

SCHNABEL AG


Information for customers and partners of SCHNABEL AG



Editorial



Dear flash readers,

When we are putting together the latest issue of the "flash" it's when we realise how long three months can be and how much can happen over this period of time. Again and again, the editors are faced with the problem of which topics

to include. Sometimes it is difficult to decide between one subject and another.

In our spring edition, we have chosen to feature the Schnabel Academy's debut seminar on the subject of fire protection. Our project report fills you in on our activities in the planning sector and shows you how we tackle the question of data center optimization. What difficulties can arise and what compromises need to be made in order to achieve an optimum result? This time, our company itself is the subject of the interview on the final page – where do we stand today and where are we headed?

But as we said earlier, it has simply not been possible to include all the news in one issue, so why not visit our homepage and get the whole low-down on SCHNABEL AG - you'll find us at www.schnabelag.de.

Wishing you a bright and breezy Easter holiday and a warm and sunny springtime!

Sincerely,

Berthold Birkelbach / Chief Executive Officer

DC - Management of Schnabel Academy

Achieving maximum of availability data centers is the central theme of the Schnabel Academy, a subsidiary of SCHNABEL AG.

People who have attended one of the Schnabel Academy seminars will return to work equipped with skills guaranteed to thrill their bosses. The data center specialists will have provided them with the know-how to save their company up to 20.000 € per annum, depending on its size. They will know how to avoid computer down-time, how to perfect their data center's security infrastructure and how to reduce energy consumption and thus drastically cut operating costs.

SCHNABEL AG has gathered the necessary expertise during its 30 years of experience – and that's quite a while! The company has worked on projects across the globe, from Germany to Dubai and India. The Schnabel Academy was founded for the express purpose of passing on this wealth of knowledge.

Knowledge modules for everyone

Our target audience is not only the specialists, but anyone responsible for the planning, organisation and running of a company's data center. And it's by no means only major companies we're talking about here:

today, data centers can be found within all types of operation.

The choice of training facilities, however, has not kept pace with this development. The title "data center engineer" is not a recognised profession, so "learning-by-doing" is the conventional method of acquiring knowl-

edge. But this is no longer appropriate for a sector in which planning and security technology have become so highly sophisticated. Our newly founded academy hopes to address this situation through its programme of

seminars. The course block entitled "Critical factors for successful data center planning and design" provides an initial basic training. Without getting too technical, it provides an understanding of data center basics, such as legal requirements, structural aspects, security concepts, building services systems, organisation, as well as introducing the subject of the "green data center" and energy optimization.

The real experience

The Academy pursues an educational concept in which the transfer of knowledge is by no means all bone-dry theory – on the contrary: the subject matter is brought to life because it is taught by practising professionals from the industry. Furthermore, attendees will have the chance to learn and work under realistic conditions for a whole day at the DataCenterModel (further information on page 3) - an educational experience which is, as yet, unique in Europe. Many operators find it difficult to decide whether their data center is well planned, how high its availability levels are, or whether the time has come to outsource, rebuild or even migrate to another location. To meet these needs, Schnabel Academy's vision is to provide high quality education and training facilities for everyone – giving them the tools which will enable them to make all these judgements – for a profitable result.

The first Academy seminar "fire protection in data centers" takes place at the 10th of April at SCHNABEL AG in Frankfurt. For further information please visit www.schnabel-academy.com.

Thomas Wawra / CEO Schnabel Academy



Small change - BIG EFFECT

A bank opts for a retrofit. By small actions its data center is going to be high secure and high available again

In times of deadline pressure and permanent accessibility, issues such as high levels of security and availability for data centers play a vital role, especially for banks. Data centers are the heart of an organisation, because they are where all the data is concentrated, processed and stored. If this vital organ fails, everything comes to a standstill. So it comes as no surprise to learn that data center availability and security requirements are continually increasing.



