Sustainable Building
Tamina Bridge
Engineering office: Leonhardt, Andrä and Partner (LAP)

With an arch span of 265 meters, an overall length of 417 meters and a height of 220 meters, the Tamina Bridge is the largest arch bridge in Switzerland.

Realized with: ALLPLAN
Mr. Kaufmann, sustainability is a topic that is receiving a lot of attention. What exactly does sustainability mean for the Nemetschek Group?

For us, sustainability means living up to our responsibilities to employees, society and the environment. We are in a very good position to do that. As a steadily growing company, we have been operating in a financially sustainable way for decades, and we consider it extremely important to deal with our employees in a responsible way. At the same time, our product range offers plenty of leverage for achieving environmental sustainability.

This needs some more explanation. The Nemetschek Group develops software for the construction industry – what is sustainable about that?

The construction industry is one of the most resource-intensive industries. Because demand for housing is increasing, the industry is required to become more efficient and to build in a more sustainable manner. Those are things that have been somewhat neglected in the past. Compared with the automotive industry, for example, productivity in the construction industry is unfortunately making very slow progress. Our software applications make the construction process more efficient. With our products, companies can plan their use of resources more accurately and economically. We are thereby making a crucial contribution to protecting the climate and the environment.

So it’s primarily about the construction process?

We take a more comprehensive view. It is not just about the construction process but also about planning and managing property. We always take the entire lifecycle of a structure into consideration. Using digital working methods, such as building information modeling – or BIM for short – everyone involved can work together flexibly, efficiently and in great detail. Structures are built virtually to start with and then for real. This averts costly and resource-intensive mistakes and defects before the actual construction process begins. In addition, a structure can even be modified efficiently years later, because its details have been documented with painstaking precision. There is another key benefit to this approach, which relates to the fact that a great many buildings dating back to the 1980s are currently being modified or demolished. No one knows what materials were used, or where and in what quantities, which means that an enormous amount of work needs to be done in the demolition process. Structures planned with BIM have a digital record of which materials have been used. Not only that, but demolition can even be used to reclaim raw materials. BIM also helps with property management, as it provides a basis for using space more efficiently.

An interview with Dr. Axel Kaufmann, CFOO and Executive Board Spokesman
So your products have positive consequences for the environment. But what about the Nemetschek Group’s own ecological footprint?

We develop software, which means that when it comes to our impact on the environment, power consumption is a crucial factor. We have not yet centrally reported our own ecological footprint, but we are starting to do so this year. One of the things motivating us to do this is the idea that our software can help to make the world a little better in that by using our applications, more than six million people are working in a more cost-effective, environmentally friendly and public-spirited way. In other words, we have two main assets: a relatively low ecological footprint and the positive effects of using our products.

It is striking that family-owned businesses often have a good image when it comes to sustainability. Do you get that impression as well – including in reference to the Nemetschek Group?

I am certain that family-owned businesses actually have a considerable interest in taking a responsible approach to employees and the environment. They often have a tradition of focusing on solutions that will be viable in the long term. We are no different. However, because the Nemetschek Group is growing all the time, we have now bundled some of our operations Group-wide and report on them accordingly. Our founder, Professor Georg Nemetschek, has been concerned about the company’s contribution to society since its inception in 1963.

That much is evident from the independent Nemetschek Foundation, which the Nemetschek family set up in 2007. Professor Nemetschek and his sons want the Foundation to help to reinforce democracy in Germany.

The Nemetschek Group has a special organizational structure with its 16 distinct brands. How do you go about centrally managing the key aspects?

Our brands are very innovative. They have their own cultures, which they need if they are to occupy leading roles in their respective markets. We like to compare it to the German Mittelstand small and medium-sized enterprises. Mittelstand companies in Germany are highly specialized with close links to the market and their customers. That is a key part of our strategy for success.

At the same time, we are a corporate group and need to set fundamental, central standards for all brands. Naturally, that includes the areas of compliance and data protection, as well as dealings with employees, transparent communications and cooperation with educational institutions. We have laid the groundwork for this and intend to continue building on it. Furthermore, we want to take all brands with us on this journey, giving due consideration to the aspects that are unique to them and not simply imposing standards on them. We are therefore taking it step by step and making sure that our brands are very much involved right from the outset.

Isn’t that a rather tricky balancing act? Maintaining the separate cultures of each company while managing them centrally at the same time, albeit only in selected areas...

In fact, we were not only given a warm reception from the start, but our brands all want to be partners in a strong group of companies. And strong is exactly what we are, because we are committing to common values and standards.

You are publishing a dedicated CSR report for the first time. Why?

We are living up to our responsibilities and want that to be a matter of public record. In our CSR report, we explain where we are taking responsibility and offering some insight into our goals and actions. We are thereby maintaining our standard of transparent communications, because we want to be honest in our dealings with our employees, customers and other stakeholders and show them the progress we are making.

