



Deutsche Bahn **Moving people – Linking worlds**

Deutsche Bahn
Potsdamer Platz 2
10785 Berlin
Germany

www.db.de
www.bahn.de



Dear Reader,

The world of the DB Group gets bigger every year – and it also turns faster. This is because the markets for mobility, transportation and logistics, both national and international, are experiencing dramatic change. To stay up with the front-runners at a time like this, you have to keep moving. And that’s precisely what DB’s business is all about. It’s a company on the move – for its customers, for business success and job security, and for Germany as an economic center.

For this year’s magazine, there were several teams of reporters traveling across Germany and around the globe to find out where and how DB AG operates and what it is that drives DB people to do what they do.

It’s not enough today for a mobility and logistics company to travel from A to B and back. Customers expect end-to-end service along the entire travel and mobility chain or the entire transportation and logistics chain. And it makes no difference where they happen to be going, where they do their business, or where they want their consignments shipped.



Hans Borchert
Author

Heiner Müller-Elsner
Photographer

It can be in Berlin, Copenhagen or Paris. The major ports of Asia, or the teeming cities of South America. And it could just as easily be in rural Germany or in Australia’s outback.

Or in China, where author Hans Borchert and photographer Heiner Müller-Elsner, on their journey through the world of DB, went off to find out how DB Schenker specialists are getting into shape for this year’s Olympic Games. Their job is to organize the transportation and logistics in winning style, as they did for the FIFA 2006 World Cup in Germany. Then, unlike this time in China, DB’s passenger services were also required, and delighted visitors from all over the world.

The pace at which DB operates every day – on its long-distance and regional services, or on urban transport with its buses and rapid transit services – has been captured by photographer Stefan Warter with the aid of a technique used in the car industry to suggest speed. And that’s very appropriate, since Germany’s fastest female train driver cruises along the new ICE line to Paris at no less than 320 km/h.

“You can’t have a future without a past”, says the Group’s Chairman and CEO Hartmut Mehdorn. And so author Nicoline Haas and photographer Jo Röttger report from inside the DB Museum to demonstrate that the company has not forgotten where its roots are, and author Olaf Krohn looks around the future workshop to see where DB AG is going.

*Sincerely,
Your Editorial Team*



Stefan Warter
Photographer



Olaf Krohn
Author

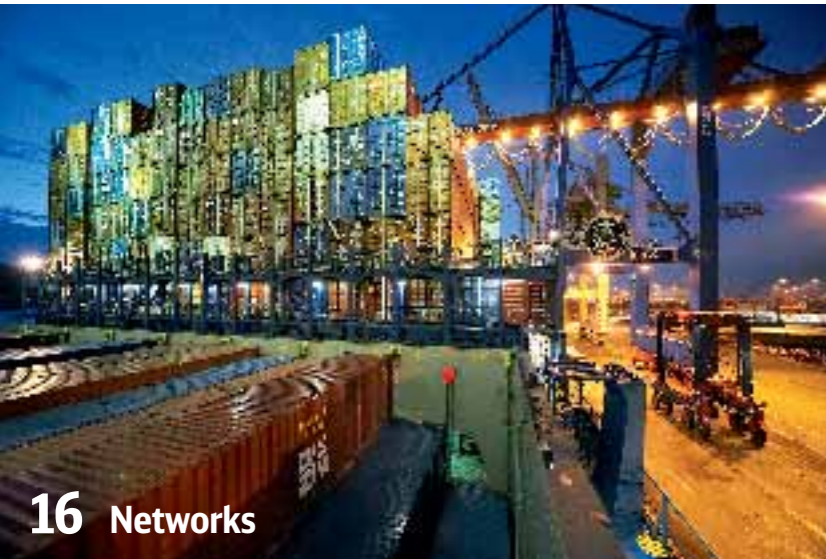


Nicoline Haas
Author



Jo Röttger
Photographer

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When oversized loads are down to millimeter accuracy, power lines are lifted and traffic islands rolled over, you can count on specialists from DB Schenker. On a roll down under.

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Driving force

The super fast ICE 3 is shaping the image of DB's passenger services on high-speed routes throughout Europe.

Rapid Progress

Setting the Pace

Europe's largest mobility and logistics provider is setting the pace: clean, flexible and fast. Whether in shipping goods through its global network or in providing passenger services – DB is picking up speed and provides its customers with comprehensive solutions from a single source.



**Climb aboard
and feel good!**

What a fascinating view. Although the best seats are not reserved for children only, it is DB's youngest passengers in particular who love to watch the pictures that flash by the window at full speed. But speed isn't everything: whether on long-distance, regional or urban services – Deutsche Bahn's prime concern is the welfare of its passengers – and customer satisfaction on all of its transport modes.





On your bike

And off to the German Reichstag: DB Call a Bike relies on its customers' muscle power to provide a high level of mobility in Berlin, but also in Frankfurt am Main, Cologne, Stuttgart, Munich and Karlsruhe.



The many faces of DB

Scenic views in the heart of the Black Forest: a modern Regional Express in red livery against nature's green background. Awake in the middle of the night to keep the trains moving: welding rails on a worksite near Hamburg, where the track is being renewed during normal train operations.



In the fast lane
The car in the travel chain -
whatever the occasion -
a weekend excursion or a
business appointment - DB
Carsharing vehicles are avail-
able in many cities in Germany
to take passengers the last
mile from the station to their
final destination at their own
convenience.



Transportation and logistics: working hand in glove

DB Schenker masters all disciplines in the shipment of freight: whatever happens to be the most appropriate – train, air, truck or ship. Its network spans the globe and links up all the continents with its air and ocean freight services. In Europe, it offers customers 10,000 regular scheduled services daily between all the key economic centers – from Istanbul, for example, to the Turku ferry terminal in Finland.



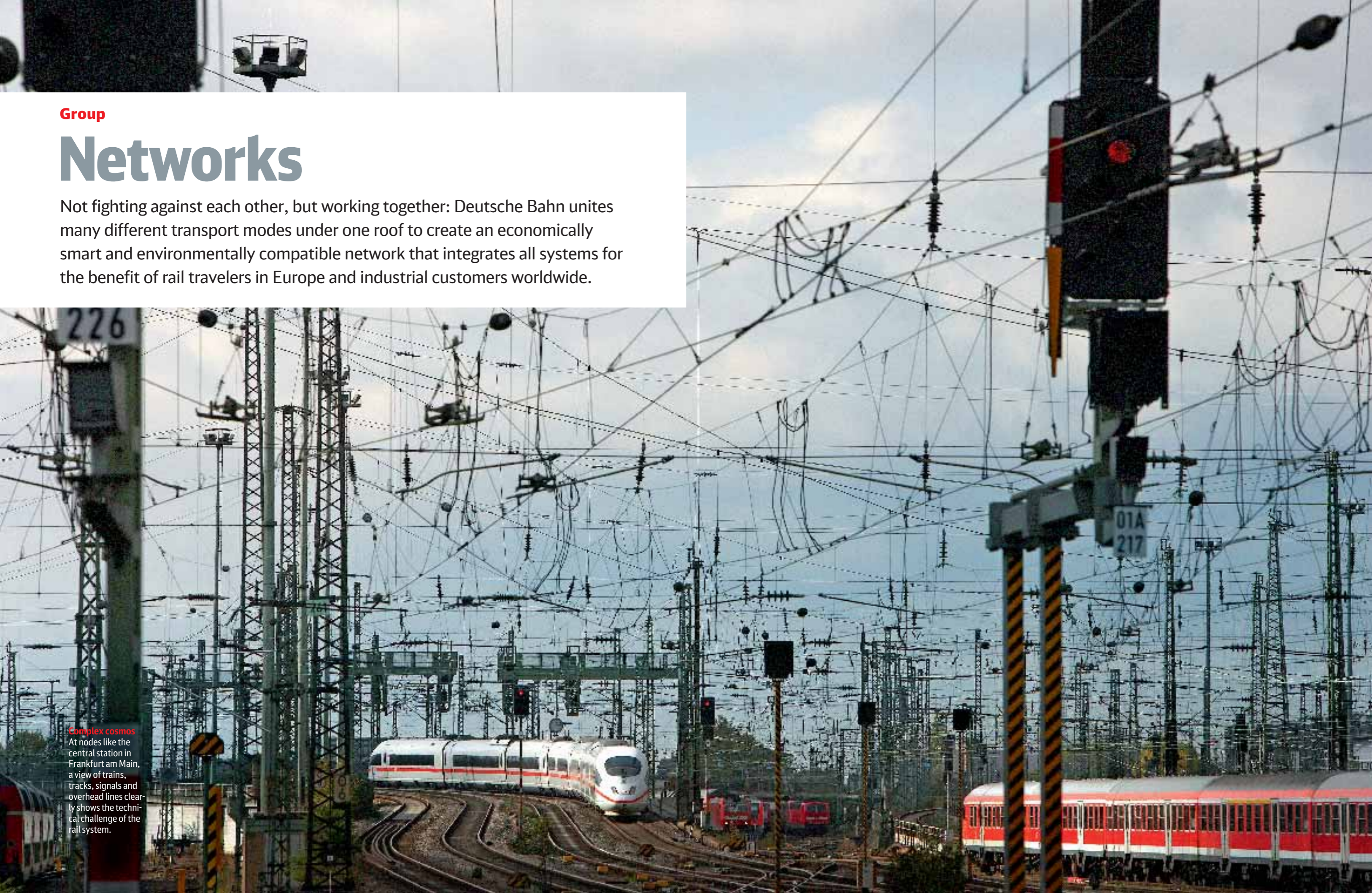
Group

Networks

Not fighting against each other, but working together: Deutsche Bahn unites many different transport modes under one roof to create an economically smart and environmentally compatible network that integrates all systems for the benefit of rail travelers in Europe and industrial customers worldwide.

Complex cosmos

At nodes like the central station in Frankfurt am Main, a view of trains, tracks, signals and overhead lines clearly shows the technical challenge of the rail system.





Intermodal From trains onto ships, from trucks to freight cars or inside cargo aircraft: DB Schenker uses all modes for its customers' benefit.



DB competes in **all transportation and logistics disciplines** – sending shipments by train or truck, onboard ship or by cargo aircraft.

A single container train isn't much to speak of. Not in the Alte Süderelbe marshaling yard at the Port of Hamburg at least, where 200 such trains with a total of no less than 6,000 steel containers arrive and leave each day during peak periods. This particular train with its 40-foot containers (FEUs), however, is one worth talking about. A firework display brightens the sky as it rolls into the yard, and speeches are held in five different languages – because this container train has seen more of the world in 15 days than most people in an entire lifetime.

You'd need a lot of paint to produce a picture of this journey that covered some 10,000 kilometers from Asia to Europe with all its bright and varied colors, experiencing the beauty of the changing landscape, the myriad faces, and the many different cultures. More of an adventure in fact than a simple journey from A to B. In this case it included five international border crossings and two gauge changes. Switching operations, and locomotive changeovers. Not to mention the scores of people involved: train drivers and crew, customs officials, rail car inspectors, signalmen and dispatchers along the route and the traffic controllers in the various control centers.

The signal to start is given in China, at Dahongmen Station in Beijing, where the train sets off on tracks that will take it first in a northwesterly direction for 1,606 kilometers to the Mongolian capital of Ulan Bator. From there, they then continue to Russia, where they merge with the tracks of the Trans-Siberian Railway, taking it through the biting cold of uninhabited regions on the way to Novosibirsk (2,970 kilometers), then Moscow (3,343 kilometers), traveling further and further, to Minsk (742 kilometers) and then Brest (350 kilometers) in Belarus, before reaching Central Europe: Poland's capital Warsaw (209 kilometers) and then finally – happy and more than punctual – the Port of Hamburg (772 kilometers).

The journey on the world's longest railway line had been expected to take all of 20 days. But DB's 'Peking-Hamburg Container Express' did it in just 15 days – hence the excitement and the accolades. CEO and Chairman Hartmut Mehdorn speaks of "a product with a future", and the ship owners in the northern German port are certain to have been listening attentively. Containers from and to China have been their own exclusive domain until now, even though the journey by sea takes twice as long.

There is no need for concern, as Mehdorn emphasized: "We do not intend to become the first major competitor to the container shipping lines on the Eurasian Landbridge. One should see this train, which will soon be operating regular scheduled services, merely as filling a gap. It is simply a promising supplementary and fast alternative option to the services that are already available between Russia, China and Germany."

A new, albeit small element in the huge network of today's modern DB Group that uses every imaginable transport mode. Whether goods are transported by rail or by truck on the European land transport network, by sea-going vessel or cargo



Fireworks Reception for the 'Peking-Hamburg Container Express' in the Port of Hamburg by DB's CEO Hartmut Mehdorn (r.) and his Russian counterpart Vladimir Yakunin (l.).

aircraft – DB competes in all disciplines today on the national and global logistics markets. And it does so very successfully. This is because it makes little sense, either economically or ecologically, to have individual modes opposing each other. In DB's view, the only way to go is to link them up economically, intelligently and in a way that is good for the environment.

Let us briefly review the company's progress at this point: on its way to achieving a top ranking in the international mobility and logistics sector, DB has been pursuing a clear and consistent strategy. The acquisition of the logistics services provider Schenker, for example, and that of US-based BAX Global, plus the extension of its range of passenger transport services to include the entire door-to-door travel chain, in addition to the gradual internationalization of rail, have led to a significant growth in the size of the Group.

The DB Group today consists of 525 companies. Out of a total of around 237,000 employees, over 20 percent are based outside Germany, predominantly in Europe, Asia and on the American continent. Since 2002, revenues have increased by some 68 percent from 18.7 billion to 31.3 billion euros in 2007, with productivity in its rail business rising by no less than 256 percent from 1993 to 2006.

Formerly perceived as a 'rail authority', DB AG has evolved into one of the leading global mobility and logistics services providers. It maintains a presence on all continents with a total of 1,500 locations, is No. 1 in European land transport, No. 2 in global air freight, No. 3 in ocean freight and way out in front as No. 1 in European rail freight.

DB is the only company set up globally in such a way that it can link up all modes of transport under a single corporate umbrella. At the same time, it has never lost sight of its responsibility toward nature and the environment. Minimizing the use of our natural resources is of course a major issue - between 1990 and 2002, Deutsche Bahn AG had already reduced the specific emissions of carbon dioxide in rail operations by more than 25 percent, and in the case of diesel soot particulates by no less than 84 percent. With its ongoing climate protection program, the Group now intends to bring about a further 20 percent reduction in CO₂ emissions in its rail operations by 2020. A comparable target is currently being developed for other producers of CO₂ emissions within the Group.

This is just one of a whole range of ambitious future targets, as Hartmut Mehdorn emphasizes. "We want to offer people end-to-end mobility chains, regardless of how they travel and where they are traveling to. And we also want to offer the manufacturing industry comprehensive solutions that cover the entire logistics chain, regardless of how the goods travel and where they are traveling to. This will enable our customers to concentrate on their core business and to exploit new opportunities that present themselves worldwide."

People now want door-to-door services, not just station-to-station. These also include packages that combine road, rail and air services, designed to make life easier for customers in passenger transport and in the transport and logistics sector alike.

"Market expectations will continue to increase in terms of quality standards and price, but also in terms of operational efficiency and innovative power," says Hartmut Mehdorn. Which means investing in the entire range of logistics services in order to successfully compete on new markets: in warehousing management, in IT solutions, and in the provision of value-added services. "There is hardly another sector," says the man at the company's helm, "that is growing as rapidly as transportation

The **DB Group's agenda** defines strategic leverages for optimizing and expanding the transport networks.



Crossing bridges View into the driver's cab of an ICE just before it crosses the Baltic Sea railway bridge to Fehmarn Island.



Denmark ahoy After completion of the ferry journey across the Fehmarn Belt, the ICE leaves Rødby terminal and starts on its journey to the country's capital, Copenhagen.

and mobility, and is thus a comparably strong growth driver for Germany as a leading business center."

The strategic leverages that will enable this to happen are defined in the Group's agenda, and are as follows: continually optimizing the existing business, achieving economies of scope, and expanding transport networks; and they represent a consistent continuation of the 'Campaigning for Rail' program launched in 2000.

"Continually optimizing the existing business", as a basic principle, describes the constant effort to improve the quality of the services provided. This ranges from the maintenance and availability of the infrastructure to the punctuality and energy efficiency of the trains. The transport performance of both rail passenger and freight services has recently increased by a total of 9.5 percent, which means: around 17 percent of the total German freight volume and just under 10 percent of all travelers now go by rail. In contrast, car travel is stagnating. Traveling by car is not only more expensive than by train these days as a result of the steady increase in fuel prices, it is also often slower.

"Achieving economies of scope" is a clear mandate to management to exploit the benefits of size and diversity offered by the Group. The standardized procure-



ment system, the Group's own power supply facilities and the joint use of IT systems yield competitive advantages that DB can use to its benefit in the global marketplace. The same applies to the development of advanced mobility packages, such as solutions for urban, regional and long-distance transport.

And finally, "Expanding transport networks" has different geographic dimensions. One example is the infrastructure: expanding the network where necessary and eliminating bottlenecks in Germany, as was the case with the commissioning of the Ulm/Neu-Ulm traffic node in 2007, for example, or the introduction of full commercial services on the new build and upgraded Munich-Ingolstadt-Nuremberg line. Another example is the completion of the Katzenberg tunnel on the important north-south line between Karlsruhe and Basel. And it also means DB's active involvement in setting up the European long-distance network via the 'Railteam' high-speed alliance, for example, and the further expansion of the global transportation and logistics network.

"As far as Europe and rail is concerned," says Hartmut Mehdorn, "globalization is closely linked with liberalization and deregulation. In the past few years, we have seen the kind of forces unleashed in rail

transport by unrestricted access to the network. With Germany taking on a pioneering role in a sector in which, besides us, there are currently over 300 other rail companies operating. It is certain, however, that this rapid growth will soon be felt on the entire European market. Even beyond our borders, people are gradually realizing that shutting out the competition doesn't help, but is actually damaging. Only when we have a liberalized market with tenders being awarded for regional transport services will this lead to a boost in both quality and growth - and that also goes for France and Italy."

Trains without borders - once a European dream - became reality in 2007 for DB customers on many routes. In June, for example, services were launched from Frankfurt am Main and Stuttgart to Paris - with a reduction in journey times of more than two hours. In a joint venture set up by DB and the French operator SNCF, both French TGV trainsets and ICE 3 MF multi-system trainsets specially modified for service on the neighboring lines were put into operation. In December, the journey time on the Frankfurt am Main - Paris route was reduced yet again. The five ICE train pairs that run each day now complete the journey in just 3 hours and 48 minutes. The TGV travels four times a day between Stuttgart and the French capital. One of the services has now been extended as far as Munich with a journey time of 6 hours and 14 minutes.

Denmark has also been connected to the German ICE network since the timetable changeover in December. Specially modified diesel-powered ICEs now run from Berlin and Hamburg to Århus and into Copenhagen, the country's capital. When the trains are taken across the Fehmarn Belt from Puttgarden to Rødby by ferry, then it's 'ICE ahoy'. To get this far was not as simple as it might sound, however, as some of the modifications that had to

Onboard meeting Meeting of transportation systems in the ferry's loading bay. Next to cars and trucks, the parked ICE operating on DB's international passenger services makes a 'bella figura'.

Model railway A tremendous achievement was made by DB Netz AG both in terms of rail and urban planning with the new routing at the Neu-Ulm traffic node. Reducing the entire trackage to just four tracks running through an open casing creates around 180,000 square meters of building space in a prime city center location.





As busy as bees In the open space offices of the Hong Kong branch, clerks deal with freight and customs papers.



Control panel The scene is Singapore: the Asia Pacific Command & Data Centre monitors and controls the entire IT network structure of DB Schenker's organization in Southeast Asia around the clock and across time zones.

