

STRABAG CONSTRUCTION LOGISTICS IN THE LIMELIGHT LICENCE TO LEAD PERSONNEL DEVELOPMENT BASEWORK PAR EXCELLENCE **GOTTHARD TUNNEL** 

THE MAGAZINE OF STRABAG SE

**STRABAG** 

**EDITORIAL** 

### DEAR EMPLOYEES, LADIES AND GENTLEMEN,



Hans Peter Haselsteiner CEO of STRABAG SE

The reason for the ongoing economic crisis being so frightening is that we – magniloquent finance ministers, confident central bank governors and professors of the economy included – still don't have any good and reliable ideas on how to overcome it or to at least soften its blow. All that has been done so far and most of what is going to be initiated are the well-meant attempts at putting up some resistance without knowing the direction in which the "crisis monster" will move. And, there is no proof at all that it will show even the slightest reaction to the defensive measures taken by the three strongest "knights" we have, namely the state, the central bank and international institutions.

Doing business under such conditions involves uncountable insecurities and is thus almost unplanable. Together with the lack of growth, profits will plunge, let alone the turnovers, which (depending on the industry) may suffer dramatic declines. The construction industry will be in the fortunate situation over the next two to three years of being able to benefit from the economic stimulus packages which mostly involve construction projects. This will help to limit at least the loss in volume. Yet, this will just delay the great challenge, which might be even harder to tackle once these projects are completed. For this reason, all construction companies must now make optimal use of the granted respite and press ahead with necessary structural adjustments, if they want to survive the years 2013/14/15, i.e. the years during which the crisis is expected to finally hit the construction industry.

STRABAG is fairly well equipped for these times of turbulence. Firstly, our multi-base strategy will help us balance out particularly strong declines in individual regions and/or segments within the Group. The projects presented in this issue of inform again underline the diversity of our projects and the way we have been penetrating

markets in all geographical directions. Secondly, our equity capital resources will enable us, even under the self-imposed strategy of cautious investment, to focus on certain areas, like for example the promotion of the off-shore wind sector. Construction logistics and transport, i.e. the BLT Division, which features in our cover story, is another such focus. Alfred Zimmermann and his experienced team of experts are in a position to achieve considerable cost savings by means of applying well thought out logistics concepts – provided that the operating colleagues want and support this. Thirdly, we can bank on our efficient organizational structure, in the form of an ideal "flat pyramid", where every single staff member can and shall assume an appropriate part of the entrepreneurial responsibility. It is in times like these, in particular, that even the smallest contribution is of significance and where the sum total of all these small contributions is essential for survival.

With this in mind, Ladies and Gentlemen, I hope that you will share my optimism and I kindly ask you to continue to support our company with your dedication, skills and loyalty.

Yours sincerely,

Hans Peter Haselsteiner

J. H.

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ART ATTACK!

# WHEN BUILDINGS ATTACK EACH OTHER

**International.** House Attack is the provocative name of the exhibit by Austrian artist Erwin Wurm which attracted numerous curious onlookers to the new STRABAG head office in Bratislava on 7 November 2008. The reason for all the interest was the "upsidedown house" on the façade of the building.

The "attacking" house, which itself weighed around ten tonnes, was lifted onto the roof of the STRABAG building within the space of ten minutes by two cranes. The preparation and erection work naturally took a lot longer – all in all, two days were needed in order to secure the work of art on the roof of the STRABAG head office building.

House Attack is part of the STRABAG art collection which currently includes around 1,400 works of art distributed among company premises all over Europe.

#### STRABAG ARTAWARD INTERNATIONAL

The STRABAG Artaward International competition will be organized for the first time in May 2009. This is an art promotion prize for artists aged up to 40 who produce paintings or drawings. The first prize in the STRABAG Artaward International event is EUR 15,000, with four runner-up prizes of EUR 5,000 also being awarded. More information on the STRABAG Artaward International is available online at www.strabag-kunstforum.at/artaward and on STRANET.

#### CONTACT: Barbara Baum, STRABAG Kunstforum



STRABAG head office in Bratislava under attack

NEW IN THE STRABAG GROUP

# MBS – THE CONCRETE SPECIALIST

International. In October 2008, the STRABAG Group grew further through the acquisition of the concrete specialist Mobil BAUSTOFFE GmbH (MBS). MBS joins the Transportation Infrastructures segment in the Sub-division RM of the Construction Materials 6R Division. As a specialist for concrete production, the focus of MBS lies on supplying major construction sites with mobile mixing plants. In 2008 alone, MBS produced around 1,500,000 m³ of concrete. Another major focus is on solution-based services for producing concrete under extremely difficult conditions, e.g. a novel cooling plant for concrete production was developed and built at the Ras Laffan site in Qatar in order to reduce the temperature of aggregates from 45 °C to 8 °C.





Mixing plant at the Wienerwaldtunnel West site

MBS is currently operating in Austria, Germany, Switzerland, Bulgaria, Hungary and Qatar. The head office of the company is located in Reichenfels, Carinthia (A). Sub-division Manager Fridolin Hornung and Business Unit Managers Rudolf Kauper and Hans Peter Haid and their team regard themselves as service providers to construction sites. Their top priority is to be able to guarantee the production of concrete of the appropriate quality in sufficient quantities and at attractive prices as well as providing colleagues on site with advice and support in the event of any potential problems. In order to make a valuable contribution by means of cost-optimizing proposals, it is key that MBS is involved early on during the tendering phase of new large-scale projects.

**CONTACT: Fridolin Hornung, Transportation Infrastructures, Division Construction Materials 6R, Sub-division RM** 

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**POLEKO 2008** 

# EXHIBITING WITH EXCELLENCE

**Poland.** The renowned international trade fair for environmental protection, POLEKO, was held for the 20th time in Poznań from 27 to 30 October 2008. According to the event organizers, this trade fair event is extremely popular with both exhibitors and visitors. The exhibition area alone had increased by 7.2 percent since the previous year to a total area of 18,600 m² – equivalent to around two soccer fields. STRABAG's Environmental Technology Division in Poland (Ochrona Srodowiska w Polsce) and that of Züblin exhibited at the event for the second time. "For us it is particularly satisfying that we took part for a second time and again won the ACANTHUS AUREUS prize," says Ingo Sattlegger, the responsible sub-division manager. The prize was awarded to the exhibitor with the best and most strategic booth at POLEKO 2008.

The POLEKO environmental trade fair is the largest of its kind in Poland and takes place annually in Poznań. Around 1,000 exhibitors presented their products and services to a total of 18,200 visitors from 28 countries on three continents. The issues covered by the trade fair were waste management, recycling, renewable sources of energy, water and waste water management as well as air and climate protection.

**CONTACT:** Ingo Sattlegger, Building Construction and Civil Engineering, Division Europe 3H, Environmental Technology



The prize-winning STRABAG booth

REACHING THE SUMMIT

# ON TOP OF THE WORLD

Nepal. Better late than never, the following news recently reached the editorial team: On 20 May 2008, a STRABAG DYWIDAG flag was unfurled on the highest point on the planet, namely on the summit of Mount Everest at an altitude of no less than 8,848 m. This creative idea came from the team involved in the Middle Marsyangdi Hydroelectric Project in Nepal (see also story on p. 42) - no doubt inspired by the many high peaks in the surrounding area. For example, directly "behind" the site are the starting points for the routes to Annapurna and Manaslu, which at 8,091 m and 8,163 m respectively, are considered among the smaller brothers of Mount Everest. In order to put their idea into practice, the site team searched for a Sherpa who could take the homemade flag on his next expedition. Men from the indigenous Sherpa group have been much sought after as carriers and guides in the Himalayas due to their local knowledge since the first half of the 20th century. The name "Sherpa" has become a synonym for those assisting mountaineers.

On the night of May 18/19, the time had come: Namgya Sherpa, a member of the Friendship Mt. Everest Expedition 2008, headed out from Camp IV at 8,000 m in the direction of the summit – equipped of course with the flag and a camera. Due to the fact that the weather conditions were very poor, he was unable to take the promised photos when he reached the peak, as a result of which he climbed to the peak again the following day. As a small thank you for his outstanding efforts, the flag bearer was allowed to keep the camera.

**CONTACT:** Ernst Schmid, Building Construction and Civil Engineering, Division International 3G, Asia/Africa



The STRABAG DYWIDAG flag flies at the highest point on Earth



NRW ENTERPRISE AWARD

# YOUNG TALENT PROGRAM RECEIVES RECOGNITION

**Germany.** In the Land North Rhine-Westphalia (NRW), young talent programs aimed at school pupils are promoted by means of an annual award. This award was presented to four companies in the course of a ceremony held at the Dusseldorf State Parliament. This year's competition was dedicated to the concept of promoting imagination, creative power, ingenuity and creativity in schools.

The focus was on exemplary projects involving companies and schools which developed innovative and sustainable solutions into creative processes. A jury of experts, made up of representatives from commerce and the federal ministries involved, selected the winners in four categories, based on the size of the companies. Our congratulations go to: STRABAG, Düren Business Unit, in the category for companies with up to 1,000 personnel, which won the NRW Enterprise Award for its project applying mathematics on construction sites.

For a full school year, the team of young people at the comprehensive school GHS Gürzenich was supported once a week by an employee from STRABAG in the development of their own design concept. Teaching can be enriched by examples from the world of commerce. The aim of this joint project is also for the pupils to learn how to apply their creativity and work in a team. STRABAG's aim behind supporting young talent is to make potential future employees aware of the company and its activities as well as to stimulate interest in the construction industry.

CONTACT: Thomas Nyhsen,

Transportation Infrastructures, Division Germany 6I, Cologne

# Wir wc Wirtschaft für Schule in nspre

T. Nyhsen (left) and P. Frohn happily accept the award

**AUSTRIAN PR AWARD** 

# AWARD FOR THE IPO OF STRABAG SE

Austria. In order to promote professional and accountable public relations work, the Federal Minister of Economics and Labor annually awards the Federal Award for Public Relations. On 26 November 2008, around 300 guests from the worlds of commerce, communication and media were invited to attend the PR Gala 2008 at Vienna's MuseumsQuartier.

The highlight of the event was the handing out of the Austrian Federal Award for Public Relations. Of the 51 projects submitted, a jury of 12 experts initially shortlisted 16 projects in four categories.

"The IPO of STRABAG SE project was selected as the group winner in the category Corporate Issues," comments Christian Ebner with a smile on his face.

The IPO in the fall of 2007 turned out to have been the largest flotation in the history of the Vienna Stock Exchange – the first to attract more than 100,000 free float shareholders. The jury highlighted the outstanding positioning of STRABAG on the capital market and the excellent linkage of various PR tools to provide a logical concept. During the implementation of the communication work associated with the IPO, STRABAG was supported by Hochegger|Financials in all investor relations and public relations matters as well as by PKP in the role of the supporting advertising agency.