For instance, the report contains some examples of how our software is being used. There is a project with a social aspect involving the design of accommodation for refugees, but the environment is also an important factor. The same applies to the AXA Group’s smart building in Belgium. The focus in that case is on employee well-being, with negative effects on the environment being mitigated at the same time. It is a fascinating blend of various aspects of corporate social responsibility created through the use of our software.
Business Model

Big Data

Building Knowledge for the next generation

Efficient Collaboration

Planning & Design

Program Management Planning

Modeling & Design Development

Structural Design & Analysis

Detailing, Engineering, Consultants, Fabrication

Build & Construct

Quality Control

Clash Detection

Estimation & Scheduling

Collaboration & Documentation

Operate & Manage

Property & Management

IVMS/Smart Buildings

Media

AEC Renderings, Animation & Visual Effects for Gaming, Movies

5D
In Scope, In Time, In Budget.

Big Data

Knowledge for the Next Generation

Best of Class

BIM

Best of Class

Efficient Collaboration

CFO Interview & Business Model

Approach to Sustainability

Integrity & Compliance

Environment

Customers & Society

Employees
The Nemetschek Group was founded in 1963 by Professor Georg Nemetschek and comprises Nemetschek SE and its operating subsidiaries. The company offers software solutions to enable a continuous workflow across the entire construction lifecycle.

Our organizational structure encompasses four segments:

- **Planning & Design**
- **Build & Construct**
- **Operate & Manage**
- **Media & Entertainment**

Each of these segments is headed by a member of the Executive Board or a Segment Manager. The separate brands trade as independent companies. As distinct units, they are capable of responding rapidly to customer requirements and requests, market developments, trends and changing circumstances. Each of the brands is world-leading in its discipline. They know the particular market conditions and the needs of their customers better than their competitors, which often tend to offer comprehensive solutions for diverse tasks and customer requirements. Many of our brands have done pioneering work in their specialist areas using digital building information modeling, or BIM for short.

Our 16 brands offer a diverse portfolio comprising graphical, analytical and commercial solutions that enable a continuous workflow in the lifecycle of construction and infrastructure projects. Customers include:

- Architecture and design firms of all sizes
- Structural planners
- Engineers in all disciplines
- Planning and service providers
- Construction companies and their suppliers
- Process controllers
- General administrators
- Building administrators
- Building and facility managers

BIM, a term synonymous with the digitalization of the construction industry, is the central working method in the planning, construction and administrative process of buildings. BIM is used to digitally record and connect all design, quality, timing and business requirements and data. This information is used to create a virtual, three-dimensional building model. Both time and cost are added to the simulation as fourth and fifth dimensions. BIM enables efficient and transparent collaboration and an improved workflow for all those involved throughout the entire process of planning, building and managing a property or infrastructure project. BIM is first used virtually in order to identify and correct planning errors even before the actual construction process.

We have been pursuing this comprehensive approach for more than 30 years using an open standard (Open BIM) that enables any software from the Nemetschek Group to communicate with any other software – including that from competitors – via open data and communication interfaces. This allows the seamless transfer and documentation of all information, data and digital models relevant to the construction process throughout all phases of a building’s design and management.
Approach to Sustainability

Managing our company well and taking responsibility for employees, society and the environment are vitally important to us. We aim to increase efficiency and productivity along the entire value chain of the construction industry through our software solutions. The BIM working standard enables seamless communication and cooperation between all those involved in the construction process. Together, they improve transparency and planning efficiency. Through this form of cooperation, they also limit unforeseen circumstances and faults during the construction phase or later on during the operation of a building. In short, our software applications help to cut construction time, enhance building quality and save money and material. We are thereby making a contribution to the cause of protecting the climate and the environment and thus to achieving UN SDGs 11 (Sustainable Cities and Communities) and 13 (Climate Action).

To promote sustainable development beyond that, we have defined standards for day-to-day business in our Code of Conduct:

“Each of us contributes to the public image of the Nemetschek Group through our appearance, conduct and actions. We are all responsible for ensuring that we as a Group live up to our global social responsibility.”

The specified duties of all employees include the protection of natural resources, provisions for anti-corruption and the obligation to refrain from all forms of discrimination.

Material risks
For non-financial reporting, we consider not only the main risks to our business activities, but also risks that could have a significant negative impact on the topics defined for non-financial reporting (Section 315c in conjunction with Section 289c (3) Nos. 3 and 4 of the HGB). The risk assessment involves recording the gross risk values for the amount of loss and probability of occurrence as well as the net risk positions remaining after risk-reducing measures. No material risks that would very likely have serious negative effects were identified for the topics defined in the non-financial reporting. Consequently, there were no risks for 2019 which, on a net basis, meet the materiality criteria in accordance with Section 289c (3) Nos. 3 and 4 of the HGB.