In 2006 a major German bank registered repeated component failures in the network infrastructure of one of its data centers. The exact source of error could not be located. The result was uncertainty as to the state of the data center's power supply, earthing and air-conditioning. In order to remedy the failures as rapidly as possible, and to avoid any further, cost-intensive damage, the bank called in the experts. SCHNABEL AG was the partner of choice – an independent firm of engineers with long experience in the field of data center planning. SCHNABEL AG's first task was

to carry out a neutral survey to ensure that the technical infrastructure conformed to the requirements of a data center operation, that faults were detected and rectification measures put in place. The data center was thus subjected to a general as well as a more detailed examination with regard to power and earthing which took into account the specific types of failure encountered. In order to trace the source of error, SCHNABEL AG carried out an inspection and conceptual analysis of the relevant documentation, an examination and analysis of the affected technology and conducted interviews with the technical staff of the client and other participating organisations. Finally, the data center specialists used all the collected data to produce a report, presented their solution proposals and converted them.

The client's data center had evolved over a period of time. Time and again it had been "extended", new and more powerful hardware components had been installed or new racks added to the existing rows. The result was that the original air-conditioning strategy had become obsolete. Once more, the bank called on the experts at SCHNABEL AG and commissioned them to optimize their existing operation to provide a fail-safe and high-availability data center.

As a result of the continual changes made to the data center, the positioning of perforated tiles in the raised floor was no longer ideal. Cooled air should normally be distributed to equipment through these perforations. The re-routing of power and data cables was now contributing to the development of hotspots in the data center. In such cases, it only takes something like a warm summer day bringing in additional hot air from outside, and it is often only a matter of time before the IT technology inside the racks overheats, causing

periodic total system failures. This is a common phenomenon in data centers that have evolved.

In order to safeguard the bank's data center from such a scenario, SCHNABEL AG's experts stabilized and optimized the air-conditioning of the IT systems on the basis of the existing cool air supply. Thanks to their long experience and using the latest insights from the field of data center planning, the SCHNABEL AG team was able to install the best possible air distribution system without disturbing the overall lay-out of the rack rows. To achieve this, the planners and engineers examined the air-conditioning and cooling architecture of the data center spaces and conducted measurements to determine the thermal conditions within the data center. They then made further optimization recommendations and monitored the subsequent implementation process. This included the redistribution of perforated tiles in the raised floor and the removal of doors from several racks to improve air circulation. Other racks had no need of this ventilation, and so doors were fitted and the vents in the raised floor sealed.

The measures recommended by SCHNABEL AG have led to a significant and measurable improvement in thermal conditions within the data center. Thanks to their experience and comprehensive specialist know-how, SCHNABEL AG's experts were able to offer an individual solution, tailor-made to the client's needs, which has saved the bank cost-intensive computer room conversions and investment in additional technology.

Volkmar Bend / Project Manager

Green energy - a smart solution

SCHNABEL AG is switching. Eco-friendly green energy for a trend-setting energy supply

SCHNABEL AG is changing its electricity provider and switching to environmentally friendly green power. This is generated from 100 percent renewable sources consisting mainly of hydro-power and its production is entirely CO₂-free. That's good news for both the climate and our budget.

By choosing to use green energy, consumers such as SCHNABEL AG can make a contribution to lowering the proportion of nuclear energy in the power supply as well as to the reduction of greenhouse gases. It's true that using green power has no direct bearing on the electricity that reaches the individual

consumer, for electricity always has the same physical properties and all consumers obtain it from the same network. But consumers can nevertheless encourage energy production from renewable sources, because green power providers commit themselves to feed in exactly the same amount of green electricity into the grid as their customers take out.

SCHNABEL AG has long been committed to using energy responsibly and efficiently. The company's own energy consumption plays just as decisive a role in this as does our active engagement in the innovative area of energy efficiency in the data center. Where are all

the data centers located and how much energy do they consume? There are no easy answers to these questions. The only thing that is certain is that, apart from end consumers, it is the modern IT world that is the greatest power user. Servers, their cooling and accessories accounted for roughly one per cent of world power consumption in 2005 – and the trend is rising.

Here at SCHNABEL AG, one of our central concerns is to bring the data center theme into the public eye and to do our bit towards creating an intact environment for future generations.

Green future visions

Annual Conference on „Climate Protection and Resource Efficiency“ in Berlin raises questions.

The Annual Conference on Climate Protection and Resource Efficiency took place in Berlin on February 14th under the patronage of Sigmar Gabriel, Federal Minister for the Environment, Nature Conservation and Nuclear Safety. Among the speakers was Harry Schnabel, founder of SCHNABEL AG and chairman of the working group on reliable data centers and infrastructure. He gave a talk on energy-efficient data centers, virtualisation and consolidation.