Panorama View from the roof of the huge, 13-floor ATL logistics center in the Port of Hong Kong. The building, which also accommodates the headquarters of DB Schenker's ocean freight department, rises like a modern fortress above gigantic ships and container cranes.

be made to the vehicles due to a variety of technical and regulatory differences between the two rail systems testify. There were also a number of requirements that nobody had anticipated. For example, the Danish train drivers insisted on having their coffee and tea mug placed on the right-hand side of the cab. The existing holder on the floor next to the driver's seat, which is also designed to take a thermos flask, did not fully satisfy their requirements. In addition, the group representing the train drivers' interests wanted to have upholstery added to the cockpit's second seat, which is used during training runs.

An additional strip of rubber had to be fitted along the upper edge of the door to reduce drafts and noise, and the transparency of the partition between the train driver and the passengers was also reduced for these trains at the request of the Danes.

The installation of computers for the Danish train control system was more complex, and also more costly, as was the installation of control cubicles for the Danish GPS system, plus data recording devices and railway telecommunication systems. Additional antennas had to be mounted on the roof, and kilometers of cable had to be laid. A second speedometer was installed in the cab, and an additional telephone receiver.

The Danes were delighted with the result. They gave the green light, and the ICE is now on its way to Scandinavia. As was the case earlier with Amsterdam, with Brussels and Zürich, and of course Vienna - in this case, every two hours. But the snow-white long-distance sprinter is not the only train crossing borders. Since December 9, all DB night trains have been traveling under the City Night Line brand on a new extended international network that now offers 29 services to nine European countries.

"Deutsche Bahn is No. 1 in European night train services. And we will consolidate this position," says Dr. Karl-Friedrich Rausch, Member of the Deutsche Bahn AG Management Board for Passenger Transport. The aim now is to extend the international success achieved with the ICE trains to night train services through the hubs of Amsterdam, Munich and Zürich.

A station that hasn't been seen on a DB timetable before is 'Wembley Stadium'. That too has been included in the Group's portfolio under 'regional services' since January 2008, if only as one of the stops on the line running from London's Marylebone Station to Birmingham. Chiltern Railways, which operates services on this line and which won the 'Passenger Operator of the Year' award in 2007, is now a member of the DB Group as well. The entire shareholding in Chiltern has been acquired by DB from the previous owner John Laing plc. The package also includes a 50 per cent shareholding in London Overground Railway Operations (LOROL) and Wrexham, Shropshire & Marylebone Railway Company (WSMR).

"As a result of this acquisition," Rausch explains, "we will now be operating large-scale passenger transport services for

the first time outside Germany. This will allow us to substantially strengthen our position in the European market along with providing the basis for further growth." And he adds: "This involvement fits in perfectly with our growth strategy, and will be of benefit to customers and employees alike."

DB Regio was also very successful on its domestic market. In 2007, around 33 million train-kilometers were being reallocated by competitive tender. Despite the tough competition, the company was awarded around 70 percent of the services put out for tender by the German states. In addition, DB Stadtverkehr came an important step closer to achieving its goal of becoming an international group of companies in its own right, acquiring Pan Bus in Denmark in July. A short time later, Pan Bus won a major tender for urban bus services in and around the city of Silkeborg.

Acquisitions were also a determining factor for a not insignificant part of the business activities of the Transportation and Logistics Division headed by Member of the Management Board Dr. Norbert Benschel. Towards the end of 2007, DB acquired Britain's largest rail freight operator, English Welsh & Scottish Railway

Limited (EWS), which specializes in carload transport in the energy industry, industrial freight and building materials segments. Supplemented by the acquisition of a majority interest in the Spanish-based global provider of transportation and logistics services "Transfesa" (Transportes Ferroviarios Especiales), which specializes in the automotive, bulk goods and general cargo segments, new prospects have now opened up for Deutsche Bahn in the rail logistics, automotive, industrial and bulk goods segments. The keyword here is international transport chains from a single source providing customers with an improved quality of service.

"As a result of this acquisition, we have further expanded our European rail freight network. We not only operate now in the UK, but with EWS' subsidiaries in France and Spain are also in an excellent competitive situation with respect to future developments in Western Europe," says Norbert Benschel. "This will allow us to continually improve our ability to comply with our customers' demands for integrated solutions that meet their complex needs, and to improve product quality."

The pace is now hotting up: intermodal rail services through the Channel Tunnel are expected to triple in the course of the year from 5 to a regular service of 14 trains a week. There are now direct combined transport services between the industrial center of Daventry in the UK and Brussels (three trains a week), Manchester and Duisburg (six trains a week), and between Manchester and Milan (five trains a week). This new capability will remove the equivalent of around 1,000 trucks a week from the roads. The environment will benefit, and customers will be offered the possibility to bypass port congestion.

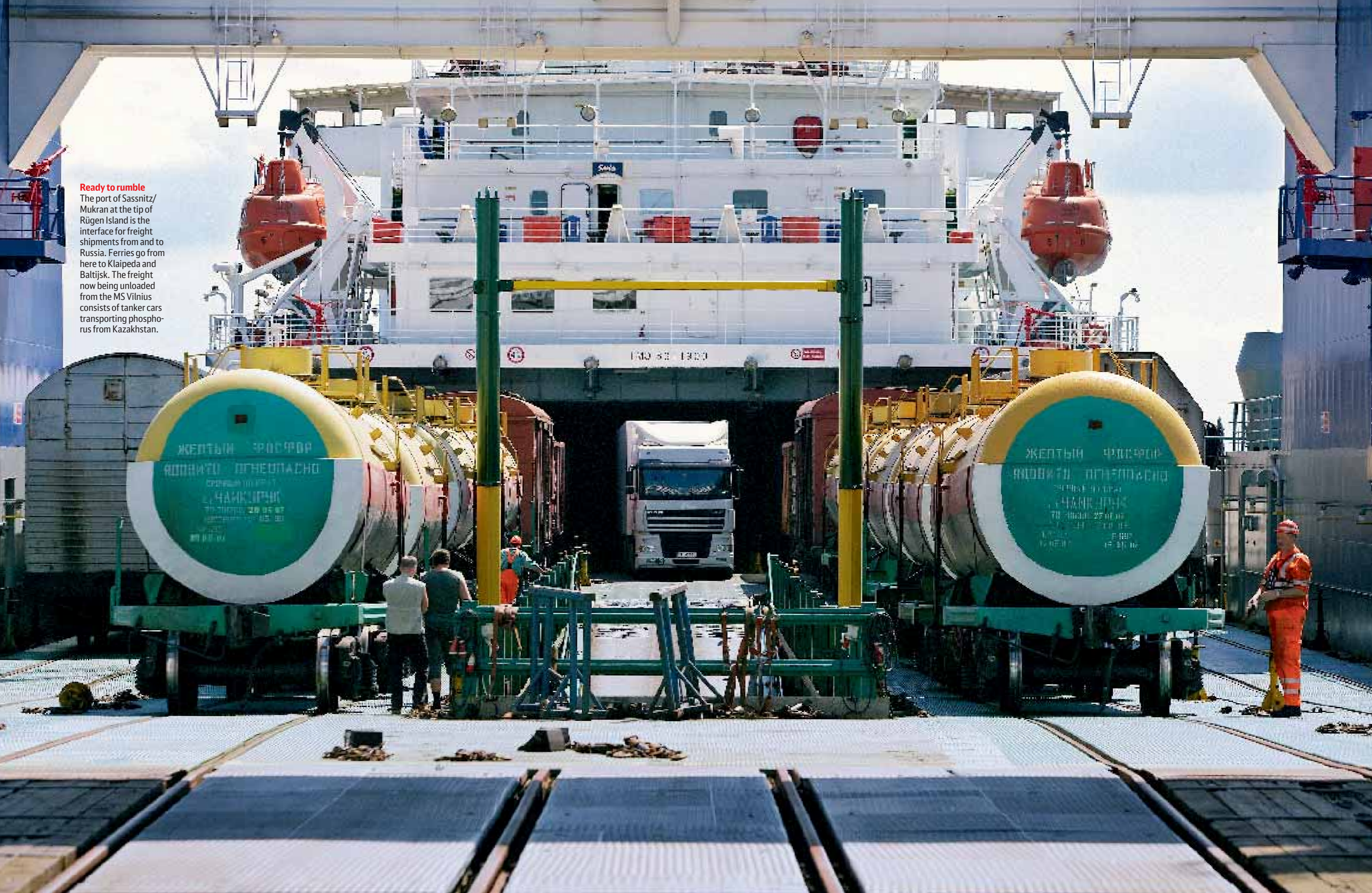
With the new setup, it's worth taking a look at the map of Europe: no matter where the railway tracks lead - whether to Italy or France, to Holland, Scandinavia, to the Czech Republic, Poland or Switzerland - you'll find DB Schenker freight trains on most of them. In addition to its own country organizations, DB Schenker also works through numerous rail freight affiliates and partners in virtually all areas of Europe, including Russia.

Transport performance on cross-border freight services (in 2007: 98.8 billion ton-kilometers) is almost 60 percent higher than on the domestic market. North Range ports such as Rotterdam, Antwerp, Bremen and Hamburg, which are seeing a steady increase in throughput, are generating enormous business opportunities.

Whatever is unloaded off the ships that arrive from overseas, whether containers or bulk cargo, must be transported inland, and what is produced for export by European industry must be delivered to the ports. Container throughput at the Hamburg Cargo Center alone was up 8.3 percent in 2007, increasing to

Represented **on all continents** and constantly on the go for their customers around the globe: the professionals from DB Schenker.

Ready to rumble
The port of Sassnitz/
Mukran at the tip of
Rügen Island is the
interface for freight
shipments from and to
Russia. Ferries go from
here to Klaipeda and
Baltiysk. The freight
now being unloaded
from the MS Vilnius
consists of tanker cars
transporting phospho-
rus from Kazakhstan.



Scheduled land transport services link up DB's logistics subsidiary daily with the whole of Europe – from South to North, and from West to East.

1.55 million TEUs, which represented just under 35 million tons of cargo handled (+3.3 percent). The rapid increase in the flow of goods to and from growth markets in the Far East and Eastern Europe helped the Port of Hamburg to a new record. The total number of containers handled by the port last year rose to 9.9 millions TEUs, equivalent to an increase of 11.6 percent.

A similar picture presents itself in Duisburg, Europe's largest inland port and logistics hub for inland waterways, rail and road transport. And also in Rotterdam. The largest seaport on the continent achieved a record cargo throughput of over 400 million tons in 2007 and aims to increase rail's share of the hinterland transport business there from 11 to 20 percent (rail's modal split in Hamburg is currently 32 percent) in the next 15 years.

"A port's success," says Hans Smits, CEO of the Port of Rotterdam Authority, "is dependent on the capabilities of the hinterland connections, and for this reason, we have signed a far-reaching cooperation agreement with Deutsche Bahn." An added comment from Norbert Benschel: "We are interested in intensifying cooperation across the transport chains, because on long-distance services where loads can be easily combined, Deutsche Bahn can fully exploit its strengths."

But that's only the start. There is more to come – individual transport solutions designed to meet the specific requirements of every business sector, with the most suitable freight cars, but also including the modernization and expansion of the network infrastructure (see 'Bending Iron' from page 68), and the transshipment interfaces between rail and road transport, known as 'Railports', which are already in operation in many European countries.

A unique, though somewhat small element in this global mosaic that is growing at such a rapid and turbulent pace is the Sassnitz-Mukran ferry terminal located at the tip of Rügen Island. Once the largest and most modern railway ferry terminal and marshaling yard in East Germany, it eked out a meager existence for some years following reunification. With the revival of freight ferry services to Klaipeda in Lithuania and the weekly ferry to Baltijsk in Russia, however, prospects for the future are now looking bright. Even today, there are many special and hazardous goods shipments being sent to and from Russia via this node that is equipped with broad gauge tracks and an axle-changing plant, and ferries such as the MS Vilnius arrive and leave here several times a week to pick up and discharge their loads.

Entire trains are putting out to sea here, with freight cars carrying the huge parts of knocked down mobile cranes, and extremely bulky power plant components weighing tons. Bulk cargo is also carried, such as building materials, of course, and chemicals, which are transported in tanker cars. And things like phosphorus from distant Kazakhstan.

As previously mentioned: this is just one of the many spots of color on the picture of Deutsche Bahn's international rail freight business that is tagged with the following key figures: 28,874 employees, 313 million tons of goods carried annually, 4,674 trains

per day, with around 164,000 freight cars of every kind hauled or shunted by a fleet of 2,804 locomotives, with each train covering an average of 315.9 kilometers per journey.

Rail freight business is big business. Economically and ecologically of benefit to the economy as a whole, and yet only feasible when ships, aircraft and trucks are linked up in a fully integrated system. The specialists who work together to make this possible are the men and women of DB Schenker. Through their eyes, Deutsche Bahn looks beyond Europe into the wide, wide world. There is no international marketplace that does not have their warehouses and logistics centers, no major airport and no wharf of a major port that does not have one of their offices nearby. Not Singapore, not Hong Kong. Not even Shanghai or Qingdao. And the same applies to Sydney, Los Angeles, Dubai, Cape Town and Valparaiso. Around 33,000 employees are involved in its global air and ocean freight business and in the rapidly growing future market of contract logistics and supply chain management (SCM).

Chartered flights operate air freight services daily on the world's major trade routes. From Europe across the Atlantic to North America, and beyond, crossing the Pacific to Australia. To Japan, South Korea, to China and South East Asia. India and Russia are also included in the network, plus the Middle East and the United Arab Emirates. A Boeing 747-400F

The waiting game

A truck under contract to DB Schenker gets ready for the ferry crossing. The ferry will take it from Turku in Finland to Stockholm in Sweden.



Transport hubs

DB Schenker makes door-to-door deliveries of general cargo for its customers in Sweden, Denmark and Germany within 48 hours via hubs in Hanover, Friedewald (photo on right), Nuremberg and Malmö.



Express courier Mika Jyrkkala delivers small consignments and parcels to a nation-wide chain of newsagents in Finland.

operates a continuous shuttle service between Dubai, Frankfurt-Hahn and DB Schenker's own US hub in Toledo, where the goods are picked up for onward delivery to all the major economic centers in the United States, and – even further – to Mexico City and other big cities in Central America.

Plus special global orders. Contract cargo flights with the huge Russian Antonov aircraft, carrying helicopters for the oil industry in the Kingdom of Brunei. A full program at any rate, nonstop through all the world's time zones. Flexible, efficient and fast. 'Time is money' – a phrase that is taken very much to heart in this business.

Sounds exciting. Is exciting. But would be nothing without the people on the ground. Those employed in the warehouses and cargo centers, the people in sales, dispatchers, IT specialists and those who provide the feeder services to support freight operations, first and foremost the 'captains of the highway' under contract to Schenker, who are organized throughout Europe principally as small to medium-sized businesses. They are always on the road. From the production facilities to the customers. And their interfaces are hubs, such as the logistics center in Friedewald, located smack in the middle of Germany.

There are 10,000 regular scheduled services daily between Europe's economic centers. Collection and delivery is carried out on a door-to-door basis at regular intervals, complete with a cyclical timetable available online. Schenkerdirect, Schenker-system and Schenkerspeed are some of the standard scheduled services available. Delivery is as ordered: by 8, 10 or 12 o'clock on the next working day.

"Ease of access and high quality throughout are guaranteed to our customers not only in Germany, but also throughout Europe," is how Norbert Benschel characterizes the service provided on Schenker's own extensive network. It has a workforce of around 22,000 at 700 locations, and extends from Portugal into the depths of Russia, and from Sicily and Turkey to Northern Finland.

Turku is a case in point. A modern, pretty and busy seaport. Located close to the Swedish border, and linked to Stockholm by the regular services provided by the large passenger and rail ferries. It is also close to Helsinki, and just a short distance from the Russian border. Conveniently located, one might say. "With our Scandinavian hub," says a delighted Ilkka Tirkkonen, Schenker's logistics manager in Finland, "we are at the center of the Nordic Triangle."

Trucks travel from Turku to 19 Schenker offices and terminals in Finland. They are all connected to each other in a network served by regular scheduled services, including their most northerly field office, in the little town of Rovaniemi, located in the far north of the country, on the edge of the Polar Circle. The journey

A big international player on the world's great trade routes: DB is No. 2 in air freight and No. 3 in ocean freight.



Hang in there A mobile crane weighing tons being loaded onto a flatbed for rail transport.



Wheelies Well packed is half-way there: in Manila, the busy capital of the Philippines, urgent consignments are delivered on time by tricycle.

takes all of twelve hours. From Turku, trucks also travel via Sweden or the Baltic route far into southern Europe and – beyond – to Turkey. Nine days are estimated for these runs that operate on a regular basis. And then there's Russia and the Far East. Shipments from Turku to Moscow take around two days, while deliveries to St. Petersburg are made overnight.

A fleet of 1,700 trucks and trailers serves the international market under contract to Schenker, with 1,250 available for the domestic market. And the railway also has an important role to play: its cars roll on European standard gauge tracks from the ferry terminal to Schenker's new multimodal logistics center that was opened in April 2007 on an area measuring 30,000 square meters. This is where 'east meets west', because – and that's the unique feature of the site – it is also equipped with broad gauge tracks, offering a direct rail link to Russia.

Goods are simply transferred onto the waiting cars of the Russian railways, and off they go. The range of goods handled here extends from consumer electronics



to a variety of products from the oil processing industry.

"Close to one third of all the goods we handle go to Russia," explains Ilkka Tirkkonen, and adds with a smile: "We're the last storage area before the Russian border." The rest stays and, after spending a short time in temporary storage, monitored by a computer-based terminal warehousing system (TWS), the software for which was developed inhouse, is then delivered to the customer. Consignments include tires, lawn mowers, even snow scooters. Mainly, however, these are so-called 'white goods': refrigerators, dishwashers and washing machines, dryers, and all kinds of other domestic appliances.

"We offer our customers a comprehensive service based on the principle of one-stop shopping," says Ilkka Tirkkonen. Not to mention the new ideas and innovations, such as the 'Schenker Express' service in Finland. In this case, Schenker trucks provide a delivery service to 450 newsagents throughout the country, including, for many customers like Miele, for example, the distribution of small and

spare parts within the company's dealer network. "A business like this was nothing more than a vision a few years ago, but today, due to the global networking of all the modes of transport and business areas, it is reality," says Norbert Benschel. "Working together is what makes us strong."

That's also true and very much so in the company's traditional rail business, where Deutsche Bahn launched its new special offer, the 'Dauer-Spezial', in June 2007, and had sold over 3.6 million of them by the end of the year. The number of BahnCard holders increased 11 percent in the same year to almost 4 million, and over 2 million customers now participate in the bahn.bonus customer loyalty program, almost twice as many as 12 months ago.

This world too is gradually getting smaller and has now become a truly global village. DB's customers are now just one or two clicks away from a holiday abroad, an overnight stay in a hotel, transfer to or from the station, or a rental car. All they have to do is go to www.bahn.de: this is now Europe's most visited travel portal with 115 million hits a month.

The entire process has been simplified for us, DB's customers, and the online digital future will make things even easier. The day is not far off when we will be purchasing tickets without having to pay cash, using fully automated electronic 'Touchpoints' on the platform via data transfer to our mobile phones. The first 'Touch&Travel' tests are underway. When they are finally launched, they will represent a completely new quality of convenience in Deutsche Bahn's transport networks.

Open wide A Boeing 747 cargo plane shortly before loading begins at the airport in Sydney, Australia. The trans-Pacific route is one of the busiest racing circuits of today's global economy.



Man at the top
A commanding view:
Hartmut Mehdorn
has a wide field of
vision from the DB
Tower high above the
rooftops of Berlin.

Hartmut Mehdorn

DB on Track

Targets achieved: The Chairman and CEO of Deutsche Bahn AG takes stock of the current situation, and looks confidently into the future.