Key CSR issues
We carried out a materiality analysis again in 2019 as a means of determining the weighting to be given to the various non-financial issues. The list of topics from the previous analysis from 2017 served as a basis for this. Using various external frameworks, we identified additional issues and their business relevance and analyzed their impact on the environment, employees and society. We also examined whether issues could be dropped and whether new issues should be added or combined with others. The revised list was validated by the CSR core team. To assess the relevance of the issues to our business, in-depth interviews were conducted with the Executive Board and the heads of the four divisions and with a representative of the Works Council of Nemetschek SE. In a subsequent workshop, the CSR core team worked out the Nemetschek Group’s effects on people and the environment. The findings regarding business relevance and effects were then compiled in a matrix and approved by the CSR core team and the Executive Board member responsible for CSR.
CSR organization

To implement our CSR activities, we have appointed a CSR officer to the holding company who, together with a cross-departmental CSR core team, identifies relevant topics and coordinates the implementation of appropriate measures. Since the Nemetschek Group includes 16 largely independent brands, non-financial issues are managed separately within the brands. Since 2017, a number of basic and Group-wide standards relating to key non-financial issues have been introduced as part of CSR activities. These are aimed at making sustainability an integral part of all business practices of the Nemetschek Group.
The diagram shows the topics that have been identified as material. The topics within the blue shaded area were prioritized as high in terms of business relevance and the impact of business activities on the respective sustainability aspects. In accordance with the criteria of the CSR Directive Implementation Act (CSR-RUG), they are also the subject of our non-financial Group statement. The topics identified have been assigned to four fields of action:

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» Prevention of discrimination |
| **Environment** (environment) | » Product responsibility  
» Conservation of operating resources |
| **Customers and society** (social issues) | » Long-term customer relationships  
» Cooperation with universities |
| **Employee responsibility** (employees) | » Gaining and retaining employees  
» Education and training  
» Promotion of health  
» Promotion of diversity and inclusion |

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INTEGRITY AND COMPLIANCE

We pursue a preventative compliance approach and have a corporate culture in which all employees are made aware of the issue and receive appropriate training.

- Overarching management approach
- Compliance
- Fair business practices
- Prevention of discrimination
Actual or suspected violations of applicable laws, internal regulations or ethical standards could have negative financial consequences. They could also have a negative impact on the reputation of the Nemetschek Group. One of our foremost objectives is therefore ensuring that critical compliance incidents do not happen in the first place. To achieve this objective, we pursue a preventative compliance approach and have a corporate culture in which all employees are made aware of the issue and receive appropriate training.

Compliance
Our training courses and individual refresher courses on compliance topics currently take place via e-mail or on the intranet, for example. The individual brands are required to take responsibility for passing on relevant information and Group policies and conducting in-house training on compliance topics. Every new employee must complete an initial training course on compliance. There are plans for the future to offer further classroom training courses tailored to specific topics. Additional central e-learning structures are also to be set up to offer more control and evaluation options.

The compliance management system is implemented practically at the subsidiaries by the compliance officers of the individual brands. Quarterly surveys of all brands are consolidated and reviewed by the Corporate Legal & Compliance department and reported to the Chief Financial and Operating Officer (CFOO) of the Nemetschek Group. Ad hoc compliance reports are also prepared as part of an applied due diligence process as required. The Supervisory Board and the Executive Board are regularly informed about incidents relevant to the Compliance department.

We encourage our employees to report behavior that may violate our Code of Conduct. To do so, they can contact their superiors, the HR manager responsible or the Compliance department directly in either German or English. In addition, violations may be anonymously reported to a contracted international law firm outside the company. All reports are first checked for plausibility internally with the utmost confidentiality. Further investigations and steps are then initiated wherever necessary. Further divisions or external consultants may be called in on a case-by-case basis. The Nemetschek Group’s Corporate Legal & Compliance department regularly reviews the effectiveness of the whistleblowing process and amends it as necessary.

No significant compliance violations were identified during the reporting period. It was not necessary for the isolated incidents that were reported to be followed up. There were thus no cases of legal action.
Fair business practices
The assorted aspects of fair business practices are referred to at various points in our Code of Conduct. For example, the Code of Conduct explains to employees what the Nemetschek Group expects with regard to the separation of personal and Group interests or to the handling of company and business secrets. The Code of Conduct clearly states that corruption, bribery and other forms of granting illegal benefits are not tolerated. In our Code of Conduct, we also fully commit to competition by fair means and strict compliance with antitrust law. All employees of the Group must act in accordance with the applicable competition law.

Prevention of discrimination
On the subject of discrimination, the Code of Conduct clearly states:

“All forms of discrimination are to be avoided. Above all, Nemetschek will not tolerate any form of discrimination or harassment within the Group, whether based on origin, gender, disability, religion, age, sexual orientation, political views or trade union activities.”

Any employees who are subjected to or observe any form of discrimination or inappropriate behavior are encouraged to report this through the channels described.

All reported incidents of possible discrimination were reviewed during the reporting period. There were no incidents requiring disciplinary and/or legal action resulting from this.
We contribute to protection of the climate and the environment through our software solutions, which improve efficiency in the construction industry and enable the most sparing use of resources possible.
Intact ecosystems are the basis for healthy living and sustainable economic activity. The construction industry is one of the most resource-intensive industries. At the same time, demand for housing is increasing, which means that construction needs to become more efficient and more sustainable. As a company in the architecture, engineering and construction (AEC) industry, we are aware of our environmental responsibility, and we treat it with due seriousness. We contribute to protection of the climate and the environment thanks to our products, which improve resource efficiency in the construction industry and enable the most sparing use of resources possible.

