly English-taught)	Full-time studies	of Arts	Bielefeld School of Business	Bielefeld
Management for Engineering and Natural Sciences	Continuing education part-time combined	of Business Administration	Bielefeld School of Business	Bielefeld
Marketing and Sales	Full-time studies	of Arts	Bielefeld School of Business	Bielefeld
Mechanical Engineering	Full-time studies	of Science	Engineering and Mathematics	Bielefeld
Optimisation and Simulation	Full-time studies	of Science	Engineering and Mathematics	Bielefeld
Social Sustainability and Transformation Studies	Full-time studies	of Arts	Social Sciences	Bielefeld
Taxation and Audit	Full-time studies	of Arts	Bielefeld School of Business	Bielefeld
Vocational Education Management (in collaboration with the University of Münster's Professional School gGmbH)	Continuing education part-time combined	of Arts	Health	Bielefeld
Vocational Education Science for Health Professions	Full-time studies	of Arts	Health	Bielefeld

Zertifikatsstudiengänge

Certificates	Study model	Degree	Faculty	Location
Compliance Manager Digitalisation and Law	Part-time certificate	Certificate	Bielefeld School of Business	Bielefeld
Digitalisation in Health – Developments and Challenges	Part-time certificate	Certificate	Health	Bielefeld
Doing International Business	Part-time certificate	Certificate	Bielefeld School of Business	Bielefeld
Fields of Action for Vocational Teachers in the Health Sector	Part-time certificate	Certificate	Health	Bielefeld
International Project Management	Part-time certificate	Certificate	Bielefeld School of Business	Bielefeld
Management and Development of Health-Sector Schools	Part-time certificate	Certificate	Health	Bielefeld
Virtual Reality in Vocational Education for Health Professions	Part-time certificate	Certificate	Health	Bielefeld

Doctoral programmes	Degree	Faculty	Location
Applied Computer Science	Doctorate	Minden Campus	Minden
Biochemistry/Biotechnology	Doctorate	Engineering and Mathematics	Bielefeld
Data Science	Doctorate	Engineering and Mathematics	Gütersloh
Electrical Engineering	Doctorate	Engineering and Mathematics	Bielefeld
Computer Science	Doctorate	Engineering and Mathematics	Bielefeld
Computer Science	Doctorate	Minden Campus	Minden
Nursing science	Doctorate	Health	Bielefeld
Social Work	Doctorate	Social Sciences	Bielefeld
Social Sciences	Doctorate	Social Sciences	Bielefeld

42

bachelor's degree programmes

STUDIENGÄNGE NACH ABSCHLUSS

introductions
to specialist areas

29

master's degree programmes

opportunities
to specialise

87

study programmes in total

... nach Abschluss

perspectives
to explore the world

9

doctoral programmes

fields for academic
qualification

7

certificate programmes

approaches to
continuing education

Studiengänge nach Studienorten

Study locations	Number of study programmes[4]
Bielefeld	53
Gütersloh	12
Minden	13

... nach Studienmodellen

Study models	Number of study programmes
Full-time studies	83
Part-time studies	2
Collaborative	4
With professional qualification	1
Work-integrated	12
Part-time combined	11
... thereof continuing education	7
Doctorates	9

... nach Fachbereichen

Faculties	Number of study programmes
Design and Art	3
Minden Campus	11
Engineering and Mathematics	27
Social Sciences	3
Bielefeld School of Business	22
Health	12

Absolvent*innen im Prüfungsjahr

Faculty	Number of graduates 2023
Design and Art	88
Minden Campus	309
Engineering and Mathematics	451
Social Sciences	322
Bielefeld School of Business	552
Health	156

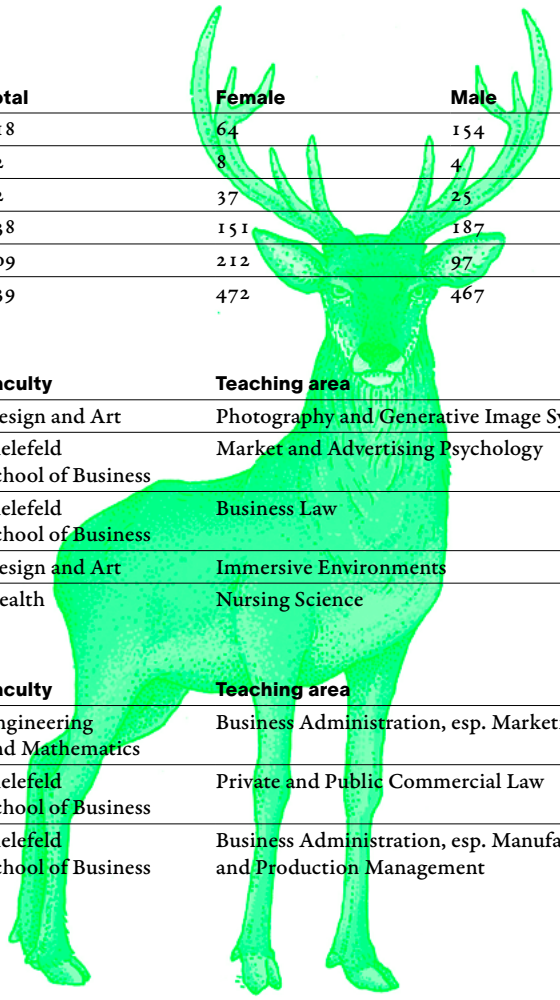
Beschäftigte

Group	Total	Female	Male
Professors	218	64	154
Temporary professors	12	8	4
Lecturers for special assignments	62	37	25
Academic staff	338	151	187
Technical and administrative staff	309	212	97
Total	939	472	467

Newly appointed professors	Faculty	Teaching area
Prof. Adrian Sauer	Design and Art	Photography and Generative Image Systems
Prof. Dr. Tobias Schäfers	Bielefeld School of Business	Market and Advertising Psychology
Prof. Dr. Laura Schulte	Bielefeld School of Business	Business Law
Prof. Herwig Scherabon	Design and Art	Immersive Environments
Prof. Dr. Markus Zimmermann	Health	Nursing Science

Retired professors	Faculty	Teaching area
Prof. Dr. Hildegard Manz-Schumacher	Engineering and Mathematics	Business Administration, esp. Marketing
Prof. Dr. Jörg-Dieter Oberrath († December 2023)	Bielefeld School of Business	Private and Public Commercial Law
Prof. Dr. Egbert Steinfatt	Bielefeld School of Business	Business Administration, esp. Manufacturing and Production Management

4 excluding doctoral programmes



Research Networks

Bielefeld Institute for Applied Materials Research (BIfAM)

The expertise of the scientists participating in BIfAM from the disciplines of physics, chemistry, biology, biotechnology, computer science, mechanical engineering, process engineering and electrical engineering range from measurement technology, functional layers, energy transmission and sensor technology to material analysis, additive manufacturing and formulations, right through to computer-aided modelling and simulation. The scientific and technical work at BIfAM encompasses research and development in equal measure in order to meet the major societal challenges with innovative approaches – from fundamental research to novel materials, material and technology development to product and process development. In interdisciplinary teams, creative solutions are developed in the current areas of medical technology, energy and resource efficiency, digitalisation and sustainability.

CareTech OWL. Center for Health, Social Affairs and Technology

HSBI is raising regional health care to a new and forward-looking level with a novel concept of user-oriented and health-related technology research. CareTech OWL's format combines aspects of basic social, nursing, medical and therapeutic care and brings together people in need of support and their families with nursing staff, medical professionals, therapists, engineers and company representatives from the medical supply industry as well as other partners from the OWL health region in one place. Here, health-related questions are intended to be answered jointly in a closely interlinked ecosystem of practices, laboratories, sample environments and workshops. The center involves students from the fields of health, social sciences and engineering, thus creating an innovative transfer culture that, from basic and application research to acute individual solutions, creates and provides lean, demand-oriented formats for the preservation of the population's health.

Center for Entrepreneurship (CFE)

The CFE is the central coordination point for start-up funding at HSBI and makes a major contribution to establishing a sustainable start-up culture. The interdisciplinary institution supports students, academic staff and professors of HSBI extensively at all stages of the start-up process. The measures range from curricular and extra-curricular (teaching) offers to concrete support through an own incubator, coaching and mentoring programme. Members of the university will thus receive concrete assistance in the search, validation and implementation of innovative and sustainable ideas. In addition, extensive networking with the regional start-up ecosystem makes it easier for entrepreneurs to enter the market in a needs-based way. The CFE is funded by the Federal Ministry for Economic Affairs and Climate Action (BMWK) and by the Ministry of Economic Affairs, Industry, Climate Action and Energy (MWIKE) of North Rhine-Westphalia within the scope of the programmes "EXIST-Potentiale" and "Exzellenz Start-up Center.NRW," respectively.