A clean-swept sky over Berlin. The hurricane force winds that swept through the city are long gone, and now it lies bathing serenely in the red glow of the approaching sunset. The quiet after the storm. A nice metaphor for the end of a business year which began with the forces of nature playing the overture. Already forgotten? Kyrill was the name of the storm. It raged across Europe in January 2007 with brute force and brought virtually all trains in Germany to a standstill. "Something quite new in the history of Deutsche Bahn," says Hartmut Mehdorn, the company's Chairman and CEO, and briefly recalls the hours of violence. But Mehdorn doesn't like dwelling on things that were dealt with long ago. Prefers, as he says, "to look forward."

Even so, if you want to take stock, then you have to look back. So let's begin: how was 2007? A wild start and a stormy ending – that summarizes it more or less. But was that all? There was more, wasn't there? Much more than Kyrill and the long, drawn-out labor conflict with the train drivers' union GDL?

"You're absolutely right, of course," says Mehdorn, "there was more: we added more chapters to our success story." All the key performance and financial figures continued to increase; for the third year in succession, Deutsche Bahn AG carried more freight than ever before. In both passenger and freight transport, and also in international transportation and logistics, we maintained or even increased our market share. At the same time, the company's revenues and earnings improved. And more importantly perhaps: "We were better than our competitors and, above all, see that our internationalization strategy has been confirmed." Deutsche Bahn has also established itself in the UK, in Spain, and in both France and Italy with corporate acquisitions or by extending its range of services. And also in Scandinavia, as a result of a far-reaching cooperation agreement with the Swedish rail freight carrier Green Cargo. Progress has also been made across borders in passenger transport services – on the ICE to Paris and Copenhagen, for example. The situation on the European market is changing quickly. Hartmut Mehdorn: "We are well positioned and want to seize the opportunities developing in Eastern Europe in particular."

The man at the helm already has the team he needs to achieve the targets he has set. Just think of the dedication, the motivation, and the commitment the entire workforce showed in the chaos that ensued as Kyrill was unleashing its fury: whether service teams and train crews or members of management – they were all on board, and every one of them could be depended on to do what was necessary. Thousands of people were provided with food and drink. Staff put up emergency beds for stranded travelers, kept



In focus

The occasions may change, but the interest of the media is always high: CEO Hartmut Mehdorn speaks about DB's new non-smoking campaign.

trains that had been held up heated through the night and looked after their customers as best they possibly could. "I'm very proud that we got through it all with no-one injured and no fatalities," says Hartmut Mehdorn. "Those who were involved saw and – what is more – experienced first hand that, when push comes to shove, DB staff are sure to rise to the challenge. It was the same when the train drivers went on strike. DB staff did everything they could to keep as many services running as possible. The issue was not simply about a strike in Germany, after all, it was ultimately about keeping the international logistics chains intact. At any rate, we demonstrated that, whatever happens, we have an absolutely dependable system."

In many respects, it should be added, because those who choose to travel by train are also choosing the safest, and – despite the chronic fault-finders – most reliable and at the same time cleanest way to their destination. With regard to the ecological aspects, it doesn't take complicated scientific calculations to prove the point. It is established fact that DB AG is the most environmentally compatible mode of mass transport in Germany, with fully integrated, nation-wide coverage.



Spot on

Interested listener: Hartmut Mehdorn in conversation with a representative of Polish State Railways PKP (above) and during his visit to the IAA in Frankfurt am Main (right), where DB had a stand of its own in 2007 for the first time.

Mehdorn can quote all the climate-related data at the drop of a hat – but what is more important to him than the ‘now’, is the ‘tomorrow’, and so he prefers to outline the future issues in this particular field.

“We stand by our goal of reducing CO₂ emissions by a further 20 percent by 2020, and further reducing our consumption of natural resources using state-of-the-art technology,” says Mehdorn. All this costs money, a great deal of money, not only for the protection of the environment and the climate. And this money must first be earned. But that can’t be achieved by a rail company that does nothing more than travel from A to B. “This is why we have invested both nationally and internationally in travel and logistics chains, and will continue to do so. Because our customers demand comprehensive solutions, wherever they happen to be traveling to or wherever in the world they happen to be doing business. And ultimately, the money we earn also benefits our core business – rail activities in Germany.”

There’s still a lot to be done: capital needs to be invested in noise abatement and the environment, in new vehicles, the rail infrastructure – and in stations. “They also have something to do with the quality of the environment,” says Mehdorn. “But we can’t spend anything there, because we don’t earn anything there. Even so, the stations should be put back into shape, in our view by a concerted effort by the government, the German states, and the local communities.” Beginning with barrier-free access for persons with disabilities, and extending to modern lighting, safety, security and PA systems.

One could look on all this simply as wishful thinking, of course. But that’s not the case. When one looks more closely at the progress DB AG has made since Mehdorn took over the running of the company almost eight years ago now, then it’s perfectly clear: one by one, the items on his agenda have actually been implemented. Refurbishment and modernization of the major stations: already completed in many places. Upgrading of the

infrastructure, plus huge investments in state-of-the-art high-speed projects, including the associated command and control technology and rolling stock: kick-started, put into service, and given priority. Expansion of the company to become one of the world’s leading providers of mobility and logistics services: strategically planned, secured with acquisitions and crowned with success.

DB today is Europe’s largest mobility services provider and the largest freight transport operator – both by rail and road. It is also No. 2 worldwide in air freight, No. 3 in ocean freight and No. 6 in the growth segment of contract logistics. “And the ones who benefit most,” adds Mehdorn, “are our customers in both passenger transport and transportation and logistics, and that means both our national and international customers.”

Megatrends, such as globalization, climate change, resource depletion, demographic change, and liberalization of the European transportation markets, have been identified as challenges, and appropriate action has been taken. The key elements of travel and logistics chains have been integrated into day-to-day operations. “The kind of international services we operate throughout Europe also calls for international tickets that are valid for the entire journey and appropriately modified and harmonized booking systems. To bring this about, we have set up ‘Railteam’ with our partner railways. We have learned a lot from each other, and even if individual railways are not immediately prepared to implement changes in their own networks, the model is still a good example for others to follow. Italy and Denmark have also taken an interest.”

“We’re **investing** in travel and logistics chains, because our national and international customers demand comprehensive solutions.”

Amsterdam, Vienna, Zürich, Brussels, Copenhagen and Paris – the ICE is at home in many of Europe’s major cities. Substantial capital expenditures were necessary to accomplish this, of course, but the investment is paying off for DB’s customers. “Our service from Frankfurt am Main to the Seine is a good example: we travel there every two hours, five times a day, and there’s hardly a faster or more comfortable way of getting there. In just under four hours, without the inconvenience of traveling to and from the airports, which are located outside the cities, plus the waiting time. Ridership is increasing significantly as a result, and we intend to order more multi-system trains to further enhance the services.

There are other routes that are also ideal for services of this kind: Italy via the Brenner Pass, for example, but Prague and Warsaw are also prospective candidates. Unfortunately, we’re too slow there at the moment, since we don’t have the infrastructure. Lots of things are conceivable, even an ICE service via Brussels and the Channel Tunnel to London, plus a DB service to Wembley Stadium or Birmingham, because we now offer services through our new DB Regio subsidiary there, Chiltern Railways.”

What applies to travel chains also applies to logistics chains. No hostility between individual transport modes, but an economically and ecologically viable networking of all modes. It makes DB strong, and Germany too, as an economic center – after all, it is the world’s leading exporter and the global market leader in transportation and logistics – one of the winners in the globalization process – with DB’s assistance.

But Hartmut Mehdorn would not be Hartmut Mehdorn if he did not repeatedly call for equal opportunity and a level playing field for the basis of DB’s business – rail transport. His thoughts on this subject are accompanied by the drumming of his fingers on the table in his office, because the current distortion of competition annoys him. The airlines, for instance, are fully exempt from paying green tax and fuel tax, and in some cases value-added tax, while taxation and duties the rail sector is required to pay for energy alone totals over 400 million euros each year.

In Germany, rail is also subject to stricter supervision by a regulatory authority than any other transport mode. “We want non-discriminatory competition – for everybody, including ourselves. And not only in Germany, but throughout Europe.” Because that’s DB’s market. And to successfully compete there, it must constantly invest. “We plan to spend huge sums on the procurement of modern rolling stock. We want to order new trainsets to gradually phase out the old IC fleet. And we’ll be ordering 3,000 to 5,000 freight cars of various types and over 300 locomotives. We’re also considering increasing the use of future-compatible electronic technologies to further enhance onboard passenger services.”

An example perhaps? No problem: “Our ‘Touch&Travel’ pilot project that was launched for greater Berlin,” says Mehdorn, “incorporates the seed of what to all intents and purposes will be completely automated and computer-based sales systems. What is currently undergoing performance testing using mobile phones and ‘Touchpoints’, the transmitter and receiver units available at some rail stations, in collaboration with Vodafone, will certainly one day be available nation-wide. However, this is only the first step towards ‘hands-free rail travel’, as we have dubbed it within the company. This will ultimately include ticketless mobility as the final step. A chip incorporated into the wrist watch perhaps will log into the system by means of a signal as soon as the passenger enters a tram, S-Bahn, bus or train. And it will log out with another signal when he leaves. The billing of all the travel costs will be on a monthly basis, like today’s telephone bill – and may even be sent with it.”

But let’s return to 2008: “This much is certain – it will be an interesting year for our business operations, a year in which we will fight for every order and every opportunity we can get our hands on. And we’ll be doing that first and foremost for the company’s rail business in Germany, for future job security and for satisfied customers.”

Kick off

A healthy kick for a good cause: Hartmut Mehdorn with Germany’s Minister of Health Ulla Schmidt in Berlin (left) and during his welcoming speech on the arrival of the ‘Peking-Hamburg Container Express’ in the Port of Hamburg after a 10,000-kilometer journey lasting 15 days.

Group Development

Visions and Reality

New tracks, new vehicles, new ticketing technology: the way we will be traveling five, ten or even twenty years from now is of course something the DB Group is planning today. Come and take a look around DB's future workshop.

City of the future
Stuttgart will get a new central station and gain 100 hectares of space in a prime city center location.





Future brands DB Schenker, the new logistics brand, is recognized by customers worldwide.



Future trains Design study for the 'Talent 2' from Bombardier, which will set new standards on DB Regio's fast regional services as of 2009.

You certainly need some imagination to visualize the future of rail up here in the picturesque Fils Valley nestling peacefully in the Swabian hills halfway between Wiesensteig and Eselhöfe. "We come out of the hill over there," says Peter Marquart, making a sweeping gesture, as he first points to the forested area covering one side of the valley and then across to the other side: "And that's where we go in again."

For the ICE passenger, this will be no more than eight seconds of daylight between two kilometer-long tunnels: the almost 500-meter long, 80-meter high viaduct over the River Fils on the new Stuttgart - Ulm line. In the design office of senior project manager Peter Marquart and his colleagues at DB Projektbau, the drawings and calculations for this outstanding viaduct were completed long ago - as is the case with all the other structures that will ultimately make 'Stuttgart 21' Europe's largest rail project to be undertaken in the next ten years. At a cost of just under five billion euros, Stuttgart and the surrounding region will receive a completely new rail infrastructure in the next twelve years, with a standard of quality that will make the rest of the world sit up and take notice.

What the regional capital itself will be getting can be seen on a large scale model that is on display in the tower of the city's central railway station: Deutsche Bahn cannot move the hills that embrace Stuttgart, but it will be giving the city a new district: the old terminal station with its large station throat will disappear completely, and will be replaced by a new, ultramodern through station turned through 90 degrees and built on a lower level.

This will free up 100 hectares of space in a prime city center location for the creation of a new district, with apartments, offices and parks. And many of those traveling by rail on DB's regional or long-distance services will arrive in Stuttgart, or at the airport, almost half an hour faster from 2019 onwards than at

New look The DB logo has been in use for generations and will therefore be retained in the new corporate design. DB Netze provides the complex infrastructure.

the moment. The idea has been around for a long time, and now it will finally become a reality.

What Deutsche Bahn will be doing in 2010 or 2020 on the railway lines of Germany and Europe is already taking shape today on the drawing boards and computer screens of numerous specialists in-house and outside the Group. They're planning big things such as the construction of new lines or the next Intercity generation, but they're also into more conceptual things like future strategies for European high-speed services and container shipments from China to Germany. Because the pace of progress is speeding up, and what's good today will be at most satisfactory tomorrow - and out of date the day after that.

A company that intends to be successful on the rapidly growing mobility and logistics market must act, not react. DB AG is well positioned to meet the challenges of the future. To make the entire range of DB services transparent in the individual markets, the brand architecture has been modified. DB used to stand for passenger and freight transport services by rail. The Group today does significantly more. As a modern mobility and logistics provider, its range of services extends far beyond rail. The four new brands: DB MOBILITY NETWORKS LOGISTICS for the Group,

DB BAHN for mobility, DB NETZE for infrastructure and services, and DB SCHENKER for freight transport and global logistics stand for quality and are easy to identify on the market.

Deutsche Bahn has plenty of trumps to play in the future, says Dr. Alexander Hedderich: "All the megatrends, including their consequences, from climate change to urbanization and demographic change, down to the increasing geographical distances between producers and consumers, are clearly working in favor of rail." The economist runs the so-called Group Development Think Tank at Deutsche Bahn's corporate headquarters in Berlin, and is steering the company through a paradigm shift: "It would be very debilitating for Deutsche Bahn if it limited itself to mere mechanical station-to-station thinking," says Hedderich. "What we do instead is develop solutions designed to support our customers along the entire travel and logistics chains."

To optimize the movement of people and goods, enormous quantities of data are required. Containers on their way from the Far East to Europe report their current position in real time by means of radio chips. 'Railteam', the new multinational alliance for high-speed services in Europe, is working on ways to network

the national booking systems of the member railways in seven countries. It will eventually be possible to book rail journeys between the major cities of Central and Western Europe as easily as buying a ticket for a journey from Berlin to Munich, for example. The Internet is also on board: it is available at the moment on a limited number of routes only, but passengers on many national and international ICE routes will soon be able to access the Internet and send off their email correspondence while traveling at speeds of up to 300km/h.

The Deutsche Bahn of the future will be operating services not only on new tracks, but also with new trains. The car you drive may say a lot about who you are, but what does this vehicle reveal about its owner? 'Talent 2' is the name of a vehicle platform for the modern, fast, and environmentally friendly rapid transit and regional trains of tomorrow. As of 2009, it will present a modern and consistent look on regional services operating on electrified lines. DB plans to purchase a total of 300 'Talent 2' units. And it will set new standards: in comparison with a conventional locomotive-hauled regional train, the new multiple unit is much lighter, accelerates faster, consumes less power and feeds energy back into the power supply system every time it slows down. The new fleet of 'Talent 2' trains, which are being manufactured in Bombardier's production facilities in Germany, will rejuvenate the current DB Regio fleet and reduce its enormous diversity of vehicle types to a healthy level.

The new **'Talent 2'** will rejuvenate DB Regio's fleet and will provide a uniform and consistent look.

Future ticket
Touchpoints were installed in Berlin to test the first Touch&Travel mobile phone ticket.



True to its name, the 'Talent 2' is a veritable talent show all on its own: depending on the application, it can be configured with two to six cars, complete with features that are tailor-made to the customer's specific requirements. On rapid transit services, it will be provided with a large number of doors, for example. Outside urban areas, it will be equipped with toilet facilities and a catering module. Thanks to this conceptual flexibility, it can be easily modified to meet the very different demands and specifications of the local transport authorities who order the services.

Over the next few years, the Group will also be investing heavily in new rolling stock for long-distance passenger services. The conventional locomotive-hauled Intercity and Eurocity trains will gradually be taken out of service in the course of the next decade as they reach the end of their service life, and be successively replaced by new vehicles commencing in 2014.

More than ever, the ICE will develop into DB's European flagship. To this end, DB's Long-Distance Transport Business Unit intends to purchase more multi-system high-speed trains that will be designed for cross-border operations throughout Western Europe. In this way, DB is getting ready to exploit the opportunities on the international market, including those that will develop as a result of the liberalization of EU rail transport.

The tender process for these 320-km/h cross-border trainsets is underway. Dr. Jens Röder, the man responsible for international long-distance passenger services, is confident: "DB will set the pace in Europe, with modern vehicles, attractive services and prices, and reliable partners."

However, to continually optimize rail, which is an extremely complex system, fast, elegant trains are not enough, even if they do improve its image and attractiveness.

For weeks, a hundred miniature trainsets ran around a 600-sqm model railway in the basement of Dresden Technical University. What appeared to be a pleasant pastime for fun-loving students and professors will soon improve real-world operations.

New software that calculates the right way to react to operational disruptions was tested on a **model railway**.



They were in fact testing the feasibility of a new control and conflict management system named 'DisKon'. "I never imagined," says Harald Börner, the project manager at Integrated Systems Rail, "that one day we'd be using a model railway to verify scientific work."

'DisKon' is very intelligent software that was developed by the universities of Aachen and Dresden, assisted by Göttingen mathematicians, in a research program commissioned and financed by Deutsche Bahn. Designed for use by dispatchers in DB Netz AG's traffic control centers, it will recommend ways of dealing with delays and interruptions in day-to-day operations in a split second. Millions of DB passengers will benefit from 'DisKon' - without noticing a thing.

An innovation that is more visible to the public eye is 'Touch&Travel': since spring 2008, no less than 200 DB customers have been traveling between Berlin and Hanover on tomorrow's tickets. Let's take one of them - John Doe - and accompany

him on his journey: at the tram stop outside the Potsdam City Hall, he goes up to the 'Touchpoint', presses a button on his mobile phone and boards the tram that will take him to Potsdam Central Station. He hurries off to the platform, then climbs aboard the Regional Express to Berlin Central Station, where the ICE that will take him to Hanover for his business appointment is waiting. When the train manager comes by to inspect the tickets, he shows him the display on his mobile phone. After a journey of around 100 minutes, John Doe gets off the train in Hanover, holds his mobile phone against another 'Touchpoint' and checks out.

The 'Touch&Travel' pilot project being run by DB and Vodafone is currently going through its initial test phase. As John Doe has demonstrated, it is based on a system whereby the passenger checks in by mobile phone before the journey starts and checks out on arrival at the final destination. John Doe is free to change trains whenever he wants, to change transport mode, to combine tram and ICE, or to decide spontaneously to go somewhere else. Without the hassle of dealing with a ticket vending machine, and without having to stand in line at a counter: the passenger simply checks in and boards the train of his choice.

"Touch&Travel calculates the fare in the background," explains DB project manager Birgit Wirth. Since the user's profile is stored beforehand during the one-time 'Touch&Travel' registration process, BahnCard discounts, for example, are also included on the monthly bill.

Future games
In the basement of Dresden Technical University, Deutsche Bahn is learning from model trains on a scale of 1:87.

Using a mobile phone as an electronic ticket isn't new. With 'Touch&Travel', however, Deutsche Bahn and Vodafone have come up with a technology that does not require any expensive infrastructure. Touchpoints at railway stations and stops are simply radio chips using 'Near Field Communications' (NFC) to transfer data to a passenger's mobile phone to record when and where the journey began and ended.

"Touch&Travel uses sophisticated technology, of course, but that's incorporated in the mobile phone and in our background system," Birgit Wirth explains. The DB Group hopes to use this innovative e-ticket to create a nationwide standard for public transport services. "Standalone solutions, like those now being launched in some regions, don't help us or our passengers," says the DB expert. Ultimately, the easier traveling is made on public transport, the more people will use the system.

Up in the morning Deutsche Bahn isn't just a train operator. Schoolchildren at a bus stop near Villingen-Schwenningen in the Black Forest waiting for one of the buses operated by DB subsidiary SüdbadenBus.