**Overarching management approach**

Environmental protection has always been a key topic for the company, and one that is very much an integral part of our Code of Conduct. All employees are urged to use all resources sparingly in day-to-day working life. Both financial and environmental aspects must be considered in the selection of suppliers, advertising material and other external services.

The objective of the Nemetschek Group is for its products to ensure that the AEC industry can do business in a more sustainable way. The management necessary for this rests with the separate brands. That applies to research and development in particular. Since 2018, work has been under way on a Group-wide concept of sustainable product responsibility that takes into account the entire product lifecycle. The development process has included various workshops at holding and brand level and has been supplemented by a digital survey of all brand managers.

**Product responsibility**

The Nemetschek Group is characterized by its focus on the AEC industry and its ability to map all processes in the lifecycle of a construction or infrastructure project with its products. This means that architects, engineers in all disciplines, building contractors, general administrators and building managers can plan more proactively, share information more easily and collaborate more productively. It also reduces the consumption of energy and resources during the entire construction process. In addition, seamless virtual documentation enables simple and targeted changes to the buildings or infrastructure, even years after their construction. The Nemetschek Group’s technologies therefore contribute to the construction of safer, more sustainable and more convenient buildings and infrastructures. Precise planning allows much more accurate calculation of excavation quantities or materials used. This saves material and averts costly and resource-intensive mistakes and defects. Structures planned with BIM have a digital record of the materials used, which means that demolishing them is more efficient in relative terms and can even be used as a means of reclaiming raw materials.

Nemetschek Group products also optimize the operational phase. For example, EcoDesigner Star, a certified energy simulation application developed by Graphisoft, allows the energy balance, the anticipated energy needs and thus the potential CO₂ emissions of a building to be determined using a virtual building model. This enables developers to compare and optimize various designs with regard to their impact on energy usage. The solution is integrated in the planning software and can therefore be used earlier and more often in the architectural planning process than in a conventional workflow, where energy analysis is carried out only once or twice during implementation planning.

**The Nemetschek solutions in use**

Almost ten years ago, the US economy was hit by a recession that led to the demise of many companies in the AEC sector. Martin Schulz, co-founder and president of Premier Mechanical, decided at the time that his company was not only going to survive, but would even grow. Operations director Brandon Hubner and director of business development Andy Hubner were ready to rise to this challenge. “We actually recorded growth rates in double digits during the recession,” says Brandon. They were able to do so thanks to Bluebeam Revu, software for paperless workflows that uses smart PDFs for collaborative work with metadata, hyperlinks, bookmarks, images, attachments and 3D data across the entire duration of a project.
Premier Mechanical can draw up better bids and set itself apart from the competition

The process began with using Bluebeam Revu to set up a complete and industry-specific markup toolkit enabling more consistent and accurate bid drawings. The background to this is that costs are different for all drawings and can now be entered directly in Bluebeam Revu. That guarantees correct calculations and makes them extremely easy to understand.

“When our customers see just how much detail we can put into our presentations, they presume that we will apply just as much precision to our practical work. That allows us to compete with rivals ten times our size, because we can ensure the same if not even better quality,” explains Andy.

From creating product requirements documents and functional specifications to designing drafts, Premier Mechanical estimators view using Bluebeam Revu as a genuine competitive advantage. “We are able to create project-specific presentations,” says Andy. Furthermore, “the exquisitely detailed 3D drawings are unquestionably an additional benefit that has helped us to secure a lot of projects up to now.”

Paperless working saves money and resources

As director of business development at Premier Mechanical, Andy was quick to recognize the benefits of dispensing with paper documents – including in terms of delivery costs. “Before we started using Bluebeam Revu, we were purchasing around 10,000 square meters of paper every year at a cost of between USD 12,000 and USD 15,000,” he explains.

The amount of money they were spending and the enormous use of resources gave Premier Mechanical considerable incentive to switch to paperless working.

“One of our biggest difficulties was dealing with documents in the production facility,” admits Brandon. Paper documents are susceptible to damage and easily lost, while handwritten annotations are not always easy to read. Now that all documents have been digitalized with Bluebeam Revu, problems of this nature are a thing of the past at Premier Mechanical.

Using Bluebeam software also means that employees on the factory floor and the field service engineers at Premier Mechanical can coordinate in real time. Every workstation in the production facility has a tablet with the software installed. This makes working together easier and cuts chargeable hours for field service engineers.

**Contact with customers via Bluebeam Studio creates transparency**

From a client’s perspective, distinct project transparency is often a good reason to choose a higher bid. The client will expect to be able to follow a project beyond the limits of what it is told in meetings. The possibilities offered by Studio Sessions, which is integrated within Bluebeam Revu, give Premier Mechanical this very competitive advantage, because clients can view in a session when work is being carried out on their projects.
This complete transparency provided by the collaborative Studio Sessions bolsters trust among customers, because they can follow the progress of production or assembly at any time. There are benefits for supervisors, too, as they have a better overview of planning for the completion of factory facilities at the job sites.

