Press release

Pacesetters: The Key Topics of BAU 2019

The four key topics of BAU 2019 set the pace and arrange the diversity of products. Many exhibitors will align their presentations to them and offer matching solutions. The key topics will be elucidated and discussed under different aspects at the trade-show forums and illustrated at the special shows on the basis of product and project examples. The following sections will provide you with an overview:

Digital: Processes + Architecture

When the internet became popular in the general public just over 20 years ago, the email also led to fundamental changes in communication. The go-ahead for the mobile and thus ubiquitous World Wide Web was given by the first iPhone about ten years later, in January 2007. Since then, the digital world has been penetrating ever further into our lives. What’s more, the boundary between the digital or virtual and the analog or real world is gradually breaking down. And in the building industry? Progress in digitalization has really been picking up pace in the building industry in recent years. Although construction offices have been working with digital planning tools, i.e. CAD, since the middle of the 90ies, they have done so two-dimensionally, however, practically as a substitute for the ink pencil and drawing board. However, with the latest developments in IT and above all in BIM (Building Information Modeling), the job of planning is undergoing tremendous change. Today, it is the norm for international planning teams to work together – at the same time and on the same data. That simplifies collaboration and makes the job easier. It also enhances the quality of planning.

What is certain is that architectural ideas and design still come from the creative skills of the architect, the interior designer and the designers. They are the ones who are able to synthesize all the parameters of space, form and material, but also society, history and not least the needs of the clients and the users into a single design. But here, too, we are seeing attempts at “generative design”, in which the design is done by logarithms, depending on material and system. The actual detailed design is then done digitally and encompasses all the building
trades. Even though acquiring special BIM tools and planning with BIM demands a certain effort and expense up front, the costs are recouped rapidly during the course of the project. In large-scale projects, this kind of planning is now commonplace. In future, the digital planning tools will be used also in smaller projects and in renovation and modernization work, and it will therefore become the standard worldwide.

The building trades must also get ready for this development, if they are to remain competitive. In future, it will be possible to translate a plan in part directly into 3D production. In engineering, with components made of steel or wood, this is already a reality. But also in other areas it will be possible to feed 3D data into machines. That will save not only time and money, it will also have a lasting impact on the efficiency of the building process. Thus, the work of the building trades will change, but the expertise of the tradesmen and -women will always be in demand.

**Connected: Living + Working**

Great changes are taking place in the world of work. For many, the focus is no longer on pay but more on having flexible working hours or a better work-life balance. There is nothing new in this approach, but the circumstances are new: Thanks to digitalization, the world of work is more intertwined with the employees' private lives. Employees these days think nothing of quickly checking work emails during the evening, or of dealing with an inquiry from an important customer during their day off. On the other hand, life doesn’t follow clear patterns nowadays. Increasingly important for workers now is being able to live the way they want and develop their own ideas. Both fit well together in essence, the question is more of a structural one. Often, it’s no longer necessary to be in the office from 9 to 5. Many tasks can be done from the home office, or even in the café around the corner (thanks to mobile data processing). In this way, childcare or care for family members can be reconciled more elegantly and above all more intelligently with work. Fixed or flextime working hours, created for an analog world, can quite easily be replaced by flexible models.

All of this is of course changing the world of building, in particular as regards designing office landscapes. No longer does there have to be a fixed place for each and every employee. Nowadays, different office situations can be available at discretion. In the morning, people simply choose where they want to sit that day. Sometimes, this alone saves up to 20% of office space. Data is comfortably
fetched from the cloud. Even more significant is the impact on the design of residential space. Floor plans should be cleverly designed so that they can be flexibly adapted. With only minimal effort, it should be easy to switch things around to cater for a home office, multi-generational living or higher occupancy, or to re-function a space or extend it. Digitalization and the greater flexibility of work and private life that goes with it are more than ever demanding flexible building structures that can respond to the housing shortage in our cities. Not least this has an effect on urban areas where new, digital mobility concepts must in future lead to new infrastructure.

Integrated: Systems + Constructions

The job of an architect and that of an engineer are sometimes hard to separate. Ever more sophisticated systems and technology need people who understand how to get the very best out of these possibilities. In the field of construction, as well as good design and material combinations, it is increasingly about complex load-bearing structures, lightweight constructions and highly technological components. One example is the facade which, as the outer skin of a building, must also accommodate technologies for ventilation or energy recovery, and all in a very small space. In themes like this, the jobs of the architects and the engineer intersect, and early, detailed planning, carried out in collaboration, is required. That way, potential problems can be identified and eliminated at the planning stage, so as to avoid errors that would later be irreversible.