Local Transport

Mobility Drivers

Millions of people daily, young and old, use DB's regional and urban transport services on their way to school, to work, or to catch a long-distance train. No other country in the world has such a large integrated system offering nation-wide coverage with local and long-distance trains, buses and rapid transit services.



All change At the station in Villingen, school children transfer from the bus to the Regional Express.



Red Fleet A Regional Express train hauling modern double-deck cars: the 'Dostos' on their way through Stuttgart to the central station.

In terms of punctuality, the **S-Bahn** demonstrates a Swabian virtue – it is No. 1 in Germany.



Train management All-relay interlocking is used to control switches and signals at Hausach station.



German champion? Of course: Stuttgart is the German champion in soccer and in rapid transit services. The goals scored by Stuttgart's striker Mario Gomez won the coveted title, complete with glittering cup, for VfB Stuttgart. In the Bundesliga 2006/2007 soccer season, he scored an average of 1.78 goals per game. Stuttgart's performance at the top of the rapid transit league over the past three years is no less impressive: the figure in this case comes to 98.5 percent and describes another virtue of the Swabians, besides hard work and inventive talent: punctuality.

"Outstanding," is how Hans-Albrecht Krause, 57, spokesperson for the city's rapid transit system, the Stuttgart S-Bahn, and commercial director, describes the reliability of his trains, adding: "In VfB's case, they fight for ninety minutes for every ball, while we fight around the clock, 365 days a year, for every second."

This is fighting talk on the subject of mobility from a champion. It's something that Stuttgart has appreciated since 1978, when the S-Bahn began operating, because there is virtually no other city in Germany that is as prone to traffic deadlock.

Day after day, the S-Bahn trains leave the cars standing as they glide by the traffic chaos. People in and around Stuttgart at any rate are "very pleased" with the service, says Dr. Bernd Steinacher, Regional Director of Greater Stuttgart's regional assembly 'Verband Region Stuttgart'.

Fast and safe, punctual and comfortable – that's the kind of service rapid transit passengers everywhere expect. "But Swabians," explains Krause, "are even more meticulous about it. You'll see them watching the seconds hand of the platform clock when the train arrives."

There are more than 330,000 Swabians in Stuttgart on any working day, and they travel from early in the morning until late at night on 150 ET 420 and ET 423 S-Bahn electric multiple unit trainsets: going to work, shopping, visiting friends or relatives, but also as tourists on a sightseeing tour.

Stuttgart certainly isn't London or Paris, but what passengers see through the windows of the S-Bahn is some of the finest engineering in Germany and includes names that are known throughout the world. Such as Porsche or Daimler AG, with its Mercedes-Benz corporate headquarters in Untertürkheim. And a name that ignited an entire industry – Robert Bosch. These are but a few of the many pearls of industrial endeavor, global players that have their roots here: Stihl and Trumpf, Beru and Bauknecht, Züblin and Dürr. And other names of long standing in the region, such as Märklin and WMF.

It is a region bursting with innovative power and prosperity. Why else would international companies such as IBM or Hewlett-Packard run their German operations from Stuttgart. Scientific research is carried out here at the Max-Planck and Fraunhofer institutes. It goes without saying that people who use the rapid transit system in the 'home of inventors and thinkers' are demanding and varied, but no more so than the S-Bahn specialists themselves, a company with a workforce of just under 600 people. And the local conditions are no less challenging: in addition to mixed operations, Stuttgart has a very special operational feature – its very own bottleneck, the so-called 'tubes', a double-track tunnel, 8.5 kilometers long, that crosses the city center underground, and is used by all S-Bahn lines – from S1 to S6.

"During rush hour periods, even three-unit trains soon reach the limit of their capacity," says Krause. Trains run every 15 minutes on these lines, which means that trains through the tunnel section operate on a two-and-a-half-minute headway.


And it works like a dream. But how is this accomplished? Krause immediately supplies the answer: "It's due to the efforts of a large number of people behind the services we offer each and every day, regardless of the job they have to perform: from dispatchers to maintenance crews. From platform supervisors to train drivers. We live and breathe the system daily."

Scoffers may ask what is supposed to be so special about this. Rapid transit, regional transport or even bus services – these are all standard routine services within people's home region. Things may be different for long-distance travel: nobody will question that planning a long journey takes time, everything has to be considered and discussed: going to Hamburg, to Berlin, or Munich, or possibly abroad is much more prestigious, after all. Particularly at top speed on the ICE.

But what would Deutsche Bahn be if it didn't have its red-liveried fleet, its day-to-day business. It is absolutely fundamental to the entire mobility chain, and an indispensable element for all DB customers. Baden-Württemberg is an excellent case in point: No less than 18,600 employees tirelessly organize transport services throughout the German state each day (Deutsche Bahn is one of its largest employers) – and that means 6,500 journeys covering a total of around 310,000 train kilometers.

Mainhattan Whether the destination is the airport or an exhibition – the fastest way to get there, even in Frankfurt am Main, is to take one of DB's local or rapid transit trains.





Up, up and away Two Schwarzwaldbahn trains on their way through the hills and valleys of one of the most scenic regions Germany has to offer. A characteristic feature of the route is the use of reversing loops to overcome the steep gradients.



Inspection Buses operated by DB's subsidiary Regional Bus Stuttgart (RBS) are given a thorough check-up at regular intervals in the Ludwigsburg depot.



Clean machine The best way is to do it yourself: RBS bus drivers make sure their vehicles are spick and span.



Keeping records Better safe than sorry: visual inspection of vehicles and tacho disks.



A journey by rail doesn't start at the **station** – DB buses also provide feeder services.

But let's begin by taking a brief look at some of the key figures on the total business volume in Germany in 2007: DB Regio and the rapid transit systems in Berlin und Hamburg carried an average of 4.8 million passengers daily. Not forgetting the 2 million passengers on the buses operated by more than 20 bus companies nation-wide. The fleet operated by the company included 1,496 locomotives, 3,058 DMUs and 1,060 EMUs, plus 6,143 passenger cars of every possible kind, 2,092 of which were double-deck cars. There were also a total of 4,442 rapid transit S-Bahn trains operating on either AC or DC power. The company provided seating for 1.1 million passengers, had 6,865 ticket vending machines and a transport performance of 40.7 million passenger-kilometers per day. Quite a business!

Deutsche Bahn's bread and butter, if you like, or put another way: it's the basis of its business operations. Regionally organized and, in terms of the Group structure, combined operationally into regional, long-distance and urban transport.

Southern Germany is worth visiting for multiple reasons, one of them being the weather: nowhere in Germany is it warmer or sunnier than in the Breisgau region. Which is why Bernhard Nefzger, 42, and Dirk Andres, 41, are particularly fond of their privileged home on the edge of the Black Forest. The two DB employees, who are responsible for the bus and rail services there, are there to stay and "have no intention of leaving".

That's good news for the thousands of passengers who travel through the Black Forest daily on Schwarzwaldbahn trains or on the attractive buses operated by SüdbadenBus GmbH (SBG), trusting in a complex transport schedule that integrates both bus and rail services. Dirk Andres and Bernhard Nefzger have the job of putting together a perfectly coordinated combined timetable that suits every need – 'from the region for the region.'

An excellent example of a working partnership in what are really two completely different systems, completely different worlds in fact. To begin with, there are the SBG buses – 500 of them, some of which are owned by small to medium-sized contractors, driven by 1,000 men and women on the 5,000-kilometer network within an area encompassed by Radolfzell and Villingen, Waldshut-Tiengen and Freiburg. The vehicles with the DB logo are a common sight in the region. They carry over 38 million passengers each year, stop at 7,200 bus stops throughout southwest Germany, and cover a total of over 30 million kilometers.

Simone Stahl, 37, Managing Director of SüdbadenBus: "Our focus is a local one. We extend the travel chain for our passengers by taking them by bus from many of the railway stations right to their front door. This is often the most flexible mode of transport there is in rural areas. Which comes in useful sometimes: if road repair work disrupts traffic anywhere, for example, then we simply take another route."

What the locals here affectionately refer to as the 'little railway' is in fact the 250-kilometer railway line, designed and built by Robert Gerwig from 1865 to 1873, that runs from the city of Constance along the shore of Lake Constance through the Black Forest to the Grand-Ducal residential city of Karlsruhe. Everyone here agrees that the 'little railway' must be one of Europe's most picturesque routes. The tracks seem glued to the hillside. There are hardly any viaducts to cross, just tunnels, 39 in all, as the tracks climb past scenic countryside to the



In tandem Bus and rail are genuine partners: Dirk Andres (r.) is responsible for Schwarzwaldbahn operations, while Bernhard Nefzger is in charge of marketing for SüdbadenBus (SBG).

Upper Black Forest and down again into the valley.

In the 1860s, Gerwig's construction method was seen as revolutionary, as it used reversing loops to overcome the steep gradients in the hills. It meant that instead of constructing a track 21 kilometers long as the crow flies between Hausach (241 meters above sea level) and St. Georgen (805 meters above sea level), the engineers laid precisely 38 kilometers of track, enabling the trains to manage the gain in vertical height of 564 meters. Passengers are rewarded with spectacular views. Lake Constance, with its magnificent backdrop of Austrian and Swiss mountains, then the sweeping panorama of pine-clad hills with sheer drops into deep valleys. Glimpses of gurgling streams between gentle slopes and lush green pastures. And traditional Black Forest farmhouses covered with thatch or wooden shingles that have stood here for hundreds of years. "Oh my", sighs one of the many day-trippers, "isn't this just wonderful."

It's an excellent example of what Deutsche Bahn can do. Particularly since DB Regio Baden-Württemberg won the tender to provide services on the line in 2004. The aging rolling stock, in particular the notorious 'Silberlinge' cars, disappeared in December 2006. The new Black Forest Railway now operates an hourly service with eleven modern Class 146 locomotives and 36 brand new double-deck coaches that offer a smooth and comfortable ride in a hushed interior all the way from Constance to Karlsruhe in three hours and ten minutes. "The 83-million euro investment," says Dirk Andres, "is like a quantum leap." Together with Michael Vulpius, 41, Head of Regional Transport in Southern Baden, and SBG, Andres



Berlin, Berlin
The new central station has become a landmark in the capital. It is also Europe's most modern railway hub.

prepared DB's tender and is now responsible for operations. Working hand in hand, incidentally, with his SBG colleagues Stahl and Nefzger, because the close intermeshing of rail and bus services was ultimately one of the reasons why they were awarded the tender.

The cooperation partners not only employ standardized procedures for the procurement of rolling stock and IT systems. To supplement Deutsche Bahn's passenger information system, they even developed a train-bus connection and information system of their own. It links the communications lines of the DB Regio and SBG dispatchers. This means that if a train should be delayed, an SMS will be sent to the bus drivers on duty, and "they must then decide," says Andres, "whether to wait for another two minutes and ensure the passengers get their connection, or - in the event of longer delays - to leave as scheduled".

The integrated network provides yet another service, the so-called 'request-by-phone bus'. The Black Forest, as most people are probably aware, is not the most densely populated region in Germany. And that means there are very few people out in the evenings. "Even so," both Andres and Nefzger agree, "we wanted to ensure our services would still be available outside the main travel times." The idea they had is now bearing fruit: guests arriving in Villingen after 8 o'clock on a Sunday evening, for example, and wishing to travel to the Königsfeld health resort can telephone the request-by-phone bus hotline (the number is included on the timetables) and a bus will come along to pick them up at the railway station.

Even excursions into the big, wide world often start on SBG buses. DB's travel chain, with ticket purchase, car rental and hotel bookings via its online portal, makes it all possible. Look at these travelers standing on the platform in Triberg early in the morning. They arrived here on an SBG bus, and now they're off to Paris. Their train leaves at 07:05 h. They change in Offenburg and then Strasbourg, with arrival in the French capital scheduled for 11:35 h. They'll arrive back in Triberg the following evening at 21:48 h. Such a thing was unthinkable not so long ago.

To Dirk Andres, the progress that has resulted in his quiet little hometown being seamlessly linked with the big European cities is a dream come true. Perhaps because he himself experienced the electrification of the Black Forest railway as a young boy. "My grandfather used to take me by the hand," he recalls, "and we'd go for a walk up to the famous 'Drei-Bahnen-Blick' where the trains can be seen three times from a viewing platform. And now I'm part of it all myself, organizing the operations, and aware of the fact that our new services are becoming increasingly popular."

From the smallest village to the **biggest city**: Deutsche Bahn will take you there.



Quiet moments
Tiny tots are not the only ones who enjoy a trip on the ICE. No other mode of transport allows passengers to enjoy as much space, to travel as comfortably and arrive as relaxed.

Over ten million passengers were carried last year, and increasingly Andres now finds himself having to double the number of cars being hauled from three to six. Then they'll call out: "We need a six-pack." The RheinNeckar rapid transit system has been operating with similar success since it was launched at the end of 2003, and it's all part of the general trend, says DB's Management Representative Werner W. Klingberg, 57. "Deutsche Bahn's business is booming," he says, "and it's particularly true here in Baden-Württemberg."

And the figures back him up - 4,400 passenger and rapid transit trains are underway every day. They stop at 677 stations, travel cross 1,600 grade crossings, through 9,500 switches, and over 3,300 railway bridges and viaducts, and are controlled from 400 signal boxes. Some 600,000 travelers use the system each day, not including those who use the long-distance rail services, or travel by bubus. DB's road transport unit, with a total of 2,700 vehicles (including their own fleet consisting of 1,100 buses) carries no less than 500,000 passengers daily on services throughout Baden-Württemberg.



Flagship An ICE leaves Frankfurt on its way to Hamburg. Red livery will soon be standard: Deutsche Bahn buses.



Its business, however, is quite unlike that of rail transport. "Long routes and a very high traffic volume are something for our colleagues," says Manfred Hovenjürgen, Managing Director of Regional Bus Stuttgart (RBS). "We pick up customers in the rural districts and take them to the railway stations, thus providing a seamless travel chain." In the areas outside the major cities, its 614 buses (including 290 of their own) provide feeder services to the local S-Bahn stations and school bus services within a catchment area that has a population of 4.2 million, and thus guarantee a high level of mobility to people who, for a variety of reasons, are unable to or do not wish to travel by car.

Ludwigsburg, for example, is a good place to watch this happening early in the morning. Lines S4 and S5 run to Stuttgart's central station from the local DB station there, and, of course, the place is bustling with people. One bus after another pulls up outside the station building and commuters swarm inside. People are either rushing to the platform or to the RBS bus stops to catch one of the buses. It is just one seething mass of people, and it doesn't slow down until the offices and shops have started business for the day. Things then become a little quieter and some vehicles now return to the new Ludwigsburg depot nearby.

The man in charge there is Marco Trovato, 36, Regional Manager West. Close to 130 drivers and 84 vehicles are under his command, and he likes nothing better than to show off his fleet of MAN and Mercedes Benz vehicles. There's the standard 12-meter bus, the 15-meter long three-axle bus and the 18-meter articulated bus. Some are very easy to drive, while others demand special



Get into a book
Commuters make good use of their time on the S-Bahn: it's the perfect place for a good book or the daily newspaper.

driving skills. "The three-axle swings out a meter at the back," explains Trovato. "We always have the same drivers on it." Otherwise, drivers are deployed on varying vehicles based on schedules provided by the 'Micro Bus' system. This special software is used to control virtually everything from the duty roster, including driving times and breaks, and the provision of vehicles, to refueling and route optimization. Once the bus leaves the depot, however, the driver is his own boss for the rest of the journey.

One of them, Peter Rupp, is 48 years old. Driving for RBS now for eleven years, he values this independence. He's much more than just a bus driver though - he's a salesman, customer advisor, service agent, safety and security officer and, at the end of the day, his own cleaning personnel.

Rupp has been driving a brand new vehicle for some days now - it's a Citaro O 530 overland version with BlueTec clean-emission engine technology based on AdBlue. A low-floor bus featuring air suspension and a kneeling function, with seating for 42 passengers and space for 49 standing passengers, equipped with energy-saving eddy-current brakes, plus wheelchair ramp, space for children's prams and a small refrigerator for the driver's lunch. That's a useful extra, by the way, because the driver's duty time, including breaks, varies from six to twelve hours.

Rupp knows his routes like the back of his hand. Every traffic light, every turn, every bus stop. But it's never boring.

"The traffic's increasing all the time," he says, "we have to keep our eyes on the road, and use an energy-saving driving style. And each day is full of surprises." Passengers that fall asleep or mothers who leave their children on the bus. And a good deal of youth vandalism. From carved-up upholstery to windows sprayed with paint. "And that," adds Rupp, "can get expensive."

On the S-Bahn, the cost of graffiti damage is known: two million euros. That's what it cost to erect a hall and install equipment to remove graffiti smeared on vehicles. "The only question is who wins in the end," says Werner Faulhaber, 61, Technical Manager at S-Bahn Stuttgart, and there's only one that can win - and we all know who that is.

His strategy is designed to discourage the would-be artists. "They naturally want their 'works of art' to be seen, but we take these vehicles off the tracks immediately and clean them. The principle is quite simple: the sooner the paint is removed, the easier it is. Even so, it's hard work and it's expensive."

Werner Faulhaber has been a railway man as long as he can remember. He was a train driver himself for ten years, and around Stuttgart, as he says himself, "there isn't a meter of rail anywhere here that I'm not familiar with first hand."

But that will soon change. 'TurmForum Stuttgart 21', an information center and exhibition in the tower of Stuttgart's central station, offers a fascinating glimpse into the future: on several floors, it reveals what is possibly Europe's most ambitious transport concept (see 'Visions and Reality' on page 36).

When the new project is completed in 2019, the Swabian capital will have an ultramodern rail infrastructure linking up the new regional exhibition center and the airport with DB's international high-speed ICE services, and a 30-kilometer long inner-city orbital railway line with underground train stabling facilities. The central station will also be completely rebuilt and modernized: the current terminal station will be transformed into a time-saving through station. Trains in future will cross the Stuttgart city center and stop in a passenger station ten meters below ground level. This means eliminating the entire trackage above ground. Some 100 hectares of prime city center land will then be made available for further development.

But that's only part of the story: 90 kilometers of high-speed line will link up Stuttgart and Ulm commencing 2019. At speeds of up to 250 km/h, the journey across the Swabian Alb will then take just 28 minutes.

This will be a tremendous feat, and clearly, the excavation and construction work to complete this huge project at a cost of just under 5 billion euros will be a common sight here for quite some time. Work in the center of Stuttgart is scheduled to begin early 2009 at the latest. The first phase will be to remove the wings of the central station, then huge tunnel boring machines will be brought in to begin tunneling into the slopes.

Since enormous amounts of spoil will have to be removed and large quantities of material delivered to the site at the same time, Deutsche Bahn will construct an access road for vehicles traveling between the site and the storage area at Nordbahnhof station. This will provide some relief for what is already extremely heavy inner-city traffic. All in all, it will be a gigantic project, "from which everyone will benefit - the city, the region, Baden-Württemberg as a whole, and of course DB's customers", says Klingberg.

When construction starts on the **'Stuttgart 21'** project, a new era will begin for the city.



All clear Paint sprayed onto trains may be fun for some, but it's expensive for the majority: the graffiti cleaning plant for Stuttgart's S-Bahn cost around two million euros.



Next please Maintenance of S-Bahn trainsets is performed in Plochingen. Graffiti is removed using special detergents.



Study in blue
Visitors can examine the 'Stuttgart 21' transport concept by walking all over the model laid out in the 'Turm-Forum' information center of the central station.

Long-Distance Transport

Allez ICE

Partnership without borders: SNCF and DB high-speed trains provide regular scheduled services linking up Paris with Frankfurt am Main and Stuttgart in less than four hours.

Concerted effort Winning smiles and mutual understanding characterize the relationship of the mixed train crews on the new Franco-German high-speed service. Solange d'Arbos (SNCF) and Dirk Arnold (DB) enjoy their new-found collegial friendship.