**Conservation of operating resources**
The topic of operational resource conservation was determined to be significant in the materiality analysis carried out in 2019. The relevant key figures had not previously been the subject of central records or management. We are therefore currently working to identify the necessary measures. A Group-wide strategy is to be developed in 2020. As an initial step in the context of this, we are going to be recording energy consumption at our offices and data centers.

The brands are at various stages of development in terms of operational resource conservation. Current measures of individual brands include various digitalization projects such as electronic invoicing, which saves up to 100,000 pages of paper per year at one subsidiary alone. In order to reduce resource consumption and avoid waste, there are approaches for replacing disposable cups and plastic bottles with reusable glasses and glass bottles. One Nemetschek Group brand has set up an internal focus group on recycling and the environment to train employees.

An initial kick-off event was held in early 2020 to devise a Group-wide strategy for preventing waste and minimizing demand for energy and water. One consequence of this is that trash is now separated in offices at holding level. The next step will be to shine the spotlight on IT infrastructure and waste.

Bluebeam Revu is a software application for PDF markup and editing developed specifically for the architecture, engineering and construction industry that enables higher efficiency and better collaboration – anywhere, any time. Bluebeam Studio Sessions is a function integrated within Revu.

An energy audit conducted on the holding and the brands based in Germany in 2019 found that the Nemetschek Group is already in a very good position and relatively economical in its use of resources with regard to energy usage and power consumption. The audit analyzed Maxon Computer GmbH in Friedrichsdorf, NEVARIS Bausoftware GmbH in Bremen, Data Design System GmbH in Ascheberg and GRAPHISOFT Deutschland GmbH in Munich. Across all locations, the facilities that consumed the most power were servers and their infrastructure, accounting for 52% on average. Our status as a purely IT-based company means that our considerable demand for server capacity translates into a corresponding need for energy. This area also offers the most potential for saving energy. An analysis of which opportunities can be put to good use is to be carried out in 2020.

Other areas in which our software can be used
Another example of the possibilities offered by Nemetschek Group software comes from a new partnership. SCIA and Allplan are joining forces with Hardt Hyperloop to create a new and sustainable transportation system. SCIA and Allplan are providing their design software for the development of a high-speed test facility for running trials on an on-demand, high-capacity and affordable alternative to current transportation systems. It is intended to enable people and goods to be transported great distances within very short journey times, providing a replacement for short-haul flights. The system produces zero emissions and is safe and accessible to all. The findings gleaned from the testing facility are to be used to develop standardized systems for the use of hyperloop technology in Europe.
CUSTOMERS AND SOCIETY

We attach particular importance to close, long-term customer relationships and in-depth cooperation in the university sector. This creates optimal solutions, with our customers and for society. At the same time, we build bridges with society through our social commitments.
Every company bears social responsibility beyond the purpose of its operating activities. Purely focusing on financial key figures can increase risks in the long term. As a business partner and employer, the Nemetschek Group attaches particular importance to long-term customer relationships and in-depth cooperation in the university sector. Common goals and priority topics are coordinated at holding company level for this purpose. The individual brands are responsible for implementing them, because they can act in a more targeted and flexible manner.

**Long-term customer relationships**

Satisfaction is an important factor for long-term customer relationships. Most brands use defined indicators to measure the satisfaction of their customers. This include the Customer Satisfaction Score (CSAT) and churn rate. The Net Promoter Score (NPS) and “Things Go Wrong” key figure are also used. Customers evaluate both the functionality of the product and the quality of the services. Online surveys, e-mails, telephone calls and face-to-face meetings are used to gather these findings.

To achieve high customer satisfaction right from the start, the Nemetschek Group involves its customers in product development at an early stage. At Vectorworks, 70% of new features in each product release are based on specific customer requirements. Measures designed to contribute to product quality and customer satisfaction include joint development projects, customer panels and product previews, as well as beta testing and workshops.

**Cooperation with universities**

We have our roots in university circles. With this in mind, cooperation with educational institutions is particularly important to us. Our aim is to support all relevant institutions in the core markets that offer architectural and construction training with software solutions. In this context, we support talented young people from an early stage so that we can plan, construct and manage buildings and infrastructure projects sustainably.

The brands engage in networking activities for students and customers. Examples of these include specially provided job platforms, various training formats such as the Bluebeam Apprentice Day, appearances as guest speakers in lectures, at job fairs at universities or through cooperation with student associations and academic faculties such as the Leonhard Obermeyer Center in Munich.

A Letter of Commitment to Education was drawn up in the year under review. It sets minimum standards for cooperation with universities and other educational institutions. It also specifies that each brand must designate a contact person for these activities. In addition, the brands declare that at least 5% of their sales activities are devoted to cooperation with educational institutions. They are also encouraged to conduct at least one sponsorship activity per year. This can be their own activity or be carried out with a third party. The brands are to continuously increase the number of student licenses. The brands plan to sign the Letter of Commitment to Education by the end of the second quarter of 2020 and start implementing the minimum standards in the same year.

**Social activities**

Social commitments are very important to our brands. Owing to the different cultures at our 16 brands, social activities are carried out locally at brand level rather than being subject to central management. Numerous brands in the Nemetschek Group donate regularly to various non-profit organizations, get involved in charity runs and grant additional paid vacation to their employees to allow them to engage in voluntary work. The activities involved are as diverse as our product range. Our US-based brands are often the trendsetters in this area.
The Nemetschek solutions in use
The possibilities for using our software are wide-ranging, and social projects are just another example.