 ${\tt CONTACT:}\ \textbf{Christian Ebner, Corporate Communications}$ 



Christian Ebner (left) and Mick Stempel (Hochegger|Financials)

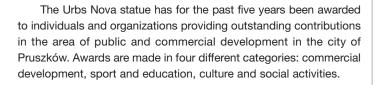
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COMMENDATION

### PRUSZKÓW HONORS STRABAG

Poland. On 12 December 2008, the city of Pruszków honored STRABAG Sp. z o.o. for its outstanding contributions to the city. The honorary prize, the Urbs Nova statue, was handed over to STRABAG management board members Alfred Watzl and Rainer Steindl at a ceremony held in Hotel Viktor. The award was in recognition of the Group's commercial efforts for the city. "This award is a symbol of the good cooperation between us and the city", is how Alfred Watzl, the responsible sub-division technical manager, proudly described the prize.



STRABAG z o.o. has been active in Pruszków for the past seven years. The new head offices of the service companies BMTI and TPA have already been completed. A new STRABAG office for around 200 personnel has been under construction since December 2007 and is expected to be completed in 2011.

CONTACT: Bozena Czekajska, Building Construction and Civil Engineering, Division Europe 3H, Poland



R. Steindl (left) and A. Watzl receive the award



Fritz Schermanski has every reason to smile

THANK YOU!

### AN OUT AND OUT FIGHTER ...

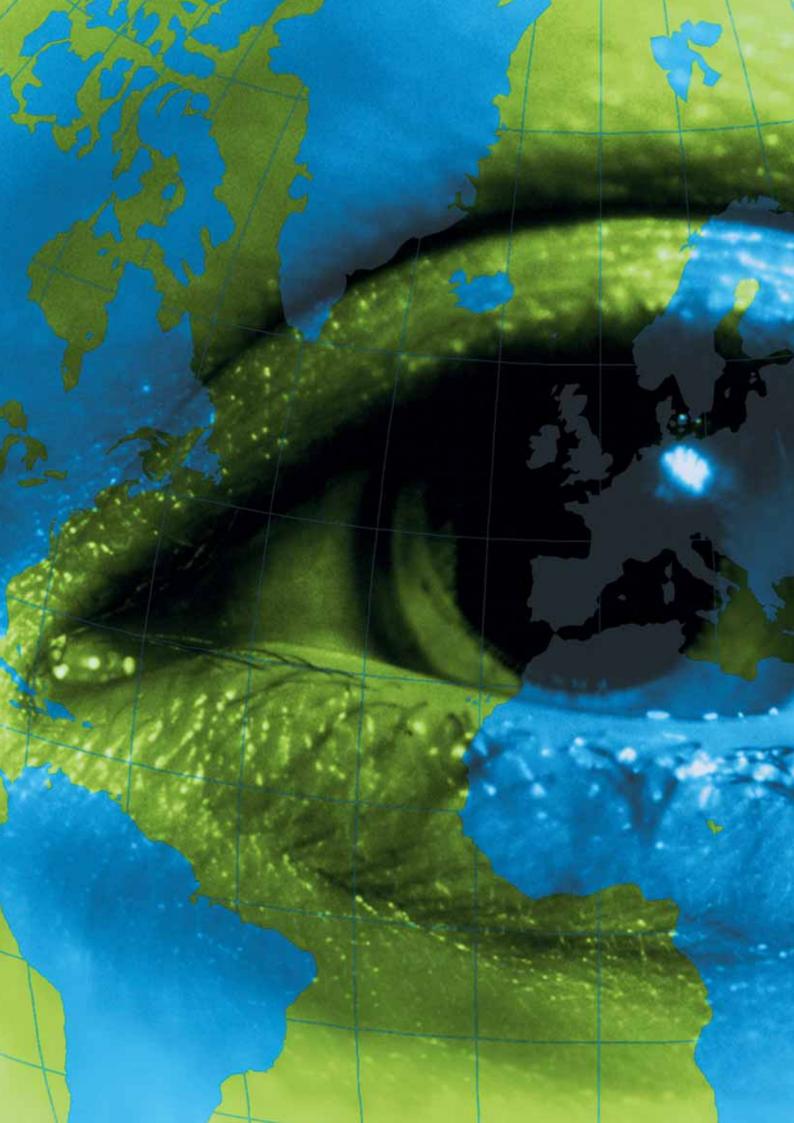
... who, unfortunately, is now retiring. It is time to say farewell to a long-standing colleague, friend and co-worker. For 29 years, Fritz Schermanski put his heart and soul into his work as a work's councilor for the personnel at STRABAG – now it is time for him to enjoy his well earned retirement.

"I first met Fritz Schermanski back in 1993 during a networking event for work's councilors in the construction industry," says Omar Al-Rawi recalling their first encounter. Fritz began his "career" as a work's councilor in 1971 and, from 1998, was Chairman of the STRABAG Work's Council, East Region. "He is a sensitive, open and committed colleague with excellent soft skills and a fine sense of humor," says Omar Al-Rawi describing his predecessor. Peter Nimmervoll, Chairman of the STRABAG Work's Council, West Region, describes Schermanski as a man who honored the deals he made and whose personality and enthusiasm will be much missed.

#### "NOTHING IS IMPOSSIBLE ...

... that was Fritz's motto – even if it sometimes took a long time, he almost always reached his goals through a combination of fair means and persistence," is how Doris Fiala describes her work's council colleague. Division Manager Herbert Krutina also highlights Fritz's professionalism and assertiveness. He was always willing to listen and his concern for the welfare of his colleagues was always discernable – also on company outings "when he motivated his fellow travelers through his good humor and warmth, not to mention his willingness to hit the dance floor in the evenings," recalls Barbara Baum of STRABAG Kunstforum.

Dear Fritz, many thanks for your dedication and your support, and all the very best for your retirement!





**BLT** 

# STRABAG CONSTRUCTION LOGISTICS IN THE LIMELIGHT

Any construction project, regardless of how it is designed, involves some impact on the natural environment. Construction work is subject to commercial criteria as well as having environmental, waste, resource and health-relevant dimensions. STRABAG is well aware of its environmental responsibility. Well-organized logistics play a key role in the commercial and ecological success of construction projects.

International. 30 percent of the overall costs of a construction project are directly or indirectly influenced by logistical factors; transport alone accounts for an average of six percent of construction output. Every project manager and site manager knows from experience how important technology, construction site organization and a well thought out logistics concept are for the commercial success of a project. Alfred Zimmermann, Technical Manager of Central Business Unit Construction Logistics and Transport (BLT) and his highly experienced team of experts search for optimal logistic solutions and support the efficient provision of services by the operational units. →

Cost savings can be achieved by means of better contracts, optimized routes, better utilization of transport systems, bundling transport legs and volumes. However, cost cutting is not the only reason; there are also considerations such as higher levels of reliability, resource and environmental protection and a greater degree of independence from market monopolists. "Particularly now, in times of volatility and uncertain developments in the short-term, comprehensive market monitoring is especially important. The developments in the energy sector, oversupply or sudden bottlenecks in the supply of products and transport resources as well as financial problems affecting our partners require us to have not only knowledge of the current situation but also the means to react appropriately and rapidly," says Franz Weissinger, Central Business Unit Commercial Manager.

#### **CHALLENGES FOR CONSTRUCTION LOGISTICS**

Logistics is more than simply transport. Logistics means ensuring that the right materials, in the right quantities and condition, are in the right place at the right time for the right customer – i.e. everyone involved in the entire logistics process has to manage a multitude of tasks and do these correctly.

Logistic tasks are complex, the logistic structures are highly interrelated and the qualitative requirements are considerable. The competitiveness and efficient design of material and transport flows based on advanced concepts, processes and technologies are the key to economical, reliable and environmentally sensitive materials management.

A glance at the figures relevant to STRABAG logistics operations is all it takes to appreciate that the design of the supply chains is a very complex task. The Group currently owns over 150 quarries and gravel pits, over 300 asphalt mixing plants and over 200 concrete mixing plants. STRABAG sources its supplies from over 5,000 producers of construction materials and works on over 10,000 sites at any one time. In the course of a year, the Group handles around four million transport orders involving more than 100 million tonnes of materials and net transport costs of over EUR 800 mn. Every one of these orders has the potential to yield improvements and cost savings which we aim to tap.

#### **NEW STANDARDS REQUIRE NEW METHODS**

The three main objectives of Construction Logistics and Transport (BLT) are the reliable and economic supply of all operational units and service companies, the creation of competitive advantages and the securing of resources. These objectives involve a wide range of tasks ranging from the preparation of logistic, transport and site concepts to the monitoring of the logistics market and all of its influencing factors as well as identifying the best logistic solutions possible. However, BLT also entails the provision of logistic systems (road, rail and water transportation, forwarding, handling and terminal facilities) and managing invitations to tender for transport and logistic services plus awarding contracts and rendering transport and logistic services. Moreover, this Division also provides logistic processes and IT-supported logistic systems.









Sources of raw materials and their transportation



Transport from producer to customer

"A task of this scale cannot of course be undertaken everywhere in all Group countries and for all business units at the same time," says Zimmermann. For this reason, the BLT Division started with the local country organizations in Austria, Poland and Germany in 2008. Work in other markets was undertaken on a project-by-project basis. Parallel to this work, logistic processes and systems have also been developed and successfully tested. Now, the task is to begin implementing the new systems coordinated with the operational divisions.

In 2009, the focus will be on the countries Hungary, the Czech Republic, Slovakia, Romania and the core regions of Russia.

In the years ahead, all of the divisions and countries in which STRABAG operates will progressively be supplied with the tried-and-tested logistic products and resources.

#### **NEW METHODS REQUIRE NEW MEASURES**

"Clear allocation of tasks, simple and efficient processes and the right logistic structures, all combined with an extremely high degree of flexibility and elasticity, are exactly what makes the difference in times like these," Weissinger explains. For example, in the area of supplying concrete and asphalt mixing plants, smooth operations and simultaneous cost advantages can be achieved by bundling transport and volumes, optimizations along the supply chain and through the selection of the best current partners.



**LUKAS LANG BUILDING TECHNOLOGIES** 

# IN THE RIGHT PLACE AT THE RIGHT TIME



A social center construction site

Republic of Moldavia. The BLT Division organizes the transportation for the construction of ten social centers, each with 100,000 ordered components and modules. This project involves 30 producers and eight loading sites in Austria and Hungary. The combination of all these factors makes the transport chain extending to Moldavia very complex. In addition, the transportation to the country of destination is complicated by the poor infrastructure: there is no option of safely storing the materials on site and the assembly time is four to five weeks per building. This requires perfect coordination with the construction managers and demands a special logistical solution with just-in-time delivery.

The BLT Division guarantees the client, Lukas Lang Building Technologies, a complete package of solutions and support in the planning and management of the entire transport and loading logistics as well as handling the necessary approvals, customs enquiries and insurance cover required.

This is how the just-in-time supply of the building site is ensured. The fact that the materials are supplied as required makes it possible for the project to progress smoothly. The total duration of the project is around twelve months – until September 2009. The BLT Division is planning and organizing more than 160 international truck journeys, each of around 1,500 km.

SUPPLYING A CONCRETE MIXING PLANT

# WHY SOURCE LOCAL MATERIALS?





Supplying a mixing plant

**Poland.** BLT Division experts reduce the costs of supplying essential materials through a combination of their professional knowledge and perseverance. A classic example of this is the concrete mixing plant in Warsaw. Previously, the plant materials were sourced from a local supplier who, in turn, sourced these from a distant, non-Group quarry.

