

SCHNABEL AG

Information for customers and partners of SCHNABEL AG



Editorial



Dear flash readers,

The first quarter of the new year is now over and the global crisis is still in its early stages as far as our sector is concerned. So it is all the easier for us to say that up to now we have come through these difficult times unscathed. You can find out how we did it in our lead article.

We would also like to give you a brief rundown on our newly acquired customers and projects. What are we doing and where? Find out inside!

There's news on the Green I-Tower. Following an initial in-depth study in 2008, this project which won a special prize for innovation at our NODE Awards, will undergo further scrutiny in collaboration with Darmstadt University of Applied Sciences. Might it be possible to turn this vision into a feasible project in the foreseeable future? We provide some first answers.

I hope you can now enjoy some warm and sunny spring weather after the long, hard winter.
Enjoy this issue!

Sincerely,

Berthold Birkelbach

Ready for anything!

Avoiding the crisis with the right strategy – Commitment called for across the board

2008 was challenging, but it also turned out to be a good year for SCHNABEL AG! Above all it was a year of expansion and renewal. Both these factors mean a lot of change within a company and a committed staff team is essential for maintaining stability and achieving success. It is thanks to the outstanding dedication of our personnel that we managed to achieve our goals in 2008:

Our target was to expand our long-term, well-diversified client base. Our strategic clients such as Bundesbank, Deutsche Bahn, Fraport and many others besides, show that this goal was achieved.

Safeguarding jobs is a major concern for us – especially in times of crisis. By adjusting overheads and strengthening our operative staff base we are now well equipped to face the tasks ahead.

One of the mainstays of our success is the diversification of our service spectrum, and this is something which we have been able to accomplish in the past year. Besides our core business of data center planning, we can now boast increasing numbers of projects in the field of building services engineering, covering everything from office and commercial properties to the construction of stadiums. In addition, we are also seeing gratifying growth rates in our new business field of instrumentation and control. This all goes together to make SCHNABEL AG the partner of choice for complex building projects of every kind – and not just since 2009!

At an international level our objectives were clear: sustainable business development in the Middle East and the establishment of SCHNABEL AG in the Indian market. And we have achieved these goals, too.

As reported elsewhere, 2008 saw the launch of our DataCenterModel. It has been a resounding success and the fact that it is in great demand to this day is a clear indication that we are on the right track. This is yet more proof that the market needs such innovative ideas and that customers both nationally and internationally welcome opportunities to find out more about the world of the data center, which can sometimes seem very strange and remote.

A crucial factor for our success in 2008/2009 is that we have been able to strengthen and expand our position as market leader. The name SCHNABEL is well known in the data center sector, which proves that our performance over the past few years has been consistently strong and convincing! But this is not the time to rest on our laurels: we now have to set about becoming more widely recognized beyond the boundaries of our own sector.

Needless to say, this year will also be a challenging one and our top priority will be to master the predicted long-term economic crisis successfully.

But when we consider our well filled order books, we still have every reason to be optimistic.

In 2009 we will continue to collaborate with universities and promote research to ensure that our professional expertise is always one step ahead. To guarantee this, three of our executive staff have now taken up part-time lectureships at universities in Berlin and Munich. After all, research and development are always the basis for a secure, successful future.

Quality, Reliability and Confidence

Critical factors for reassuring clients, especially in times of crisis

Contrary to global trends, the new year has got off to an excellent start for SCHNABEL AG and we are delighted to have gained some very high-profile new clients during the last two quarters. This is due in no mean part to the fact that SCHNABEL AG has earned a positive reputation over the past two years – one embodying quality, reliability and confidence. Altogether an ideal foundation for reassuring customers and assuaging their concerns, even in the present crisis.

We are excited about all our new projects, but the Bundesbank's new data center building, for which SCHNABEL AG was awarded the contract as general planner, to provide full construction design team services in November 2008, promises to be one of the most challenging, as it is one of Germany's top data centers. The Bundesbank's external data center will be constructed, for the most part, to Tier IV specifications. And energy efficiency is at the top of the priority list here. Cutting-edge technology will be implemented to make sure the 2000 m² of IT rooms attain maximum availability levels. SCHNABEL AG has until the end of 2011 to demonstrate its expertise in this major project – the new building is due to be handed over to the operator then.