Syrian refugees find temporary sanctuary in houses made of sandbags
Temporary accommodation designed using software from the Nemetschek Group.

» User-friendly, with little training required, a sandbag house is so easy to build that even unskilled workers and communities can do it

» Filler comes from the immediate surroundings

» The carbon footprint is much smaller than that of semi-permanent structures

» Outstanding thermal insulation guarantees low heating and cooling costs

Sustainable, reusable and recyclable, the sandbag system is the epitome of a structure with a minimal environmental impact. Not only does it use few resources, but the filled sandbags can easily be reused in the same place or emptied and used somewhere else. The UN High Commissioner for Refugees has launched a pilot project in Syria for temporary accommodation made out of bags filled with earth. Architect Anas Aljbain used ARCHICAD software to draw up the designs.

Building sandbag houses is a useful option when there is a need for simple accommodation that can be built quickly. In addition, building sandbag houses does not require any specialist engineering skills; in fact, the future occupants can build the houses themselves. The concept also provides a means of creating jobs, and it is even conceivable that small businesses could be founded as a result. The basic element for sandbag structures is earth of any type, in any location in the world. The exact structure for the sandbag system can be determined by a set of simple tests. The optimal sandbag filler consists of approximately 30% clay and 70% sand.
Environmental and social aspects are taken into account in the design of residential complexes that are open on the inward-facing side. In addition to green spaces, the courtyards of each complex offer safe play areas for children and a useful ventilation and cooling system. The WASH (water, sanitation and hygiene) units are separate from the living areas and fitted with kitchenettes inside. Each family has its own space with a bathroom and toilet. This concept lowers the high cost of WASH infrastructure, ensures simple maintenance and ensures that the inhabitants can maintain proper hygiene.

Just seven unskilled workers can build a 44 m² house within two weeks. The estimated time needed can be made even shorter if the workers possess engineering skills.

One of the biggest challenges was to win people in Syria over to the concept. This was due primarily to the fact that different traditional but more complex building techniques were already in place. Many found it difficult to imagine that the end product would actually provide the expected quality. At the first stage of the process, the ARCHICAD software from Graphisoft showed an illustration outlining what a house built using such simple methods could look like. Methods such as 3D documentation proved a lot more useful for conveying the expected details and results than conventional building plans, which the largely unskilled workers may have had difficulty understanding.

ARCHICAD from Graphisoft is a model-driven 3D architecture application based on virtual building modeling.
Data protection & data security
The Nemetschek Group is at the vanguard of the digital transformation of the AEC industry and covers the entire lifecycles of construction and infrastructure projects. We use smart software tools to help our customers move into the future of digitalization.

In our capacity as a software provider to the AEC industry, we manage very little customer and personal data ourselves. For the most part, our software products are installed and run on our customers’ IT systems. The actual data protection and security risk is therefore generally rather moderate.

Nevertheless, we take responsibility and undertake to handle the data of our employees, customers and partners with due care across the entire Group. They may rest assured that their data will be secure at the Nemetschek Group and processed in compliance with the relevant legislation. Ensuring the confidentiality, availability and integrity of data and preventing it from being lost are very important to the Nemetschek Group.

In this respect, we follow a largely decentralized approach, in line with our organizational structure. This allows for central monitoring processes and assistance but primarily allocates responsibility to the brand companies.

Maintaining data protection and security is an objective shared by all employees at the Nemetschek Group. To that end, all departments have made sure that their teams are familiar with the Group-wide Code of Conduct. Adherence to the data protection requirements and processes is regularly checked by external service providers or the Corporate Audit department as part of general audits of business processes, in cooperation with Corporate Legal & Compliance and Corporate IT.

Data protection
In the context of implementing the General Data Protection Regulation, or GDPR, Group-wide data protection and compliance processes were put into practice or refined during the 2018 financial year.

This included creating an extensive, Group-wide set of regulations to be observed and implemented by all Group companies. These regulations included the adoption of a comprehensive Group Data Protection Guideline, as well as the provision of numerous templates available in German and English on the Group intranet.

New employees are notified of confidentiality requirements relating to the handling of sensitive and personal data and are required by their contracts to maintain secrecy. In addition, all employees – not only those in Europe – are required to take part in data protection training and to provide documented proof of this. An e-learning course set up specifically to deal with the issue of data protection is offered in both German and English. Classroom training on data protection was carried out in key departments such as Management, Human Resources and Marketing in 2018.

Personal data is handled on a need-to-know basis. This means that information may be passed on only to people with certain knowledge who are of immediate relevance to the project. This includes appropriate internal and external access and authorization policies.

Data protection officers – both internal and external – are appointed at the companies where required by law. Processes for ensuring compliance with statutory reporting requirements and deadlines have also been put in place. All employees have the option of reporting any violations of data protection regulations or internal company guidelines via the existing whistleblower system. We take all reports of possible violation of data protection regulations extremely seriously and make sure to investigate the incidents reported as quickly as possible.
Data security
When it comes to technical data security, we employ a largely decentralized approach. Because the Group operates with 16 largely independent brands, responsibility for ensuring an appropriate level of protection rests with the brand companies.

