

SCHNABEL AG


Information for customers and partners of SCHNABEL AG



2008 – Another Year of Change for SCHNABEL

Editorial



Dear flash readers,

The year 2008 is gradually drawing to a close and we approach that calmer time of year. Time for SCHNABEL AG to take a retrospective look at the achievements of the past months. 2008 has been a strenuous year for all our staff and many of them have stretched

themselves to the limit in order to achieve the set objectives. At this point I would like to express my sincere thanks to all the team and also to you, our clients, for your confidence and support.

In this edition we reveal why the customer is king in Asia, too, and we also discuss the various advances in the field of technical development. In India, as elsewhere, energy efficiency in data centers remains an emotive issue in the sector. For this reason, SCHNABEL DC Consultants India have taken over the chair of the Expert Group on Energy Efficient Data Centers and are actively contributing by giving lectures and taking part in panel discussions. Giulio Varvelli, second managing director of SCHNABEL DCCI, rounds off this month's edition by telling us about his experiences in the Indian market and of the SCHNABEL subsidiary's plans for the future.

I would like to take this opportunity to wish you and your families a joyful Christmas season and a happy, healthy new year.

Sincerely,



Berthold Birkelbach / Chief Executive Officer

Organizational

It's hard to believe, but our Indian office has now been operational since February 2008. The team there has grown to a staff of 7 and only occasionally do they still need support from Dubai.

Our new office in Heilbronn has also been in business for 8 months now and the team there are delighted to have won some significant tenders. The merger of our Ratingen office with PKA Essen in late summer went very smoothly and both teams are cooperating closely, as anticipated.

The opening of the DataCenterModel in the autumn was a further highlight. The DCM has been in great demand ever since and will no doubt have a lot of new and interesting developments to offer our clients in the coming year, as well. All the partners are actively involved in the ongoing improvement and updating of both service and information content. At this point we would like to express our deepest gratitude to all participating organisations for their work.

Economic

We have successfully completed our turnaround from specialist general contractor to fully fledged planning company. Our team has done the impossible by tripling our range of planning services! Congratulations and a big thank you to everyone. We are currently processing 106 projects in 12 countries worldwide and the order situation for next year is such that we can start the new year optimistically, despite the approaching economic crisis. All our clients deserve a vote of thanks for this.

I feel we have good reason to be proud that our new clients include such prestigious names as Adidas, RWE, the Bundesbank, Fraport, the Tata group (India) and the Technical University of Moscow.

Strategic

The BITKOM guide to "Energy Efficiency in the Data Center" was compiled and published with our assistance (thanks to our Berlin office). Together with last year's publication "Reliable Data Centers", the new guide provides important basic information for those involved in planning new projects.

This year we have considerably expanded our collaboration with the universities. We have now put things on a firmer footing by adding the universities of Berlin, Darmstadt and Munich to our list of partners. In 2009, if all continues to go well, we should be able to present the first results of our research cooperation with Darmstadt Technical University to the public.

Prospects for 2009

All things considered, we've done our homework and have used the past months to adjust organizational and sales structures to meet the demands of the year 2009. We now look forward to offering our clients the advantage of an enlarged operative team from which they can expect advice and practical support in the coming year.

The economic crisis will demand high levels of commitment and flexibility from us next year. We have braced ourselves for this and are thus entering the new year in a highly motivated and confident frame of mind. Our focus will continue to be on growth (albeit slowed by external factors) at home and abroad and on strengthening our current operating areas of data center planning, measurement and control, security engineering, stadium construction and building services planning for the automotive industry. This impressive range of services is backed up by a team of experienced specialists who are virtually second to none in the industry.

Berthold Birkelbach / CEO SCHNABEL AG

The winning team – Client and consultant

Planning a data center with the help of experts. What are the essential factors for optimal client-consultant teaming?