Deutsche Bahn is another organisation that has turned to planners SCHNABEL AG to help build its new data center. We will be providing full construction design team services for a new building in Berlin-Mahlsdorf, which will be managed by our Berlin office. The project entails the integration of six IT rooms with 300 m² of IT-space each. On

the power side, the installation will have a total connected load of around 7.5 MVA. Our own staff will handle both the technical side of the project as well as providing architectural services and planning the outdoor facilities. We shall only be calling in subcontractors for structural design, thermal insulation, acoustics and the fire safety survey.

Apart from the Deutsche Bahn facility,

project is due to be completed by 2013.

RapidEye AG has commissioned us as general contractor (GC) to bring the HVAC and power supply technology in their existing data center into line with the latest requirements. In autumn 2008 RapidEye sent five of its own satellites into space on a mission to collect global geological data and make it available to companies. Business in this sector is currently booming. Since the Russians sent up the satellites the flood of data has continually increased so that the data center is now in urgent need of expansion. The project's completion date is April 2009.

Further GC activities in 2008/2009 include the successful continuation and expansion of our cooperation with Unitymedia GmbH. To date we have completed the construction of three new, high-availability HUB-locations for Unitymedia, each with redundant HVAC and electronic equipment, backup power systems and safety engineering including room installations. Five more locations have already been planned and are due for completion this year. This will enable Unitymedia to expand its range of telephone and internet services even further. The main challenge of these projects are the tight time frameworks within which the 200 m² DC facilities have to be completed in order to provide Unitymedia's customers with the attractive new range of services on schedule.



SCHNABEL AG Berlin is also undertaking projects in the Märkische Museum and the Marinehaus (future site of the Berlin Museum). The existing Marinehaus building will be completely gutted and reconstructed as a new museum with several office and storage spaces. The Märkische Museum is to undergo only a partial refit. SCHNABEL AG will plan the entire building services infrastructure for both projects. In future, both museums will be combined to form a single museum unit, with the central administration housed in the Märkische Museum. The

Seven New BICSI Certified Professionals

It's been a lot of work and has taken quite a while, but in March we were finally ready! The Schnabel Academy launched the BICSI seminar "Data Center Design and Best Practices for Implementation". This is the first time that this particular course has been offered outside of the USA. Volkmar Bend and Mario Betros, two of SCHNABEL AG's engineers, had previously qualified as certified trainers. The seminar, which covers all aspects of data center planning and operation, was translated into German by the Schnabel Academy and then, in close cooperation with experts,

adapted to meet German standards and conditions, before being finally coordinated with BICSI in the USA. The result is an extremely comprehensive and practically relevant seminar unit providing in-depth information on all data center-related issues. At the end of the four-day seminar the seven participants were immediately able to review their achievements in the online exam. We are delighted to report that all seven completed the course successfully and are now BICSI certified professionals. The next course will take place in Frankfurt from June 16th to 19th 2009. Check

out our website for further information, details and dates: www.schnabel-academy.com.



Making visions come true

First results from the feasibility study on the green i-tower – a collaboration with Darmstadt University of Applied Sciences

It's just what we were looking for – something quite new – the green i-tower!

Up to now it has gone without saying: a data center is always a cube, but does it have to be that way? "No" was the answer given by one of the contestants in the NODE Newcomers' Award for Sustainable Data Center Technology and Architecture which was initiated by SCHNABEL AG in summer 2007. The result was the green i-tower, which won the Special Award for Innovation. SCHNABEL AG found this approach so interesting that they commissioned Bernhard Lenz, a specialist for sustainable, innovative architectural planning at Darmstadt University of Applied Sciences, to determine whether this vision might one day be translated into a fully functional data center.

What makes the green i-tower so new and special is the fact that it's round and extends upwards. This tower has the ambitious goal of being its own energy provider, as it will produce virtually all of the power itself. The tower is constructed in such a way that a constant stream of air circulates around the tower. This means that the servers, which are positioned on the periphery of the building, are in a permanently cooled environment, which would normally need no additional power input to create an optimum ambient temperature. That's the theory.

We commissioned the feasibility study with the aim of finding out whether the i-tower

Efficient use of space and the allocation of server and infrastructure areas were the prime concerns here.

A further question to be addressed was the choice of construction materials. And obviously, the issue of safety kept cropping up during the rework. Where were the escape routes situated and what did they look like? What would happen in case of fire and where should the service shafts be routed so that the system ends up inherently consistent and effective? How should the warm and cold air be channelled inside the tower so as to achieve highest possible efficiency levels in this area, too?