In this respect, our subsidiaries take technical and organizational action to ensure data security that is in line with the state of the art and their individual levels of risk exposure at all times. They continuously review this action and refine it where necessary. This includes the use of anti-virus scanners, firewalls, backups, testing and various other technical control mechanisms.

Measures implemented at Group level include providing points of contact at headquarters, defining reporting channels and ensuring that the brand companies and the parent company regularly exchange information on security-related matters. A cybersecurity insurance policy covering all Group companies was taken out in the 2017 financial year to guard against risk.

The parent company regularly initiates awareness campaigns and training courses on the subject of cybersecurity to keep employees informed and aware of current threats.

Product-related data security
Our products are developed in line with the latest state of the art, and that applies to security aspects as well. In a subscription model, software tools are both installed on the local IT systems of our customers and offered as cloud applications. Hosting cloud software, which accounts for only a small part of the Nemetschek Group’s overall product range, is a service provided predominantly at external data centers.

To ensure an appropriate level of protection, we cooperate exclusively with data center providers with excellent reputations. Customer data is separated strictly by client.
EMPLOYEES

Our employees are our greatest asset. That is why we make it our goal to recruit the best people and keep them at our company for the long term.
Attracting and retaining highly qualified and motivated employees is one of the keys to success for the entire software industry. This particularly applies to companies such as the Nemetschek Group, as the market on which it operates is characterized by a high pace of innovation. That is why the Group invests about a quarter of its overall revenue in research and development. As in other industries, the general shortage of skilled workers poses a challenge. This is all the more true as all Nemetschek brands are in competition with large software companies on the employment market.

**Overarching management approach**

In order to act quickly and agilely in the respective markets and regions, the individual brands manage their work relating to employees themselves. The Human Resources department of Nemetschek SE supports and advises the individual HR departments in this respect. The Vice President of Human Resources heads the Human Resources department of the holding company and reports to the CFOO. To this end, they are in regular close contact with the HR managers. In addition, various expert and project committees are convened as required to deal specifically with individual topics.

With the new Letter of Commitment – which will be replacing the originally planned Human Resources guidelines and will be rolled out at the beginning of 2020 – the Group is defining basic standards and minimum requirements on fundamental issues. The same applies to key means of personnel recruitment, appraisal interviews and approaches to promoting health. However, gaining and retaining employees, diversity and inclusion, promoting health, and education and training will continue to be managed locally by the brands. The brands also remain free to define brand-specific standards and to develop their own Human Resources guidelines that go beyond the minimum requirements or regulate other aspects.

**Gaining and retaining employees**

The search for skilled staff and talented young people remains a major challenge for the company. Software developers and IT experts in particular are rare all over the world. As a medium-sized company, we are in competition with large employers in the software industry such as Microsoft, Apple and Google. Attractive working conditions and a positive working environment are intended to help attract the best talents to us and retain them at the company. We currently still use the development of the number of our employees as an indicator of the success of our measures. A benchmark that better reflects the development with regard to the goals set is currently being developed.

To attract employees, the brands offer flexible working models and other benefits. A Group-wide job portal has also been in place since 2018 and can be used by all brands. Ten of the 16 brands publish their job advertisements on this portal. The portal was initially limited to the Intranet, where it enabled an exchange of specialists within the Group as part of the transfer of knowledge. With the relaunch, the Group website was expanded to include a career page with links to the subsidiaries’ job portals. By doing this, the Group intends to make it easier for skilled workers to find the brand that best suits them.

As further measures for employee recruitment, our brands use social media platforms such as XING and LinkedIn, as well as contact networks and recommendations from their own employees.

In order to retain skilled employees in the long term, we are constantly working on strengthening our attractiveness as an employer. Flexible work time models, which are laid down as a standard in the Letter of Commitment, contribute to this. The structure of these work time models depends on the business model of the individual brand and local regulations. Other measures include customized training and the special promotion of talented young people. In addition, there are social offerings such as sports programs and team events.
In 2019, the number of employees in the Nemetschek Group increased by 288 or 11.1% compared with the previous year, including through company acquisitions. The organic growth was 198 employees (+7.7%). As of December 31, 2019, the Group employed 2,875 people (previous year: 2,587).

**Education and training**
The Nemetschek Group is committed to ongoing education and training. As a company that uses and promotes digitalization, we also offer young people good long-term prospects. Cooperation means that young employees in particular can be continuously encouraged and developed.

Training requirements and corresponding measures are managed within the respective brands. The basis for this at all brands is regular employee development meetings in which feedback is given and individual prospects and specific goals are discussed. This approach and the minimum requirements for education and training are the subject of the above-mentioned Letter of Commitment. The education and training requirements are defined in the annual development meetings. In 2019, these development meetings took place at all brands.

**Promotion of health**
Active health management is important for all our employees to be able to work creatively and efficiently. The company regularly adapts all health-related measures and initiatives to the changing requirements of the working environment.