Center for Applied Data Science Gütersloh (CfADS)

The CfADS research network at Gütersloh Campus explores and designs the digital data world of companies and institutions. It focuses on the application- and implementation-oriented execution of innovative research and development projects in the field of data acquisition, preparation and analysis, for example for the digitalization and optimization of work and business processes. CfADS is funded by the European Regional Development Fund (ERDF) and the federal state of NRW within the framework of the "Research Infrastructures" competition.

InCamS@Bi – Innovation Campus for Sustainable Solutions (InCamS@BI)

With InCamS@BI, HSBI positions itself as an innovative transfer player in East Westphalia-Lippe when it comes to circular economy with a focus on sustainable materials research. InCamS@BI generates ideas and develops solutions to optimise plastics and their management for a circular economy: Which plastics are suitable for reuse and how can they be recycled in the best possible way? How can products be adapted to use recycled plastics? How can consumers be better integrated on the way to circular use?

In order to find answers to these questions, InCamS@BI's interdisciplinary team designs innovative formats for the exchange between science, business and society. This makes it possible to systematically build and test research-based transfer structures, so that a transfer blueprint can be developed at HSBI.

Institute for Educational and Health-Care Research in the Health Sector (InBVG)

At InBVG, researchers from the fields of nursing, therapy and health sciences, midwifery, medicine and vocational education and training work on current issues relating to societal challenges and issues. It focuses on issues related to demographic change and objectives such as health, well-being and social participation.

Research and development projects at InBVG in education research aim at vocational education for health professions, digitalisation of educational processes, curriculum development and the development and evaluation of study and continuing education offers for educators at schools and companies in the health sector. Health-care research focuses on the promotion of health literacy and social participation, digitalisation in the health sector as well as the development and evaluation of user-oriented health care concepts for specific target groups, such as people with disabilities and chronic diseases, people in need of care and caregivers. The transfer of current research results to studies and teaching supports application-oriented teaching and learning in the field of health.

Institute for Data Science Solutions (IDaS)

The Institute for Data Science Solutions' research focus includes artificial intelligence, optimisation, simulation and data science. These topics are dealt with in various application domains (environment, economy, technology, society) from a wide range of perspectives (in particular, applications, procedures, modelling, software engineering, security and risk management).

Institute for the Intelligent Building (InfinteG)

InfinteG focuses on research on living and working in intelligent buildings. To address this issue, interdisciplinary working groups are developing concepts that can be used to renovate and redesign buildings to meet future demands for well-being and functionality. The research activities are structured in the three areas of "Work and well-being in the intelligent building," "Sensor data fusion in the intelligent building" and "Dynamic escape route management." The institute developed from the former research focus "InteG-F: Building Technologies under One Roof."

Institute for System Dynamics and Mechatronics (ISyM)

For ten years, ISyM has been a respected partner for companies as well as scientific and public institutions in developing novel, innovative technical systems that contribute to efficiently solving challenging technological questions. These questions have increasingly resulted from key societal challenges of our time and require interdisciplinary approaches as offered by mechatronics due to their complexity. The institute's members pool their expertise from the mechatronic domains of electrical engineering, control engineering, computer science and mechanical engineering to develop systems in synergy that can fulfil tasks efficiently or even autonomously due to their ability to interact, adapt and cooperate. In the design of sustainable mechatronic systems, using interdisciplinary approaches provides the fundamental added value, e.g. using methods from artificial intelligence, machine learning and automation to create forward-looking solutions for applications in the industrial, mobility and health care sectors.

Institute for Technical Energy Systems (ITES)

The Institute for Technical Energy Systems (ITES) conducts research – currently in five key subject areas – into solutions for designing future-oriented and intelligent energy concepts as well as the development of the necessary technologies. The interdisciplinary team has extensive project experience in smart mobility, smart energy, smart interfaces, smart light and smart textiles. The research fields include energy storage, conversion and management, circular economy, mobility and lightweight construction, textile technologies and intelligent human-machine interaction.

Mieletec HSBI

Mieletec is a long-term cooperation in the field of research into methods, processes and concepts for innovative home appliances. The aim of the project is a permanent scientific cooperation for a joint acquisition of knowledge in the fields of electrodynamics, thermodynamics and fluid mechanics. In these areas, it aims to jointly develop scientific foundations and to advance the expansion of forward-looking innovative know-how with regard to processes and methods in household appliances with the objective of optimizing these processes and methods, in particular in terms of increasing resource efficiency and boosting the benefits for potential end users.

Forschungsprojekte

Research Projects
Design and Art

A Portrait of the Artist as a Young Mother – Maternity as a Constructed Image
Duration: 2021–2023
Prof. Katharina Bosse

Broken Vinyl. Audiovisual Performance Tokyo, Berlin, Chemnitz
Duration: 2020–2023
Prof. Claudia Rohrmoser

Everybody Can Be
Duration: 2021–2023
Prof. Katharina Bosse

AI in Design Theory. Impact on Teaching Methods and Skills Development.
Duration: 01/03/2023–31/08/2023
Prof. Patricia Stolz

Michael Plöger. Hommage an das Leben. (Tribute to life.) Painting.
Duration: 2021–2023
Prof. Dr. Andreas Beaugrand

PAGAnlnl. Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments
Duration: 01/09/2019–31/08/2024
Prof. Patricia Stolz,
Prof. Dr. Gudrun Dobslaw,
Prof. Dr. Dominic Becking,
Prof. Dr. Udo Seelmeyer

Retropolis. The European cityscape influenced by reconstruction
Duration: 2021–2024
Prof. Roman Bezjak

The American Night – Cinematic Portraits
Duration: 2017–2024
Prof. Katharina Bosse

The Femx Photographer's Road Trip
Duration: 2014–2025
Prof. Katharina Bosse

Thingstätten – Publication and Database
Duration: 2014–2024
Prof. Katharina Bosse

ZwischenBild
Duration: 2021–2023
Prof. Emanuel Raab

Minden Campus

Augmented Reality Interaction for Three-Dimensional Restriction of Robot Work Areas in Consideration of Semantic Information
Duration: 01/02/2022–31/01/2025
Prof. Dr.-Ing. Jan Rexilius

Automated Classification of Pollen Samples
Duration: 01/02/2021–31/12/2024
Prof. Dr.-Ing. Jan Rexilius

Building Materials Testing and Building Materials Technology
Duration: ongoing since 2022
Prof. Dr.-Ing. Heiko Twelmeier

Irrigation of Agricultural Areas with Effluents From Sewage Plants
Duration: 15/10/2022–15/07/2023
Prof. Dr.-Ing. Johannes Weinig
(† October 2023)

BIMiB Load-Bearing System
Duration: 01/05/2019–31/10/2023
Prof. Dr. Dominic Becking

BIMXtract2
Duration: 01/01/2023–31/12/2023
Prof. Dr.-Ing. Oliver Wetter

Dungeon – Games Framework for Digital Based Learning
Duration: 01/09/2022–30/11/2023
Prof. Dr.-Ing. Carsten Gips

Development of a Measuring Device to Determine the Critical Water Content of Building Materials in Constructions
Duration: 01/06/2023–31/12/2024
Prof. Dr.-Ing. Heiko Twelmeier

International Building Performance Evaluation (IBPE)
Duration: ongoing since 1997
Prof. Dr.-Ing. Ulrich Schramm

Innovative Teaching and Learning Spaces – Spaces for Opportunity at Universities
Duration: 01/07/2023–31/12/2024
Prof. Bettina Mons

Ion Chromatograph for the Development of Methods to Restore Buildings Carefully
Duration: 01/01/2023–31/12/2023
Prof. Dr.-Ing. Heiko Twelmeier

Localising and Navigating Mobile Robots and Micro Aerial Vehicles with a Reduced Sensor Set
Duration: 01/02/2022–31/01/2025
Prof. Dr.-Ing. Jan Rexilius

Optimisation Algorithms for Use in Waste Management
Duration: 01/09/2022–31/08/2026
Prof. Dr.-Ing. Jan Rexilius

Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments (PAGAnlnl)
Duration: 01/09/2019–31/08/2024
Prof. Dr. Dominic Becking,
Prof. Dr. Gudrun Dobslaw,
Prof. Dr. Udo Seelmeyer,
Prof. Patricia Stolz

Reducing Production Machinery's Energy Consumption through User Behaviour
Duration: 01/11/2023–31/10/2027
Prof. Dr.-Ing. Grit Behrens

Stationary Telepresence Consultation in Rural Areas (STellaR)
Duration: 01/09/2020–31/08/2024
Prof. Dr. Udo Seelmeyer,
Prof. Dr. Dominic Becking

Investigations of the Electromagnetic Compatibility of Components and Systems
Duration: ongoing since 2022
Prof. Dr.-Ing. Sven Battermann

Engineering and Mathematics

Adaptive and Dynamic Steering of People in Personal and External Rescue (PRAD)
Duration: 01/10/2023–30/09/2026
Prof. Dr.-Ing.
Eva Schwenzfeier-Hellkamp

Additive Production of Heat Pipe Injection Molding Tools (AMHeaP)
Duration: 01/03/2021–30/11/2023
Prof. Dr.-Ing.
Christoph Jaroschek