Welcome to Paris
A new arrival in the city: from Montmartre, the Basilica of Sacré-Cœur greets the ICE as it approaches the Gare de l'Est in the French capital.

The first houses of the capital pass by, the snow-white Basilica of Sacré-Cœur in Montmartre appears and you're there, after no more than 3 hours and 48 minutes: Gare de l'Est – welcome to Paris. A German ICE glides into the French capital! This never fails to put a big smile on Yves Martin's face. Even now that the routine has set in. "What a wonderful new Europe. I've been waiting for this for such a long time," exclaims the charming and joyful Monsieur, an SNCF train attendant.

Anyone who is of the opinion that this relatively recent Franco-German entente cordiale could have a bumpy ride will have to think again: "We're smoothing out the rough parts," says Martin and grins: a kiss on each cheek has now become the standard ritual when the mixed German and French crews say farewell or meet. The onboard staff from both sides of the border enjoy a warm, friendly relationship, no matter what train and what team they work on, so that any rivalry between the different ICE and TGV systems is completely and sincerely forgotten.

This is not something that was taken for granted before the introduction of joint DB and SNCF services. Questions were raised by both sides as to how things would work out – with the Germans and with the French? "Et voilà", says Yves Martin, "it's working out well, very well indeed".

Success all round, and a genuine milestone on the way to a truly united Europe. But things like this take time: let us take a look back to 1992, when François Mitterrand and Helmut Kohl agreed in La Rochelle to put the train on track for a Franco-German future.

A contract was drawn up to introduce two high-speed routes, it was subsequently signed and from then on the 'baby' was given a name in the 'Grande Nation': 'TGV est européen.' And it was agreed that the ICE should also go to Paris, but this time through the Saarland: 'Allez ICE.'

One man has accompanied the project right from the start. Only in his dreams initially, but then later as a driving force. His name is Frank Hoffmann, 39, and back in 1989 he experienced the unbelievable: the turnaround and reunification in Germany. "The event changed my life and since then has fuelled my firm belief in the feasibility of what seems to be impossible," he says.

He was born in East Berlin, where he also began his career. He grew up on the eastern side of the East-West German border and worlds away from the French one. There was no thought of unrestricted travel, not then at least. Even so, Frank Hoffmann, without realizing that twenty years later he would be running a Franco-German company, learned French in school. He then graduated from high school, completed training as a specialist



Bonne journée Punctual arrival of the ICE at the Gare de l'Est in Paris (above).



for rail operations with Deutsche Reichsbahn, looked after an old steam locomotive in his spare time and was later awarded a place at the University of Transport in Dresden. Then the wall came down.

There is really no stopping him now. Hoffmann is going west. It doesn't take long before he's working on scheduled ICE train services as one of the youngest of Deutsche Bahn's train managers – and he still wants up. So he completes a training program that will qualify him as a trainer and at the same time studies business administration. He later specializes in behavioral communications and team development. He holds onboard service training programs, and subsequently is involved with colleagues in organizing the integration of Mitropa into the DB Group – and he keeps looking "across to the big French project."

Even then, Paris is close. At least on a purely private basis, because Frank Hoffmann now lives in a Franco-German relationship of his own. "Life, love and speed" – that has become his new motto at a time when the new high-speed tracks are getting closer to Strasbourg and everyone's working on meeting the operational and



Good mood
The ladies (above left) on their way to the Quartier Marais. Yves Martin (SNCF) and Britta Remahne (DB) check the tickets. During her break, Britta enjoys fresh baguette and finds time to read a French newspaper.

safety requirements for the planned routes. What is still missing will soon become reality: with the founding of a joint-venture company, Deutsche Bahn and SNCF place their partnership on a firm legal footing with decision-making authority.

Hoffmann, the project manager, now becomes Hoffmann, the Chief Operating Officer (COO) of the new company, with the same powers as his French counterpart, Chief Executive Officer Renaud Pichon (CEO). And the 'baby' is given a name: Alleo GmbH. "It was an exciting process coming up with a name for the company," says Renaud Pichon. "We wanted a name that suggested integration and was dynamic at the same time. Alleo includes both alliance and the French word for Germany (Allemagne). It also contains 'Allez', and the Latin 'eo', meaning 'I go'. And it also has in it the word 'All', as a symbol for all those who made and are making this joint venture possible. Et voilà: Alleo was born."

Owned by the two parent companies on a 50/50 basis, the subsidiary Alleo handles the marketing, communications and quality of the services provided on both routes. Since December 2007,

Travelers **from and to France** love the international atmosphere and the friendliness of the crew.



Tempodrom Futuristic bistro in the French TGV. The evening ICE flashes by.



trains have been running several times daily (five Frankfurt – Paris services, four Paris – Stuttgart services, including one service from/to Munich) with up to six ICE 3 MF trains (multi-system France) and 19 TGV POS trains configured for Germany and Switzerland. There is a joint pool of staff available, consisting of 130 employees (80 DB and 50 SNCF) for train attendant and onboard passenger services, plus 25 train drivers from each of the partner railways.

But what do bare figures mean. Life itself is the real proof. For man and material. The perceptive Yves Martin quickly points out some of the fundamental differences in terms of the way the work is done: “In France, we have the *équipe* and as an individual train attendant you’re nothing, just a number on a duty roster. By contrast, in Germany: oh là là – the train manager has full authority. You can see that from the stripes on the sleeve of his uniform. On the other hand, the Germans, unlike us, are not required to wear a cap. And of course the operational procedures are quite different, beginning with the departure signal on the platform and ending with ticket inspection on the train.”

As a result, harmonization of the game rules was an early item on the agenda. And language instruction. Yves Martin had 300 hours in just under 18 months and in the case of Britta Remahne, the German train manager, it was about the same. “Experience Germany” was one of the things she had included on her wish list when she applied for a job with DB Regio in 2002. France is now becoming her second home. “I need a baguette,” she says during the brief turnaround in Paris. And off she runs to a *boulangerie-pâtisserie* nearby.

Seminars, tests, and even several weeks as an exchange student are now behind her, and she comes to the conclusion: “It’s really

a great feeling to have the opportunity to get to know other people, different work and another way of life as intensively as we do. There are no prejudices any more. Quite the contrary, in fact: the positive experience outweighs everything. I would never have thought, for example, that the French would show so much respect for the train crew, and what a sense of humor the colleagues have.”

Monsieur Martin is a prime example. He gives a virtuoso performance as he twirls his key ring round, grips one of at least 30 keys on the ring and declares: “In France, this is the most important utensil we have, and it’s known as ‘la clé monocoup’. But I call it ‘la clé du paradis’, the key to paradise, because it’s also the key to our service compartment.”

As Frank Hoffmann remarks, the cheerful mood has become the hallmark of his trains, not only for himself and his staff: “Our passengers are delighted with the very special atmosphere on board,” he says and refers to the most recent representative survey of 1,679 customers. According to the findings, 99 percent of the passengers were satisfied or very satisfied with both the service and the friendliness of the teams.

Meeting in Paris

The two great rivals of European high-speed travel under one station roof. Now a common sight in Paris, and no less so in Stuttgart and Munich.

At the start of the joint services, there were the usual clichés, of course. Germans were disciplined and inflexible. A *laissez-faire* attitude coupled with arrogance was how the Germans saw the French. But on a day-to-day basis, it turned out that nothing was further from the truth. Quite the opposite in fact: all the different elements contributed to creating a new understanding of service on the trains to and from France.

“Somehow different” is how Ulrike Weitz feels on the ICE to Paris. “Even now we can sense a little of the Parisian flair,” she says after a moment’s contemplation, and her three friends nod in agreement. They want to spend three days together walking round the Quartier Marais. “It was a spontaneous decision to take this little trip. It’s just incredible with this new service.”

Other passengers take a similar view. Raymond Sautec, a businessman from Chartres, says: “I may be French, but I love the ICE.” In addition to the reduced journey time, he was particularly taken by the dining car with its exquisite selection of wines. “The TGV only has a fairly modest bistro.”

The Germans still make up the majority of the passengers. That’s because of what Hoffmann calls the ‘Paris factor’. But an increasing number of people traveling on business are now also using the service – and they’re coming from both sides of the

Tête-à-tête

At the Gare de l’Est, two members of the Franco-German train crew stand at the information desk waiting to deal with passengers’ inquiries before boarding the ICE to Frankfurt am Main. They have just been joined by Frank Hoffmann (left), Chief Operating Officer of ‘Alleo’, the SNCF and DB joint venture.

Rhine. “Flying was once upon a time,” says Bodo Meinhardt, a mechanical engineer from Stuttgart, and provides yet another argument for taking the train: “I simply wanted to travel on the TGV, and I have to admit: I’m also really impressed with the French train. *Ça me plaît*.” The train driver sitting in the cab at the front this time, incidentally, is a German: Thomas Nuglisch.

Not a simple job this. Quite the opposite really: for train drivers, not only the services to and from France are a particular challenge, but all the new international services. “Actually,” says Siegrid Zscherneck, “the only thing we have in common with the others is that we use the same track gauge”.

Meet Europe’s fastest woman: as a train driver in France, Siegrid Zscherneck can achieve a top speed of 320 km/h. It should be pointed out that in Germany, the ICE travels 20 km/h slower than this between Cologne and Frankfurt am Main, and between Nuremberg and Ingolstadt. There is no advantage traveling at a higher top speed on German lines due to the high density of population and the relatively short distances between any two stations.

The single mother of two children had to burn the proverbial midnight oil, studying hard for months, since she had to learn

A **‘one-stop shop’** for high-speed borderless travel throughout Europe will be available from the railway alliance ‘Railteam’.

a completely new system in order to qualify for the project. And she also had to change her way of thinking. The big question on everybody's lips at the time was: "How are train services run on the other side of the border, in France?"

There are many differences: to begin with, the French trains travel on the left, which the Germans are not used to, then the signals and radio communication systems are not the same, and they also employ completely different command and control systems.

This is how the program was organized: 18 months of foreign language instruction. Ten weeks of instruction to obtain a train driver's license and permission to drive on the French 'Ligne Classique'. Two weeks of TGV instruction, including 'hands-on' vehicle training in Strasbourg, which was then followed by a five-day compact course on the modified ICE3 and two weeks of simulator training in Lille. In short: an exclusive training program with four separate examinations.

How do you get through it? "By studying hard, mostly in the evening after the news program. And by arranging help for the children. Fortunately I get support from my family and have an au-pair," says Siegrid Zscherneck, 37, "otherwise, it would have been virtually impossible."

She has just gone through the interface with the new high-speed line. The ICE now accelerates with ease to 320 km/h and speeds past the world-famous vineyards in the Champagne region towards the French capital.

The access to the high-speed line was completed specifically for the Frankfurt - Paris service and represents the transition from the conventional to the ultra-modern, virtually fully automated train control system TVM (transmission voie machine). For this purpose, the six ICE3 trainsets that were to operate on the line had to be modified and approved. This cost over 70 million euros for the entire modification work, including testing and approval procedures. In addition to retrofitting the multi-system electronics, it also included the mounting of special pantographs compatible with the French network.

The power supply and the line voltage in the neighboring country were also sensitive issues. When it was time for scheduled services to be introduced in the summer of 2007, they turned out to be a complex technical problem area. On the one hand, due to the catenary voltage that varies from 25,000 volts to peak voltages of up to 30,000 volts in some cases. On the other hand, because power is fed into the system at fifteen points along the line. As the train passes through each of these transition sections, the main circuit breaker automatically opens and the current flow is interrupted for the blink of an eye. When the ICE leaves the section, the circuit breaker recloses and all the systems are re-established. This phenomenon, which is unique to rail systems, is also known on the German network, but is encountered far less frequently and only once, for example, on the line from Saarbrücken to Hamburg.

For the ICE3 trainsets operating in France, such unusual circumstances are a particular difficulty that required technical modifications and adjustments. Switches had to be replaced, as well as insulating material and coolant for the main transformers. "That was a 'tour de force'," Frank Hoffmann recalls. And he means for all those involved from the Frankfurt-Griesheim depot, the design support people from Headquarters and the System Engineering team from Munich.



TGV cockpit No, he's not French. This is Thomas Nuglich in the driving seat as the TGV enters Karlsruhe.



First lady

The fastest woman in Europe is Siegrid Zscherneck. The DB train driver went through months of preparation to be allowed to drive the ICE at 320 km/h on the high-speed line to Paris.

But they managed to get it all done. Which was good news for Dr. Karl-Friedrich Rausch, Member of the Management Board for Passenger Transport, who has this to say: "2008 will again be a year characterized by more internationalization. The range of services we provide will be visibly increased and we will continue to pursue our strategy of cooperation with our European partner railways."

'Railteam' is the name of the alliance that was set up last year by Deutsche Bahn and six other western and central European rail operators, much like the airline alliances. The aim, as Rausch puts it, is "to be able to offer passengers seamless services with no international barriers and complete harmonization of the booking systems". In addition to SNCF, both the Swiss SBB and Austrian Federal Railways (ÖBB) are members. Not to mention SNCB in Belgium, NS in the Netherlands, and Eurostar, a Franco-British operator.

Paris, Vienna and Copenhagen - where ICE diesel multiple units have been traveling since the 2007/2008 timetable change-over - are now becoming closer and closer for Deutsche Bahn customers. So is London. Travelers taking the red Thalys from



Tour de France

The race started in June 2007, and increasing ridership figures are evidence of the appeal of the super-fast international train services provided by SNCF and Deutsche Bahn.

Cologne can now change trains in Brussels and be in the heart of the British capital in less than five hours. Unfortunately, the city won't be seeing one of DB's ICEs in the foreseeable future: its debut appearance on the other side of the Channel is still a long way off.

As was the case with Paris. Punctually at 9:50 am, the ICE 9558 glides into the Gare de l'Est. The first part of today's work is now over for Siegrid Zscherneck, who left home at 4:40 this morning. She now has some time to relax, because the duty roster for today has given her a longer break than usual before she returns to Frankfurt on the ICE 9555.

She knows exactly where she's going, and from the smart, freshly refurbished Gare de l'Est she walks briskly towards the River Seine and Notre Dame. It's no more than a short walk, but it takes her through a multitude of different worlds: past the brilliant colors of the articles displayed in the many African braid shops and nail salons on the Boulevard de Strasbourg, while more elegant and sophisticated designer boutiques line the Boulevard de Sébastopol. "I'm not really a great fan of France," says Siegrid Zscherneck after returning from her little excursion into the city. "What you can get used to, however, are all the little parks and of

the course the tremendous diversity of the faces you see. I like to sit down on a park bench and simply watch the people and the life in this city."

And with that, it's time to get back to work. Outside, down on the platform, train manager Dirk Arnold and a female member of his team, Solange d'Arbos, are welcoming passengers as they board the train. Frank Hoffmann is also there and, as always, he has a warm and friendly relationship with the people he works with. A kiss on the left cheek, a kiss on the right cheek for Madame, a handshake for Dirk Arnold - and then the ICE is off to Frankfurt. "This train is a little mosaic tile with a powerful impact, one that is setting the signals for all the international services, and the two largest rail operators in Europe intend to be the market leaders in all future developments," says Hoffmann and seems to be dreaming new dreams as he gazes out of the window. From a DB viewpoint, these include services down to the South of France, while SNCF sees the TGV in Berlin. "Only then," the cheerful Yves Martin prophesies with a twinkle in his eye, "will we be able to say that we've really smoothed off all the rough parts".

When traveling on **international lines**, DB employees demonstrate their command of the language and of the new operating systems.

Environment

Staying Clean

Preserving resources, recycling materials, reducing greenhouse gases, air pollution and noise, planting trees: how the DB Group has constantly improved its eco performance. It has achieved a lot and will achieve a lot more.

Hans-Dieter Groß is in charge of a very special washing machine: five steel baskets the size of a car trunk filled with steel components showing signs of wear and tear are automatically lowered into a bubbling milky liquid. Lids close on the washing tanks and what now takes place can only be followed on the monitor. “Pre-wash, then main wash, followed by an ultrasonic bath and a temporary anti-rust coating in the final immersion chamber,” explains the mechanical engineer.

This unique high-tech cleaning system in DB’s depot in Kassel stands symbolically for the careful handling of resources and the constant search for ever better solutions. Typical for Deutsche Bahn, you may say. “That’s because this Group was involved in recycling long before the term was even invented,” says Ewald Klüe, Head of Technical Projects at DB’s rolling stock maintenance provider DB Fahrzeuginstandhaltung. Locomotives and passenger cars have a life expectancy of 30 to 40 and freight cars of as many as 50 years. But this means they have to be optimally looked after and maintained.

How the long service life of rolling stock reduces the impact on the environment and is of benefit to the climate is evident in the redesign of the first ICE generation: the decision taken by the DB Group to refurbish all 59 high-speed trainsets built in 1991 and give them a ‘second lease of life’ instead of scrapping them avoided the pollution that would have been caused by the production of 16,000 tons of steel and 1,200 tons of copper, the amount of metal that would have gone into the manufacture of new trainsets. Experts calculated that, as a result of the decision

New lease of life
A technician in DB’s Kassel depot assembles new and reconditioned parts of a wheelset.



The material that railways are made of keeps going for decades. In the **preservation of resources**, the Group is way ahead.

in favor of 'redesign instead of new build', 35,000 tons less carbon dioxide were emitted and 500,000 tons less mining and industrial waste produced.

If things are intended to last, they need to be given special care – and a wash every now and then. The huge washing machine in Kassel doesn't wash the ICE, but it does wash DB's red regional trains. Sooner or later, each of DB Regio's DMUs arrives here – and ends up in the wash. The DB depot in North Hesse is specialized in the 'heavy maintenance' of all DB DMUs.

"We're working round the clock at the moment here in Kassel, because many of the vehicles that are seven years old now are due for their first major overhaul," says Klüe. Each of the trains has clocked up at least 1.2 million kilometers before 700 technicians are given the green light to strip it down virtually completely to its individual components, then clean everything, give it a thorough examination and replace any wearing parts. Once a used bogie has been refurbished, it looks like new again and is approved for the next million kilometers.

The fact that only 500 kilograms of a bogie weighing four tons is replaced (most of which is used again as scrap metal) is evidence of the durability of rail vehicles – and the extreme care DB takes with resources that are in short supply and becoming increasingly more expensive.

The situation as we see it in Kassel is not a special case or in any way an exemplary exception to the rule, but typical of the situation throughout Deutsche Bahn. The DB Group does not rest on its laurels, basking in the reputation of being an extremely environmentally friendly mode of transport – nothing could be further from the truth for the long-standing pioneer in environmental protection. As early as 1994, the Group set itself the ambitious voluntary goal of reducing the specific emissions of the greenhouse gas carbon dioxide from rail operations by at least 25 percent by 2005 compared to 1990

levels. After achieving its target no less than three years earlier than planned, the DB Board of Management set the level even higher in its 'Climate Protection Program 2020' with a further 20 percent reduction. The reason is simple: Deutsche Bahn intends to defend and further increase the lead it has already gained in terms of environmental performance over other modes of transport, such as the private car, trucking and the airlines.

"A fully occupied ICE of the latest generation carries people 100 kilometers with the equivalent of only one liter of fuel – at a top speed of 300 kilometers an hour. Airline passengers and car drivers are a long way behind," says Joachim Kettner, Head of the DB Environmental Center, which was formed from the merger of the former environmental departments of Deutsche Reichsbahn and Deutsche Bundesbahn. Since 1994, its environmental experts have been responsible for all environment-related processes within the DB Group. They collect information on environmental impact, calculate power consumption, pollutant and noise emissions, measure water and soil contamination, determine the Group's environmental targets and develop solutions.