This year, the conference focussed on the information technology and communications sector (ITC). ITC infrastructures, in particular, are among the fastest growing power consumers and have caused energy consumption to skyrocket. Across the globe, ITC-related CO₂ emissions have reached the same levels as those caused by air traffic, and, in Germany, have even surpassed them.

Now it is up to manufacturers, IT service providers and data center operators to counteract this trend. There are many and various ways to make a data center more energy-efficient: server technology, consolidation, virtualisation, archiving and backup, HVAC, power supply and energy contracting are just some of the keywords that spring to mind here. To many companies this is nothing new, for awareness within the sector is growing.

The fact that there are still far too few solutions being put into practice, is a result of the high initial acquisition costs, which many companies are reluctant to incur. But they are drawing false conclusions: when a modern

IT company is set up, the initial investment costs are recouped within two years through energy savings alone.

Organisations need to rethink, and that is why the Conference chose to focus on certain themes: such as the question of the strategic significance of climate protection and resource efficiency for ITC companies. What contribution to climate neutrality will “climate neutral” options and practices make in the future? Actions such as using green energy, making voluntary commitments or realising compensation projects. And, from a resource efficiency angle: where do the major ITC markets of the future lie, and what lessons can be learned from our experience of efficient ITC products and services for future market development?

Questions which will certainly keep the data center experts busy in the coming years.



Strong Partners

X-TERN Group with its own service teams.

SCHNABEL AG offers its customers data center planning, technical building infrastructure, security and network technology – technical planning solutions from a single source.

In order to offer even more comprehensive solution package in the range of facility management, SCHNABEL AG is partner of X-TERN group which comprises X-TERN GmbH, 4Competence GmbH & Co. KG and the Koblenz security company Josef Lauer GmbH & Co. KG. Thus, the partner provide custom-made services for virtually all areas of facility management – including security, caretaking and technical services, maintenance and repairs as well as comprehensive planning and engineering services and property management. Our advantage: whereas our competitors in the facility management sector often pass assignments on to sub-contractors, the partner are supported by their own service teams, ensuring the highest possible level of vertical integration.

DataCenterModel

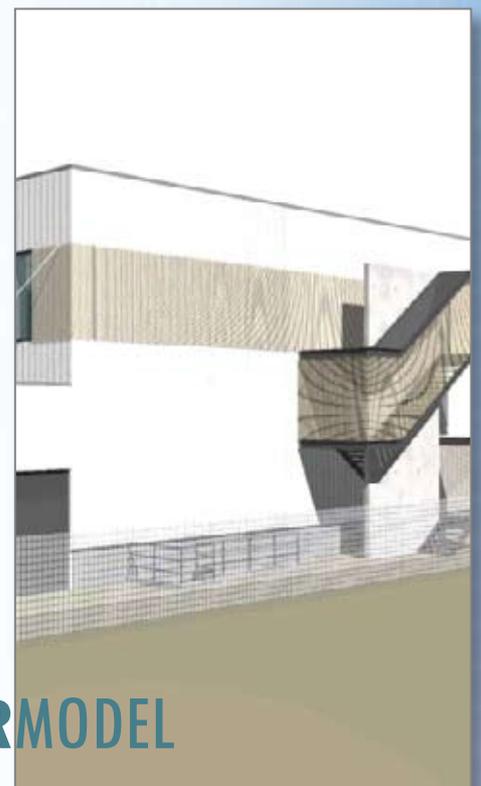
The 16 partner define finale schedule for the DCM construction

At the 21st of February 2008, all 16 participants of the DataCenterModel met in Frankfurt for the first time to define further proceeding of the project. Elementary scheduling came up as well as technical coordination. Every partner was able to talk about the products he wants to bring into the operation. Furthermore, use and organisation of the DataCenterModel and marketing actions were discussed.

The idea DataCenterModel: Admission to data centers is becoming increasingly difficult for foreigners due to security reasons. Furthermore, it is forbidden to touch or perform something. To countervail this trend and to show customers descriptive what kind of technology is important for a highly available data center, SCHNABEL AG developed the DataCenterModel. Equinix, long-lasting partner of SCHNABEL AG, provides 200 sqm data center face for this project.