AI for Scarce Data – Machine Learning and Information Fusion for the Sustainable Use of Lab and Client Data (AI4ScaDa)
Duration: 01/04/2022–31/03/2025
Prof. Dr.-Ing. Martin Kohlhase

AI4DG: AI-on-the-Edge for a Safe and Autonomous Control of the Distribution Grid With a High Proportion of Renewable Energies
Duration: 01/10/2021–30/09/2024
Prof. Dr.-Ing. Jens Haubrock

A Modelica-based Systems Biology approach to engineer the cell's decision between growth, storage, and secondary metabolites (MoSysBI)
Duration: ongoing
Prof. Dr. Bernhard Bachmann

Building a Human-Centered Smart Service Lab for the Center for Applied Data Science
Duration: 01/11/2019–30/06/2023
Prof. Dr.-Ing. Martin Kohlhase,
Prof. Dr. Pascal Reusch, Prof.
Dr.-Ing. Wolfram Schenck

Autonomous AI for cellular energy systems increasing flexibilities provided by sector coupling and distributed storage (AI-flex)
Duration: 01/06/2022–31/05/2025
Prof. Dr.-Ing. Jens Haubrock

Biotechnical Control of the Invasive Brown Marmorated Stink Bug Halyomorpha halys in Organic Fruit and Vegetable Production Using the Push-Pull-Kill Method Based on Aggregation Pheromones Combined with Kairomones (BIOBUG)
Duration: 01/05/2022–30/04/2025
Prof. Dr. Anant Patel

"CellActive": Development of a Plasma/UV Treatment for Surface Hydrophilization of Cell Culture Scaffolds to Improve Cell Adhesion of Adherent Cells and Stem Cells
Duration: 01/04/2021–29/02/2024
Prof. Dr. Dr. Andrea Ehrmann

Co-Creative Decision-Makers for 5.0 Organizations
Duration: 01/10/2023–30/09/2026
Prof. Dr. Thomas Süsse

Co-Cultivation of Microalgae with Synergistic Bacteria (COMBINE)
Duration: 01/02/2019–31/08/2023
Prof. Dr. Anant Patel

Coloured Petri Nets (CPN)
Duration: ongoing since 01/09/2012
Prof. Dr. Bernhard Bachmann

DeepPRO – Multi-Criteria Optimization of Industrial Production Planning Using Simulation and Self-Learning Algorithms
Duration: 01/12/2020–30/04/2023
Prof. Dr.-Ing. Jürgen Sauser

Didactic Further Development of Risk Analysis and Risk Modeling for Teaching Stochastics
Duration: ongoing
Prof. Dr. Claudia Cottin

Forschungsprojekte

Digitalization of a Process Chain for the Production, Characterization and Prototypical Application of Magnetocaloric Alloys (DiProMag)
Duration: 01/02/2021–31/05/2024
Prof. Dr. Christian Schröder

Discrete Modelling and Optimization of Processes with Petri Nets Relevant for Practical Application
Duration: ongoing since 01/04/2013
Dr. Sabrina Pross

Development of the Plant Technology for the Introduction of Layer Density and the Preparation of Polymer Powders in Laser Sintering
Duration: 01/07/2022–30/06/2024
Prof. Dr.-Ing. Bruno Hüsgen († April 2024)

Development of a Damping Unit for Air-Sprung MTB Suspension Forks
Duration: 01/06/2023–31/05/2025
Prof. Dr. Marc-Oliver Schierenberg

Development of a Modelling and Calculation Environment with Its Own Library for Optimization Tasks
Duration: ongoing since 2009
Jens Schönbohm

Development of a Compiler Backend for the Programming Language Modelica
Duration: ongoing
Jens Schönbohm

Development of an Intelligent Curtain Fan Sensor System to Optimize the Thermal Comfort of Cattle (iCurS)
Duration: 01/08/2019–31/01/2023
Prof. Dr.-Ing. Eva Schwenzfeier-Hellkamp, Prof. Dr. Dr. Andrea Ehrmann

Development of a Model to Predict the Aging of Laminated Safety Glass
Duration: 01/10/2021–01/01/2024
Prof. Dr.-Ing. Bruno Hüsgen †

Development of Holistic Formulation Methods for the Biological Crop Protection of Berries (HOPE)
Duration: 15/04/2021–31/12/2024
Prof. Dr. Anant Patel

Development and Validation of an AI-Based System for the Autarkic Control of Intelligent Cellular Grids (KI Grid)
Duration: 01/01/2020–31/03/2023
Prof. Dr.-Ing. Jens Haubrock

Development of Innovative Formulation Methods Using Beneficial Fungi as Novel Plant Fortifiers for the Potato Crop Rotation (FORK)
Duration: 01/10/2019–31/12/2023
Prof. Dr. Anant Patel

Research and Development to Cultivate Microalgae and Mosses on Textile Substrates outside a Bioreactor for Urban Greening and Improvement of the Indoor Climate (TUAM)
Duration: 01/02/2021–31/07/2023
Prof. Dr. Dr. Andrea Ehrmann

Flexible Virtual Replicas of OT Networks in Power Supply (FlexONet)
Duration: 01/09/2023–31/08/2026
Prof. Dr.-Ing. Jens Haubrock

Research Campus OHLF: HyFiVe; Subproject: Electromagnetic Shielding Semi-Finished Products
Duration: 01/08/2022–31/12/2024
Prof. Dr.-Ing. Angela Ries

Research Cooperation with the Company Stiegelmeyer GmbH & Co. KG
Duration: 01/04/2018–31/03/2024
Prof. Dr. Axel Schneider, Prof. Dr.-Ing. Joachim Wassmuth, Prof. Dr.-Ing. Rolf Naumann

Research Grant for the Georg Forster Research Scholarship of Dr. Amir Bahri
Duration: 01/04/2021–31/03/2023
Prof. Dr.-Ing. Thomas Kordisch

HaekelMasch: Development of a Functional and Fully Automated Crochet Machine
Duration: 01/02/2021–31/12/2023
Prof. Dr. Dr. Andrea Ehrmann

Human-Centered Smart Service Lab – Establishing a Human-Centered Smart Service Lab for the Center for Applied Data Science
Duration: 01/11/2019–30/06/2023
Prof. Dr.-Ing. Wolfram Schenck

Implementation of Heatpipe Temperature Control in Rheology Software for Plastics (SimHeaP)
Duration: 01/08/2022–31/07/2024
Prof. Dr.-Ing. Christoph Jaroschek

Intelligent Cooking (InGa)
Duration: ongoing since April 2010
Prof. Dr. Christian Schröder, Prof. Dr. Sonja Schöning

Interoperable Research Infrastructure for Managing Sustainable Grid Cells – IRI4SGC
Duration: 01/05/2023–30/04/2026
Prof. Dr.-Ing. Jens Haubrock

AI for the Working Environment of Industrial Medium-Sized Businesses (KIAM Competence Center)
Duration: 01/10/2020–30/09/2025
Prof. Dr.-Ing. Martin Kohlhase

AI-Based Assistance to Promote Decentralised Inclusion (KIAssist)
Duration: 01/08/2022–31/07/2026
Prof. Dr. Alexander Maier

AI-Assisted Platform for the Classification and Sorting of Plant Seeds: Evaluation of Seed Purity with Rapeseed as a Test Case (KIRa)
Duration: 21/05/2021–20/05/2024
Prof. Dr.-Ing. Reinhard Kaschuba

AI-Assisted Monitoring to Support Home Care (KIMUP)
Duration: 01/07/2023–30/06/2026
Prof. Dr.-Ing. Thorsten Jungeblut

AI-Assisted Mass Customization (KiMaC)
Duration: 01/10/2023–31/03/2027
Prof. Dr. Stefan Berlik, Prof. Dr. Pascal Reusch

MagnetoShield: Development of Flexible Materials from Partially Conductive Carrier Textiles as Well as Nanofiber Mats with Magnetic Nanoparticles for Shielding Static Magnetic Fields up to 100 mT and Damping of EM Fields from 50 Hz by > 12 dB
Duration: 01/12/2021–01/09/2023
Prof. Dr. Dr. Andrea Ehrmann

Measuring and Predicting the Aging of Laminated Safety Glass
Duration: 01/10/2021–01/01/2024
Prof. Dr.-Ing. Bruno Hüsgen †

Method Project for the Development of a Smart Service for Predictive and Proactive Production Planning and Control Using AI Methods (Predictive Scheduling)
Duration: 01/11/2019–30/06/2023
Prof. Dr. Pascal Reusch

Method Project for the Development of a Worker Assistance System for Quality Forecasting in Industrial Production ("Predictive Quality")
Duration: 01/11/2019–30/06/2023
Prof. Dr.-Ing. Martin Kohlhase

MINTernational vs. Local
Duration: 11/04/2022–31/12/2023
Prof. Dr. Mariam Dopslaf

MonoCab OWL: Construction and Demonstration of MonoCabs
Duration: 01/09/2020–30/06/2023
Prof. Dr.-Ing. Rolf Naumann

