

PLAN B

Speech of the Dean Prof. Tom Lahmer

Ladies and Gentlemen,
Dear students, dear colleagues,
dear alumni and emeriti,
dear guests, dear everyone!

I won't do any special personal greetings; our president, Peter Benz, had already done so, but he himself hadn't yet been greeted: So, welcome, Peter!

It is a great pleasure and honor for me to be able to open the new semester so officially and on a large scale today!

Why so big?

Why the effort?

You will see and experience it, stay tuned:

Before I really get started: In my speech I will sometimes come to particularly important keywords and emphasize their first letters. You can see that we have distributed large cardboard letters in the Audimax. I ask that a person sitting nearby bring the letter that I will emphasize in my speech to the front of the stage. The people can and should then please stay on stage: We will now practice this on the following sentence:

First, allow me to take a look back (B).

After the end of the Second World War, academic life in what was then the Weimar State University of Architecture and Fine Arts was initially reconstituted outside of the university buildings, as these were occupied by US troops in the first few months and then by the Red Army. The first major task was to plan the reconstruction in Thuringia. The renaming to the University of Architecture in 1950 indicated the conversion towards technically oriented training.

Under the leadership of the civil engineer Friedrich August Finger (after whom today's FIB is named), the university developed an institute for materials testing at the highest level as well as the building materials development branch. In 1954, a further adjustment to the GDR's development strategy took place: through accelerated industrialization, construction was to be given a key position. In addition to the Faculty of Architecture, the Faculty of Civil Engineering and the Faculty of Building Materials Science and Technology were founded.

From then on - and until 1996 - the institution was called the Weimar University of Architecture and Construction (HAB). Through new buildings and the takeover of other existing buildings, the HAB became a prominent urban development institution in Weimar. Since 1954, the engineers here have achieved amazing things. Not only was a faculty established with an impressive number of study programs that adapted to the changing times. Engineering practice, teaching and research also developed from an initially purely analogue world to a highly digitalised world.

Around 1990, the Internet gradually found its way into academies and engineering practice, the first emails were written... We now have an Instagram channel, think.ing.bauhaus, artificial intelligence helps to sort and interpret large amounts of data. Our data is in clouds. In the next Faculty Council we will deal again with research data management and our mass storage. One or two creative ideas are drawn from ChatGPT.

What development (E)!

Unfortunately, the large number of people who have learned, taught, researched and published here with a lot of commitment, passion and sometimes sweat on their foreheads can no longer be precisely researched - even with great diligence. But when it comes to citations for publications created by our faculty alone, we are now in the 6-figure range. It is also time to say thank you for everything that has already been achieved by everyone active here... in all the 70 years at Faculty B!

Looking back is always nice, especially when, as in this case, they are beautiful stories marked by success. But a critical inventory and a look into the future are also necessary at every point.

I would now like to devote myself to this: Civil engineering in Weimar, at the Bauhaus, the place of creativity, exploration, design, draft and modernity: Engineering also thrives on creativity, always and especially in **Weimar (W)** at a high level, perhaps with potential for more, but currently particularly challenged by the challenges of climate change, social changes and **upheavals (U)** New, creative and alternative ideas are needed more than ever. The search for Plan B. Plan B was therefore chosen as a more than just appropriate motto for this year's Summaery and also for the anniversary year. Plan B does not mean doing everything completely differently and throwing existing, proven techniques and concepts overboard. No, Plan B means thinking about alternatives, developing them, evaluating current practice and, in the case of probation, preferring Plan B to Plan A.

Not everything that research produces as logical, consistent and optimized finds its way into practice the next day. This requires **courage (M)**, perseverance and staying power. But with a little hard work, perseverance, and **passion (L)** for the **transfer (T)**... I had already mentioned climate change, which I would like to come back to at this point. All sectors are involved in reducing greenhouse gases and storing them and protecting the environment in general: the manufacturing industry, the energy sector, the mobility sector and of course the construction industry. The successes in reducing CO₂ in the various industries are very different... there is still a lot to be done, especially in the construction industry.

Unfortunately, it has to be quoted: "Overall, in 2019, the building and construction sector did not move towards the goal set in the Paris Agreement of keeping average global warming well below two degrees Celsius," says the report from the United Nations Environment Program (Unep). Instead, the sector is moving away from the guidelines" According to the UN Environment Program's recent 2020 Global Status Report for Buildings and Construction¹, the construction sector accounts for 38% of global CO₂ emissions. To achieve a carbon-free building stock by 2050, the International Energy Agency (IEA) estimates that direct CO₂ emissions from buildings

must fall by 50% and indirect emissions from the construction sector by 60% by 2030.

This is where we have to start and it is a dedicated goal of our faculty to reduce the ecological footprint of the construction industry. The use of **environmentally friendly (U)** energies and energy-efficient (CO₂ neutral or even binding) or renewable materials, the reduction of transport routes, circular economy and consideration of the entire life cycle of buildings must be promoted; In the future, every building must become a CO₂ sink, but the safety, reliability and durability of the engineered structures must still be guaranteed. The use of renewable energies as well as the treatment of wastewater and other materials as well as the focus on renovation, conversion of existing buildings and generally extending the lifespan through smart, digital monitoring are other topics that concern us.