Working together with the personnel at the concrete mixing plant, the existing transport chain was reviewed, allowing the BLT Division to identify a better option. The new logistic solution has reduced the price of transportation by around 17 percent and has also switched the supply of raw materials to a Group-owned quarry.

### ORGANIZATIONAL AND COMMERCIAL ADVANTAGES ...

... through the selection of the best means of transport and routes, the supply of materials from a Group-owned quarry and the integration of a terminal in the vicinity of the customer. The transparency and simplicity of the new supply chain from the producer of the construction materials to the customer site allow for just-in-time deliveries.

A combined effort which really paid off!

Large-scale projects in particular place high demands on logistics. Numerous raw materials, prefabricated components, large elements and construction machinery and volumes of excavated materials have to be perfectly supplied and disposed of. Price stability plays a role here which is just as important as the timely securing of transportation and inexpensive logistics equipment.

All of these special tasks, such as planning and organizing the entire supply chain, from the producer via the means of transport and terminal facilities to the necessary approvals and insurance cover, are all handled by BLT on a just-in-time basis.

#### **TIMELY ACTION**

No reliable forecasts and predictions are possible without a comprehensive and in-depth understanding of the market conditions. That's why BLT has set up a comprehensive market monitoring system with which it can track changes in the availability of logistic resources and partners, price developments and the energy situation.

The new STRABAG logistics marketplace (Logistik Marktplatz), an electronic transport auctioning platform (see STRANET for details), makes it possible for the operational divisions to reliably access a wide range of preselected suppliers and therefore to be







STRABAG firmly on track

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able to find dependable and stable partners at the best market prices and best conditions.

#### **COMPLEX TASKS REQUIRE SKILLED PERSONNEL**

The best systems, technologies and solutions all require highly skilled personnel with specific know-how. "Coordinated action and a proactive and comprehensive exchange of information are important to us, since this is key to ensuring that planned goals are met rapidly and sustainably," says Zimmermann. Today's problems can only be solved with a clear focus on potential future challenges. Turbulent times such as these lead to a series of problems, but they also generate opportunities. We have to recognize these and take determined and rapid action, while at the same time remaining flexible and adaptable. Logistics is subject to a wide range of influencing factors on a daily basis. The aim of the BLT Division is to ensure the economical, dependable and environmentally sensitive supply of materials within the Group. A new level of quality in terms of cooperation that is fit for the future!

### NEW STANDARDS THROUGH ENVIRONMENTAL AWARENESS

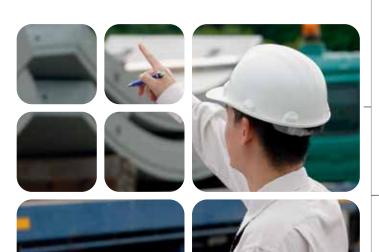
Any construction project is subject to commercial considerations and has associated impacts on the environment, resources, health

and the creation of waste materials. The reliable and economical supply of materials is just as important to any project as the safe-guarding of resources and environmental compatibility. Working in conjunction with the Umweltbundesamt, the Austrian federal environment office, the BLT Division has prepared an overview of transportation means and volumes typical for STRABAG. The assessment of emissions based on the means of transport used forms both the basis for the calculation of environmental costs as well as for compliance with ecological targets.

#### **COMPARISONS PAY OFF**

A comparison of a semi-trailer (22.5 tonne load/emissions class EURO III) with a freight train (1,500 tonne load) based on a 200 km route reveals a 20:1 ratio in terms of  $CO_2$  emissions per tonne of materials transported. Therefore, up to 95 % of  $CO_2$  emissions can be cut under optimal load and usage conditions!

The BLT Division organizes the entire transport chain and actively reduces inefficiencies such as empty legs and waiting periods, while simultaneously cutting the consumption of energy and resources. BLT has defined a new concept for the cooperation with other divisions: ecological construction logistics. This concept includes ecological procurement, transport, transfers and storage, not to mention waste management and disposal, as well as the use of ecologically sensitive materials and chemicals.



Highly skilled personnel for complex tasks



Logistics center for just-in-time supplies



Alfred Zimmermann, Technical Manager of Central Business Unit BLT

**INTERVIEW** 

### Q&A WITH ALFRED ZIMMERMANN

How and when did the idea originate to establish a separate central business unit for construction logistics and transport within the STRABAG Group?

In mid 2007, there was a discussion with the STRABAG Management Board regarding the reliability of transport and the cost situation as well as the cost-saving potential of logistic solutions. Due to the huge number of transport legs across Europe, with an annual volume of around 100 million tonnes of materials and logistic costs of over EUR 800 million, reliability and economy play a key role.

Potential savings are dormant in every transport leg and, even if they appear minimal and negligent, combined they soon add up to double-digit million-euro sums.

In addition to the potential savings, the focus is also on securing early and timely access to resources (transport and transfer equipment, routes, energy, etc). These are key to achieving increased independence from inflexible and unreliable logistics providers. This more critical perspective within the Group provides us with new competitive advantages vis-à-vis other construction groups.

The new central business unit BLT (Baulogistik und Transport) within the STRABAG Group was set up on 1 January 2008. Economical and reliable logistics represent a decisive competitive advantage and contribute to the efficient provision of services by the operational units as well as increasing the profitability of the entire company. In doing so, STRABAG laid the foundation to becoming the first construction group in Europe with integrated logistics.

### How did you set about organizing the setting up of the central business unit?

The first step was to perform a rough analysis of the logistic flows and to develop a three-year plan as the basis for achieving the objectives agreed with the Management Board of STRABAG SE.

The next step was to establish a strong team. Expertise, experience, development know-how, motivation and persistence combined with teamwork were what was needed. We were successful in finding the right balance between STRABAG experience and external experts.

Then we agreed jointly on the objectives and steps to be taken and began work to develop, test and start implementing the logistic processes as well as the necessary IT, organizational and technological systems.

Parallel to this, we made selective logistic improvements in terms of load factors, the use of various means of transport and ecological impact and achieved the first quick wins in the form of cost savings and higher levels of reliability for the operational units.

### What were the greatest stumbling blocks during the start-up phase?

From Day 1, it was clear to us that our logistic solutions had to provide the operational business units with value-added and additional advantages.

If the objective and the structure are right, then it is "only" a matter of ability and commitment. Training, explanation, persuasion and highlighting the improvements are what is needed at this stage, rather than insistence on and adherence to plans which no longer reflect current circumstances.

We tackled these challenges proactively and, ultimately, it is always the better arguments and the better solution which count. Excellent work is being performed in many areas, however, there were and are a whole series of improvements in all areas which are now possible. Analyses of past performance are only important as a means of stimulating future improvements to be energetically implemented, not as a means of finding someone to blame.

### BLT is already active in some STRABAG-Group countries. In your opinion, what are the greatest challenges to establishing BLT throughout the entire Group?

The right solutions, in terms of quality, which are accepted and fair for all partners are the key to commercial success. Our challenges are, firstly, to create trust through examples of success and fair partnerships. Secondly, we have to find the right balance between

excellent stand-alone solutions and overall solutions which yield greater success for the entire Group. And thirdly, we have to achieve continual improvements. These days, standing still is equivalent to going backwards. That's why our motto is: "Identification of potential improvements and rapid implementation".

Every division is also subject to extraordinary market conditions, these days more than ever. All of them are required to demonstrate extreme flexibility and the ability to adapt. Given that the influencing parameters are also continuously changing, we have to alter our organizational structure extremely sensitively in response – and do this in all specialist areas and across all cultural and language zones.

Fuel is becoming increasingly scarce and more expensive. What do you think will the logistics of the future look like? Will there be changes in the transportation of goods and can the Group already prepare for these changes?

We currently exist in a paradoxical situation. The availability of resources and prices are subject to acute volatility. What was true only yesterday no longer applies today. Fuels, all forms of energy as well as infrastructural and superstructural resources such as roads, tracks, waterways, terminals, equipment and means of transport have to be constantly monitored and the best solutions implemented extremely rapidly.

Logistic tasks are increasing significantly: logistic structures will become more complex and the quality requirements will continue to rise. This has been seen in recent years and the trend is set to continue – the speed with which the world of yesterday changes and with which today's world becomes tomorrow's.

STRABAG is acting in good time. In addition to the design and organization of building projects, the purchase of materials and services also plays an important role as well as the reliable, timely and economical supplying of construction sites. We have created the IT, organizational and technological systems (such as the STRABAG Marktplatz, for example) which work highly efficiently and provide the required flexibility and elasticity both in the area of procurement as well as the transport and transfer of building materials. A firm commitment to flexible cooperation will serve as the basis for future Group successes.

#### Where do you see BLT five years from now?

We aim to be the best provider of construction logistics services in Europe. With its systems, network and partners, BLT will always guarantee its clients the best supply services possible – economical, reliable and environmentally friendly.

Thank you for the interview!











One-off works of art by Albert ten Brink



Albert ten Brink and the STRABAG logo chiseled in stone

STRABAG PERSONNEL IN THE SPOTLIGHT

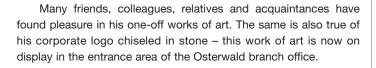
# SCULPTORS, OFF-ROAD DRIVERS AND MOUNTAINEERS

The section on STRABAG personnel, People at STRABAG, is where we profile colleagues who you perhaps haven't met. This time the focus is on sculpting, off-road driving and Europe's highest mountain.

International. Sculpting refers to working with natural stone, concrete ashlar or cast stone using tools and machines. This process dates back as far as the history of mankind itself, making masonry one of the oldest human professions. "The works of ancient Egypt, such as the Cheops Pyramid of 2850 BC, for example, are witness to the earlier craftsmanship of people in this area," points out Albert ten Brink, a machine engineer with Transportation Infrastructures, Subdivision Dusseldorf, Business Unit Nordhorn. Since attending adult evening classes on working sandstone around ten years ago, the 56-year old has developed a soft spot for this handicraft. "For me, working in sandstone is very interesting since it allows me to be creative," is how Albert ten Brink explains his hobby.



Hubert Müller with his pride and joy



#### SAND, MUD, GRAVEL AND WOODS

"Everyone can drive on the road" – well, nearly everyone. But off-road driving, through the wilderness, that is not as easy.

Hubert Müller, a technical quantity surveyor with Business Unit Sealing in the Vienna IP Sub-division since April 1996, has been an off-road enthusiast since he first got his hands on a steering wheel. For the past ten years, he's been on the road, or rather off it, in his Puch G. As the name suggests, off-road driving means that he prefers being behind the wheel where there are no roads, where he has to find his own way through the undergrowth, and where driving is most fun.

The origins of such a hobby? Hubert grew up in Mannersdorf at the Leitha Mountains near Bruck an der Leitha in Austria. His parents have a farm and his father owns a Willys Jeep and nearly a dozen so-called Unimogs (multi-purpose four-wheel drive trucks) with which he took Hubert jr. along tearing through the countryside. His uncle may also have played a role by giving his nephew a Puch G Matchbox car when he was at the tender age of two. No one knows for sure, but we can safely assume that Hubert acquired his passion for the great outdoors and his love of Puch Gs at an early stage.







Sand, mud and rivers - nowhere is off-limits

#### HIS FIRST GREAT LOVE

At the age of 18, proudly holding his recently acquired driver's license, Hubert invested in his "first great love", as he describes it with a grin, in his first Puch G. Today, ten years later, the pair are still inseparable. He is at his happiest when exploring the 80-hectare off-road area in Acs, Hungary, where he spends around 15 to 20 weekends a year getting to grips with sand, mud, gravel and woods.