New Integrated Mobility in Urban-Rural Areas
Duration: 09/12/2019–31/12/2024
Prof. Dr. Rolf Naumann

Neuro-Inspired Resource-Efficient Hardware Architectures for Plastic SNNs (NireHApS)
Duration: 01/02/2021–30/11/2024
Prof. Dr.-Ing. Thorsten Jungeblut

OpenModelica Simulation Development Project
Duration: 01/09/2012–31/03/2025
Prof. Dr. Bernhard Bachmann

Optimising the Care of Patients With Diabetic Foot Syndrome Through Hybrid Interaction Systems (HIS4DiaPedes)
Duration: 15/07/2022–14/07/2025
Prof. Dr. Martin Kohlhase, Prof. Dr. Wolfram Schenck, Prof. Dr. Lutz Grünwoldt, Prof. Dr. Annette Nauerth, Prof. Dr. Beate Klemme, Prof. Dr. Rena Amelung, Prof. Dr. Ismail Özlü

PHyMoS – Proper Hybrid Models for Smarter Vehicles
Duration: 01/03/2021–31/08/2024
Prof. Dr. Bernhard Bachmann

Power2Load – Intelligent Automation to Expand Charging Points for Electric Vehicles and Reduce CO_2 by Shifting Loads and Increasing the Share of Renewables in the Charging Current for Electrified Company Cars (Power2Load)
Duration: 01/11/2019–31/03/2023
Prof. Dr.-Ing. Jens Haubrock

Identifying and Classifying Progression Markers: A Method to Measure Inactive HIV Pathogens in HIV Reservoirs in HIV Patients
Duration: 15/12/2020–14/12/2023
Prof. Dr. Dirk Lütkemeyer

Renephro
Duration: 01/10/2021–31/03/2023
Prof. Dr. Dirk Lütkemeyer

Robust Individualization of Smart Sensors through Transfer-Learning-Based Feature Selection (RoSe)
Duration: 01/02/2021–30/11/2024
Prof. Dr. Axel Schneider

Smart Demand Forecasting: Method Project for the Development of a Smart Service for an AI-Based Demand Forecast to Optimize the Customer/Supplier Interface in the Supply Chain of Industrial Medium-Sized Businesses
Duration: 01/11/2019–30/06/2023
Prof. Dr. Pascal Reusch

SolarFlex: Development of a Novel, Fully Textile-Integrated Solar Cell Based Exclusively on Non-Toxic Components for Use in Mobile and Static Stand-Alone Photovoltaic Installations
Duration: 01/04/2021–29/02/2024
Prof. Dr. Dr. Andrea Ehrmann

StereoTex: Development of a Porous (Volume Porosity >= 3%) Resin to 3D Print a Stab-Resistant Composite on Technical Textiles by Means of a Stereolithographic (SLA) Process
Duration: 01/06/2021–31/05/2024
Prof. Dr. Dr. Andrea Ehrmann

SustAInable Life-cycle of Intelligent Socio-Technical Systems (SAIL)
Duration: 01/08/2022–31/07/2026
Prof. Dr.-Ing. Wolfram Schenck, Prof. Dr.-Ing. Jens Haubrock, Prof. Dr. Gerrit Hirschfeld, Prof. Dr.-Ing. Thorsten Jungeblut, Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr. Annette Nauerth, Prof. Dr. Axel Schneider

Sustainable Production Planning and Control Based on Reinforcement Learning Technologies (SUPPORT)
Duration: 01/04/2022–31/03/2025
Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr. Pascal Reusch

Target-Specific RNA-Based Bioprotectants for Sustainable Crop Production in a Changing Climate (BioProtect)
Duration: 01/06/2021–31/05/2025
Prof. Dr. Anant Patel

Technology and Didactics for Media in Teaching
Duration: ongoing
Prof. Dr. Jörn Loviscach

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–31/10/2024
Prof. Dr. Udo Seelmeyer, Prof. Dr. Annette Nauerth, Prof. Dr. Axel Schneider, Prof. Dr. Gerrit Hirschfeld

Validation of a Prescriptive Analytics Platform for the Smart Factory (VIP4PAPS)
Duration: 01/08/2022–31/07/2025
Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr.-Ing. Wolfram Schenck

Further Development of an Attract-and-Kill Formulation to Control Wireworms in Corn Cultivation (AttraCorn)
Duration: 01/01/2023–31/12/2025
Prof. Dr. Anant Patel

Young Researchers Cloud and Edge Computing Platform for AI (yourAI)
Duration: 01/01/2022–31/03/2024
Prof. Dr.-Ing. Wolfram Schenck, Prof. Dr.-Ing. Hans Brandt-Pook, Prof. Dr. Stefan Berlik, Prof. Dr.-Ing. Thorsten Jungeblut, Prof. Dr. Bernhard Wach

7dSh – A Cyanobacteria-Based Natural Sugar on the Way to a Sustainable Herbicide (7dSherbizid)
Duration: 01/09/2021–31/08/2024
Prof. Dr. Anant Patel

Social Sciences

Bots Building Bridges (3B): Theoretical, Empirical, and Technological Foundations for Systems That Monitor and Support Political Deliberation Online
Duration: 01/12/2020–31/05/2025
Prof. Dr. Udo Seelmeyer

*co*gesund – Health Promotion of Educationally Disadvantaged Youth – A Feasibility Study for the Promotion of Resilience during the Covid-19 Crisis in the School and Vocational Preparation Settings*
Duration: 01/11/2021–31/08/2023
Prof. Dr. Anna Lena Rademaker

The Hospital Social Services in Crisis Mode – Findings for a Future-Oriented Care through Social Work in the Interdisciplinary Team in OWL Post COVID-19 (postCOVID@owl)
Duration: 01/10/2021–30/09/2025
Prof. Dr. Anna Lena Rademaker

DICES_Lab (Digital Enhanced Learning with Children's Experiences)
Duration: 01/06/2023–31/05/2024
Prof. Dr. Juliane Gerland, Prof. Dr. Helen Knauf

Evaluation of a Communication Campaign to Reduce Food Waste in Mexico (WWF Mexico)
Duration: 01/01/2022–31/03/2023
Prof. Dr. Sebastian Bamberg

Arrived Well – Strong Parents and Children in Primary Schools
Duration: 01/10/2021–31/08/2023
Prof. Dr. Yüksel Ekinci

Innovative Ways to Participate in Working Life – Rehapro Consulting – Encouraging – Assisting (BEA)
Duration: 01/12/2019–30/11/2024
Prof. Dr. Gudrun Dobslaw, Prof. Dr. Michael Stricker

Model Project Precarious Work in Bielefeld (PABi)
Duration: 01/05/2022–31/03/2023
Prof. Dr. Thomas Altenhöner

Model Project to Develop a Support Centre for Assistive Technologies (BRAVO – BeRatungszentrum für AssistiVe TechnOlogie)
Duration: 05/01/2023–31/03/2026
Prof. Dr. Udo Seelmeyer

Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments (PAGAnlnl)
Duration: 01/09/2019–31/08/2024
Prof. Dr. Dominic Becking, Prof. Dr. Gudrun Dobslaw, Prof. Dr. Udo Seelmeyer, Prof. Patricia Stolz

Prevention of Sexual Violence: Strengthening Children's Resources and Establishing Protection Concepts
Duration: 01/05/2022–31/12/2023
Prof. Dr. Wolfgang Beelmann

Psychosocial Counselling for Refugee Children and Adolescents (Diakonie II)
Duration: 01/06/2021–31/05/2024
Prof. Dr. Michael Stricker

Quality Criteria for Social Diagnostics – Continuation of the Transdisciplinary and Trinational Research Group QuaSoDia to Analyse Efficacy Indicators in Designing Processes and Instruments of Social Diagnostic Case Understanding
Duration: 01/04/2023–31/03/2024
Prof. Dr. Anna Lena Rademaker

RESPOND! No to Anti-Semitism on the Internet! Development, Implementation and Evaluation of a Multiplier Training Course to Combat Anti-Semitic Hate Speech in Young People's Social Media – a Collaborative Project
Duration: 01/08/2021–31/07/2025
Prof. Dr. Gudrun Dobslaw

Stationary Telepresence Consultation in Rural Areas (STellaR)
Duration: 01/09/2020–31/08/2024
Prof. Dr. Udo Seelmeyer, Prof. Dr. Dominic Becking

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–30/04/2025
Prof. Dr. Udo Seelmeyer, Prof. Dr. Annette Nauerth, Prof. Dr. Axel Schneider, Prof. Dr. Gerrit Hirschfeld

Bielefeld School of Business

ADRIAN – Authority-Dependent Risk Identification and Analysis in online Networks
Duration: 15/05/2021–31/12/2024
Prof. Dr. Hans Brandt-Pook, Dr. Frederik Bäumer

Career@BI: Evidence for Mental-Health Apps
Duration: 12/2022–2025
Prof. Dr. Gerrit Hirschfeld, Dr. Christian Thiele