The DB Environmental Center is thus also a world of figures. This is where Andreas Löchter holds sway: in almost ten years, the graduate environmental engineer has compiled extensive

amounts of data and can provide documentary evidence of virtually everything that has to do with Deutsche Bahn and the environment. The data are updated annually and, when necessary, systematically fine-tuned. "Managing large quantities of data fascinates me because ultimately my job is about deriving new information – and also about being able to provide more accurate estimates of future developments," says the 38-year-old. The data he prepares is generally recognized as accurate and is published annually by DB in its key environmental data. Löchter also developed the software and methodology that backs up Deutsche Bahn's challenging environmental targets.

With an impressive environmental and sustainability management system, the DB Group takes its responsibility with respect to society seriously, turning it into concrete action and in so doing securing its own future viability. Because the excellent future prospects of rail as an environmentally compatible mode of transport are a direct consequence of the combination of ecological and economic efficiency – something you can directly convince yourself of by joining Mario Spangenberg in the cab of his locomotive.

Half a kilometer of freight train with 76 axles is coupled behind the electric locomotive he's taking from Bebra to Seelze

near Hanover. Starting and coasting, the delicate process involved in coaxing the power of 8,000 horses that his locomotive generates, has become second nature to the 38-year-old from Thuringia. Mario Spangenberg won the gold medal during the 'Energy-Saving Olympics' organized by DB's rail freight operator. "I assume responsibility for my company just as I do as the father of my children," says Spangenberg. "You should always have the high energy prices and climate change in mind."

The freight carrier consumes several gigawatt-hours of electric power and several hundred thousand liters of diesel. Day after day. This not only represents a lot of energy and high costs, but also greenhouse gases, nitrogen oxide, soot and other pollutants. Enormous cost savings and emission reductions can be made with a gentle hand and know-how in the

A keen eye
DB engineer Hans-Dieter Groß (left) is undisturbed by the steam emitting from the industrial washing machine.



Washing machine Steel components of a diesel multiple unit going through the wash in Kassel.



Under pressure
A train gets a thorough cleaning with a high-pressure steam cleaner.



driver's cab. To this end, DB has launched 'Energy-Saving Driving Patterns', a major project of its own, for its 20,000 train drivers. Just to give you an idea of the quantities involved: skilled driving techniques can save 4,000 kilowatt-hours of electric power with the ICE on the Hamburg - Munich line, for example. That's equivalent to the annual power consumption of a family of four. Going heavy on the gas has been out of fashion for locomotives for a long time. The Group keeps an eye on their power consumption all the time these days: so-called TEMA boxes transmit details of the energy consumption of the locomotives to DB Energie in Frankfurt am Main every five minutes.

DB does not rest on its laurels when it comes to diesel pollutants either - particulate emissions have been reduced by 84 percent since 1990, for instance, and nitrogen oxides by 70 percent. The Group also supports industry in the development of new locomotives and multiple units, which will be required to comply with more severe emission standards for soot particulates commencing 2012. In the LOCEX (Locomotive With Clean Exhaust) project, DB is currently working with engine manufacturer MTU. A Class 294 diesel locomotive that has been retrofitted with an NOx reduction system and particulate filter has been subject to day-to-day testing in heavy shunting operations since spring 2008.

The DB Group has provided convincing responses to climate protection and clean air issues for a long time already. In addition, concepts are now being developed for the Group's more recent activities - in global logistics in particular, a field in which trucks, ships and aircraft are also deployed.

Of course, a company as large as DB AG, which carries as many as five million passengers on its trains daily, has many points of contact with people, the environment and nature. Railway lines not only cross the countryside, they also go directly into city centers. People who use the passenger services appreciate this kind of mobility. On the other hand, freight trains do not have the reputation of being particularly quiet: 20 percent of the German population are disturbed by the noise. Nevertheless, rail does much better in this respect than road traffic (60 percent are disturbed by the noise) and air traffic (32 percent). "But for people who live along our tracks, of course, this is not much consolation," says Joachim Kettner from the DB Environmental Center. "We take our responsibility for noise abatement very seriously indeed."

The DB Group is not hard of hearing; it intends to halve railway noise by 2020 compared with the levels recorded in 2000. Alas, there is no one magic formula to achieve this ambitious goal, but DB is taking a whole series of individual measures, all of which will make a noticeable contribution to solving the problem: the noise barriers erected by Deutsche Bahn are designed to prevent noise spreading into residential areas. Their erection along existing lines has been funded by the government's noise abatement program since 1999. In the case of new lines or line upgrades, they are automatically included in the planning.

Deutsche Bahn is not hard of hearing.
It has some convincing concepts on how
to halve rail noise by 2020.



Tree nursery
Landscape architect Alfred Cramm in a reforestation area consisting of mixed beech planted by DB to compensate for railway lines.

On the other hand, technologies that are designed not to 'contain' the noise, but eliminate the problem at its source are proving to be a more effective, cheaper and at the same time more aesthetic solution. This is true, for example, of the so-called 'whisper brakes', known to experts as 'K' or composite brake blocks. DB now has them fitted to all new freight cars, with the result that a freight train is now around 10 dB(A) quieter - perceived subjectively as equivalent to a halving of the noise level. This is only true of course when all the cars being hauled are equipped with the new technology. In consideration of the long service life of its vehicle fleet, Deutsche Bahn and the other car owners would like to equip their 'used cars' with the new brakes as well. Deutsche Bahn, therefore, is making every effort to ensure that K brake blocks are included in the funding provided as part of the government's noise abatement program.

It's typical for Deutsche Bahn that it has not been satisfied with one improvement, but has introduced more steps to reduce noise levels. A new project known as Quiet Trains on Real Tracks, or LzarG in its German acronym, allows Deutsche

Bahn, industry and universities to investigate more ways to reduce track and vehicle noise levels by a further 5 dB(A).

In addition to the technical challenge, the engineers must always keep an eye on the economic aspects of the solution - because a 'whispering' solution that cannot be paid for will not be able to solve the transport problems of the future. Tenacity and perseverance are two key factors in sustainability management at DB: noise abatement and climate protection programs target the year 2020, and the goals are to be achieved in stages. That eliminates the possibility of expensive surprises and guarantees continuous progress. But it requires a lot of stamina.

That is something that Alfred Cramm also needs, but for quite different reasons. The landscape architect is the man responsible at DB Projektbau in Hanover for ensuring that the flora and fauna do not literally fall by the wayside when rail infrastructure is being built or upgraded. "Some projects keep me busy for a full 15 years from initial planning to completion," says the 52-year-old. His day-to-day business involves negotiating a diplomatic minefield: on the one hand, the large areas of land owned by Deutsche Bahn are a refuge for what have now become fairly rare species of animals and plants. On the other hand, however, DB's rail network cannot be adapted to the increasing demands made on it without making changes to the natural environment. DB Projektbau also has limited funds available to invest. On the other hand, nature conservation costs money. The pros and cons of the matter, and of course the heated arguments that take place when issues such as a biotope for bats are being discussed, are the kind of things Alfred Cramm has to deal with every day. "I see myself as a media-



Iron core Before a wheelset is reconditioned in DB's Kassel depot, a technician takes it apart using a cutting torch.



Go rail
The message that trains have a low environmental impact is gaining ground in the face of climate change.

tor between Deutsche Bahn, the environmental protection agencies, local residents and nature conservation organizations. To make a good job of it, you need tact and sensitivity - and a sense of proportion."

The engineer has dedicated almost half his professional career to a 13-kilometer stretch of new track that Deutsche Bahn urgently needed on its Kassel - Paderborn line on a section that crossed the Eggegebirge nature reserve near Willebadessen. The old track had run across unstable terrain and had already been seriously damaged by a landslide. The planners chose a new route through the central German uplands with a new, just under three-kilometer long tunnel as the main structure.

"It was necessary, however, to cut a 70-meter wide swathe through the forest area for the new track," says Cramm. To compensate for this, as required by the law, Deutsche Bahn implemented a counterbalancing scheme elsewhere: in Herbram, a small community not far from the site, Deutsche Bahn linked up two separate wooded areas by a 68-hectare large reforestation area consisting of mixed beech. Alfred Cramm can very nearly watch the trees grow - and that's a sweet sight to his eyes.

New rails for old Two operations in one: while traffic continues unabated on the adjacent track of the Hamburg - Hanover line, a track renewal train replaces old rails with new ones.

Infrastructure

Bending Iron

With a total track length of over 34,000 kilometers, Deutsche Bahn is the largest rail infrastructure operator in Europe, and spends billions each year on maintenance and upgrading. The reason is simple – only an intact and modern infrastructure can guarantee the quality and performance of its passenger and freight transport services.



Sitting pretty The chain operator's job is to control and monitor the ballast cleaning process. The machine lifts the rails together with the ties to allow the old material to be replaced.



Good, solid work The cleaned ballast is compacted in a series of tamping runs. The spreader (below) helps to thread the new rails into the ties.



Monster machine
The crew manning the RM801 ballast cleaning machine affectionately call their mechanical pet 'Lieselotte'. With it they replace two kilometers of ballast every shift.

Model railway enthusiasts have it easy. Their little world is created in their leisure hours. Super glue is used to assemble the houses, paste to hold the ballast in place. Rails and signals are as light as a feather, and bolts are tiny little things. There are no aching muscles at the end of the day and no black, oil-stained, calloused hands. How completely different is the world on a normal scale, the world as we know it. Nothing is easy here. There's nothing lightweight about it. Nothing is finished quickly, or dismantled and assembled again, refurbished or modernized on a whim. And it does not do to just turn a few screws, add a few strokes of the brush, and then lean back and say: "That's it, let's call it a day".

No, that's not the way. Instead, work goes on as trains roar by. That's the way real railway men do their work. Man and machine constantly on the go, round the clock, whatever the time of year. And in virtually every kind of weather, up and down the country, on close to 600 different worksites daily.

But more about that later. A quick look first at the 2007 financials for DB Netz AG: 3.5 billion euros invested in maintenance, day in, day out, and in modernization, as well as upgrading and new build projects, including 3.3 million renewed ties and

4,400 kilometers of rails. A total of 1,800 switches and 3.9 million tons of ballast were also replaced. Thanks to 5,600 timetable changes that were prepared and communicated in a timely manner, interference to train operations could be kept to a minimum. In many cases, rail passengers were virtually unaware of what was going on, with passenger trains as usual achieving an overall level of punctuality of 90 percent and more. And the goal is to make sure it remains that way in 2008, while maintaining a consistently high level of construction activity.

Any kind of work requires a plan of course. You'll find the details specified in the 'ProNetz' program for the future – complete with targets and completion times for maintenance (inspection, servicing, fault elimination), plus allocation of funds for the existing network (signal boxes, rail replacement) and for new build and upgrading projects. In short: the aim is to use the money available for the rail

Top job
Perched in his high seat, the screening unit operator doesn't miss a thing. He controls the use of the vibratory screens to which the excavated ballast is taken by conveyor belt for cleaning.

network in such a way that the best possible quality is achieved for the entire network. This approach has been given a name at DB Netz: the 3-i strategy for integrated investment and maintenance.

This management tool is designed to answer the following question: how much money will go where, and how will it be spent? Kay Euler, senior production planner at DB Netz, has this to say: "The key factor today is the targeted and project-related use of funds based on importance and not on the individual sources of money available in the region. When is an investment absolutely necessary, and when and how long will sound maintenance work be enough at another location? Financial grants are limited, and what we are aiming to achieve by what we term quality effect is no less than the absolute optimum use of resources."

This means that funds must be used in such a way that the result meets the customer's expectations and the special features of the specific route. A case in point is the very busy high-speed route

between Cologne and Frankfurt am Main. "The focus here is on preventive maintenance, such as rail grinding work. This not only eliminates long track possession times, but it can also lead to a significant increase in the service life of rails and ties, despite the excessive wear and tear caused by the heavy traffic. Ultimately, of course, the prime concern is to put the funds mostly provided by the government to the best possible use. After all, this is taxpayer's money and we want to make sure that it is used as responsibly as possible."

For the qualified transport engineer, Germany's widely ramified rail network, which, in terms of its complexity, is the only one of its kind, boasting a total of 64,000 track kilometers, over 28,000 bridges and viaducts, 800 tunnels and 75,000 switches, is not a purely abstract world of figures. At 39, he can already look back on twelve years with Deutsche Bahn, including the time he spent in the Transportation and Logistics Division

With the clear goals of its **'ProNetz'** program for the future, the Group is pursuing an integrated investment and maintenance strategy.

Maintenance on busy **main lines** enjoys absolute top priority in DB Netz AG's annual trackwork schedule.

(as Head of the Hamburg Cargo Center), or with the track infrastructure services unit, or his involvement in key Group projects and recently as Head of Maintenance at DB Netz AG.

This hands-on experience is a great help. Also and in particular when a new strategy is being implemented. "You've got to know," Kay Euler explains, "what makes DB Netz, this huge machine, tick locally, what kind of leverage can be applied, what changes we can demand of the employees, what is actually going on further down the line in the organization and what mechanisms are at work there. We'd be in trouble if we introduced processes that were more than the local people could handle."

Down there, at grass roots level, construction engineer Sascha Scherler, 35, takes the following approach: starting a big project is one thing, finishing it is something else. Which basically describes his job: Scherler is one of four project managers based in the Branch Office North, who are responsible for the detailed planning and design of the track superstructure at DB Netz. His life tends to be governed by the annual trackwork schedules. They contain lists of all the maintenance work to be scheduled for the region of Hamburg, Schleswig-Holstein and parts of Lower Saxony in precisely specified time windows. And they are prepared two years in advance. Thick gray lines represent track renewal work, while circles stand for switch replacements.

It's all very straightforward - and "very ambitious," says Scherler. In 2007, there were no less than twelve major projects on his agenda, including extensive track renewal and ballast cleaning work on Main Line 1720, the line between Hamburg and Hanover - the real 'McCoy' this one. Which gets top priority of course.

Routine ultrasonic test runs carried out there in 2005 reveal no serious shortcomings, but do indicate a need for action in the near future. At least for a company wanting to avoid speed restrictions and subsequent delays at a later date. And so an application is made to the operational planning unit for the worksite and it is subsequently included in the 2006 planning schedule. The project is then discussed at a national coordination meeting in Eisenach and is given the go-ahead: "Approved for 2007".

That's the first step. This is followed by an application to the Federal Railway Authority (EBA) for planning approval, then soil investigations, cost schedules and an inspection of the line, with lots of fresh air thrown in. "To spend some time outdoors and be in touch with what's happening out in the field is always an exciting experience," says Scherler. "Every project is different, with its own special character, and of course its own special problems - and that's what makes my job really exciting. Sitting in an office penpushing," he says, "is not for me, and never has been."

But we're digressing. Once the official approval has been given, the detailed work can begin. Tender documents are prepared and invitations to tender sent out. Calculations are made of the material requirements, including the detailed planning of time schedules, site supervision and site safety. Negotiations

Sparks fly
Replacing a base plate on the chain system of the ballast cleaning train. The worn part is being removed using a cutting torch.





Track bed Bit by bit, a new track appears. View into the cab of the tie laying unit on the track renewal train (below).



are conducted with potential bidders, including discussions on their ability to perform the contract and on pricing, and finally a decision is made in favor of the best bidder. In this case, DGT, a member of Bahnbaugruppe, is awarded main contractor status. A separate joint venture of several companies is then set up for site supervision and safety, and any additional work on the command and control systems (CCT) and the overhead lines (OHL).

That would seem to be enough preparation, isn't it time to get on with the job? But no, we're not there yet. The funds have first to be approved, then a trackwork schedule has to be prepared. The man responsible for this is Steffen Brand, 30. As the site manager, he examines the incoming documents, taking every little detail into account, from the preparation of a modified timetable for the trackwork phase to such questions as, "What machines do we need? When will the materials arrive? And of course: what material will be needed - in terms of ballast, rails and ties. Where are the unloading points? What do we do with contaminated materials? And above all: how will we deal with safety aspects at the site, and how will we schedule the time

Impact wrench

Before the track is renewed, the rail fasteners are removed, which means: the last of the bolts holding down the clips on the old rails are loosened.

intervals for the individual operations to be completed?"

The last question is answered with a printout of the trackwork schedule in the form of a minutely detailed time-distance diagram. All the individual operations are shown in running sequence and with precise details of the times involved. They include such things as preparation of CCT and OHL, ballast cleaning, unloading of long rails, track renewal, fitting and tightening of track fastenings, ballast renewal, rail removal, rail separation, main tamping run (2x), welding, stabilization, track geometry measurement runs (EM-SAT), residual and finishing work, laying CCT cables, grinding new rails. Site cleanup and release of the track. "OK?" asks Brand, who studied at Wismar Technical University, and grins. "It's the same everywhere: setting up a nice plan is one thing - but you'll only win the battle out there on the track."

And the results are evident. It's now July 2007. After 24 months of intensive preparation, the work is progressing as planned at a formidable pace. The place is

Bad Bevensen. The time is 5:15 in the early morning. Like some prehistoric worm, a huge machine of solid metal almost 500 meters long is bearing down on Bienenbüttel, swallowing up tons of ballast as it slithers along. This is 'Lieselotte, the iron pig'. And her job: ballast cleaning from kilometer 109.695 to kilometer 117.845 on the Hamburg - Hanover main line. 'Lieselotte's' handlers are chief operator Peter Wagner and his crew. They've been traveling together for years. A well-coordinated team that would seem to be a part of the machine itself and used to getting things done without many words. They don't speak a lot, at least not while they are working. Why should they? It's almost impossible to understand each other anyway with all the noise. But they notice immediately when something's wrong. "If 'Lieselotte' should hit a wrong note or is slightly out of tune, then we hear it," says Peter Wagner.

At the moment, things are unusually quiet. A worn part of the excavating chain has to be replaced. Driven by a 400-hp motor, the chain removes ballast from under the rails and ties that are raised by the track lifting unit and propels it onto conveyor belts, which then take the excavated material to the screening unit operator perched high up on the outside of the machine. The man on duty today is Gerd Jens. His job is to monitor and control the cleaning process, which is basically a bouncing and shaking process that produces clouds of dust that turn him black by the end of the day. An obvious question is how often does Jens need to shower after work? A boyish reply accompanied by a wink: "Only once. The bed sheets do the rest."

The screening unit sorts out undersized and oversized ballast. When that job's done, around 70 percent of the ballast, cleaned from decades of wear and tear, is returned to the track bed. It is now compacted while the spoil is collected in 18 MFS 40 hopper cars integrated into the ballast cleaning consist.

What a marvel of technology. The 8-million-euro machine, officially designated an RM 801, covers 2,000 meters in a day in two shifts. "Wherever we go," says Peter Wagner with some pride, "we're always the big attraction with our Lieselotte."

And that would seem to be true: crowds of fascinated onlookers gather along the track or on bridges to watch what's going on. And there's more excitement in store as the machine makes its way along the track. The enormous continuous-action 3-tie leveling, lining and tamping machine, for instance, or the ballast plough rushing by as it gives the track bed a neat profile again.

Another system, which is appreciated because of its continuous operation capability in particular, is the automatic track

Safety first

What used to be done by flagmen is now the job of an automatic track warning system on a large worksite between Hamburg and Hanover. Its sirens and flashing lights warn of an approaching train.

Approval of funds is followed by **detailed planning** of the maintenance work and the preparation of a modified timetable.



Precision work Once the new rails have been laid, the next step is to align and join the ends.



Perfect finish One of the last jobs to be done is the finish grinding of the welded rail heads. Test runs are then made before the line goes back into service.

warning system to protect track workers, with flashing orange lights placed every twenty meters along the track and the piercing howl of a siren. It warns of the approach of an ICE or a regional express train on the busy neighboring track. And it tells everyone to watch out and take care, step back and take a break. Anyone who has ever felt the blast of wind in his face as a train roars by immediately has a sense of the risks involved in carrying out maintenance work without interrupting normal train operations. There are very good reasons therefore why the operators of the SUZ 500 UVR high-speed track renewal train, known affectionately as ‘Mammoth’, say that building a road is child’s play by comparison. “All you have to do is put up a road diversion sign and there’s nothing more to worry about.”