For the past two years, he has only been engaging in this sport as a hobby. Earlier, he took part in a range of different events in which he finished in every position, from first to last. One event he remembers particularly well: He had to watch from the sidelines as his best friend rolled his own Puch G one and a half times. "My heart was in my mouth," he recalls the dramatic incident. Although his best friend was rescued uninjured, Hubert was marked by the incident and once again reminded just how dangerous this sport is. He wears a chain with a Puch G pendant on it, what else, as his lucky charm whenever he is behind the wheel. And it works – he has never yet had an accident in his Puch G.



Above: Breathtaking view from the summit Below: Jarosław Caputa fulfils his dream

#### ON EUROPE'S HIGHEST PEAK

4,810 is a magical number for Jarosław Caputa. The Pole, who is currently working on the construction site of the Galeria Jurajska shopping center in Częstochowa, has been dreaming about this number, the height of the Alpine peak Mont Blanc in meters, for a long time. "I have been an enthusiastic mountaineer for many years, which of course makes Mont Blanc one of the greatest challenges," Jarosław says with enthusiasm. In September 2008, the time had finally come to tackle Europe's highest mountain.

Pumped up with adrenalin, excited and raring to go, there he stood with his group at the base of Mont Blanc, all ready to set off, only to be disillusioned. A bad weather front literally cast a shadow over the expedition: "In Le Fayet, near Chamonix in France, we had to wait for two days in the mountain's foothills for the weather to improve," Jarosław recalls. Finally, however, it was time to set out – nothing could stop them any more. A tramway initially brought them up to an altitude of 2,372 m. From there, they headed out on foot to







The STRABAG logo on Europe's highest peak

their first camp near the Tête Rousse mountain hut (3,167 m). The next stage of the climb was through the Grand Couloir to the Aig du Router hut (3,817 m) and finally along the ridge to their next camp at 4,300 m.

"We were plagued by altitude sickness. It was difficult to do anything. We didn't feel hungry, we had headaches and the thin air meant that we couldn't rest," Jarosław recalls gloomily.

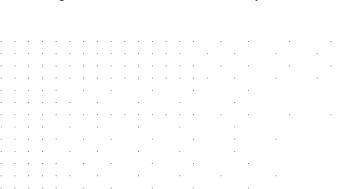
At around four o'clock in the morning, after just a couple of hours' sleep, the alpinists broke camp to tackle the summit which seemed almost close enough to touch. After a two-and-a-half hour struggle against the wind, cold and tiredness, the team reached their objective to stand on summit as the sun rose. "The view made us forget the torturous climb," says Jarosław describing this unique moment. Thanks to his untiring efforts, the STRABAG logo now waves next to the Polish flag on the peak of Mont Blanc.





Sub-zero camping at high-altitude

"After 15 indescribable minutes on the summit, it was time for us to descend," the hobby mountaineer explains. When they arrived in Le Fayet, the first thing the mountaineers did was to have a long-awaited hot bath and a sumptuous meal. Relaxed and full, they were then in the mood to celebrate. Plans for the future? "I am planning further expeditions – this time Elbrus, Kilimanjaro and Aconcagua," Jarosław answers self-confidently.









#### Wanted!

How do you relax after work? Are you socially active? Do you have extraordinary talents? Do you collect anything unusual? We know that our employees have extraordinary talents that are not only associated with the world of work. Since we are interested in all areas of staff's lives, in the next issue of inform we would like to profile people who are not only top performers at work. Are you one of these? Or do you know a colleague, who has unusual skills or interests? Perhaps you work together with a bookworm, who has built up an extensive collection of books at home? Or perhaps a colleague, who is particularly successful at a sporting activity? If so, we'd love to hear from you: STRABAG SE, Corporate Communications, Barbara Saulich.



Tomorrow's managers ...



PERSONNEL DEVELOPMENT

### LICENCE TO LEAD

At the end of 2005, the BRVZ Academy in Warsaw designed a management development program which was held between March 2006 and April 2008.

143 managers from eleven STRABAG Group companies jointly added to their knowledge of management and their practical management skills.

**Poland.** For a number of years, Poland has been one of our core markets with considerable development potential. The market for qualified managers and personnel is fiercely competitive and the headhunting of specialists by competitors of STRABAG is common practice. In order to create a good initial position for the Group in this situation, the decision was made to implement a development program for managers covering all construction-related business fields and service companies. Working together with Projekt Zwo









... practice how to lead others

GmbH from Vienna, the aim is to convey a modern understanding of management and a common management style. "The participants get to know modern and efficient management tools and learn how to apply these effectively in practical situations – the aim is also to identify synergies between the operating units and the service companies, and to make them exploitable in everyday working situations," says Karlheinz Mahler, Head of Human Resources Services, explaining the purpose of this training program.

#### "LICENCE TO LEAD" IN FIVE MODULES

The first step of the program involves a potential analysis. Every manager performs a number of different exercises in order to get an insight into their own management style and areas of potential development. "Based on this potential analysis, the existing knowledge and experience of the managers and the current situation within the STRABAG Group in Poland, Projekt Zwo GmbH defined the contents of the five training modules," says Mahler.

In Module I, Efficient Management Communication, the managers familiarized themselves with different management styles in order to create an initial basis. In Module II, Situational and Development-Oriented Management, the participants initially focused on the tasks of modern managers as well as the associated characteristics, knowledge and skills which these demand. "They recognized that there is not only a single, ultimate management style, but that a team leader has to manage in different styles depending on the personnel and the situation," Mahler adds. In the third module, The Manager as a Coach, the participants discovered how to recognize the potential of employees and how to tap this in the interest of

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Feedback session at the end of a hard day's work

achieving corporate objectives. The aim of the next module, Efficient Self and Time Management, was the development of time, project and self-management strategies in a professional context. The fifth and final module, Managers as Corporate Developers, dealt with a series of issues which often pose new challenges within the STRABAG Group," Mahler explains. It provided the participants with valuable knowledge on managing change and for shaping and developing their own organizations.

In summer 2008, the divisional management handed over the "Licence to Lead" certificates to the participating managers to



The seminar participants grab some fresh air









Exchanging past experience and group discussions

mark the successful completion of the program. The success of the program was such that a new series of seminars on management development started in October 2008. 56 new participants will be working towards their own "Licence to Lead" over the next twelve months.



Awarding of certificates: P. Antonik, W. Trojanowski, D. Slotwinski & J. Bucior



IN DISCUSSION

### A NEW START IN EUROPE

Anyone driving through the Kaisermühlen tunnel in Vienna or on the A2 from Graz to Vienna is unknowingly coming into contact with a high-tech product from EFKON AG. As a provider of traffic management and intelligent transport systems (ITS), this Graz-based company is responsible for the technology behind the section speed control systems in place on these routes. Since May 2008, STRABAG has held just under a majority interest in EFKON – the beginning of a new and close partnership. The editor of inform recently spoke to the CEO of EFKON AG, Helmut Rieder.

### International. Besides the section control product already well established in Austria, what other areas has EFKON specialized in?

We are a specialist for universal toll systems. EFKON is one of the key technology providers for what is currently the world's largest and most modern satellite-based toll system which is in use on 12,000 km of freeway in Germany.

### EFKON AG is very international in its organization. What does that entail in detail?

So far, EFKON has implemented over 500 ITS projects covering a total of 25,000 km of freeway in more than 40 countries. By means of intelligent products and systems, transaction volumes and monitoring of around EUR 6 bn a year are currently handled.

EFKON AG in profile Established: 1994

Turnover 2007: EUR 60 mn

Export ratio: 85 %

Personnel HQ (Graz) 2008: 150 Personnel worldwide 2008: 750



Aiming to be the global leader in ITS by 2013

The export ratio is around 85 percent and there are a total of 17 subsidiaries. 750 personnel work for the group, with 150 of them based in Styria and 180 in Vienna.

#### Which are your main markets?

One of our main focuses is currently the Asian market. Recently, we were able to secure seven large-scale projects for toll systems in India worth a total of more than EUR 10 mn. Our market share in this market has now increased to 80 percent. We also hold a 100 percent market share in the area of toll solutions in Malaysia and Taiwan.

#### Where do you see your future markets?

Due to the opportunities offered by the partnership with STRABAG, we will in future invest more energy in Eastern European markets, particularly Russia. The aim is to exploit our experience in toll operations, particularly in the context of PPP projects.

#### Finally, what is your vision for EFKON AG in the future?

We have our eyes set on a clear goal – to be the global market leader in intelligent transport systems by 2013.

#### Thank you for the interview!



BUILDONLINE

### MAINTAINING THE OVERVIEW

The rising pressure on costs and the increasingly complex nature of construction projects make it necessary to have lean and transparent management on building sites. The solution is called BuildOnline: a STRABAG SE Group solution for the optimization of information management within companies. The MPP3 power station project is currently the 300<sup>th</sup> project to be implemented with the aid of this tool.

International. The MPP3 – Maasvlakte Power Plant Unit 3 – project is currently ongoing in Rotterdam on behalf of E.ON Kraftwerke GmbH. When complete, scheduled for August 2011, this project will have involved no less than 138,000 m³ of concrete and reinforced concrete, around 2,200 m³ of prefabricated reinforced concrete elements and approx. 21,700 tonnes of steel reinforcement. "On construction sites as large as this one, it is very important to maintain an overview," says Mathias Ammon, responsible for the preparatory work. "BuildOnline helps us do this". MPP3 is already the 300th STRABAG project to be implemented using this tool.

This internet-based project management system provides all project personnel with up-to-date project information at any time and any place. "BuildOnline provides us with a central filing system for all documents, processes and information about the current progress of the entire project," points out Fatma Akkaya who, as a document and company administrator, works with the tool on a daily basis.





Foundation offset under the boiler house supports



Reinforcement work on the Power Island foundation slab

BuildOnline is subdivided into various folders, so-called project rooms, in which the documents and information are stored. In order to ensure that these can be found again later, certain preliminary work is necessary – i.e. there has to be a well thought out folder structure. This supports later searches and the management of project data. "On our new Maasvlakte construction site, we are using the Inbox for the first time. All of the plans are being recorded and loaded on the basis of a predefined code system for plans – this will make searching for them much easier," says Mathias Ammon.

The tool is also proving to be helpful in the context of cooperation with external partners – reading and editing rights can also be assigned to non-Group personnel. As soon as construction designs or work schedules are uploaded, detailed and broken down into individual folders, these can be exchanged with other project personnel who are notified by means of automated short messages. Recipients of a message can then, depending on requirements, either view or download the plans and therefore also use the project management system as their own archive. "BuildOnline is very efficient, but has to be set up with a lot of thought and continuously maintained," Akkaya summarizes.

BuildOnline is currently available in nine languages and has proven its worth since 2002 in the course of more than 180 national and international STRABAG projects in the areas of building construction and civil engineering, power station construction, road construction, PPP and project development, among others.