Career@BI: Acceptance of Assistive Devices Among Children and Adolescents
Duration: 12/2022–2025
Prof. Dr. Gerrit Hirschfeld, Dr. Ellen Schack

CfE2020
Duration: 01/04/2020–31/03/2024
Prof. Dr. Tim Kampe

DAbeKom – Database for Accrediting Professional Competences
Duration: ongoing
Prof. Dr. Axel Benning, Prof. Dr. Heiko Burchert

The Quantum Internet in the Greater Munich Area (MuQuaNet)
Duration: 01/04/2021–31/12/2024
Prof. Dr. Hans Brandt-Pook, Dr. Frederik Bäumer

Diagnosis of Chronic Pain in Children and Adolescents
Duration: ongoing
Prof. Dr. Gerrit Hirschfeld

Diagnostic Skills and Tools in Standard Psychotherapeutic Care
Duration: ongoing
Prof. Dr. Gerrit Hirschfeld

DMKIV – Data Mining and AI in Packaging (MID-Analyse voucher)
Duration: 01/09/2023–29/02/2024
Prof. Dr. Hans Brandt-Pook

Forschungsprojekte

DVO – Data-Driven Packaging Optimisation (it's OWL transfer voucher)
Duration: 01/11/2022–30/04/2023
Prof. Dr. Hans Brandt-Pook

EXIST-Women: NXXT_GEN
Duration: 01/12/2023–30/11/2024
Dr. Stefanie Pannier

Excellence Start-up Center OWL
Duration: 01/09/2019–31/08/2024
Prof. Dr. Uwe Rössler

Gender-Specific Preferences When Using Digital Health Applications (DiGAs) to Diagnose and Treat Mental Illnesses
Duration: 01/05/2023–31/10/2023
Prof. Dr. Gerrit Hirschfeld,
Prof. Dr. Manuel Stegemann,
Inga Jagemann

InCams@BI: Subprojects
Duration: 01/01/2013–31/12/2027
Prof. Manuel Stegemann,
Prof. Gerrit Hirschfeld,
Prof. Christiane Nitschke,
Prof. Tim Kampe

JoBooking
Duration: 01/01/2023–31/12/2023
Prof. Dr. Sascha Armutat

AI-Based Planning Processes in the Geotechnical Materials Industry: Green by Design
Duration: 01/01/2023–31/05/2024
Prof. Dr. Hans Brandt-Pook

AI in Re-Trade
Duration: 01/01/2023–30/04/2023
Prof. Dr. Hans Brandt-Pook

KIKuS – AI in Customer Service
Duration: 01/01/2023–31/12/2023
Dr. Frederik Bäumer

KITL – AI in Transport Logistics
Duration: 01/04/2022–31/03/2024
Prof. Dr. Hans Brandt-Pook

LXP – Learning Experience Platform (it's OWL transfer voucher)
Duration: 01/10/2022–31/03/2023
Prof. Dr. Hans Brandt-Pook,
Prof. Dr. Achim Schmidtmann

Optimised Crisis Communication after Attacks with an Islamist Background in Germany (OKAI)
Duration: 01/01/2020–30/09/2023
Prof. Dr. Gerrit Hirschfeld

Practical Projects in Business Information Systems
Duration: 01/01/2023–29/02/2024
Dr. Frederik Bäumer,
Prof. Dr. Hans Brandt-Pook,
Prof. Dr. Alexander Förster,
Prof. Dr. Jörg-Michael Keuntje,
Prof. Dr. Jochen Küster,
Prof. Dr. Achim Schmidtmann,
Prof. Dr. Volker Wiemann

Sovereignty in Digitalised Living Environments (SoDiLe)
Duration: 01/04/2021–31/03/2024
Prof. Dr. Axel Benning

SustAInable Life-cycle of Intelligent Socio-Technical Systems (SAIL)
Duration: 01/08/2022–31/07/2026
Prof. Dr.-Ing.
Wolfram Schenck,
Prof. Dr.-Ing. Jens Haubrock,
Prof. Dr. Gerrit Hirschfeld,
Prof. Dr.-Ing.
Thorsten Jungeblut,
Prof. Dr.-Ing. Martin Kohlhase,
Prof. Dr. Annette Nauerth,
Prof. Dr. Axel Schneider

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–31/10/2024
Prof. Dr. Udo Seelmeyer,
Prof. Dr. Annette Nauerth,
Prof. Dr. Axel Schneider,
Prof. Dr. Gerrit Hirschfeld

Transfer:Square (T^2) (it's OWL transfer pilot)
Duration: 01/12/2022–31/05/2024
Prof. Dr. Hans Brandt-Pook

Website Perception
Duration: ongoing
Prof. Dr. Gerrit Hirschfeld

Young Researchers Cloud and Edge Computing Platform for AI (yourAI)
Duration: 01/01/2022–31/03/2024
Dr. Frederik Bäumer,
Prof. Dr.-Ing. Wolfram Schenck, Prof. Dr.-Ing. Hans Brandt-Pook,
Prof. Dr. Stefan Berlik, Prof. Dr.-Ing. Thorsten Jungeblut

Health

In-Company Teaching and Learning in Health Professions
Duration: 01/07/2019–26/02/2023
Prof. Dr. Beate Klemme
Prof. Dr. Marisa Kaufhold

Development of (Digitally Assisted) Competence-Oriented Practical Exams (KoprA)
Duration: 01/09/2022–31/05/2024
Prof. Dr. Annette Nauerth,
Prof. Dr. Patrizia Raschper

Video Tutorials to Improve Health Literacy in People with Intellectual Disabilities (Geko-MmgB)
Duration: 01/03/2020–28/02/2023
Prof. Dr. Änne-Dörte Latteck,
Prof. Dr. Norbert Seidl

FaPP-MgB Case Management and Care Expertise as a Prevention Approach for Adults with Intellectual Disabilities
Duration: 01/01/2022–31/12/2024
Prof. Dr. Änne-Dörte Latteck,
Dr. Dirk Bruland

Making Health Easy – Designing Health Promotion in Workplaces and Homes
Duration: 01/05/2021–30/04/2024
Prof. Dr. Änne-Dörte Latteck,
Dr. Dirk Bruland

Interprofessional Lab of Teaching and Learning for Health and Human Services (ILTHOS)
Duration: 01/07/2023–31/12/2023
Dr. Tim Christian Herzig

KomVor Pflege – Competence Development through Digital OER Teaching and Study Materials for Specific Duties in Nursing: Planning, Controlling and Evaluating Nursing Processes
Duration: 01/04/2022–31/03/2024
Prof. Dr. Änne-Dörte Latteck,
Prof. Dr. Christa Büker

Optimising the Care of Patients With Diabetic Foot Syndrome Through Hybrid Interaction Systems (HIS4DiaPedes)
Duration: 15/07/2022–14/07/2025
Prof. Dr. Martin Kohlhase,
Prof. Dr. Wolfram Schenck,
Prof. Dr. Lutz Grünwoldt,
Prof. Dr. Annette Nauerth,
Prof. Dr. Beate Klemme,
Prof. Dr. Rena Amelung,
Prof. Dr. Ismail Özlü

Nursing and Care of People with Learning Difficulties from a Family Perspective
Duration: 01/07/2019–30/06/2023
Prof. Dr. Änne-Dörte Latteck

Planetary Health and Nursing – Concept Development for Nursing Studies
Duration: 01/09/2022–31/08/2023
Prof. Dr. Änne-Dörte Latteck,
Prof. Dr. Christa Büker

Prevention and Rehabilitation for Caregivers (PuRpA): Overall Project Coordination and Cross-Sectional Analyses – Prevention and Rehabilitation for Caregivers – Importance of Target-Group-Oriented and User-Oriented Care Concepts
Duration: 01/10/2020–31/12/2023
Prof. Dr. Norbert Seidl,
Prof. Dr. Änne-Dörte Latteck,
Prof. Dr. Christa Büker

Profile Enhancement in Daycare in the diocese of Münster (PROFIL)
Duration: 01/05/2023–30/04/2025
Prof. Dr. Christa Büker

Strengthening Digital Health Literacy in Integration Assistance Settings [DGeKo MmgB]
Duration: 01/07/2023–01/06/2026
Dr. Dirk Bruland,
Prof. Dr. Änne-Dörte Latteck

SustAInable Life-cycle of Intelligent Socio-Technical Systems (SAIL)
Duration: 01/08/2022–31/07/2026
Prof. Dr.-Ing.
Wolfram Schenck,
Prof. Dr.-Ing. Jens Haubrock,
Prof. Dr. Gerrit Hirschfeld,
Prof. Dr.-Ing.
Thorsten Jungeblut,
Prof. Dr.-Ing. Martin Kohlhase,
Prof. Dr. Annette Nauerth,
Prof. Dr. Axel Schneider

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–30/04/2025
Prof. Dr. Udo Seelmeyer,
Prof. Dr. Annette Nauerth,
Prof. Dr. Axel Schneider,
Prof. Dr. Gerrit Hirschfeld