The visitor passes an access control to enter the DataCenterModel – just like in an actual running data center.

Hence, he reaches the conference area which is seamed by racks. The racks are grouped according to the manufacturer and can be separately highlighted by the lighting system. By the glazed double-floor the necessary infrastructure appears. In this area, presentations, trainings and meetings are going to be held and the visitor is able to learn more about the various danger-situations within a data center by descriptive simulations.



DATACENTERMODEL

Interview

In this issue you read an interview with Berthold Birkelbach, CEO SCHNABEL AG

»flash«: Mr. Birkelbach, what are the latest developments at SCHNABEL AG?

Berthold Birkelbach (BB): There has been a lot happening in our organisation. We have seen rapid growth over the past few years. We now have almost three times as many employees as we had three years ago and have also established ourselves internationally. We recently opened an office in India and Kazakhstan. There, the demand for well-planned, highly secure data centers is very high.

»flash«: So what are the specific challenges you face when designing data centers?

BB: The greatest challenge for the planners is to design a data center in such a way that it meets the individual requirements and expectations. Costs always play a decisive role here, too. How much is a company willing and able to invest in the availability and security of its IT? Decision makers often have no clear idea about this and feel they are being left alone with the problem. This is where we come in. Working together with the client, we carry out detailed analyses of performance and targets as well as assessing the demands of the day-to-day operation. When this audit is complete, the actual planning phase can begin. Here we face the task of implementing requirements such as fire protection, access control etc. in the specific project in question.

»flash«: You have also established presences in Dubai and Bangalore, India. What's the motivation behind your international involvement?

BB: The markets in the Middle East and India are prime growth markets. A lot of major enterprises, including many from Germany, are now setting up operations in India, for example. The country is an important location for companies in the business process outsourcing



Personal Data

Berthold Birkelbach joined SCHNABEL AG in 2005 and became its majority shareholder and CEO in May 2006. After completing his training as a telecommunications technician and earning a degree in public administration, he joined the property management department of Deutsche Telekom AG, taking on his first management roles with DeTelmobilien. He was on the advisory board of 4Competence at its launch in 2003 before becoming a partner and COO in 2004.

sector. And so IT-security is a priority issue and will play a decisive role in guaranteeing the location's quality in future. We are also very active in Kazakhstan and Romania. These are both very exciting regions with an enormous amount of catching up to do – high availability is still in its infancy here. We have by now means completed our process of internationalisation and will open up new markets in the years to come.

»flash«: What are your corporate goals for 2008?

BB: SCHNABEL AG has got a lot planned this year. One example is the Schnabel Academy, our newly founded subsidiary, which recently opened its training facilities. Another major issue is the introduction of common standards and cer-

tification. The German and European markets apply different standards to those required by the American market. Our engineers plan by international standards. Those we will impart our customers within the Academy seminars. Finally, I'd like to mention the DataCenter-Model which will be opening this autumn. We expect this project to generate a lot of new activity and interesting contacts.

»flash«: And what about long-term plans?

BB: SCHNABEL AG aims to become a leading international player in the field of specialized real estate-oriented engineering services. Apart from expanding our data center planning operation, we are also committed to the systematic development of our activities in the area of security technology. With our national and international branches and our subsidiaries in the form of planners PKA Karnasch and the Schnabel Academy, SCHNABEL AG is ideally positioned. Thanks to our wealth of know-how, we can honestly claim: planning solutions from just a single source – that's SCHNABEL AG.

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- Frankfurt
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„flash“ - News in brief

On April 1st 2008, SCHNABEL AG will open a new branch office in Heilbronn, demonstrating, yet again, our belief that close customer relations are a vital part of our success. Head of the new office is Mario Betros.

As from February 1st, the SCHNABEL subsidiary, planners PKA Karnasch have a new deputy managing director in the person of Martin Niwierra.

On March 1st, SCHNABEL AG became a member of DIN e.V., the German Institute for Standardization. Together with another 1370 enterprises, we now support the development of both national and international norms and technical standards.

Visit our internet website at www.SCHNABELAG.de for a more in-depth version of these headlines.