CONTACT: Martin Pöppelmann,
Service Companies, Central Business Unit BRVZ 02

AIRRAIL CENTER

# WORKING ON THE EUROPEAN HUB

Airrail Center Frankfurt – construction work on the extension to the long-distance rail terminal Frankfurt am Main has been ongoing since November 2006. Never before has travel in Central Europe been so simple: The Airrail Center is located directly above the ICE rail terminal and also allows passengers to easily connect to the airport terminal on foot.

**Germany.** Frankfurt am Main Airport is the largest of its kind in Germany and also one of the world's most important aviation hubs, serving more than 300 destinations in around 110 countries. 500,000 flights with a total of 52 million air passengers, over seven million rail passengers and more than 100 million vehicles are evidence of the unique dynamism of this site.

The impressive shell of the Airrail Center Frankfurt is visible from miles away, between the maze of federal highway, airport access road and freeway. Since the end of April 2008, the project team of Sub-division North has been responsible for the shell of this large-scale construction project.

The overbuilding of the ICE long-distance rail terminal and the 660 m long hotel and office complex will involve erecting a total of nine additional stories. Overall, the complex will have 140,000 m² of lettable floor area of which 94,500 m² are designated as office space and just under 6,000 m² are reserved for retail and catering outlets. The Airrail Center will also house some of the most attractive accommodation in the city: renowned hotel chains such as Hilton and Garden Inn will be located here. In the Hilton, a 500 m² ballroom will be built with a fantastic view across the airport and the Frankfurt skyline. In addition to the Hilton, with a floor area of around 34,000 m², KPMG will also be one of the main tenants, with around 30,000 m².

"The work on the eastern and central sections of the building have already reached the level of the roof," explains Bernd Krause-Jacob, responsible for quality management on the Airrail Center site. The construction of the steel frame of the ballroom at the eastern end of the building has already started. Likewise, the work on the shell of the western section of the building is also progressing at top speed despite the weather conditions.

The greatest challenges for the site team, besides keeping the deadlines, are the logistic constraints. Due to the lack of space on the construction site and the limited possibilities of storing materials,





17 cranes in operation around the clock – the birth of the Airrail Center at Frankfurt Airport

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deliveries have to take place just in time. In addition, 45 crane drivers ensure that the 17 cranes are in operation around the clock, even at weekends.

The Airrail Center above the Frankfurt ICE rail terminal is being built in a joint venture with IVG Development GmbH and Fraport AG.

CONTACT: Bernd Krause-Jacob, Building Construction and Civil Engineering, Division Germany/BNL 2F, North











Above: View east over the 660 m long construction site Below: View from a crane of the office and hotel complex

S.OLIVER HEADQUARTERS

# ECOLOGICALLY SOUND AND TRENDY

Fashionable clothes can be both practical and environmentally sensitive. s.Oliver is also aware of this:

Principles of environmental awareness were taken into account during the construction of the new headquarters in Rottendorf while of course also paying attention to the appearance of the building.

**Germany.** "The main focus here was on visions and ideas," is how Christian Weis, project manager for the construction of the new headquarters of s.Oliver in Rottendorf, explains the underlying concept. The new office building highlights the creativity and significance of one of the largest fashion houses in Europe: expansive glass façades, conference rooms, showrooms and cutting-edge technology. In August 2008, the 350 personnel were finally able to start work in their new 10,000 m² head office.

The design was based on a compact structure which is separated by two courtyards. The first courtyard awaits visitors at the main entrance with an open and spacious foyer, while the second courtyard has been arranged with terraces and water areas so as to

provide personnel with a sheltered area for breaks. The central point of the building is formed by so-called coffee points with lounges and multi-purpose areas. "The working areas have initially been arranged as open-plan offices, but can later be converted into various office space combinations," Weis explains.

#### **ECOLOGICAL CONCEPT**

The aspect of energy saving is impressive. The headquarters building has been built by applying the very latest energy-based knowledge and has neither classical heating nor air-conditioning systems. The temperature in the building is environmentally sensitively regulated in both summer and winter by means of 60 geothermal probes. Optimal lighting conditions have been ensured by arranging all of the workplaces along the façade of the building adjacent to the horizontal window bands. The amount of light penetrating the building is automatically regulated depending on the incidence of sunlight. In order to optimize the use of water, the building possesses a rainwater cistern which uses ground water to flush the toilets. s.Oliver has therefore demonstrated that it is not only a trendsetter in the world of fashion but equally so in the area of ecological offices.

Construction period: 14 months Project volume: EUR 18 mn Gross floor area: 13,800 m<sup>2</sup> Gross cubic volume: 53,300 m<sup>3</sup>

CONTACT: Christian Weis, Building Construction and Civil Engineering, Division Germany/BNL 2F, Bavaria/Systembau







Left: Foyer in the main entrance area
Right: Elliptical free-standing staircase in the main building









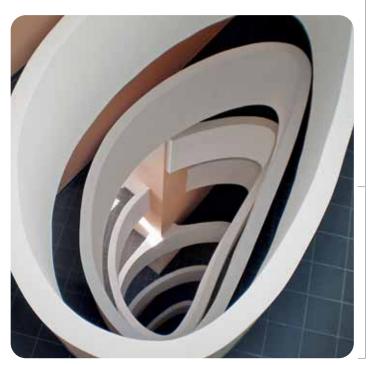
Above: North-facing view of the headquarters towards the main entrance Below: So-called coffee points as central communication hubs

THA BUCHENGASSE

# CENTRALLY LOCATED WITH COUNTRYSIDE FEELING

Life in the inner city is becoming increasingly attractive – the rising costs of fuel in particular are again making life in the heart of the city more appealing to many. The search is now on for suitable properties: modern, central and yet surrounded by undeveloped land. Impossible? A new housing complex in Vienna proves otherwise.

Austria. The stepped building on Buchengasse in Vienna's 10<sup>th</sup> district is an impressive structure surrounded by high-rise residential buildings. What makes this complex different to conventional housing blocks, however, is the architect's design of the residential units (see picture). The advantages of this apparently chaotic geometric arrangement are clear: hardly any of the tenants have a view in only one direction; in fact, most of the residential units have a view in two, and some of them even three, different directions. "In total, we built around 250 housing association apartments: 64 two-room, 143 three-room, 35 four-room and six five-room apartments," points out Roman Hornischer, site manager of the Buchengasse project in Vienna. In total, the residential complex is divided into five units with up to 12 floors which give the complex an architecturally interesting



A lightwell integrated into the stairwell of the residential complex



Architectural masterpiece on Buchengasse

Construction period: 26 months Project volume: EUR 27.5 mn Number of apartments: 250

Concrete: 22,729 m<sup>3</sup>

outer appearance. "What is special about this project is that every apartment, without exception, has an open-air area in the form of a terrace, loggia or a veranda," Hornischer adds. The 120 protruding verandas were therefore the greatest technical challenge associated with this construction project. In addition to the residential complex, an underground garage and a day nursery were also built. "The garage in particular will prove to be extremely useful given the limited parking facilities in the vicinity," Hornischer explains.

#### 10% UNSURFACED AREA

It was particularly important for the planners, Rüdiger Lainer & Partner Architeckten ZT GmbH from Vienna, to create a wide range of communal open-space areas such as vegetable plots, lawns and a viewing terrace. Particular attention was also paid to the design of the surrounding and integrated green areas in order to improve the residents' quality of life. Distinctive small trees were planted, such as empress, wingnut and plane trees, in order to form screens in inner courtyards, along paths and around open areas. "In addition, the residential complex also has a sauna on the roof and, with more than 10 percent of the area unsurfaced, there is a high proportion of green and planted areas," says Hornischer. All in all, a shining example of life in the city with a feeling of being in the countryside.

**CONTACT: Roman Hornischer, Building Construction and Civil Engineering, Division Austria 3C, Vienna** 

HOSPITAL CONSTRUCTION

# HEALTH WITH A SPLASH OF COLOR

A new flagship hospital with a difference was recently built in Spittal an der Drau. In addition to appealing and well thought out architecture, it was patients in particular who were at the heart of the concept.

**Austria.** "The conversion, extension and construction of the hospital in Spittal an der Drau is key to ensuring the medical quality and provision of essential services to the population of Upper Carinthia in the coming years," predicts Roland Schmid, the project manager.

A multi-story extension was erected to the east of the existing hospital building. This consists of a five-story main building and an adjacent, east-facing, three-story wing. "Besides this, we also carried out a series of conversions in order to coordinate the medical services provided in the old and the new buildings," adds Schmid, highlighting the scale of the project.

Construction period: 17 months

Investment volume: EUR 37 mn (incl. med. technology)

Gross floor area: 14,000 m<sup>2</sup>

Concrete: 8,000 m<sup>3</sup>

The main entrance to the extension is located on the south side of the building and leads to the lobby and a multi-purpose area located on the ground floor. This area mainly acts as an extension of the entrance area on a day to day basis, but can also be closed off for use as a venue for various events or presentations.

Catering options were also taken into account in the form of the adjacent Café caSa, to the west, which acts as a fully blown restaurant for patients, visitors and personnel, but which can also be used by other guests.

#### **ORIENTATION BY COLOR**

"It is easy to lose your way in large, modern hospitals, which is why we developed a system of color-coded signs," Schmid explains. This color concept helps patients and visitors to orient themselves in the hospital. The significance of the various shades of color was also taken into consideration in order to appropriately combine these with the function of each floor. For example, orange, a color













Above: Colorful flagship hospital in Spittal/Drau, Carinthia Center: A lively apple green color in the internal medicine department

Below: The new emergency and surgery department

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which radiates warmth, joie de vivre and serenity, is dominant on the ground floor where departments such as dialysis, a blood-cleansing procedure, are located. Or, on the second upper level, where the internal medicine department is situated: "Here, visitors are met by apple green which is associated with recuperation, freshness and relaxation," adds Schmid.

CONTACT: Roland Schmid, Building Construction and Civil Engineering, Division Austria/Switzerland 3B, Carinthia

ARKÁDY PANKRÁC SHOPPING CENTER

# STRABAG CELEBRATES MILESTONE PROJECT

There was every reason to celebrate recently in Prague as the 100<sup>th</sup> ECE shopping center, the Arkády Pankrác, was inaugurated on 14 November 2008. As the general contractor of ECE, STRABAG joined in the celebrations.

**Czech Republic.** 14 November 2008, will always be a special date for ECE, the European market leader for inner-city shopping centers. It was on this day that the 100<sup>th</sup> ECE shopping mall, the Arkády Pankrác in Prague, first opened its doors. "This was not the first project between STRABAG and ECE, rather the latest in a long-standing partnership," explains Andreas Jedek, Arkády Pankrác Project Manager.

The retail units in this new shopping mall had all been let for months - ECE couldn't have asked for more interest in the project. A range of Czech and international household names have found new homes in the halls of the Arkády Pankrác complex. Renowned tenants, key to attracting shoppers, include the fashion stores Peek & Cloppenburg, H&M, New Yorker and the Inditex Group, which represents the stores Zara, Stradivarius and Bershka among others. The high level of demand for retail outlets is partly explained by the excellent location of the shopping center. The Arkády Pankrác complex is located on the so-called Pankrác Plateau near the historical center of Prague. There are also numerous residential and office buildings in the immediate vicinity. On the other hand, the excellent connections to the public transport network are another important criterion accounting for the attractiveness of this site. Bus stops are situated next to the shopping mall while, on the underground level of the complex, there is also a purpose-built connection to subway





New shopping feeling at the Arkády Pankrác shopping center

line C. "This means that Arkády Pankrác is superbly integrated into the transportation infrastructure," Jedek highlights. The shopping center is now reachable by more than half a million people within 30 minutes.