The following advantage must be taken advantage of: every technological development has a major impact when multiplied by the large volumes of materials that the construction sector processes. The sensitivity to what we have developed and optimized can hardly be greater in any other industry. This should be motivation and incentive for us! The holistic view of the interaction of building with the environment, including in the context of natural hazards, therefore requires ever-increasing professional education and flexibility from people involved in building and construction processes. Answers must be found to questions such as how alternative construction variants can be evaluated technically, ecologically, economically and, if necessary, socially, which also stand up to the broad public discourse. Intelligent software systems, forecast models and the use of artificial intelligence methods are developing into valuable supporting tools in these areas, but a far-sighted, prudent and comprehensive view from the engineers involved in construction is still important. It is therefore up to us to generate one or another Plan B, to first formulate it as an idea and to test its suitability with fellow students and colleagues and to implement it. We have the tools and instruments in hand to evaluate **alternatives (A)**. To do this, we operate on a wide variety of scales, time horizons and levels of digitalization. Ultimately, there is a qualitative assessment of whether the alternative is viable and usable or whether it just pretends to be one and is actually not worth the paper on which it is formulated. - Now all the letters should be there - and they probably still need to be sorted sensibly -

This multifaceted nature in the development/design of the new/the future and the evaluation of the existing is the basis for the renaming of the faculty decided last year. Civil engineering becomes civil and environmental engineering (or in short: construction and environment - see podium). An appropriate and correct measure that is oriented towards the spirit of the times and, above all, the lived practice and content, which at the same time should be an incentive to move even more in this direction in the future. We are happy to be able to present ourselves more broadly to the public with the 2 sound, "Construction and Environment". The civil engineering brand @Weimar is well known to people active in the industry, but why mess with it? Quite simply: We want to appeal primarily to young people who expect a lot and rightly demand a lot. Emphasis must be set here: in terms of content, but also through names, focuses and structures. This is not about green washing. It may be

true that there is still room for improvement when it comes to sustainability-oriented considerations and developments, but a lot has already been done or achieved.

Allow me to name a few examples:

- In a currently submitted application for a DFG graduate school, tools for demonstrating alternative and sustainable construction approaches are to be developed using coupled models and a system-based design
- The preparations for an application for a special research area address calcined clays as an alternative, as a Plan B so to speak, to conventional and CO₂-intensive cement as a binder
- Our faculty, together with the IAB and the MFPA, will become part of LAB – Living Art of Building, a research center for climate-neutral and resource-saving construction, in an alliance led by the TU DD
- SCIP Plastics, Sustainable Capacity building to reduce Irreversible Pollution by plastics, i.e. the expansion of infrastructure against irreversible pollution by plastics in the Bay of Bengal, Bangladesh
- The Faculty Sustainability Working Group analyzes and evaluates content on sustainability in the teaching we offer and will soon present this under a special label,
- Our faculty has proposed investing 1% of the BUW's annual budget in sustainable renovations and projects. The energy costs saved as a result are to be reinvested in order to make the BUW an energy-neutral place in the medium term. Perhaps the first university in Thuringia.
- The Bauhaus EnergyHub is an exemplary symbiosis of sustainable engineering design and architectural sophistication,
- The H₂ well project pursues the decentralized and regional production of green hydrogen as part of a WIR alliance. This hydrogen can be used as a versatile storage medium for energy and is therefore a key factor in the energy and mobility transition.
- As part of the new partners in the Bauhaus4EU network, we are talking intensively about sustainability and environmentally-oriented engineering,
- There are more examples and projects to report. Much of this is beautifully formulated in the environmental report of the Bauhaus University Weimar, the main author of which is also from our faculty and whose literature I recommend here
- Energy-related renovation of the run-down Coudraystrasse 11 & 13, which is at least being applied for by the state and which - in addition to the energetic upgrade of the building shell - is also intended to accommodate renewable energy generation such as geothermal energy/photovoltaics for the first time → the ideal goal would be Coudray Campus, which is not only known as the so-called Science Mile, but is also the first climate-neutral area of the campus
- ...and there are also numerous sustainability-oriented research projects that we are taking time for at the end of September during a research colloquium as part of the anniversary year "Towards sustainable Civil Engineering". Contribution reports are warmly welcomed.

70 years of Faculty B or from now on B and U:

A tanker on a good course, navigating the oceans of civil and environmental engineering at a solid speed. It is up to us to continue to guide it safely across new waters, watching out for one or another political iceberg that may open up, or one or another social or monetary shoal... I would like to come to an end and look ahead:

There are still a few exciting highlights coming up in 2024, including:

- Exhibition opening: Queens of Structures, traveling exhibition with female role models in civil engineering and architecture with vernissage on April 25, 2024
- Excursion week from May 21st to 24th
- Summaery, the BUW annual show under the motto Plan B from July 11th to 14th, especially the "Science Mile Q3" on July 12th
- Colloquium Towards sustainable Civil Engineering on September 26th and 27th.
- Long Night of Sciences on November 15th

Without the creative, active and thoughtful commitment of some colleagues, we wouldn't be sitting together today in such large numbers and probably without music, drinks and a common graphic thread. All of this is not just a decorative addition, but also contributes significantly to the success of our start to the semester and the appropriate start of a faculty era under a new name. Those who have already organized an event themselves, be it a birthday or a conference, know how much time and effort goes into seemingly small details that add up to a coherent whole.

I would therefore like to take this opportunity to say my warmest regards Dana Höftman, Lisa Geese and Ines Meisner. And many other people Thank you for the excellent preparation and successful organization of today's event. Additionally, thanks for support with everything that needs to be considered and organized when renaming a faculty, be it new inbox stamps, new faculty logos or updating the name on the website: UK, especially Christiane Hempel, Tina Konscholky, Madlen Zorn, Romi Klockau SCC, especially Ulfried Herrmann And with that I conclude my collection of words and move on to... thank you very much!