Making the right choice

The client should not fail to solicit several proposals from qualified consultants. Indications for such qualifications can be:

- Past references and testimonials for Tier 3/4 data centers
- Awards won for the relevant scope of work
- Industry body representation and thought leadership for a Tier 3/4 data center, especially related to current global concerns such as security and energy efficiency

The solution offered by the consultant should fit the client's requirements, and not simply replicate previous models. The client should look for a consultant who has gained an on-site idea of the project, displays technological expertise and who has also taken the trouble to document all of this. Look for someone with specialist planning skills who is able to name the experts who are to execute the project. Someone who also has the ability to articulate what he, the consultant can contribute and what is required of the client to ensure that the project is a success. Both parties should listen to each other and be able to understand the client's specific data center requirements. The ability to ask the right questions, to grasp and execute all action items after a meeting – these are the so-called "hard facts". The consultant should be willing to explain the technical details so that the client can develop a better understanding of the activities and project approaches. This will also create an environment for hypotheses which are both challenging and searching, since the client knows best the context and constraints of the project.

It is important that the consultant's organization has personnel who are empowered and able to respond quickly and flexibly as the project progresses, so that bureaucracy is kept to a minimum.

The client should ascertain that the consultant's core business is to provide ser-

vices that are specifically data center-related, in order to ensure that each member of the consulting team will understand the client's language during the project's execution. The consultant must understand the client's core business, organization, business culture, business processes and actual project requirements. The client should only allocate staff with the necessary experience to the project to help avoid interface losses during communication. A knowledge of local norms and codes and an understanding of vendor behaviour are other essential factors. Finally, the fee structure must be scrutinized minutely to gauge capability to deliver the services in scope. The fee quoted is often too low, which results in serious problems in the execution phase.

Maintaining a good relationship

The key to a good relationship is: good communication. 'Effective' communication is required to avoid misunderstandings and ensure good deliverable results. Both client and consultant should therefore give this highest priority. An ongoing communication plan is a useful aid specifying types of meetings, listing attendees, frequency and modes of minutes and tracking actions. This forms part of the project governance model. It is important for both sides to interact with more than one contact person to minimize the impact of contingencies on the project. The client should acquire a certain amount of technical acumen to help him understand the consultant's business delivery process. This will put him in a position to make realistic demands on the consultant regarding deliverables and the associated costs. The ability to predict possible upcoming problems and alert all stakeholders is the only adequate way for both sides to achieve controllable solutions or changes in project planning. Finally, management executives should be part of project governance in order to underline the importance of the project.

Weak consultants might not feel able to contradict a client even when they have better-informed points of view. This can be potentially

damaging during the program management phase. Look for a consultant who is able to use data, logic and experience to convince you of a differing viewpoint. As a data center may take more than a year to complete, it is important for all stakeholders to be informed of project successes, extreme workload situations and individual contributions and that these be regularly documented.

Project management

Effective data centre project management avoids conflicts. The design should be accurate and realizable while remaining within the lowest overall budget. The scope should conform to requirements; the design should conform to scope and so on. Adequate policies should be put in place to ensure control and assurance of quality, right from the design stage.

The client should keep a "well planned" master schedule, assigning a person to manage it. Sharing the master schedule with all project stakeholders including vendors ensures that everyone has a clear understanding of the project's execution. Systematic and periodic reviews are the key to recognizing problem situations early on. Documentation needs to be thorough and intelligible. The data center must be fail-safe and easily maintainable throughout its expected lifetime, which is typically upwards of ten years.

The success of the project depends to a great extent on good cost projection, although this presents a great challenge. As budgetary problems could cause the project to lag indefinitely, financial margins (including overestimation) should be used as the basis of initial cost estimations. Proper controls will ensure that costs are kept within the estimated figure.

After completion

The successful completion of a project does not end the client-consultant relationship. After project completion, the consultant should remain in touch with the operations and maintenance staff for performance feedback. This will allow him to suggest changes that can improve the data center's performance considerably once actual operating conditions are experienced.

Operational joint audits, e.g. from a third party auditor, should be carried out for the data centre periodically to prevent lapses in its operational quality.

Data centers are building systems which are constantly evolving. To ensure this evolution, the relationship should ideally continue throughout the entire building lifetime.