From an architectural point of view, the Pankrác Plateau area has been enriched by the modern silhouette of the shopping mall. The large glass areas of the mall create a gentle division between the building and its environment – despite this spatial separation it is still possible to look through the glass which makes the interior lighter and more appealing. "The spacious interior architecture and the use of high-grade materials such as natural stone and stainless steel guarantee high quality and ensure that the shopping sensation remains something special for visitors," stresses Jedek.

Construction period: 18 months Investment volume: EUR 60 mn GLA: 39,500 m<sup>2</sup>

CONTACT: Andreas Jedek, Building Construction and Civil Engineering, Division Czech Republic/Slovakia 3J

#### Key facts about ECE

ECE has been developing, planning, implementing, letting and managing large shopping centers since 1965 and, with 100 malls under management, is the European market leader in this field. The shopping centers are

located in Germany, the Czech Republic, Poland, Hungary, Austria, Turkey, Greece and Qatar; and with 10,000 outlets on three million square meters of GLA, these generate annual sales revenues of EUR 12 bn. A further 26 shopping centers are currently being planned or built throughout Europe.

**BOLOGNA HEADQUARTERS** 

### A NEW HOME FOR STRABAG-ADANTI

In April 2008, STRABAG successfully strengthened its market presence in Italy by acquiring Adanti SpA. In January 2009, Hans Peter Haselsteiner attended the festive opening of the new joint headquarters of the Italian STRABAG AG branch and Adanti SpA in Bologna.

Italy. Located in the northern part of Italy, the city of Bologna lies at the foot of the Apennine mountain range, nestled in between the rivers Reno and Savena, and is known as the "university city" of Italy with Europe's oldest university institution. Now, this city is also home to the Italian branch office of STRABAG AG and Adanti SpA. A new office complex is shining in new splendor in a central location – right in the heart of Bologna – at the Piazza Liber Paradisus, which in older days was the place of the fruit and vegetable market.

#### FROM THE BEGINNING ...

Back in 2003, the city council of Bologna came up with the idea to build new communal offices for the municipal government and to do this in a public-private partnership (PPP). To this end, the concession company Duc Bologna SpA was founded. Adanti held a share of 22 per cent in this general contractor. Construction of the new government offices commenced in April 2005. Almost three years later, on 14 July 2008, the building was ceremoniously handed over to the municipality. The complex consists of three towers and two underground parking garages with a total area of 33,000 m².



The STRABAG and ADANTI personnel had every reason to celebrate



The new glass palace of STRABAG AG and Adanti SpA

 $25,000 \text{ m}^2$  thereof are occupied by municipal government offices. The new headquarters of STRABAG-ADANTI take up the ground floor and three upper levels with a total area of approximately  $1,500 \text{ m}^2$ .

#### TWO PROJECTS - ONE CONSTRUCTION SITE

Actually, Adanti was involved in this contract with two projects. One was the construction of the building complex and the other was the interior finishing of its own future offices. All floors of the new headquarters are made of wood. Plasterboard partition walls provide for high flexibility of layout, and the aluminum framed doors with frosted glass panels make the offices light and friendly.

Interior finishing of the new offices started in September 2008 and took a mere three months. So, the staff could move in at the end of the year and everything was ready for the grand opening in January 2009.

**CONTACT: Enrico Leonardi, Special Divisions and Concessions, Division Tunneling 2I** 

Construction start: April 2005
Total area: 33,000 m<sup>2</sup>
Contract for building complex
(Adanti share): EUR 15 mn
Interior finishing contract: EUR 1 mn

RAMSTEIN AIR BASE

# NEW RAMP FOR U.S. AIR BASE RAMSTEIN

The Airports Department of F. Kirchhoff Straßenbau GmbH & Co. KG has won another construction contract of more than EUR 20 mn from the Federal Ministry of Defense. This is the third contract for the company since 2003 for the enlargement of the Ramstein Air Base, known worldwide for a tragic air show disaster.

**Germany.** F. Kirchhoff Straßenbau GmbH & Co. KG has struck again! In October 2008, after the successful completion of the first phase in July 2005, Kirchhoff won the contract for the second building phase of the aircraft parking ramp 1.

Construction period: 2 years Volume: EUR 22 mn Concrete area: 76,000 m<sup>2</sup>

"Ramp 1 is being built, in order to be able to park all C-130J (Hercules) transport aircraft currently stationed at the U.S. Air Base Ramstein on one single ramp together, where they can be refueled, loaded and unloaded, and, to some extent, also overhauled," explains Eberhard Kull. The contract comprises, on the one hand, the construction of a concrete area of 76,000 m² (i.e. the size of about seven soccer fields), and, on the other hand, drainage works,











U.S. Air Base Ramstein with Captain Eberhard Kull: With pride, confidence and joy he is looking forward to project kick-off.

the construction of the perimeter road, parts of the lighting and floodlight systems as well as the enlargement of the storm-water retention tank and the erection of a new transformer station.

#### LOGISTIC MASTERPIECE

The logistic tackling of the project is a particular challenge. Since air traffic cannot be shut down during construction work, the project has been split into three phases. The heads of the project team, Messrs. Eberhard Kull, Klaus Engbarth and Alexander Joos – all well experienced and attuned to each other – are looking forward to project kick-off with a sense of pride, confidence and joy.

CONTACT: Eberhard Kull,
Transportation Infrastructures, Division Germany 6H

Many of you will remember the headline informing about the "tragic air show disaster at Ramstein Air Base". With a death toll of 70, this catastrophe of 28 August 1988 was one of the biggest air show tragedies ever. Yet, the history of the Ramstein Air Base goes back to post-war days. This Air Base east of Ramstein, in the German Land Rhineland-Palatinate, was opened by the U.S. Army in

April 1951. Today, Ramstein is the biggest stronghold of the U.S. Air Force outside of the United States and is, at the same time, the headquarters of the United States Air Forces in Europe. During the Iraq War, the Ramstein Air Base served as a central logistics hub for troop support.

RAILWAY LINE MUNICH - VERONA

# "NOMEN EST OMEN" ... BUT NOT ALWAYS!

"The name is a sign," says a Latin phrase. Yet, everything else than a simple project is hiding behind the simple contract name "Construction Measure H 2-2". For this project is an engineering masterpiece.

Austria. For the new high-speed railway connection Munich-Verona a tunnel needs to be built at the Austrian town of Radfeld. The fact that tunnels are needed when building a high-speed railway line through the mountainous province of Tyrol is not surprising in itself. Yet: "The construction site, where the staff members of Civil Engineering Austria West are working, is a 2,930 m long section consisting of the construction of a tunnel and of a watertight trough," explains project manager Sahir Tahtaci the job. On 23 April 2008, the project was kicked off, and the planned completion date is September 2011.

Starting from the eastern end of the construction site, a ground-water trough is being built at the transition from the open line to the underground construction project. 790 m onwards starts the cut-and-cover tunnel section. "This tunnel connects to the already completed section H 2-1," informs division manager Stefan Hanser. What is also needed, are three excavation tunnels and an access ramp spaced about 500 m from each other. These are required as part of the stipulated tunnel safety concept.

The tunnel, the groundwater trough, the excavation tunnels and the access ramp are all built cut-and-cover. This means that the concrete structures are built after the watertight construction pits are completed and the trapped groundwater is pumped off. The final step is the sealing and covering of the structures with soil. This allows for the recultivation of the agriculturally used areas.

#### **DIVERS NEEDED**

The construction of the watertight excavation pit requires the installation of 18 approx. 150 m long and 20 m deep sheet pile cofferdams in individual steps. To begin with, an excavation of the length of the sheet pile cofferdam is dug, with the last shift pumping off the groundwater in a depth of 10 to 15 m, with the help of divers. The next construction steps also require the skills of professional

divers. First, GEWI-piles are installed in the bottom of the excavation pit to prevent the uplift of the underwater concrete slab. Then, the 1.5 m thick underwater concrete slab is constructed, for which up to 2,900 m³ of concrete are to be poured in one go – i.e. without interruption. "Until completion of this section, a concrete volume of 140,000 m³ will be needed," estimates Tahtaci. For this purpose, a concrete mixing plant was installed on site where all the concrete formulas needed for the section can be mixed. Once the underwater concrete slab has hardened and the construction pit has been drained, the floor slab and the tunnel arch can be built.

An additional challenge, aside from the required divers, is the fact that railroad traffic must not be disrupted. "Fortunately, no major problems have occurred so far that might have had a negative effect on the progress of the project", Tahtaci is pleased.

CONTACT: Sahir Tahtaci, Building Construction and Civil Engineering, Division Austria/Switzerland 3B, Civil Engineering Austria West + Switzerland

Construction period: 41 months Project volume: EUR 57 mn Excavation: 400,000 m<sup>3</sup> Concrete: 140,000 m<sup>3</sup>









Spectacular tunneling project straight through the mountainous Tyrol

SALALAH INTERCEPTOR GUARD DAM

# FLOOD PROTECTION IN OMAN

Top safety: Even on the Arabian Peninsula flood protection is something that needs to be considered. This is shown by a dam project in Oman. There, construction work is not affected by the monsoon and climatic factors alone, but cramped conditions on the construction site also call for good neighborly relations.

Oman. "What surprises visitors to Salalah most is that there is no "midsummer" - at least none of a kind we would expect in this region, namely weeks of temperature highs around 40°C and more," according to Reinhard Schmid, manager of the Salalah Interceptor Guard Dam construction project. In the summer months, the thermometer does not rise above 30°C, for Salalah and its surroundings are located in a zone influenced by the Asian southwest monsoon, which in Oman is commonly known as Khareef. In autumn and spring, in particular, when the warm waters of the Indian Ocean cause tropical cyclones, this region may even suffer flood catastrophes, as it was the case last in 2001. Then, the water flowing down from the surrounding mountains towards the coast accumulates on the narrow coastal plain of Salalah. Due to the small difference in altitudes, the water cannot run off fast enough and causes large lakes to form in the urban areas which dry out very slowly. For this reason, it was decided to protect the entire region with a dam. Once this dam is finished by October 2009, as it is planned, it can be expected that Salalah will not be affected by any more floods in the future, for the reservoir's storage capacity of 75 million m³ is dimensioned for a so-called probable maximum flood (PMF), which according to the hydrologic model should not be exceeded.





Left: Finishing the dam crest Right: Bottom outlet pipe with intake structure

#### **GOOD NEIGHBORLY RELATIONS**

With the beginning of summer, the dwellers from the surrounding mountains are also flocking to Salalah. Following an old tribal tradition, they set up camp on the greens around the construction site. The residential and business areas of Salalah are just about three kilometers away from the site, and there is still the airport in between. Hence, the area in and around Salalah is rather crowded and the people from the mountains have hardly any alternatives for their summer camps. Still, most of them have come back this summer, to the place where currently excavators and bulldozers are preparing fill material. Dozens of tents, hundreds of camels and about the same number of mountain dwellers are now camping around and between building materials. "These are peaceful weeks that we are spending side by side: We help them with their water supply and provide them with filter gravel for their tents every now and then, while they let us work in peace and accept the unavoidable dust and noise nuisances and sometimes even provide us with fresh camel milk," says Reinhard Schmid.