More and more new technologies are being developed, and these play a big part in all of this. Tasks like the planning of low-voltage cabling for intelligent building systems, of channels reserved specially for planners of these systems or of data cables for a wide-reaching intranet now affect many different building trades. Such projects need coordinated overall planning to keep the project on track and ensure that afterwards the complexity is no longer visible. Also, digital tools enable much more sophisticated and detailed planning. For steel, concrete or wooden buildings: The load-bearing frame is not infrequently the most important feature in a unique design. This means that architects and engineers are very much dependent on collaboration with each other to achieve a good result.

Buildings are becoming ever more complex, but at the same time, there is a desire for simplification. The key to this lies in prefabrication and in modular construction. In the factory, many components can be fitted together better and faster, so when these parts are delivered to the building site, they only need to
be put together like a jigsaw. This saves time and money, but it also increases precision and in the end the quality of a building. Of course, such systems already exist, but day-to-day life at the construction site looks different most of the time, i.e. rather conventional. In this context, the advantages of a modular, pre-fabricated construction method can hardly be denied. In future, digital planning tools will be helpful, which can translate data directly into individually manufactured components.

**Smart: Light + Buildings**

Buildings themselves are becoming even more digital. In a “smart building”, all the devices are linked up in a shared “smart grid” and so can communicate directly or indirectly with each other, supported by the internet of things technology. That brings several advantages: energy streams can be controlled and optimized, and, for example, the energy generated by solar cells can be distributed according to need or also stored for later use. In a somewhat larger network, excess energy can be distributed to neighboring buildings. Entire urban districts can in this way be connected up into an intelligent network with the aim to use energy where it has been generated.

In the last ten years or so, there has been a big change particularly in the way how artificial lighting is being dealt with. LED technology – now the standard in lighting planning – has completely transformed the entire lighting sector. Light in buildings now not only uses less energy, it needs less space, and, because of the longer life of LEDs, it also needs less maintenance. That is having an effect of course on electrical planning, but also on architecture as such. Inspections no longer have to be carried out by building caretakers, they can be done every few years by external specialists. The focus in lighting planning can therefore be all the more on design. Lighting designers are now an established part of the planning and design team and are often involved in a project at a very early stage by the architect. Their expertise covers both artificial and daylight planning, and as such they play a central role in the design process.

In a smart building, light becomes a part of the smart grid in which all devices in the building are connected up together. It is therefore possible to operate the blinds and control the artificial lighting by smartphone and even to combine these in atmosphere programs and lighting concepts. Emergency programs can also be defined for the case of fire, for example. In a smart building, there are (almost) no limits, provided the individual components can communicate with each
other via a smart grid. Where individual building trades were formerly managed and steered by the planner, smart building specialist planners are nowadays in demand: universalists who can combine all software and hardware technologies in the smartly controlled building. In the building of the future, the use of energy within the building will thus be much more conscious. Not only more sustainable, but also more intelligent, clever and smart.

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About BAU
BAU is the world's leading trade fair for architecture, materials and systems, the largest and most important event for the industry. The next BAU will take place on the exhibition grounds of Messe München from January 14 to 19, 2019. Some 2,200 exhibitors from around 45 countries, and more than 250,000 visitors from all over the world are expected to attend. On an area of 200,000 m² - the site has been fully booked up for years - BAU is presenting architecture, materials and systems for commercial, residential and interior construction in 18 exhibition halls, both in new and existing buildings. Every two years, it brings the market leaders of the industry together at this overarching building trade exhibition, which is unique worldwide. The range of products and services is structured according to building materials, product sectors and theme areas. BAU addresses all those involved in the planning, construction and operation of all sorts of buildings. BAU is also the world’s largest trade show for architects and engineers, attracting over 65,000 design professionals. The supporting program with numerous attractive events on the agenda, including top-class panels with experts from all over the world round off the show.

Messe München
Messe München is one of the world’s leading trade-show companies. It organizes more than 50 own trade shows for capital and consumer goods and key high-tech industries. Each year, a total of more than 50,000 exhibitors and some three million visitors take part in more than 200 events held at the Messe München trade-fair center, the ICM – Internationales Congress Center München, the MOC Veranstaltungsgesellschaft München as well as abroad. Jointly with its subsidiaries, Messe München organizes trades shows in China, India, Brazil, Russia, Turkey, South Africa, Nigeria, Vietnam and Iran. Messe München has a global business presence with a network of affiliates in Europe, Asia, Africa and South America as well as some 70 foreign representatives serving more than 100 countries.