VR-Based Digital Reusable Learning Objects in Nursing Training (ViRDiPA)
Duration: 01/03/2020–31/08/2023
Prof. Dr. Annette Nauerth,
Prof. Dr. Patrizia Raschper

How Good Are We as Team Accident and Emergency? – A + E Units as a Place for Collaborative Communicative Diagnostic Processes in the Context of Assessing Emergency Patients
Duration: 01/10/2023–30/09/2025
Prof. Dr. Rena Isabel Amelung

work & care – Care-Active SMEs in East Westphalia-Lippe
Duration: 15/11/2019–31/03/2023
Prof. Dr. Annette Nauerth

Bielefeld
71.597 qm

91,296

m² of area at all HSBI locations

square metres of space

Minden
16.369 qm

Gütersloh
3.330 qm

59 + 96

students receiving funding for stays abroad

HSBI ambassadors

59 in the summer semester 2023
and 96 in the winter semester 2023/24

771 + 788

international students

international biographies

771 in the summer semester 2023
and 788 in the winter semester 2023/24

91 + 58

exchange students to Bielefeld

facilitators of cultural exchange

91 in the summer semester 2023
and 58 in the winter semester 2023/24

Partnerhochschulen

Country	City	Partner university	Programme	Scope (faculty)[5]
Albania	Durrës	**Aleksandër Moisiu University**	Erasmus+ International (ICM)	HSBI as a whole
Albania	Tirana	**Polytechnic University of Tirana**	Erasmus+ International (ICM)	3
Albania	Tirana	**University of Tirana**	Erasmus+ International (ICM)	5
Austria	Puch bei Hallein	**Salzburg University of Applied Sciences**	Erasmus+	2 + 5
Austria	St. Pölten	**St. Pölten University of Applied Sciences**	Erasmus+	6
Austria	Vienna	**FH Campus Wien University of Applied Sciences**	Erasmus+	3 + 6
Belgium	Antwerp	**Artesis Plantijn University College Antwerp**	Erasmus+	1
Belgium	Brussels	**Luca School of Arts**	Erasmus+	1
Belgium	Ghent	**Hogeschool Gent (HOGENT)**	Erasmus+	1 + 6
Belgium	Hasselt	**PXL University of Applied Sciences and Arts**	Erasmus+	3
Belgium	Kortrijk	**VIVES University of Applied Sciences**	Erasmus+	3 + 4
Belgium	Leuven	**KU Leuven**	Erasmus+	3
Brazil	Boa Vista, Garanhuns	**Universidade Federal Do Agreste de Pernambuco (UFAPE)**	Coop. HSBI	3
Brazil	Manaus	**Federal University of Amazonas (UFAM)**	Coop. HSBI	3
Brazil	Santa Maria	**Franciscan University**	Coop. HSBI	6
Bulgaria	Sofia	**Sofia University St. Kliment Ohridski**	Erasmus+ and BIP	4
Canada	Abbotsford	**University of the Fraser Valley (UFV)**	Coop. HSBI	5
Canada	Edmonton	**Northern Alberta Institute of Technology (Nait)**	Coop. OWL	HSBI as a whole
Canada	Edmonton	**MacEwan University**	Coop. OWL	HSBI as a whole
Canada	Edmonton	**University of Alberta**	Coop. OWL	HSBI as a whole
Canada	Edmonton	**Concordia University of Edmonton**	Coop. OWL	HSBI as a whole
Canada	Halifax	**Nova Scotia College of Art and Design**	Coop. HSBI	1
Canada	Regina	**University of Regina**	Coop. HSBI	5 + 3
Canada	Winnipeg	**University of Manitoba (Price School of Engineering)**	Coop. HSBI	3
Canada	Winnipeg	**U Manitoba (Asper School of Business)**	Coop. HSBI	5 (IBSEN network)
Canada	Wolfville	**Acadia University of Wolfville**	Coop. HSBI	5
Chile	Santiago, Región Metropolitana	**University of Santiago de Chile (USACH)**	Coop. HSBI	HSBI as a whole
China	Chengdu	**South West Jiatong University (SWJTU), Emei and Chengdu Campuses**	Coop. HSBI	3
China	Nanjing	**Hohai University (HHU), Changzhou Campus**	Coop. HSBI	2
China	Qingdao	**Qingdao University of Science and Technology (QUST)**	Coop. HSBI	3
China	Qingdao	**Shandong University of Science and Technology (SDUST), College of International Exchange**	Coop. HSBI	3 + 5
China	Shanghai	**Shanghai Normal University (SHNU), College of Information, Mechanical & Electrical Engineering**	Coop. HSBI	3
China	Shanghai	**CDHAW at Tongji University**	Coop. HSBI	3
China	Shanghai	**Tongji University College of Design and Innovation (TJDI)**	Coop. HSBI	1
China	Shouguang	**Weifang University of Science and Technology (WUST)**	Coop. HSBI	3
Colombia	Bogotá	**National University of Colombia**	Coop. HSBI	3
Colombia	Bogotá	**Francisco José de Caldas District University**	Coop. HSBI	3
Croatia	Split	**University of Split**	Erasmus+	3
Cyprus	Nicosia	**University of Cyprus**	Erasmus+	3
Czech Republic	Brno	**BRNO University of Technology**	Erasmus+	5
Czech Republic	Liberec	**Technical University of Liberec**	Erasmus+	3
Czech Republic	Prague	**Czech University of Life Sciences**	Erasmus+	5 (IBSEN network)
Czech Republic	Staré Město	**Academy of Arts Architecture and Design in Prague**	Erasmus+	1
Denmark	Esbjerg	**University College South Denmark**	Erasmus+	5 + 4
Ecuador	Riobamba	**Universidad Nacional de Chimborazo (UNACH)**	Coop. HSBI	4

5 1: Design and Art, 2: Minden Campus, 3: Engineering and Mathematics, 4: Social Sciences, 5: Bielefeld School of Business, 6: Health

Country	City	Partner university	Programme	Scope (faculty)[5]
Estonia	Tallinn	**TalTech University**	Erasmus+	3
Estonia	Tartu	**University of Tartu**	Erasmus+	5
Finland	Joensuu	**Karelia University of Applied Sciences**	Erasmus+	3
Finland	Kouvola	**South-Eastern Finland University of Applied Sciences (XAMK)**	Erasmus+	2 + 3 + 5 (IBSEN network) + 6
Finland	Kuopio	**Savonia University of Applied Sciences**	Erasmus+	6
Finland	Lahti	**LAB University of Applied Sciences**	Erasmus+	5
Finland	Tampere	**Tampere University of Applied Sciences**	Erasmus+	5
Finland	Vasa	**Novia University of Applied Sciences**	Erasmus+	1
France	Créteil	**University Paris-Est Créteil (UPEC)**	Erasmus+	5
France	Dunkerque	**University of the Littoral Opal Coast**	Erasmus+	5
France	Ivry-sur-Seine	**École Supérieure d'Informatique Électronique Automatique**	Erasmus+	3
France	Lyon	**Ocellia, École des métiers Santé Social en Auvergne-Rhône-Alpes**	Erasmus+ (only STA / teaching staff)	4
France	Paris	**École Nationale Supérieure des Arts Décoratifs**	Erasmus+	1
France	Saint-Étienne	**École Nationale Supérieure des Mines de Saint-Étienne (ENSMSE)**	Erasmus+	3
France	Toulouse	**Institut Limayrac Toulouse**	Erasmus+	4
France	Valenciennes Cedex 9	**Polytechnic University of Hauts-de-France (UPHF)**	Erasmus+	5 (IBSEN network)
Georgia	Tbilisi	**Tbilisi State Academy of Art**	Coop. HSBI	1
Greece	Athens	**National Technical University of Athens (NTUA)**	Coop. HSBI and Erasmus+	3
Greece	Tripoli	**University of the Peloponnese (UoP)**	Erasmus+ (internships only)	6
Hungary	Budapest	**Moholy-Nagy University of Art and Design (MOME)**	Erasmus+	1
Hungary	Budapest	**Budapest Business University (BBU)**	Erasmus+	5
Iceland	Bifröst	**Bifröst University**	Erasmus+	5
India / DHIK	several cities	**Presidency University, Bangalore | PSG College of Technology, Coimbatore | Techno India Group & Sister Nivedita University, Kolkata (IGCHE)**	Coop. HSBI / DHIK	3 + 2
Iran	Yazd	**Yazd University**	Coop. HSBI	3
Iraq	Kurdistan, Erbil	**Erbil Polytechnic University**	Coop. HSBI	HSBI as a whole
Ireland	Tralee	**MTU Munster Technological University / Tralee, Co Kerry**	Erasmus+	4
Israel	Haifa	**Technion – Israel Institute of Technology**	Coop. HSBI	HSBI as a whole
Israel	Jerusalem	**Bezalel Academy of Arts and Design Jerusalem**	Erasmus+ International (ICM)	1
Italy	Ancona	**Marche Polytechnic University**	Erasmus+	3 + 4 + 5
Italy	Bari	**Academy of Fine Arts of Bari**	Erasmus+	1
Italy	Cagliari	**University of Cagliari**	Erasmus+	2 + 3 + 5 (IBSEN network)
Jordan	Amman	**German-Jordanian University (GJU)**	Coop. HSBI	5 + 3 + 1
Lithuania	Kaunas	**Kaunas University of Technology**	Erasmus+	5
Lithuania	Vilnius	**Vilnius Academy of Arts**	Erasmus+	1
Mexico	Gómez Palacio	**Universidad La Salle Laguna**	Coop. HSBI	HSBI as a whole
Mexico	San Andrés Cholula, Puebla	**University of the Americas (UDLAP)**	Coop. HSBI	HSBI as a whole
Mexico	San Pedro Cholula, Puebla	**Ibero-American University**	Coop. HSBI	5
Mexico / DHIK	various locations	**Instituto Tecnológico de Monterrey (MDHK)**	Coop. HSBI	1 + 2 + 3 + 5
Netherlands	Rotterdam	**Rotterdam University of Applied Sciences**	Erasmus+	5
Netherlands	The Hague	**The Hague University of Applied Sciences**	Erasmus+	5 (IBSEN network)
Nicaragua	León	**La Salle Technological University (ULSA)**	Erasmus+ International (ICM)	3
Norway	Ålesund	**Norwegian University of Applied Sciences and Technology, Ålesund**	Erasmus+	5
Norway	Stavanger	**University of Stavanger**	Erasmus+ (internships only)	6
Palestinian territory	Jenin	**Arab American University**	Coop. HSBI	5