Construction period: 18 months Project volume: EUR 51.3 mn Maximum dam height: 20 m Dam length: 6 km

**CONTACT: Reinhard Schmid, Transportation Infrastructures, Division International/CEE 6B, International** 



Pouring of the soil cement cutoff wall in the middle of the dam

M6 - M60

# WHERE MR. STRABAG LIVES

The motorway construction project between Szekszárd and Pécs is rather extraordinary: Apart from several hundred thousand archaeological finds discovered near the city of Pécs, a very special "canine colleague" is also playing a major role in this project.

**Hungary.** Shortly after the concession agreement for the construction of the 80 km long motorway M6-M60 between Szekszárd and Pécs had been signed in November 2007, the subcontractor Magyar Aszfalt Kft. embarked on its work on the 50 km long section in the Baranya County. "This motorway is the link to Croatia and puts the southern Hungarian city of Pécs into quick and safe reach," explains Elek Nagy, the responsible project office manager. Four tunnels as well as nine viaducts and 78 underpasses and overpasses had to be built for this motorway over the Mecsek mountain range.





Left: The motorway between Szekszárd and Pécs is taking shape Center: One of some 15,000 archeological artefacts Right: Viaduct at Belvárdgyula

Magyar Aszfalt Kft. builds the entire motorway section with the road network connecting thereto and all bridges. The tunnels are built by STRABAG AG, and STRABAG MML, among others, assists in the construction of the viaducts.

"Last year, we had an average of 450 own staff working on this route," underlines Nagy the scale of the project. By the end of 2008, earthwork was nearly completed, yet work on the road structure –



#### "Man's best friend ..."



Home Sweet Home

Last spring, the construction site for the M6 chain of tunnels won canine support. A fortunate coincidence made a young male dog that had gotten lost, find his way to the site. The construction team happily adopted the dog. They named him "Mr. Strabag" and the workshop personnel even built him his own dog

house. Meanwhile, Mr. Strabag's routine includes daily tours around the workshop, the cafeteria and the offices. "Every morning at around 5 or 6 o'clock, the mechanical foreman takes him for a walk on site to check if everything is o.k.," tells Petra Kropf, commercial manageress on site.

In the meantime, Mr. Strabag has become an integral member of the staff and has got his dog house as his official residence. Already today, there are heated discussions going on among the staff on who may take Mr. Strabag home after completion of the work in March 2010.

**CONTACT: Petra Kropf, Special Divisions and Concessions, Division Tunneling 2I, Sub-division IQ** 





cement stabilization and asphalt base course - is still underway. Construction of the rainwater drainage systems and retention basins is also progressing. "Landscaping of the slopes has already started, in order to prevent major damage through erosion during the winter season," explains Nagy. The new motorway shall be opened to traffic on schedule by the end of March 2010.

#### ARCHEOLOGICAL FINDS

In preparation of the motorway construction, excavations had been going on along the route in the Baranya County since September 2005. "It was known that this region is extremely rich in historical finds," informs Elek Nagy. Yet, nobody expected to actually discover a paleontologically significant treasure of nearly 15,000 archeological objects with more than 430,000 finds. Most of them date back to the days of the Romans and Avars, a Central Asian tribe of Eurasian nomads. Because of the enormous number of objects found, excavations are still underway, which causes slight delays in the construction work. Nevertheless, Nagy is also proud about it in some way: "It was great fun to be involved in the organization of an archeological exhibition in connection with the motorway construction."

#### CONTACT: Elek Nagy, Transportation Infrastructure, Division Hungary 6L, Large-scale Projects

Length of motorway section: approx. 50 km

Soil removed: 1.4 mn m<sup>3</sup>

Cement stabilization: 293,000 m<sup>3</sup>

Cutting: 7.3 mn m<sup>3</sup>

Embankment: 4.4 mn m<sup>3</sup>

Protective layer: approx. 913,000 m<sup>3</sup>

Asphalt: 254,000 m<sup>3</sup>

FEDERAL MOTORWAY A 602

### **BOTTLENECK LOOSENED**

Germany. "A big construction project is completed," announced a headline of the daily newspaper Trierer Volksfreund early in October 2008. The article informed about the completion of a rehabilitation project on the federal motorway A 602 which was a masterpiece in terms of organization. "Work was carried out under enormous time pressure, since the section under construction was a bottleneck on the link between Trier and Luxembourg frequented by some 50,000 cars a day," explains Stefanie Führling, site manageress on the A 602. The contract comprised the renewal of the base and wearing courses - 12 cm thick - in both directions, including the intersections Kenn and Errang. "In order to be able to keep the short deadline, we had to work in two shifts, day and night," Führling points out. First, the old pavement was milled off carefully at nighttime by the STRABAG subsidiary Straßensanierung GmbH SAT to construct the new asphalt base course and pour the stone mastic asphalt during the day. Owing to the good team organization, work went on smoothly and it took just a month until traffic rolled again uninterruptedly in both directions.

Construction period: 1 month Project volume: EUR 1.3 mn

Construction site length: approx. 3.5 km Total amount of asphalt: 17,500 t

CONTACT: Stefanie Führling, Transportation Infrastructures, Division Germany 6H, Rhine/Main





Site manageress Stefanie Führling explains the construction schedule Paving – hot on hot – on federal motorway A 602 Trier in staggered shifts 35

LIMERICK SOUTHERN RING ROAD

### SUPERLATIVE CHALLENGES

It wasn't for nothing that the Limerick Tunnel Project won the "European PPP-Deal of the Year 2006" award. The construction of the "Limerick South Ring Road", a 10 km long two-lane dual carriageway motorway has called for innovative solutions to be devised by our colleagues since 2006. The centerpiece of the project is an immersed tunnel under the River Shannon.

Ireland. The area near the city of Limerick, short from where the Shannon, Ireland's biggest river, flows into the Atlantic Ocean, and where back in the 9<sup>th</sup> century the Vikings forayed up the river, is now seeing the construction of a EUR 436 mn tunneling project carried out by the STRABAG Divisions Infrastructure Development 4W, Europe 3H (Sub-division MT), and Services 4S (Sub-division MN) together with Irish partners. Since August 2006, the focus has been on the construction of a 10 km two lane dual carriageway motorway and a 2.3 km single lane dual carriageway link plus two toll plazas. The centerpiece of the project is the approximately one kilometer long immersed tunnel under the River Shannon.

Construction period: until 2010

Volume: EUR 436 mn

Construction site length: 10 km, thereof 1 km tunnel

(incl. cut & cover sections and ramps)

The "Limerick South Ring Road" project is implemented in two phases. The first phase saw the construction of a bypass connecting the N7 (to Dublin) to the N20/21 (to Cork). This phase was completed in May 2004. The currently ongoing phase 2 is implemented in a public-private partnership (PPP) and connects the N7 to the N18 (to Shannon/Galway). The overall aim of the project is to connect the National Roads south of the City of Limerick. The Limerick Tunnel is dimensioned to handle about 40,000 cars a day. This well-targeted removal of traffic loads from the Limerick city center will improve the downtown traffic situation and will upgrade the air quality and lower the  $CO_2$  emissions considerably. The tunnel will also improve access times for the daily commuters to the many industrial estates



Limerick Tunnel project team from STRABAG Sub-division MT

of multinationals in the periphery of the city as well as access to Shannon Airport, Galway, Dublin and Cork.

#### THE HIGHLIGHTS

Asked about the special highlights of the construction site, Klaus-Dieter Pertl, the contact person for concession affairs from the Infrastructure Development Division, describes a few situations. Apart from the almost omnipresent time pressure, which led to 24-hour shift work, the construction of a completely crack-free concrete was an enormous challenge for the project team. "Usually, clients seldom if never demand this. Yet, we finally made it – owing to sophisticated cooling systems and numerous tests," says Pertl. The extremely bad subsoil – with up to 26 m deep alluvium – was another challenge. Yet, the biggest challenge, for sure, was to attest the tunnel a useful life of 120 years. This requirement naturally called for high-quality materials, personnel and organization processes. Together with international experts and owing to extensive cooperation and correspondence with the client and its consultants, this problem was also solved brilliantly.

Among the most spectacular figures to be mentioned in connection with this project is the weight of the tunnel elements: each of the five elements weighs about 20,000 tonnes, which equals the weight of approximately six thousand light trucks. Some 50,000 m³ of concrete were produced for the tunnel and 8,600 tonnes of structural steel built in. For the completion of the tunnel section under the River Shannon a trench had to be dug in the river bed: 420,000 m³ of soil were excavated. Despite all these challenges, all the tunnel elements were placed on schedule by October 2008 and the most



















CONTACT: Klaus-Dieter Pertl, Special Divisions and Concessions, Division Services 4S, Sub-Division MN

absolutely realistic," says Klaus-Dieter Pertl.

critical phase of the project was thus completed. There is still a lot to be done, especially in the field of tunnel and road furniture, toll plazas and paving, but "all things considered, work is going on according to schedule and project completion by autumn 2010 is

Center: Construction of tunnel element

Right: Preparations for the floating of tunnel element

Below: Drydock for tunnel element construction and settling tank for

the excavated material

Even today, one can find historic traces around the city of Limerick that date back to 3500 BC. Relics of the Stone Age and the monasteries Ardpatrick, Mungret and Killeedy are silent witnesses of the past. In the favorable location on the estuary of the River Shannon, the Vikings had established a settlement back in the 9th century – now the city of Limerick. The Normans revamped the city

in the 12th century and added architectural highlights, like "King John's Castle", today's No. 1 tourist attraction. Where the Irish name "Luimneach" (deserted spot) stems from is unknown. What is well-known, though, is that Limerick is Ireland's oldest and third-largest city.

**GOTTHARD TUNNEL** 

# BASEWORK PAR EXCELLENCE

The town of Erstfeld in the Swiss Uri canton is just a few kilometers south of Lake Lucerne and Altdorf, home of the legendary hero William Tell. In this idyllic region the world's biggest railway tunnel is currently taking shape. The editorial team of inform took a closer look.

**Switzerland.** Erstfeld never was a quiet town. For centuries, one of the most important Alpine trade routes has led over the Gotthard Mountain Pass and through this town in the Reuß Valley. And, in 1882, almost over night, the opening of the Gotthard Railway Line turned the formerly insignificant peasant village into an important railway hub. Extensive track systems and large station buildings have since put a stamp on the town. Today, Erstfeld has a new landmark visible from far away: a bizarre-looking landscape of conveyor bands and shaft towers, altogether 18 km of bright yellow belts, plus crushing plants and silos. That's because Erstfeld is again in the center of a gigantic traffic project: it is the northern end of the world's longest railway tunnel, the 57 km long Gotthard Base Tunnel.

Project manager Beat Blindenbacher is in charge of the 7.5 km and 11.7 km long sections Erstfeld – Amsteg and Amsteg – Sedrun.









Above: Place of installation Erstfeld Below: Tunnel portal precut with conveyor belt storage facilities These contracts are of a volume of EUR 700 mn and require 450 personnel. Blindenbacher is an experienced member of the STRABAG staff who has been building tunnels for 25 years and has learned his job from scratch. We meet him in his office.