A major part of the study was concerned with the optimum location for the tower and whether Dubai, which is already being discussed as a potential site, is really suitable for this type of data center. Solar irradiation levels and wind were the two main factors to be considered here. Ground water temperature is also an important parameter for this project and was thus included in the examination. And so Lenz was able to make some first rough predictions about how much additional power the i-tower will require. Pressure differences in the building underwent detailed analysis, as another crucial factor is whether the air stream that is to be circulated around the building will actually find its way.

This first study shows where the major problems of a solar-based data center lie. If the building is to be cooled by air, it should be noted that there is a major discrepancy between the amount of energy which needs to be generated for cooling and the amount which impinges on the building structure in the form of solar energy.

On the positive side, however, it has to be said that it is possible to significantly reduce the amount of energy required for cooling. Furthermore, a high percentage of the energy which needs to be generated to operate the fans can be substituted by the application of innovative concepts. On the other hand, the results also show that at the

present time, the building's construction is not efficient enough to provide complete, natural ventilation for all server floors. Quite a few modifications need to be made in this area. At the same time, the study clearly shows up those areas of the building with high potential waiting to be exploited.

The bottom line is that it would certainly be possible to turn the vision into a functioning

data center. Until that stage is reached, however, several adjustments, changes and calculations will have to be made. But SCHNABEL AG is confident that we won't have to wait much longer for the i-tower.



really has what it takes to generate major energy savings in the areas of cooling and air distribution.

Lenz had to revise the plans several times in order to move away from the vision and nearer to a truly viable building. On the architectural side, this entailed adjusting the existing building geometry to meet the requirements and dimensions of the technical application.



Tradition is Trumps

For the fourth time running: full-bodied bouquets in a picturesque setting – a special kind of break

It's that time of year again. On May 15th, SCHNABEL AG is hosting its annual gourmet event at the Didinger winery in Osterspau in the Middle Rhine Valley. This is a wine tasting with a difference, as our guests can expect to be sampling far more than some exquisite wines at this charming location. They will enjoy a magical 5-course menu created especially for the occasion by master chef Manfred Heissig to complement the wines. We look forward to spending a glorious May day with our guests.



Locations

NATIONAL

- Berlin
Contact person: Mr C. Zahn
- Essen
Contact person: Mr M. Niewiera
- Frankfurt
Contact person: Mr S. Krause
Mr U. Krefß
- Hannover
Contact person: Mr F. Urban
- Heilbronn
Contact person: Mr M. Betros
- München
Contact person: Mr C. Wegner

INTERNATIONAL

- Dubai
Contact person: Mr D. Lock
Mr U. Saraldi
- Bangalore
Contact person: Ms S. Meeran

Two New Faces at SCHNABEL AG

In this edition of Flash we are introducing two new members of the SCHNABEL AG management team

In this edition of Flash we are introducing two new members of the SCHNABEL AG management team. Sven Krause, head of our Frankfurt office, is now supported by Uwe Kress, an experienced engineer who will be expanding SCHNABEL AG's range of expertise.



Uwe Kress is 39 and studied for a degree in electronic engineering at Frankfurt University of Applied Sciences, where he majored in power engineering. After graduating, he worked as project engineer for a number of companies. His scope of duties ranged from integrated planning concepts for manufacturing plants, new production buildings and the renovation of administrative buildings. In his last position with a major telecommunications organisation, Kress was responsible for producing demand-oriented, cost-efficient investment solutions for infrastructure facilities and for quality assurance in safety power supplies. His duties also included technical product and manufacturer testing and approvals and the creation of training programmes. At SCHNABEL AG he will be running the Frankfurt branch alongside Sven Krause.



The second new face in the management team at SCHNABEL AG is Ugur Saraldi, who as technical manager, will be taking over from Herbert Radlinger as head of our Dubai office. After completing a degree in building services and power engineering at Berlin University of Applied Sciences where he specialized in HVAC technology, he began his professional life as a planning engineer. He went on to become project manager for a contracting company in the industrial engineering sector. Saraldi, who was born in Turkey and grew up in Germany, has acquired additional expertise in business administration, management and international business practices at professional seminars. He has spent the past four years in Bulgaria where he set up and ran a subsidiary and a branch office for two German enterprises.

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You can find us here:

Datacentre Strategics, 08.09.2009 at Mumbai

Presentation: Energy Efficiency in Data Centers- Global Trends and Indian Context

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