Country	City	Partner university	Programme	Scope (faculty)[5]
Peru	Ayacucho	**National University of San Cristóbal de Huamanga (UNSCH)**	Coop. HSBI	4
Peru	Los Álamos de Monterrico, Santiago de Surco, Lima	**Peruvian University of Applied Sciences (UPC)**	Coop. HSBI	1 + 3
Poland	Gdańsk	**WSB Merito University Gdańsk**	Erasmus+	2
Poland	Gliwice	**Silesian University of Technology**	Erasmus+	3 + 5
Poland	Katowice	**University of Silesia in Katowice**	Erasmus+	4
Poland	Kraków	**Cracow University of Economics**	Erasmus+	5
Poland	Kraków	**Jagiellonian University in Kraków**	Erasmus+	6
Poland	Lublin	**Medical University of Lublin**	Erasmus+	6
Poland	Rzeszów	**University of Rzeszów**	Erasmus+	3 + 4
Poland	Rzeszów	**Rzeszów University of Technology**	Erasmus+	2 + 3 + 5
Poland	Rzeszów	**University of Information Technology and Management in Rzeszów**	Erasmus+	5
Poland	Wrocław	**Wrocław University of Science and Technology**	Erasmus+	3 + 2
Portugal	Braga	**University of Minho**	Erasmus+	5
Portugal	Funchal	**University of Madeira**	Erasmus+	2
Republic of Kazakhstan	Ust-Kamenogorsk	**Dr. Serikbayev East Kazakhstan Technical University (EKTU)**	Coop. HSBI	2
Republic of Korea (South Korea)	Chuncheon-si	**Hallym University**	Coop. HSBI	5 (IBSEN network)
Republic of Korea (South Korea)	Seoul	**Chung-Ang University**	Coop. HSBI	1
Romania	Bucharest	**Bucharest National University of Arts**	Erasmus+	1
Romania	Sibiu	**"Lucian Blaga" University of Sibiu (ULBS)**	Erasmus+	3
Russia (suspended)	Moscow	**Institute of Business Studies Moscow (RANEPA)**	Coop. HSBI	5
Russia (suspended)	Nizhny Novgorod	**State University of Architecture and Civil Engineering**	Coop. HSBI	5
Russia (suspended)	Rostov-on-Don	**Southern Federal University, Taganrog, Rostov Region**	Coop. HSBI	3
Russia (suspended)	St. Petersburg	**Saint Petersburg State University of Technology and Design (SPSUTD)**	Coop. HSBI	1
Russia (suspended)	St. Petersburg	**St. Petersburg State University of Economics (Unecon)**	Coop. HSBI	3
Russia (suspended)	Veliky Novgorod	**Yaroslav-the-Wise Novgorod State University**	Coop. HSBI and Erasmus+ (ICM)	3
Serbia	Belgrade	**University of Arts in Belgrade**	Erasmus+ International (ICM)	1
Slovakia	Staré Mesto	**Academy of Fine Arts and Design in Bratislava**	Erasmus+	1
Slovenia	Maribor	**University of Maribor**	Erasmus+	3 + 5

5 1: Design and Art, 2: Minden Campus, 3: Engineering and Mathematics, 4: Social Sciences, 5: Bielefeld School of Business, 6: Health

Country	City	Partner university	Programme	Scope (faculty)[5]
Spain	Barcelona	**International University of Catalonia**	Erasmus+	5
Spain	Cáceres	**University of Extremadura**	Erasmus+	5
Spain	La Cañada, Almería	**University of Almería**	Erasmus+	6
Spain	Madrid	**Comillas Pontifical University**	Erasmus+ (internships / teaching staff only)	6
Spain	Oviedo	**University of Oviedo**	Erasmus+	2 + 3
Spain	San Cristóbal de La Laguna	**University of La Laguna**	Erasmus+	2
Spain	València	**Polytechnic University of Valencia**	Erasmus+	3
Spain	Vic, Barcelona	**University of Vic**	Erasmus+	5
Spain	Vigo	**University of Vigo**	Erasmus+	3 + 5
Spain	Vitoria-Gasteiz	**Escuela Superior de Diseño de La Rioja (Esdir)**	Erasmus+	1
Spain	Zaragoza	**University of Zaragoza**	Erasmus+	3 + 4
Spain	Zaragoza	**HAC_R Creativo**	Erasmus+	1
Sweden	Gothenburg	**University of Gothenburg**	Erasmus+	4
Sweden	Halmstad	**Halmstad University**	Erasmus+	2 + 3
Sweden	Uppsala	**Uppsala University**	Erasmus+	3
Switzerland	Bern	**Berner Bildungszentrum Pflege**	Coop. HSBI and Erasmus+ (SEMP)	6
Switzerland	Lucerne	**Lucerne University of Applied Sciences and Arts**	Erasmus+ (SEMP)	4
Switzerland	Muttenz	**University of Applied Sciences and Arts Northwestern Switzerland**	Erasmus+ (SEMP)	4
Tunisia	Sfax	**University of Sfax (ENIS)**	Erasmus+ International (ICM)	3
Türkiye	Balçova / Izmir	**Izmir University of Economics**	Erasmus+	5 (IBSEN network)
Türkiye	Beykoz / Istanbul	**Turkish-German University**	Erasmus+ and Coop. Double Degree	2 + 5
Türkiye	Beyoğlu / Istanbul	**Mimar Sinan Fine Arts University**	Erasmus+	2 (Civ. Eng.)
Türkiye	Beyoğlu / Istanbul	**Istanbul Kent University**	Erasmus+	4
Türkiye	Fatih / Istanbul	**Istanbul University**	Erasmus+	5
Türkiye	Kadıköy / Bahçelievler / Istanbul	**Marmara University**	Erasmus+	1 + 2 + 5
Türkiye	Konyaaltı / Antalya	**Akdeniz University**	Erasmus+	4
Türkiye	Nilüfer / Bursa	**Uludağ University**	Erasmus+	3 + 5
Türkiye	Sarıyer / Istanbul	**Istanbul Technical University**	Erasmus+	2
Türkiye	Urla / Izmir	**Izmir Institute of Technology**	Erasmus+	2
United Kingdom	Bradford	**University of Bradford**	Erasmus+ International (ICM)	4
United Kingdom	London	**University of the Arts London**	Erasmus+ International (ICM)	1
United Kingdom	Middlesbrough	**Teesside University**	Erasmus+ International (ICM)	5
United Kingdom	Nottingham	**University of Nottingham**	Erasmus+ (internships)	6
USA	Boise, Idaho	**Boise State University**	Coop. HSBI	5
USA	East Stroudsburg	**East Stroudsburg University**	Coop. HSBI	5
USA	Fort Pierce	**Indian River State College**	Coop. HSBI	5 (IBSEN network)
USA	Marquette	**Northern Michigan University**	Coop. HSBI	5
USA	New York	**Queens College**	Coop. HSBI	5
USA	Spearfish	**Black Hills State University**	Coop. HSBI	5
USA	Tacoma	**University of Washington Tacoma**	Coop. HSBI	3 + 5
Vietnam	Ho Chi Minh City	**Ho Chi Minh City University of Technology (HCMUT)**	Coop. HSBI	3

5 1: Design and Art, 2: Minden Campus, 3: Engineering and Mathematics, 4: Social Sciences, 5: Bielefeld School of Business, 6: Health