The toy they play with is a fascinating technological innovation – 83 meters long, it weighs in at 300 tons and carries a core team of twelve men. It’s hard to believe one’s own eyes, but it actually takes place: meter by meter, the machine swallows up the old track that was laid in 1979 and without even a hiccup simultaneously replaces it with new track. At the front, it travels over the ballast on crawler tracks, and at the rear it travels on the rails it has just laid, each one of which is 180 meters long. Old ties are removed in a continuous movement and new B 70 ties are supplied by mobile gantry cranes that travel to and fro over 22 attached transport cars. The entire process is virtually fully

automated and is controlled by rugged electronics using a joystick.

At the front, in control cab 1, sits the chief operator. Cab 2 is for the operator of the new tie laying unit, with cab 3 for the rail threader, and cabs 5 and 6 for the crane drivers. The observer’s attention is riveted by the sheer size of the ‘Mammoth’ – and a tiny, ant-like machine by comparison almost goes unnoticed. It travels ahead of the giant and simplifies the threading of the new rails into the ties. It’s known as the rail spreader and it’s the kind of thing you’d like around the home, because it can do everything. It has hydraulics to lift the left leg, then the right leg, and then the left leg again. It can lift ten tons easily and – that’s where it gets its name – it works with any track gauge. “Narrow or broad gauge,” says Maik Soost, the man who drives it, “I don’t mind. I’ll take it on an H0 model railway if I have to.”

He’s exaggerating a little of course. The truth, as foreman Johannes Sobiella will tell you, is still quite impressive: “With a



Burn, baby, burn! A highlight for railway enthusiasts is watching rail heads being thermite welded at night. The molten steel at a temperature of 1,000 °C is released into the gap between the rails using welding crucibles.

gang of 120 men, we used to manage 300 meters a day, but with Mammoth here we now do 350 meters and more in an hour.”

So the 8,150 meters from Bad Bevensen to Bienenbüttel are not really much of a problem for Sobiella and his men, but mean a little under 42 hours work, including preparation and cleanup. And then it’s off to the next job.

There are still three days of work to be done on the freshly laid track. Including several tamping and stabilization runs. More fresh ballast to be added and the indispensable track test runs to verify the track geometry. Nothing that would really interest the onlookers. They’ll be back when night falls in time for the start of the thermite welding of the rails. This is a spectacular event, because flames shoot out of the welding crucibles along the track and sparks fly as if it were a New Year’s Eve celebration. A perfect way to end the day.

All that needs to be done now is lay the CCT cable, clean up the site, complete one last test run and then release the track for

Track maintenance work is subject to examination by the Federal Railway Authority and must therefore be carefully documented.

normal operations again – as scheduled, after precisely nine days and seven hours.

Was that it? Not quite. Back in their Hamburg-Harburg office, it’s time for Sascha Scherler and Steffen Brand to take stock: at a cost of around five million euros, a total of 16,300 meters of rail was laid, 13,700 ties and around 9,000 tons of ballast. The same quantity of scrap material went to the Schönberg hazard waste disposal site.

Supplementary orders have to be processed, and to ensure that everything has been documented correctly, huge amounts of paper now fill several files. As Sascha Scherler says, it’s important to ensure that “nothing has been missed – from a single tie and the calculation of the costs down to the disposal of waste of every possible kind.” Because: the Federal Railway Authority (EBA) checks approximately five percent of all the trackwork projects completed by DB Netz AG and takes random samples. If they find any irregularities whatsoever, then there’ll be big fines to pay.

History

Time Travel by Rail

In the DB Museum Nuremberg, you'll discover a lot more than just trains and technical achievements. Reflected in the mirror of time, you will experience a rich pageant of politics, industry and society, as the exhibition tells the story of the railways as part of the eventful history of the German people.

People on the move

The railway was a means of mass transportation from the very beginning. Workers and members of the nobility alike were regular passengers – as the photo exhibition 'Travelers around 1900' testifies. The degree of comfort varied considerably, however: tickets could be purchased for 1st, 2nd, 3rd and the somewhat Spartan 'wooden' class seats.



Speechless

The S2/6 steam locomotive is 100 years old, but looks more powerful even than many a modern counterpart. Visitors gaze in awe at the huge driving wheels that have a diameter of 2.20 meters.



Treasure trove
Millions of items have been collected in the course of the museum's 109-year history. Many of them are stored in the warehouse (right), such as the station clock exhibit planner Ursula Bartelsheim is holding. Only items of genuine historical value are placed in the exhibition, such as an early driving simulator presented by Joachim Konrad (2nd from left).





Unlikely pair
A replica of Germany's first locomotive, the 'Adler', stands next to DB's latest ICE 3 in the vehicle hall.



A marvel of engineering
Some visitors want to know more, such as how the rod drive of a steam locomotive works. A model explains the details better than any text book.

The little boy and the great steam engine – doesn't that sound like the story of Jim Button and Luke the Engine Driver? In this case, the bright eyes and the teddy bear don't belong to Jim Button, but to Jonathan Maul. And the huge locomotive isn't Emma, but answers to the name of S 2/6. "It was built in 1906 and had a top speed of 150 kilometers an hour," explains the little expert. Jonathan is eight years old and not even half as tall as one of the Iron Lady's wheels.

This little lad has had a season ticket for the DB Museum in Nuremberg for three years now: "I come here at least once a month." What he loves to do most is climb up into the cab of the S 2/6, lean out of the window and imagine being in control of this massive vehicle as it roars along the track. When he grows up, he wants to be a real engine driver – or maybe a teacher. Back home in Fürth, Jonathan can see the tracks from his bedroom window. "Winter's the best time of all. When the trees have lost all their leaves, I can see the trains more clearly."

The S 2/6 of the Royal Bavarian State Railway that Jonathan climbs all over is one of the stars of the DB Museum in Nuremberg, as is the 'Adler' from 1835, now restored after a blaze, and the unforgettable TEE, the Trans Europ Express – but more about that later. These highlights of German railway history and numerous other original locomotives and passenger cars adorn the museum's main building that was built in 1925 and its vehicle hall.

In the past, countless models and a huge array of artifacts that were used by Deutsche Reichsbahn and Deutsche Bundesbahn for decades, including a veritable forest of 30 historic Bavarian running signals, made the museum a veritable treasure trove for dyed-in-the-wool railway enthusiasts. Other visitors found themselves somewhat dazed by the sheer size of the exhibition, and saw the need for more 'hands-on' experience, while the children wanted more things to play with and to learn from.

Things have fundamentally changed in the course of the past twelve years. "We have now placed the railway in its political, cultural and social context and tell the story as part of the history of the German people," explains Jürgen Franzke, Director of the DB Museum. "We can thus reach a broader audience, one that is interested in history in general, and not just in railway history." After all, the DB Museum has to compete on a leisure market offering all manner of attractions – and also sees itself today as a service provider.

What triggered the new concept was the decision taken by Deutsche Bahn AG in 1996 to turn the building and its collection officially into the corporate museum and to name it the 'DB Museum'. Since then, a permanent exhibition has been set up on an area of around 2,500 square meters, consisting of three sections: 'A Century under Steam', which examines the pioneering importance of the new mode of transport from 1835 to 1919; 'Serving Democracy and Dictatorship', which is dedicated to the era of Deutsche Reichsbahn from the early days of the Weimar Republic until the end of World War II; and 'On Separate Tracks', an impressive presentation of how the railway systems in West Germany and the GDR developed in different directions from 1945 to 1989.

Those who invest some time on a visit to the permanent exhibition will discover that, right from the very beginning, the railway was more, much more than just a fascinating technological world: it allowed mankind to overcome great distances

and was one of the driving forces of industrialization. In its heyday at the beginning of the 20th century, when it held something of a monopoly in transportation, it provided close to one million people in Germany with bread and wages. It was also instrumental in creating modern cities, providing them with magnificent railway stations as the new focal points for a nation on the move.

Whatever else it was, however, the railway, seen in its historical context, never placed itself beyond good and evil. It not only moved people and goods. During World War II, its wheels had to roll for victory – and for the mass murder of millions of people in Europe. As the backbone of the transportation system, it became a part of the Nazi killing machine. "Without the logistics provided by the railway, it would not have been possible to carry out the holocaust in such genocidal proportions," says Dr. Rainer Mertens, the museum's historian and exhibition director. "Of the six million Jews who were murdered during the holocaust, it is estimated that around three million were transported to their deaths in trains of Deutsche Reichsbahn."

'Special Trains to Death' is a subject to which the DB Museum has dedicated its

Regular visitor
Young Jonathan visits the DB Museum in Nuremberg at least once a month. When he grows up, he wants to become an engine driver or teacher.





Then and now Carsta Behringer, here with husband Werner, looks back to her time as a TEE stewardess (above), while parish priest Heinrich Hecker (below) reflects on reports of the deportation of the Jews.



Flat files

The museum's archive is packed with historical documents going back for up to 200 years that include technical drawings, contracts and old photographs.

own memorial room that is painted black. Photographs of the railway tracks leading into the Auschwitz extermination camp and documents such as the deportation lists speak a language of their own. The darkest chapter of German history is also made real acoustically: one visitor wearing headphones is listening attentively to the trial of a Reichsbahn official who was involved in the deportations. Heinrich Hecker removes the headphones and says: "The responsibility of the individual within the organization was very limited in those days. And this enabled him to ease his conscience." Hecker, who was born in 1937, has had to deal with matters of guilt and conscience throughout his entire life. The Catholic parish priest from Grefrath worked for many years as an army chaplain. "I find it shocking that the transportation of the Jews was still working, even after everything else in the country had collapsed, and tracks, railway stations had been destroyed," says Heinrich Hecker. "It's good that Deutsche Bahn has acknowledged this part of its past."

For 70 years now, the DB Museum in Nuremberg has owned a bust of Julius Dorpmüller, the man who held the position of Director General of Deutsche Reichsbahn from 1926 to 1945 and who also served the Nazi regime from 1937 as Minister of Transport for the German Reich. The sculpture will remain on display – but has now been placed on the floor next to the pedestal. The DB Museum is full of such intentional surprises.

Adults are given historical insights and very real memories, while children gaze in awe. The museum's express wish is for them to get 'hands-on' experience and try things out: in the 'Railway World of Discovery' exhibition, which covers an area of 1,000 square meters, the little railway fans can really have fun. On the 'Bobby' ride on train, for example, with little ICE sprinters.

What would a railway museum be without a model railway? The one in Nuremberg was built in 1960, but is as durable as the real thing. The man responsible for maintaining the fleet, which is built on a scale of 1:87, is Georg Walter, who went from being a Bundesbahn fitter to the 'surgeon' of the model railway. With soldering iron, tweezers and magnifying glass, he repairs damaged or derailed rolling stock. "You need a steady hand and steady gaze, otherwise you'll go crazy," says Walter. "Some of the screws are so tiny, you can't even pick them up with the tweezers. You have to wet your finger."

The large originals from all eras need just as much care and attention, but have finally come to rest in the museum. They include the occasional fragile rarity, such as an original second-class passenger car from the Ludwig Railway Company that

began operating on the line running between Nuremberg and Fürth in 1835. Little cardboard signs bear a polite request: "Please do not board!" But exhibition organizer Mertens will make an exception and take a seat himself for a photo. With wood paneling and upholstered seats, the interior of the compartment resembles a stage coach and is really very cozy. But the historian adds: "The comfort experienced in an ICE today has very little in common with traveling by train 170 years ago. It was a bumpy ride, because the rails were not welded like they are today. There was

Luxurious

This is how Bavaria's King Ludwig II used to travel (above); the waiting room reserved for the VIPs of yesteryear in Nuremberg's former Central Railway Station (right).

no toilet, no heating and at the most a bare glimmer of light." Carsta Behringer from Nuremberg has experienced something quite different. On the museum's outdoor exhibition area, she's gazing at an old-timer that she has fallen in love with. And for good reason – in 1957, Deutsche Bundesbahn put a train into service with a design that has since become a legend: aerodynamically designed power car, aluminum skin with a red and cream livery. And not only the bodysell was state-of-the-art: "The TEE had air conditioning, open plan saloons with upholstered armchairs, a train secretary and a delightful bar," an enraptured Behringer recalls. "Meals were also served on Rosenthal bone china with linen napkins, and the food was always first-class."

When Europe's railways put the TEE into service half a century ago, Carsta Behringer was one of the crew. For four years she traveled between Frankfurt am Main and both Amsterdam and Ostend as a stewardess. The attractive girl from Nuremberg turned the head of many a male passenger on the TEE. But not even Germany's football star Fritz Walter made any headway. Behringer had already fallen in love with a man from the competition. "In those days he was a steward with Lufthansa," she says. "But when it came to the service we provided on board, the TEE crew was every bit as good."

While she was looking after passengers on the train, he was looking after passengers in the clouds – but that was a long time ago. Today, the Behringers serve guests of their own in the traditional local restaurants of Franconia's capital, the 'Bratwursthäusle' and 'Bratwurstglöcklein', and are known throughout Nuremberg. "Settling down also has its nice side," the former stewardess admits. And anyway, she can always take a nostalgic trip down memory lane. "The DB Museum is just around the corner."

Luxury travel on the TEE: "Travelers dined off **Rosenthal china** with linen napkins, and the food was always first class."



Junior staff DB trainees learn about their employer's past.



Transportation and Logistics

Freight Worlds

In this age of globalization, they play a key role: marshaling yards, freight terminals, seaports and logistics centers are the modern hubs of transport chains that span the globe. And what passes through them on its way to millions of people, is the daily concern of DB Schenker employees. A journey in pictures from Europe's far north to Asia and down to South America.



Singapore

Southeast Asia



The man is small, with a wiry figure, and is very much the boss. Conversations with Charlie Kok are electrically charged. This is how he motivates his people, and how he manages the DB Schenker country organization in Singapore. Quick-witted, lively, and always full of energy. "Our assets are our people," says the Managing Director and looks back on 21 successful years of business. The small city state is the world's most dynamic business center, a link in the triangle between China, Australia and India. An air freight hub, and the largest seaport on the planet - the absolute mega-hub. Singapore is a popular location for the overseas branch offices of many global companies whose business is in luxury goods and high-end electronic products, and is a booming center for pharmaceutical research. It is also home to one of the world's largest airlines, for which DB Schenker provides parts logistics services (picture on right). As it does for VW, for IBM, and for Epson. As Charlie Kok says: "We may not be blessed with perfect beach weather here, but we have other strengths: customs are open 24 hours of every day. And that's what counts in our business."





Qingdao China



An everyday picture in the port of Qingdao: one after another, the trucks rumble through the access gates. This is one of the fastest growing container terminals in China. It is already the world's No. 1 in terms of iron ore and crude oil shipments. Around seven million people live in and around the city, which was administered by the Germans in colonial times (Tsingtao) and in 2007 recorded 16 percent economic growth. The size of the workforce in the branch office has grown accordingly, increasing in just six years from 10 to 64 employees. They are all greeted by their boss with a handshake when they arrive for work each morning, because in all her dealings with her young team – whose average age is 24 – Maggie Xu (above) places a high value on “trust and a personal approach.” The mother of a grown daughter manages the business in a job that is normally dominated by men in a manner that is equally warm-hearted and energetic, and is focused on one goal: the Olympic Games in 2008. Qingdao will host the sailing events and “we from Schenker”, a delighted Maggie Xu says, “are the official freight forwarding and customs clearance supplier.”



Turku Finland



In the transportation and logistics business, 'white goods' is the name given to everything needed in the home: from the cooker and refrigerator down to the washing machine. The new, 22,000 square meter DB Schenker logistics center in Turku is Finland's hub for such products: they arrive at the warehouse by train from all over Europe, and are then delivered by truck to the nationwide network of dealers. Turku is also the northern European transportation interface to Russia. "There are good trunk roads to St. Petersburg, and that's where we deliver our consignments by overnight service," says Tapio Orne, Director Marketing & Sales (above). "It's good to have broad-gauge sidings, because this means we have a direct rail link from Turku to Siberia." It is primarily the oil processing companies that use this route for their products. All kinds of barrels and containers fill the shelves in the high-bay warehouse, amounting to around eight million liters in total, mainly consisting of engine and transmission lubricants.



Manila Philippines

Jeepneys painted in all colors are all over Manila. The little buses are the main means of transport for the working population in the Philippine capital, but when orders are to be delivered urgently, then they also provide a parcel delivery service. The DB Schenker country organization, which stopped working through agents in early 2007 and now operates as an independent organization on the Philippines, has 650 employees working in all transportation and logistics areas. In addition to air and ocean freight services, plus customs clearance, the main business is in contract logistics (SCM). Several distribution centers are provided for telecommunications and electronics companies such as Globe and Samsung, and at the request of their customers, they place a high priority on security (above). Security personnel are certainly a common sight outside all the warehouses here, but should not, as Reiner Allgeier, Managing Director of Schenker Philippines, warns, distract one's view from the essentials. As he says: "There's hardly another country anywhere in Southeast Asia where people are more friendly or more skilled."



Santiago Chile



Chile's farmers use fertilizers from Germany. And the service providers at hand for their transportation, warehousing and delivery needs are also from Germany: people employed by the local DB Schenker branch office in the capital, Santiago de Chile. In 2007, a new logistics center was built on an area of just under 6,000 square meters and designed specifically for both agricultural and telecommunications products, in which the employees (above) fill 5,000 rack positions or make up customer orders that are subsequently distributed throughout the country via Schenker's regular scheduled services. Chile has a width of no more than 180 kilometers, but a seemingly unending length of 4,300 kilometers. For this reason, shipments sometimes take days. Since Chile is mostly an importing country - apart from copper production and the cultivation of agricultural products such as wine and olives - Schenker's business areas are easily described: they cover the import of cars and consumer goods, but also include logistics support for large project business in the field of oil and natural gas as well as in scientific fields and research.





Hong Kong

Asia

The skyline of this city is known the world over, but the sight of Hong Kong's container port is even more impressive and overwhelming (No. 2 worldwide). If you want to experience the surging pulse of an awakening China, which Hong Kong has once again been a part of since 1997 as a Special Administrative Region (SAR), then the roof of the huge ATL Logistics Center is the right place for you: looking down from this dizzy height, your gaze falls on the vehicle ramp below, that allows container trucks hauling 40-foot steel containers to drive up to the 13th floor of this multi-storey drive-in building, and then beyond – to endless rows of containers, with ship-to-shore cranes and gantry cranes, and huge container ships. In the glare of the floodlights, they look more like toys. There are three gentlemen who simply love this panorama: Danny Chan, Managing Director Schenker International (HK) Ltd (above right), with co-directors Michael Tung (center) and Eddie Chung (left). They are doing excellent business, although it's a little different than it used to be. "Hong Kong today no longer stands for mass-produced items, but for high-quality products," says Danny Chan, and points proudly to a doubling of Schenker's revenues in 2007.



Supply Chain

Handling with Care

Shipping goods from A to B is one thing, preparing goods to meet the customer's requirements before shipment is something else. In the field of contract logistics, DB Schenker offers comprehensive, tailor-made services.

There's no such thing as the world of logistics. What we really have is a variety of different logistics worlds: the world of air and ocean freight, for example, and that of contract logistics. Or the world of land transport, where trucks and trains are on the move, traveling between assembly plants, warehouses, ports and marshaling yards. And the world of global special projects, which has no limits. We can also add more worlds, such as those of sports, exhibitions and trade fair logistics, or the world of art logistics; little ones, big ones, conventional ones, important and interesting ones... so many worlds, but does anybody happen to know what the world of value-added services is all about?