In the Letter of Commitment, Nemetschek also defined minimum requirements for health management for all brands. Implementing the measures will continue to be managed locally.

In the year under review, 15 of the 16 brands offered health-related measures for their employees. Alongside wellness programs, these measures included sports and fitness activities within the company and financial support for programs offered by external providers.

In terms of preventative health care, employees benefited from telemedicine services, specific examinations such as eye examinations or subsidized insurance policies to varying degrees, depending on the brand. In some cases, special office equipment such as ergonomic office furniture was also provided.

**Promotion of diversity and inclusion**
Diversity is also a key part of the company's corporate culture. The cultures within our group of companies are very different, but this individuality is an important driver for the company’s innovative strength and should therefore be promoted in a more targeted manner. The topic was identified as a new key issue in 2019. The Group will be developing an appropriate strategy in 2020.
The Nemetschek solutions in use
Employees are an important target group when using our software solutions for the Operate & Manage segment, i.e. for the management of a property.

For AXA Belgium, its smart building is a means to an end. At its new headquarters in the center of Brussels, the concept has allowed the leading insurance company to establish a new way of working. Thanks to the smart building technology from Spacewell, the building has been designed in a way that is user-friendly and easily accessible and uses space efficiently.

Until 2017, AXA Belgium had been renting a building in Watermael-Boitsfort on the outskirts of Brussels and giving serious consideration to a move into the city center. “The idea for a new approach had originally arisen back in 2012,” explains Raf Boterdaele, Head of Building & Facilities Management at AXA. “We were looking for an arrangement that would make it easier for our employees to get around in the long term.”

That was why they chose the former headquarters of Engie Electrabel on the Place du Trône. The historic part of the building, which had once been a hotel, was retained. The second wing had undergone extensive renovations, while a third section consisted of a new building with a horizontal rather than vertical structure. This was intended to encourage employees to communicate more.

The result is a building with a large total horizontal floor space of 50,000 square meters, 35,000 of which is taken up by offices and the central forum with the company cafeteria. “We have created an ultra-modern office building, but one with character and history,” says Boterdaele. “Above all, this location offers outstanding added value when it comes to transportation links. The design process began with the notion that the building had to be easily accessible by public transit to encourage people not to come to work by car. The central station is not far away on foot. We have subway and bus stops almost on our doorstep. We have also provided a large bicycle parking facility as well as showers to enable people to shower in the office after cycling to work.”

AXA Belgium switched to its new way of working in 2014, and was offering its employees the option to work from home even then. “With the new building concept, we have remained true to this philosophy,” says Boterdaele. “For the layout of the offices, we followed a principle of active workplaces.” In practical terms, that means that different areas are designed for different activities. For example, there are various conference rooms of different sizes, offices designated for work that requires a high level of concentration, rooms for informal meetings, telephone calls and brainstorming sessions as well as dynamic and smart rooms and a number of “bubbles,” or smaller rooms with three chairs and a little table.
At its first location, the company had seven workstations for every ten employees. Now, that number is just six. That means there are only 1,540 workstations available for the 2,600 or so employees at the Brussels site. “The ratio of six to ten immediately saves several thousand square meters of office space,” explains Boterdaele, adding, “the consequences for our budget are enormous. Of course, it is important to ensure that this is not to the detriment of functional capability.” With the IoT system that AXA Belgium employs, it is possible to monitor the use of offices, workstations and conference rooms in considerable detail.

To enable this, 1,850 sensors have been installed throughout the building to detect which workstations and conference rooms are occupied at which times. The sensors transmit their findings to the IoT platform via the LoRa network every six minutes. “Analyzing this data gives us an idea of how employees are using the infrastructure provided,” says Boterdaele. “That helps us to continue optimizing the building functions.”

Furthermore, there are around 50 “comfort sensors” in operation, measuring variables such as temperature, ambient humidity and CO₂ levels. “The IoT system takes the data gathered by the comfort sensors and puts it online immediately,” says Sven Toelen. The Global Marketing Director at Spacewell explains, “The application is used to apply a kind of quality control to the building’s technical facilities. The reports make it possible to determine right away whether the heating and ventilation systems are working properly.” A third part of the IoT process is intended to determine how the bathroom facilities are being used. The aim of this for AXA Belgium is to make sure that the cleaning of these areas can be organized to meet the actual needs of employees more effectively.

The combination of renovated and new building sections allowed AXA Belgium to integrate the digital components in the project from the outset. “Every department is digitally equipped,” explains Boterdaele. “We have employed LED lighting everywhere, and we are using motion detector systems. We have also received internationally recognized BREEAM certification for sustainability.” Reducing space to what is actually necessary is probably the biggest environmental factor in this respect. Not only that, but fewer offices also automatically mean lower energy consumption. “AXA Belgium’s ‘smart building’ project is being being constantly refined. We are going to be gradually collecting further data to provide better analyses and optimize the processes even further,” concludes Boterdaele.

The software tool from Spacewell, with its combination of CAFM software, building information modeling (BIM) and the Internet of Things (IoT), makes buildings smart and sustainable.