FACHBEREICHE

Kurzprofile

Faculties

Faculty of Design and Art

Location
Lampingstrasse 3, 33615 Bielefeld

Dean
Prof. Dirk Fütterer

Vice Dean
Prof. Patricia Stolz

Bachelor's degree programme
Design

Master's degree programme
Design

Courses
Digital Media and Experiment, Photography and Visual Media, Communication Design, Fashion
x
Research focus
Perception forms of photography

Number of laboratories/workshops
20

Faculty of Minden Campus

Location
Artilleriestrasse 9, 32427 Minden

Dean
Prof. Dr.-Ing. Oliver Nister

Vice Dean
Prof. Dr.-Ing. Sven Battermann (from 18/10/2023), Prof. Dr. Christoph Thiel (until 17/10/2023)

Bachelor's degree programmes
Architecture, Civil Engineering (full-time/collaborative), Electrical Engineering (work-integrated), Computer Science,
Mechanical Engineering (work-integrated), Project Management Construction,
Industrial Engineering and Management (work-integrated)

Master's degree programmes
Computer Science, Integral Construction,
Integrated Technology and System Development (part-time/full-time)

Institutes
Institute for the Intelligent Building (InfinteG), Participation in the Institute for Data Science Solutions (IDaS)

Number of laboratories/workshops
24

Engineering and Mathematics

Locations
Interaktion 1, 33619 Bielefeld; Gleis 13, Langer Weg 9a, 33332 Gütersloh; Schulstrasse 10, 33330 Gütersloh; Biotechnology and Instrumentation Engineering, Universitätsstrasse 27, 33615 Bielefeld; Digital Railway Systems, RailCampus OWL Minden,
Pionierstrasse 10, 32423 Minden

Dean
Prof. Dr.-Ing. Rolf Naumann

Vice Deans
Prof. Dr.-Ing. Joachim Wassmuth
(Vice Dean for Study and Teaching); Prof. Dr. Axel Schneider
(Vice Dean for Research, Development and Transfer); Prof. Dr.-Ing. Andrea Kaimann (Vice Dean Gütersloh Campus)

Bachelor's degree programmes
Applied Mathematics, Biotechnology and Instrumentation Engineering, Digital Railway Systems, Digital Technologies (work-integrated), Electrical Engineering, Electrical Engineering (part-time), Industrial Engineering, Industrial Engineering (work-integrated), Engineering Computer Sciences, Mechanical Engineering (full-time/collaborative), Mechanical Engineering (part-time), Mechatronics/Automation (work-integrated), Mechatronics, Renewable Energies, Software Engineering (work-integrated), Industrial Engineering and Management, Industrial Engineering and Management (work-integrated)

Master's degree programmes
Applied Automation (part-time), BioMechatronics, Data Science (Research Master), Digital Technologies (part-time), Electrical Engineering, Mechanical Engineering, Optimisation and Simulation, Industrial Engineering and Management (part-time)

Institutes
Bielefeld Institute for Applied Materials Research (BifAM), Institute for System Dynamics and Mechatronics (ISyM), Institute for Technical Energy Systems (ITES), Institute for Data Science Solutions (IDaS), cooperation with the
Faculty of Minden Campus and Bielefeld School of Business

Research foci
Applied Mathematical Modelling and Optimisation (AMMO)

Research networks
CareTech OWL, Center for Applied Data Science Gütersloh (CfADS), Center for Interdisciplinary Materials Research and Technology Development (CiMT)

Research laboratory in cooperation with a company
Mieletec HSBI

Number of laboratories/project rooms 124

Faculty of Social Sciences

Location
Interaktion 1, 33619 Bielefeld

Dean
Prof. Dr. Michael Stricker

Vice Dean
Prof. Dr. phil. Gudrun Dobslaw

Bachelor's degree programmes
(Early) Childhood Education, Social Work

Master's degree programme
Social Transformation Studies

Number of laboratories/workshops 2

Bielefeld School of Business

Location
Interaktion 1, 33619 Bielefeld

Dean
Prof. Dr. Riza Öztürk

Vice Dean
Prof. Dr. Peter Hartel

Bachelor's degree programmes
Business Administration, Business Administration (part-time), Business Administration (work-integrated), International Studies in Management, Business Information Systems, Business Information Systems (work-integrated), Business Psychology, Business Law

Master's degree programmes
Controlling Finance Accounting, General Management (part-time, MBA), International Business Management, Management for Engineering and Natural Sciences (part-time, MBA), Marketing and Sales, Human Resource Management and Organisation, Production and Logistics, Taxation and Audit, Business Information Systems, Business Psychology, Business Law

Certificates
Compliance Manager Digitisation and Law, Doing International Business, International Project Management

Number of laboratories 1

Faculty of Health

Location
Interaktion 1, 33619 Bielefeld

Dean
Prof. Dr. phil. Michaela Brause

Vice Dean
Prof. Dr. phil. Änne-Dörte Latteck

Bachelor's degree programmes
Midwifery (work-integrated), Mentorship, Preceptorship and Counseling in Nursing [discontinued], Mentorship, Preceptorship and Counseling in Therapy [discontinued], Health, Health (Nursing/collaborative), Health (Therapy/collaborative), Nursing (dual) [discontinued], Nursing (with professional qualification)

Master's degree programmes
Vocational Education Science for Health Professions, Advanced Nursing Practice (part-time)

Certificates
Digitalisation in Health – Developments and Challenges; Fields of Action for Vocational Teachers in the Health Sector; Management and Development of Health-Sector Schools; Virtual Reality in Vocational Education for Health Professions

Institute
Institute for Educational and Health-Care Research in the Health Sector (InBVG)

Number of laboratories/workshops 2

Finanzausstattung in Euro

Programme/project funding NRW (excluding Higher Education Pact, quality improvement funds, subsidies)	
Faculty of Design and Art	-
Faculty of Minden Campus	€28,618
Faculty of Engineering and Mathematics	€1,950,696
Faculty of Social Sciences	€365,251
Bielefeld School of Business	€251,980
Faculty of Health	€2,865,512
Central areas	€9,355,234
Total	€14,817,291

Third-party funds HSBI 2023	
Faculty of Design and Art	€126,986
Faculty of Minden Campus	€807,210
Faculty of Engineering and Mathematics	€6,113,520
Faculty of Social Sciences	€841,496
Bielefeld School of Business	€1,831,089
Faculty of Health	€1,150,971
Central projects	€6,139,297
HSBI total	€17,010,569

124,217,282

total funding of HSBI for 2023

euros for the university's sustainable development

Funding	
Basic funding NRW[6]	75,926,600 €
Programme/project funding NRW[7]	22,886,545 €
Statutory benefits NRW[8]	6,432,189 €
Third-party funds	17,010,569 €
Other revenues[9]	1,961,379 €

6 Statutory funds that are transferred to the university's assets without conditions upon allocation and that do not require activity-based accounting
7 Including Higher Education Pact, quality improvement funds, subsidies
8 E.g. quality improvement funds, Future Fund
9 E.g. rentals and loyalties of premises, buildings and machines, service charges or late fees

• Zentrale Organisation

Central Organisation
Executive Board

President
Prof. Dr.
Ingeborg Schramm-Wölk

Vice President for Finance and
Personnel Management
Gehsa Schnier

Vice President for Study and Teaching
Prof. Dr. Michaela Hoke

Vice President for Research and Development
Prof. Dr. Anant Patel

Vice President International Affairs
and Digitalisation
Prof. Dr. Ulrich Schäfermeier

Vice President Sustainability, People & Culture
Prof. Dr. Natalie Bartholomäus

University Council 2023

Chair
Dr. Sabina Schoefer

Vice Chair
Dr. Eberhard Niggemann

Further members
Ralf Alberding, Simone Freyhoff,
Anja-Christina Horstmann,
Matthias Neu, Jana Schönfeld,
Prof. Dr. Ursula Walkenhorst

Senate 2023

Chair
Prof. Dr. Hans Brandt-Pook

Professors
Prof. Dr. Thomas Altenhöner,
Prof. Dr. Mariam Dopslaf,
Prof. Dr.-Ing. Klaus Dürkopp,
Prof. Dr.-Ing. Magnus Horstmann,
Prof. Dr. Jörg-Michael Keuntje,
Prof. Dr. Änne-Dörte Latteck,
Prof. Bettina Mons,
Prof. Dr. Christiane Nitschke

Lecturer for special assignments
Kirsten Rudgalwis

Academic staff
Ilka Henschen, Angela Kreienkamp

Other employees
Nicole Mosebach, Christel Sander

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Katharina Duch, Moritz Overkämping,
Marco Kolarevic

Impressum

Impressum

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Texts

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Prof. Dr. Ingeborg Schramm-Wölk, Gehsa Schnier, Prof. Dr. Michaela Hoke, Prof. Dr. Anant Patel, Prof. Dr. Ulrich Schäfermeier, Prof. Dr. Natalie Bartholomäus

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For the pages separating the chapters in this report, we used quotations from earlier annual reports of the university. They summarise how the topic of sustainability was addressed up to this report.

• Info

We need to change our mindset,

Create unusual perspectives

even

if it's

uncomfortable

"No student leaves the university without knowing the global sustainability challenges!"

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