"We need to hurry up. The train into the tunnel is on its way. We'll have time for coffee later." Well, so we change into protective suits, boots and helmets and are soon ready to visit the tunnel in our new gear. Every visitor gets a backpack containing the required oxygen emergency package. Anyhow, safety is a top priority on site.









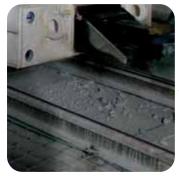


Above: B. Blindenbacher (left) and A. Kohlmaier Below, right: The patron saint drives the devil off the tunnel

Signs and warnings are omnipresent. The train is already waiting and takes us 1,700 m into the western tunnel tube to the rear end of the tunnel boring machine (TBM). From there, the material is transported on to the position of installation on rails suspended from the tunnel ceiling. For us it's another 450 m on foot over ladders and footbridges through this behemoth of a TBM. Before it was brought here, this machine had already worked on the 12 km long bore Amsteg – Sedrun. "We dismantled this machine all by ourselves, overhauled it completely, transported it to this location and made it ready for operation again," says Blindenbacher proudly.







Very top: Daily checks in the rear area

#### **WORKING LIKE IN TROPICAL CLIMATE**

Temperatures in the tunnel range around 30°C and the air is very humid. These are extreme conditions under which the hard physical work, necessary despite all technology, is being carried out. Yet, such extreme conditions are quite normal when considering that the Alps are being underpassed. "Cooling and ventilating require almost the same amount of energy as boring," says Blindenbacher.

The machine is not working at the time we reach the boring head. Tunneler Fred Kohlmaier has climbed into the working space in front of the machine together with a colleague to replace a number of roller bits which, through the rotary movements of the boring head, mill off the rock in circles, nine centimeters away from each other. Soon, Kohlmaier and his colleague are finished and return to the driver's cabin, from where the TBM is restarted. With an earshattering noise, the TBM bores itself into the rock with a driving force of 15,000 kN. The average heading distance within a period of 50 minutes is two meters. Then it takes 15 minutes for repositioning. Within 24 hours (2 x 8 hours heading followed by 8 hours of systematic maintenance work), the machine eats itself 25 to 35 meters into the rock. In this manner, the boring head creates a clean, circular profile, and the rock only requires a minimum of support by way of anchors and shotcrete. On conveyor belts, the excavated material is transported out of the tunnel where it is prepared to be used for the concrete needed for constructing the tunnel shell.

During every 8-hour shift 22 men are working on the TBM and on the formwork wagon constructing the tunnel invert. With three heading shifts plus one maintenance shift, the tunnel boring team requires 88 tunnelers, 80 percent of whom are Austrians, ten percent Germans, some Southern Europeans, but almost none of whom are Swiss.

Construction period of entire project: 2002 - 2017 Length of entire project: 57 km STRABAG contract Amsteg: 12 km STRABAG contract Erstfeld: 8 km

When asked about the greatest challenge of this gigantic project, Blindenbacher says: "The basis for the project's success is a good cooperation of all persons involved, on all levels. The biggest problems always arise among people, especially when working together under extreme conditions. It is crucial to solve such problems, yet this is also a challenge. I love working with people and I try to find joint solutions; this is the basis for a good teamwork. For me, every single person and worker on site is of particular importance." Then he adds: "The solving of technical problems is a matter of course for us." So, Beat Blindenbacher is doing real basework – in technical as well as interpersonal respects.

CONTACT: Beat Blindenbacher,
Special Divisions and Concessions, Division Tunneling 2I



Perfect racing conditions

ZÜBLIN SKI DAYS

### SKI CHAMPIONS

**Germany.** This year again, 120 ski aficionados with their freshly waxed skis followed the invitation to the annual Züblin Ski Excursion on 24 and 25 January 2009. The highlight of this some 40-year old tradition to which 60 individuals and 11 teams looked forward to was the giant slalom. Among the competing teams was one from the Swiss company Swissboring and one from the young STRABAG subsidiary Property and Facility Services GmbH.

The venue of the giant slalom was the "Sonnenkopf" ski resort in the Austrian Arlberg mountain region. On 24 January, at 1 p.m., the race was started. "The sight was clear, even though there was little sunshine, and the slalom gates sunk into the deep powder



Group shot of the proud winners

snow," describes Matthias Behr the conditions of the race. Since there was only one run, the thrill was even greater – for the competitors had only one chance to demonstrate their skills. And, Sophi Pytel, in the women's competition, and Christoph Dingels, in the men's competition, seized their chances.

The day ended in the event hall of the Messmer Hotel. During the victory ceremony, held by Peer Monte, Division East, Business Unit Dresden, numerous medals and other prizes were handed over, among them a consolation prize donated by the hotel which went to Michael Steinbrenner, who despite his good skiing skills was unfortunate and fell just before the finish line. The challenge cup for the best team went to Sub-division Züblin Komplettbau. "We received a very positive feedback on this Ski Event. The next one is planned for the last week of January 2010," Behr informs happily.

CONTACT: Matthias Behr, Building Construction and Civil Engineering, Division Germany 2C, Sub-division Center



Scenes of action at the "Champ or Cramp" race start

"CHAMP OR CRAMP"

### A RACE OF EXTREMES

**Austria.** On 24 January 2009, under excellent snow conditions, with a perfectly groomed difficult slope under clear blue skies, the best ski mountaineers came together for the legendary "Champ or Cramp" event at the Carinthian Goldeck ski resort to face the challenges of the winter season. It was for the 5th time already that athletes of all age classes met to climb the longest difficult slope in the Alps. The majority of the 150 participants were from Austria, among them the "STRABAG Alpin-Team". Yet, this one-of-a-kind event also attracted numerous hobby athletes from the neighboring countries Italy and Slovenia.

www.strabag.com inform 17 ■ Events

The competitors had to tackle 1,500 meters in altitude and about eight kilometers in distance uphill – a task after which all of them had every right to feel like winners and they were appropriately welcomed with cheers behind the finish line.

#### **DEEP RESPECT!**

In the team competition, the STRABAG Alpin-Team with Thomas Morgenbesser (1:08:51,5), Manfred Tod (1:11:02,9), Willi Nagl jun. (1:16:26,5) and Gerald Hausmann (1:20:08,4) won the second prize. To get a better idea about their performance: The winning time was 1:00:33,9, which means that Thomas Morgenbesser was close on the winner's heels. The head of the team, Michael Kräftner, the only one of them who is a STRABAG staff member and a competitor in the Dolomitenmann 2008 race, was unfortunately tied up with business matters. This was a pity for the sports event but certainly good for STRABAG.

CONTACT: Claudia Strieder, Service Companies, Central Business Unit BRVZ 02, Austria/International, Department IT



Gerald Hausmann using all his physical strength

#### STRAtria 2009

The Pains Will Vanish - The Pride Remains

International. "The registration portal is now open!" announces Mario Rabitsch on the STRANET and, with these words, invites to this year's STRAtria – the 4th such event in a row. Again, it is a sprint distance triathlon with 750 m swim, 22 km bike and 5 km run to be tackled. For reasons of organization, the number





of competitors is limited to 300. You can only register via the Lotus Notes Portal until 25 May 2009!

So, why wait any longer? Register now!!!

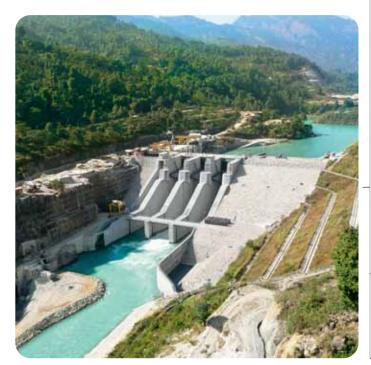
Mario Rabitsch, Service Companies, Central Business Unit Zentrale Technik 30 INAUGURATION CEREMONY IN NEPAL

### BAVARIA IS WHERE MOUNTAINS ARE!

In December, there was a true reason to celebrate: The Middle Marsyangdi Hydroelectric Project (MMHEP) built by DYWIDAG International some 200 km west of Nepal's capital Kathmandu was officially inaugurated and put into operation. In the presence of Nepalese and German government representatives the 72 MW power station generated its first electricity.

**Nepal.** To outsiders, the ceremony might have appeared a little strange: tables decorated in white-blue colors, traditional Bavarian brass music and freshly drawn original Bavarian beer. Nothing too surprising, if this event had taken place in the German Land of Bavaria, but in this case the surrounding scenario was not the Alps but the 8,091 m high Annapurna mountain reaching far up into the Himalaya skies. The venue of the ceremony was Nepal, where the hydroelectric power station MMHEP was inaugurated in the traditional style of Bavaria, the home of DYWIDAG International.

In order to provide for a festive ambience for the inauguration ceremony, the project site was nicely decorated and a real Bavarian brass band was flown in from Bavaria. "The guests from Nepal



The Middle Marsyangdi Hydroelectric Project shining in full splendor

enjoyed the Bavarian delicacies, such as knuckle of pork with kraut, roast pork with potato salad, pretzels, and the excellent Bavarian beer," remembers Ernst Schmid, manager of the construction project with a smile on his face.

#### PREDESTINATED FOR HYDROELECTRIC POWER STATIONS

Construction of this project, which in essence consists of a 63 m high overflow-type concrete dam, a 5 km long headrace tunnel and a power station with two vertical Francis-turbines, started already back in 2001. DYWIDAG International carried out most of the work on this EUR 278 mn project. As it is often the case with large-scale projects, quite a few unforeseeable problems occurred which complicated and delayed construction work. These problems were a great challenge for the entire team who solved them all brilliantly within the granted extended deadline.

The enormous hydraulic potential of the Nepalese rivers makes Nepal the perfect location for hydroelectric power stations, which, especially in these days of climate awareness are regarded as the renewable energy source par excellence. When generating the same amount of energy, the climate-neutral energy provider Middle Marsyangdi saves 340,000 tonnes of  $\rm CO_2$  a year vis-à-vis power stations using fossil energy sources. "And, what's more, such power stations have only little impact on the breathtaking mountain land-scape, for the natural environment provides for the best preconditions for hydro plants," explains Ernst Schmid.

### **CONTACT:** Ernst Schmid, Building Construction and Civil Engineering, Division International 3G, Asia/Africa

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Inauguration ceremony à la Bavaria

**STRABAG** 

# KIDS - GRAB YOUR COLORED PENCILS!

**Dear Kids!** It's your turn again. We are looking for new works of art, and we need your help.

"On the road ..." is the new motto. Let your imagination run free. We are looking forward to your works of art. And, don't forget to state your age!

Of course, we have some cool prizes to win. So, take part in the competition. It'll be worth it.

Please post your paintings to:

STRABAG SE Ms Barbara Saulich Donau-City-Straße 9 A-1220 Vienna

or email them to: barbara.saulich@strabag.com

Deadline for entries: 31 August 2009

Change: Your New Editor-in-Chief



Barbara Saulich

Dear Readers,

Here is a final information: In the future, Barbara Saulich will be responsible for all editorial tasks. If you have an interesting project or information you would like to see printed in the inform magazine then please email it, from now on, to barbara.saulich@strabag.com.

We are looking forward to your contributions!

The next issue of inform – the magazine of STRABAG SE will come out

**IN AUTUMN 2009** 

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