Sreekumar Kollara M.,
Data Center Consultant / Project Manager

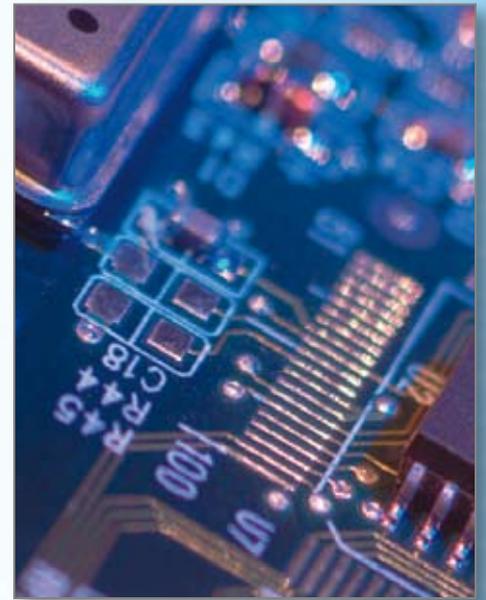
Energy-Efficient buildings

Green building helps avoiding high energy costs effectively and saves the environment.

Each building is an array of techniques – a ‘combination of modern science and traditional knowledge’. In practice this is hard to implement in high security, systematically climatized, continuously powered data center environments. Approximately three per cent of the world’s power is consumed by data centers. Fifty per cent of data center power is drawn by servers, followed by storage (25 - 35 percent) and the network (15 -17 per cent).

In August 2007, the U.S. Environmental Protection Agency (EPA) reported that U.S. enterprises spent \$4.5 billion on data center power

bills in 2006. If current trends continue, this figure will rise to \$7.4 billion in 2011. The projected load will require ten new power plants, while carbon emissions will rise 63 per cent. Indeed, businesses and governments all see this as a serious environmental issue quite apart from the significant energy costs it entails. They recognize the need to improve the power-consumption efficiency of data centers in order to reduce costs and environmental impacts. We are proud to be able to support Germany’s federal government in this area.



News About Data Center Energy Efficiency

Data Center Energy Efficiency Measures – Without capital Expenditures.

Considerable improvements in energy efficiency can be achieved with the following measures, without adding to capital budgets:

Current and Future Consumption Measurement

Recording both current and future energy consumption and its related costs throughout the data center with regard to power and cooling helps focus attention on the relevant parameters and leads us to ask the following questions:

- Where is power currently consumed in the data center?
- What are the peak power demands in the data center?
- How much of the power is consumed by cooling equipment?

- How much of the power is consumed by the IT equipment, including servers and storage?

On the basis of these figures we are able to propose optimization measures and thus improve overall efficiency with regard to operating expenses and capital commitment.

Floor Space Utilization

Eliminating unnecessary equipment has the combined benefit of reducing the capital investment required to add new floor space while simultaneously lowering power consumption and heat output.

Power and Cooling Efficiency Analysis

Heat removal calculations can be performed by

applying thermal analysis, pressure and humidity analysis, and by measuring airflow in the ventilation ducts. The resulting benefits are optimized power distribution and temperature management.

Power Consumption Reduction

Selecting the appropriate technology for the particular power supply and air conditioning redundancy practice produces positive results within a short space of time.

Varaprasad Nataraj, Senior Data Center Consultant and Project Manager

„Expert Group on Energy Efficient DCs“

SCHNABEL DC Consultants India takes over the chair of the „Expert group on Energy Efficient Data Centers“

SCHNABEL DC Consultants India has officially been appointed to chair the “Expert Group on Energy Efficient Data Centers” (EGEED), under the Indian Association of Energy Management Professionals (IAEMP).

Chair person is one of the managing directors of SCHNABEL DCCI who has been invited to speak at a Panel Discussion on Green Data Centers at Bangalore, India at the popular industry forum DataCenter 2008. The audience included about 350 CIOs, CTOs and Data Center Managers. During her speech, she elaborated on various metrics



used today to measure the “greenness” of data centers, including DCiE, PUE, IT-PEW and the LEED rating system. She mentioned that the most comprehensive metric emerging is the TCE (Technology Carbon Efficiency). She also stressed to the audience the need for energy conservation in data centers, giving Opex optimization and Corporate Social Responsibility as the key drivers.

Find more information about energy efficiency in data centers on:
www.schnabelag.in/thecompany/engagement

Interview

In this issue we interview Giulio Varvelli, managing director of SCHNABEL AG's Indian subsidiary SCHNABEL DC Consultants India Pvt. Ltd. (SDCCI).

flash: Mr Varvelli, SCHNABEL DC Consultants India Pvt. Ltd. (SDCCI) has been active on the market for one year now. How has the company developed and what does it offer its clients?

Giulio Varvelli (GV): SCHNABEL DC Consultants India Pvt. Ltd. (SDCCI) was launched in Bangalore in August 2007 as an independent subsidiary of SCHNABEL AG. We have been actively operating since February of this year and employ a professional team of project managers and senior consultants from the fields of power supply, HVAC and project management. The subsidiary's core competences lie in the fields of data center planning and all aspects of highly specialized building services engineering, for new production facility projects, for example. We offer our Indian and German clients comprehensive consultancy, planning, project management and supervision services for all building services and organisational aspects of modern data centers and hi-tech administrative and production facilities. It goes without saying that we offer bespoke solutions to international standards.

flash: Which specific challenges do you face and how is the Indian office meeting these challenges?

GV: One of the challenges has been – and still is – gaining an accurate enough insight into the Indian market to enable our business here to be successfully established and expanded. You can only be successful here by demonstrating staying power and by building up a good network of contacts. When calculating the funding for the formation of a company and for the subsequent protection of liquidity, one needs to allow three years for the start-up phase. Finding suitable personnel is another demanding task which is not to be underestimated, even in India.

flash: What is your experience of the Indian market so far?

GV: 13 months after the launch of our company we have already made our mark in the Indian market. Our communicative and organizational efforts, for NASSCOM, IAEMP and other associations, demand maximum quality but in turn, they also win the highest acclaim. It seems that our name is now known to many new contacts from the sector and we are being included in requests for proposals. This is encouraging confirmation that we have taken the right steps in the right



Personal Data

Giulio Varvelli has studied computer engineering and economics with focus on „biometric identification systems“. Since 2006 he works in the field of international business development for SCHNABEL AG. He has set up and is leading the branch of SCHNABEL DC Consultants India in Bangalore since end of 2007.

order. Nevertheless: after a successful start there needs to be an even more successful consolidation period. A time in which to gather strength before striking out towards are our next goals, especially in the light of the emerging economic slump which is also being felt in India. The challenges are becoming increasingly demanding, which makes our job all the more fascinating.

flash: What does the future hold in India? What are your goals for the coming years?

GV: We are aiming for solid growth over the next three years, which will enable us to achieve our goal of sustain-

able autonomy. In order to achieve this it is vital that we make our range of services known to old-established Indian enterprises as well as German start-up firms, and that we become part of the landscape for them. As I see it, the key to our success will lie in our ability to win the confidence of the Indo-German mid-size companies and to demonstrate that we are prepared to support them along “their” particular course. In the long term, SDCCI aim to become the premier planning consultants, which is why highest quality planning is our maxim.

flash: Mr Varvelli, what are the greatest challenges of working in India for you personally?

GV: I see it as my core task to set up and run a new company which also happens to be located in a completely new environment in a distant land. That means, for example, trying to find an appropriate mode of communication and continually searching out and retaining new, competent service-providers – the client does not always automatically come first here, either. The legal and fiscal situation here is always very challenging – the differences from Germany are very obvious. As managing director I often have to get personally involved in seemingly minor matters as my presence alone is seen as a sign of respect and can thus help to speed up the solution of problems. One also has to be highly flexible as far as scheduling is concerned – German-style timeframes are often difficult to implement here – delays of all kinds have become the order of the day for me here. Overcoming all the various stresses and strains requires a good deal of patience. I often have to go beyond my own personal limits and peace and quiet are rare luxuries – this situation has definitely already aided my personal growth.

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