You're certainly on the right track if you think of tailor-made customer solutions in supply chain management (SCM). These include services that cover more than just the shipment of freight from A to B - they are actually little cogs in the large machine of industrial manufacture and the distribution of goods.

Within the production process, they are responsible for just-in-time line-side delivery of components, while ensuring at the same time that finished goods delivered to the final customer arrive on schedule and in compliance with the needs of the market. This may also include correctly labeling imported goods that have passed through customs, breaking them down into the portions required by the trade, or packing them for special promotion and marketing activities, making technical modifications, and in some cases actually configuring them for use by the final customer.

Pick and pack

A service provided for the electronics industry: in the company's logistics center in Buenos Aires, imported goods destined for the Argentine market are labeled and customs tags are added.



Mobile phones Packing SIM cards and pre-configuring cell phones in Manila.



Final check DB Schenker operates a distribution center in Singapore for the US-based Timken company.



DB Schenker's telecom business on the Philippines is just such an example. This is where you will find over one hundred Schenker employees involved in receiving, warehousing, programming and dispatching every possible kind of mobile phone and SIM card on behalf of Globe Telecom, a leading telecommunications provider. The volume of data alone is enough to make the layman dizzy: for 850 different types of device, there are around 3.5 million serial numbers for prepaid and postpaid SIM cards. The entire system is managed via a dedicated interface set up between Globe's and DB Schenker's software systems to ensure that both companies have access to all the relevant production and delivery data.

There's also a story behind these figures, of course. And Ronnie Cruz, logistics manager for the DB Schenker country organization, is an excellent storyteller. We could call him the master of ceremonies, since the motto he lives by speaks for itself: "I sell what I do best." And that means work, work, and more work. "I'm a born workaholic," he says. He's always the last to leave in the evening,

Computer chips
In the company's logistics center in Singapore, components required by the mobile phone and computer industry are stored on shelves that reach up to the ceiling: in this case, electronic components for Qualcomm.

and the first to arrive the following morning, which is one of the reasons why he generated over 100 percent more sales last year and added 26 new customers to his portfolio, which ranges from Samsung to Philip Morris. "There's one thing one should never forget, however" adds Cruz: "It takes months to acquire a new customer, but just seconds to lose one."

That's the way he does his job, and he expect others to do the same. And of course it also applies to Globe: business with the national telecommunications giant (around 18 million customers) has been handled by Ronnie personally since 2005. He could speak for hours on the subject and present charts, but instead he opens the door to the sanctum sanctorum, the warehouse complex, where the flying fingers of his workforce speak volumes: during phone kitting and SIM card locking operations, they perform amazing artistic feats that would delight a circus audience.

It's all incredibly fast, and this is how it goes: Wheng takes a brand-new Nokia 6300 from the cardboard box next to him, puts on a serial number sticker, and then passes it on to Chris, whose job is to check the battery and SIM card. Then comes Eva. She configures the device for Globe use, using both hands to perform 76 key commands in just under a minute. Now it's Maan's turn. He verifies that the serial number is correct and passes the phone to Beru, who adds the guarantee sticker. The phone now has to be packed, which is Dante's job. And so it goes on. Round and round, and over and over again – precisely 7,000 times a day from morning to evening.

A few steps away, the number for the day is 40,000. Here you'll find eight tables with four employees sitting at each one and placing prepaid cards in little bags in several steps – regular cards or those with the logo of major Globe customers. Right now, they're preparing special cards for the EL SHADDAI religious community. They all get date stickers, are loaded with 300 Pesos credit and end up 50 at a time in waiting cardboard boxes.

The rest is dispatch and delivery. That sounds simple enough, but it's a tricky business when the security aspects are taken into account – Manila after all is a teeming city populated by millions of people and full of acute social contrasts. And of course, mobile phones and loaded prepaid cards are highly coveted goods that are worth money, particularly in the slum districts.

Which is why they are generally delivered to the dealers in unlabeled boxes and in many instances in armored delivery vans instead of the ubiquitous jeepneys or by tricycle motorbike couriers. Pointing to the ever-watchful eye of the warehouse security staff, Ronnie Cruz adds: "We provide a one hundred percent warehouse security guarantee to our customers and have a delivery success rate of precisely 99.7 percent."

Customers expect punctual delivery, careful handling of their products and complete warehouse security.

Hair care
Ordered today, in the hairdresser's salon tomorrow: at its Toledo site in the United States, DB Schenker processes individual orders for Wella Group products.

On the Philippines, figures like these deserve to be followed by a huge exclamation mark: "They're our mark of quality," says Reiner Allgeier, Managing Director of the DB Schenker country organization.

Talking to the man is as delightful as drinking a glass of the fine wine that grows in the region he hails from – Baden, or Waltershofen am Tuniberg near Freiburg, to be precise. With the company 32 years now, you can say he's always been a Schenker man really: initially in Freiburg, and then off into the big wide world, but always returning. A couple of spots he's been to perhaps? Well, there's Kenya and Nigeria, Hamburg and Frankfurt am Main, Thailand, Indonesia and Malaysia. Air and ocean freight. Office of the CEO. Head of a branch office. He's done it all.

And now the Philippines. As far as the mentality is concerned, it's not entirely unknown territory – it's where his wife comes from, the mother of their four children. But they met somewhere in Africa. She's finally back home now, for the first time in 26 years spent abroad – and he's still in a foreign country. "Goodness me!" his parents exclaimed as he set off years and years ago. "They simply couldn't imagine a life like that," says Allgeier, and a boyish grin spreads all over his face.

He's got a sense of humor, has intellect and holds German virtues in esteem – a sense of justice, love of precision and punctuality. At any rate: when his department heads complained about the unreliability of their employees, the first thing he did was apply the standards to them. And what happened? It turned out they were all late for work in the morning. When they did arrive, they found a note on the door: "You're late, please report to my office." A brief smile crosses his face. "It worked."

And how! Allgeier now has 550 employees on the payroll. And since 2007, Manila has been a full-blown, independent DB Schenker country organization. Business had previously been handled by an agent, but that's history. "It was the only way to go, considering the network thinking that prevails in our Schenker organization," says Allgeier. "Despite the fact that, for a variety of reasons, we are not seeing the dramatic growth on the Philippines that we know is taking place in our neighboring countries, we are still talking about a market of over eighty

Transportation and logistics services are becoming more diverse, and the challenges are growing.

million people here – and one of the key Asian centers for electronics and semiconductor technology products.”

The U.S. giant Texas Instruments is currently investing one billion dollars in a new production plant. IBM, Motorola and Intel are also here. “Sixty percent of the exports,” Allgeier adds, “come from the high-tech sector, and that’s where we want to increase growth”. An in-house semiconductor team has been specially set up to look after that, and the air freight center at the airport is also being extended. Right now, 850 to 950 tons are being exported every month, but Allgeier wants more: “Our vision is our mission,” he says and, in terms of air freight, what he means is “moving up from No. 3 to No. 1”.

But let’s return to Globe and the value added services provided by the logistics company. Put in simple terms, they allow the manufacturer to focus on his core competences of production and marketing, while peripheral services are outsourced to specialist third party companies. Sharing out the work in this way results in profits all round. On the one hand, it’s an approach that saves costs, creates lean structures and reduces the manufacturer’s risks, but at the same time, it increases business volume, margins and also the competence of the transportation and logistics industry. And there’s an added side effect: penetrating deeper and deeper into the production processes demands an enormous amount of mutual trust and confidence, which results in even greater customer loyalty. Providers of complex logistics solutions can’t be replaced as quickly as simple freight forwarders.

At any rate, the business model is expanding – all over the world. Something that can be demonstrated by taking a journey across the continents. First the German examples: the scene is Schweinfurt, where DB Schenker operates a warehouse center for products manufactured by the French luxury goods company Luis Vuitton Moët Hennessy (LVMH). From champagne to cognac, around three million bottles are received and delivered annually as part of a supply chain contract, with as many as 600 orders a day during peak periods.

At the same time, Schenker employees are involved in assembling store displays. Wine and champagne buyers everywhere know the cardboard displays filled with bottles. They are sent to LVMH dealers throughout Germany for promotional purposes, and are a classic case of value-added business.

The next location is in Hanover, where DB Schenker operates a production supply center for Volkswagen’s commercial vehicle assembly plant (VWN) with just-in-sequence line-side parts delivery. In addition – based once again on the value-added principle – they perform a lot of pre-production work. The plant in Hanover is where roof liners for short production runs of the VW Transporter vans are cut to shape and where components are added to the dashboards before final delivery to the customer.

Next stop Toledo, USA. The airport there is used primarily as the North American hub in DB Schenker’s global network. But it is also the operational base for a warehousing and distribution business involving Wella products from Procter & Gamble. The benefit: merchandise arriving by air freight is immediately moved into the neighboring warehouse for temporary storage and then packed ready for delivery on the basis of orders from resellers, and delivered by truck.

Some 700 orders are received daily and are then processed in two shifts using ‘pick and pack’ techniques. Which goes something like this: from Wella’s enormous range of hair care and beauty products, warehouse employees, armed with a pick list for the specific order, take out the individual items from large cardboard boxes and put together a complete consignment, which is then ready for



Final touch In Buenos Aires, cosmetic samples are packed and manufacturer’s labels applied to video cameras by hand.



Check-in Pressed, packed in plastic foil and now hanging on racks, these suits are waiting to be shipped by air from Hong Kong to Europe.

delivery to local hair salons or large supermarkets. Typical figures for a day’s work: 30,000 picks and around 9,000 packs.

Moving on to Singapore. Here we find David Lim and eight employees dealing with heavy ball bearings, which arrive packed four at a time in cardboard boxes: they’re first unpacked, lubricated, and then packed again – this time in individual cartons, ready for delivery to the customer. “Nothing that couldn’t be done at the production facilities in China,” says warehouse manager Lim, “but with the value-added service we provide, the customer gets reliable quality assurance and final inspection.”

Other companies think the same way: examples include clothing manufacturers who have suits that are manufactured elsewhere in Asia ironed and pressed in Singapore by DB Schenker employees and then packed into specially designed shipping crates; and then there are air cargo companies who entrust the logistics specialists with the complete supply of spare parts and, depending on the need, even order small parts such as screws or rivets for delivery as single consignments. The same applies to the automotive sector, where numerous warehouse employees also move along endless rows of shelves with pick lists to make up special orders, and even computer chip manufacturers like Qualcomm are included on the list of customers.

Here again, ‘Pick and pack’ is the name of the game in the company’s own air-conditioned warehouse with no less than 2,100 square meters of floor space and a million chips of every conceivable capacity stacked to the roof. The air conditioning system emits a steady hum, and the air is filled with the constant peep of scanner guns. There are 2,000 parts numbers to deal with and the value of the computer parts arriving and leaving here runs into many, many

millions of dollars. And so we come to the last, and almost certainly the most colorful example – involving something most of us will already have come across at some time in our lives. The place is Buenos Aires in South America. In one of DB Schenker’s logistics centers, we can see huge tables, with hundreds of soft toys piled up on them. Bugs Bunny’s here and Speedy Gonzales, the fastest mouse in Mexico.

The funny figures are packed in plastic foil. They are intended as giveaways to go with McDonald’s Happy Meal offer. The US corporation has ordered 1.2 million of them for the Argentine market. But before they can be delivered, they need stickers on them, and a customs tag must be sewn on. These are required by the local trading regulations, and forty young girls are busy with needle and thread to ensure that these requirements are complied with. Five girls are seated around each table and sewing with nimble fingers. Three stitches each time, completed with wide arm movements and all in unison – 1.2 million times for a total of two weeks.

Argentine’s children will certainly be delighted – but nobody would ever dream that this has something to do with value-added services.

Preparing pallet loads for delivery by air freight

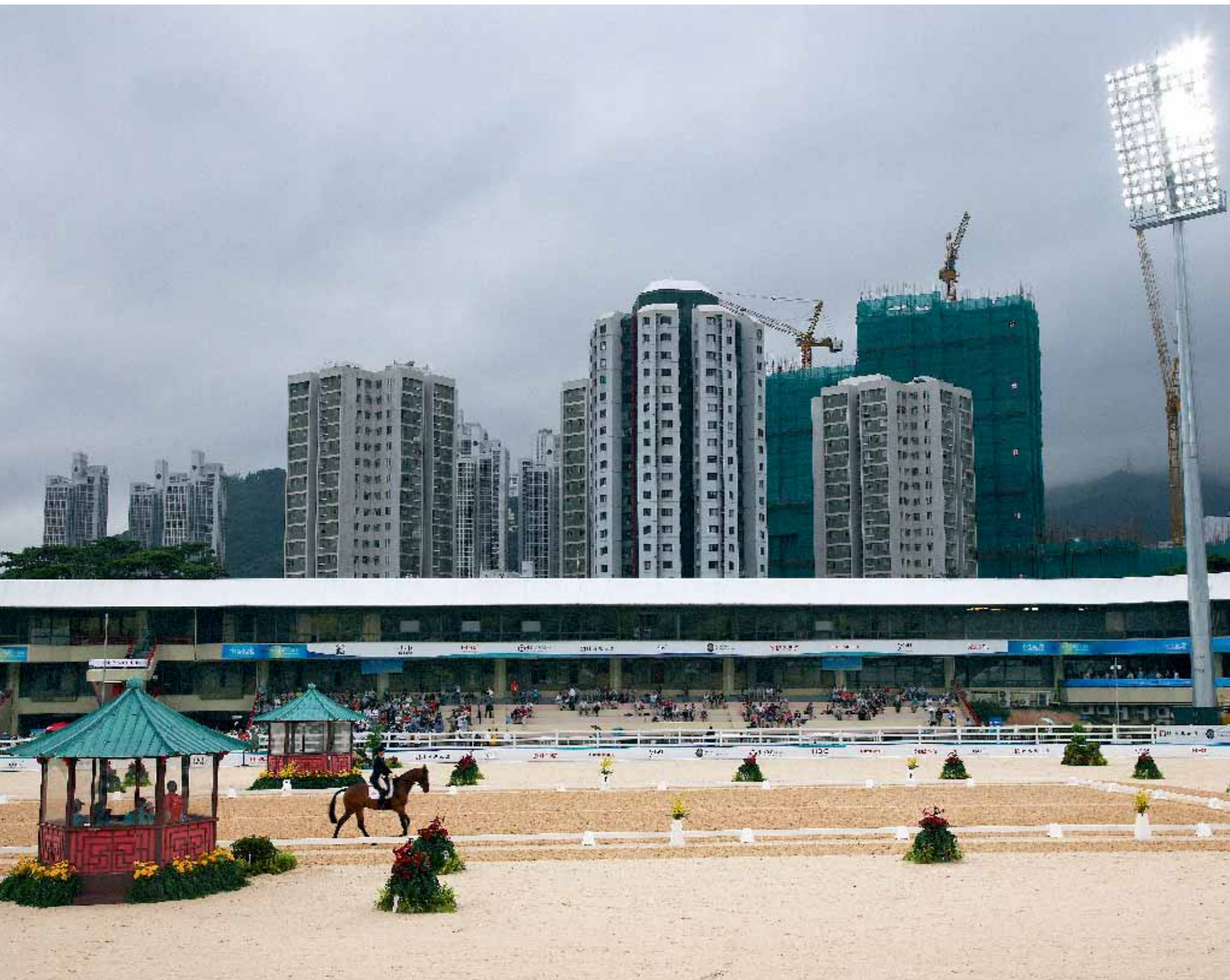


1 The height is specified: the pallet load stands on a metal plate, known as the slave.

2 Added protection: the sides are covered with thin sheets of wooden veneer.

3 Well wrapped: a total of three layers of plastic sheeting protect against moisture.

4 Ready to go: secured with a tear-resistant cargo net, the load can be collected.



Sports Logistics

Dress Rehearsal

From August 8 thru 24, China will be inviting the world's youth to the XXIX Summer Olympics in Beijing, and DB Schenker's sports logistics specialists will also be there.

The Olympic Games need men like James Longcroft. Men who stay calm when all around them is chaos, who understand what is most essential in the middle of a Babylonian confusion, and who are able to direct the efforts of crowds of eager, but disoriented volunteers to ensure that the job gets done. Who make the right decisions and put them into practice with no time wasted, who keep track of what's going on and never get ruffled. James Longcroft from DB Schenker is that kind of man.

There he stands with that look in his eyes, eyelids half closed and long eyelashes, and he doesn't miss a thing. He seems content: a smile assures everyone with even a shadow of a doubt that everything's going just fine.

The scene is the satellite town of Sha Tin in Hong Kong's New Territories. What they're doing here, between the tall buildings that border the Shing Mun Canal in the background and the famous racecourse of the even more famous Hong Kong Jockey Club (HKJC) just a stone's throw away, is a warm-up for the Olympics equestrian events.

It's only a rehearsal, but rehearsals are absolutely necessary. They're important in the opera, and they are just as important for sports events. Coming events cast their shadows before, they say, and this certainly applies to the Beijing 2008 Olympic Games. China is calling upon the youth of the world to assemble in Beijing. But the horse riders will not be summoned to the country's capital, but to Hong Kong, the former British Crown Colony close to 2,000 kilometers away, which has been officially declared free of equine diseases. It also has one of Asia's top equine hospitals.

"From the logistics standpoint, there's no problem," says James, as calm as ever. "Quite the opposite in fact, because due to the large number of horse races offering big prize money, the people here have a lot of experience dealing with veterinary examination and quarantine requirements."

He and his DB Schenker global sport events team know their way around here now as if they came every weekend. And that means the newly erected air-conditioned stables and training arenas in Sha Tin, plus the equine hospital and clinic, the competition arenas for dressage and jumping, and the - albeit still

Dressage event
The Olympic equestrian events will be held at the foot of apartment towers in Sha Tin, Hong Kong's satellite town in the New Territories. DB Schenker helped to organize the trial event for the Olympics held there in 2007.



Just a call away
The mobile phone is James Longcroft's most important tool during the trial events in Hong Kong.

provisional – spectator stands. But it also includes the facilities that have been prepared for the cross-country phase of the eventing competition at the Beas River Country Club near Fanling 30 kilometers away. The local jockey club is playing host to the Games on behalf of the Beijing Organizing Committee for the Games (BOCOG), and is spending some 80 million euros on the equestrian facilities. On the other hand, at 1.2 billion euros (business year 2006/2007), it is also Hong Kong's most important and largest single tax payer. As a not-for-profit charitable trust, it has a government-granted monopoly on horse racing betting and the lottery. The Hong Kong Jockey Club is also one of the most powerful and influential institutions in the city, which was returned to China in 1997 as the Hong Kong Special Administrative Region (SAR).

This helps of course. Even with transportation and logistics. "Super-professional," is how James Longcroft describes the people he deals with at HKJC. "Including the planning, they have completed the whole thing from scratch in just two and a half years," he says admiringly, "and now, precisely one year before the official opening of the Games, everything is more or less ready." Nevertheless, Hong Kong's equestrian events remain a logistics challenge. On the one hand, riders will be competing for medals at two different venues.

Typhoons and a sultry climate are **a challenge** for athletes and horses alike.

On the other hand, shipping horses is a very tricky business. It should not be forgotten that over 300 animals competing in all disciplines, including their riders and the entire entourage consisting of trainers and grooms, plus the associated equipment and material, have to be shipped safely and quickly.

The trial run that is taking place right now, however, involves only one 'International Eventing Competition Two Star' event, including dressage, cross-country and jumping competitions. A mini-Olympics, as it were. It's very useful for checking the various procedures, and also gives the athletes the opportunity to get used to the situation. Cross-country riders for the trials in this case came from the United States, the UK, Sweden and the Netherlands, with Germany represented by the two brothers Frank and Andreas Ostholt, Dirk Schrade, and Anna Junkmann. They all moaned about the climatic conditions. Hong Kong in August means 32°C in the shade and humidity of 80 percent, accompanied by the occasional typhoon, with wind speeds of over 150 km/h.

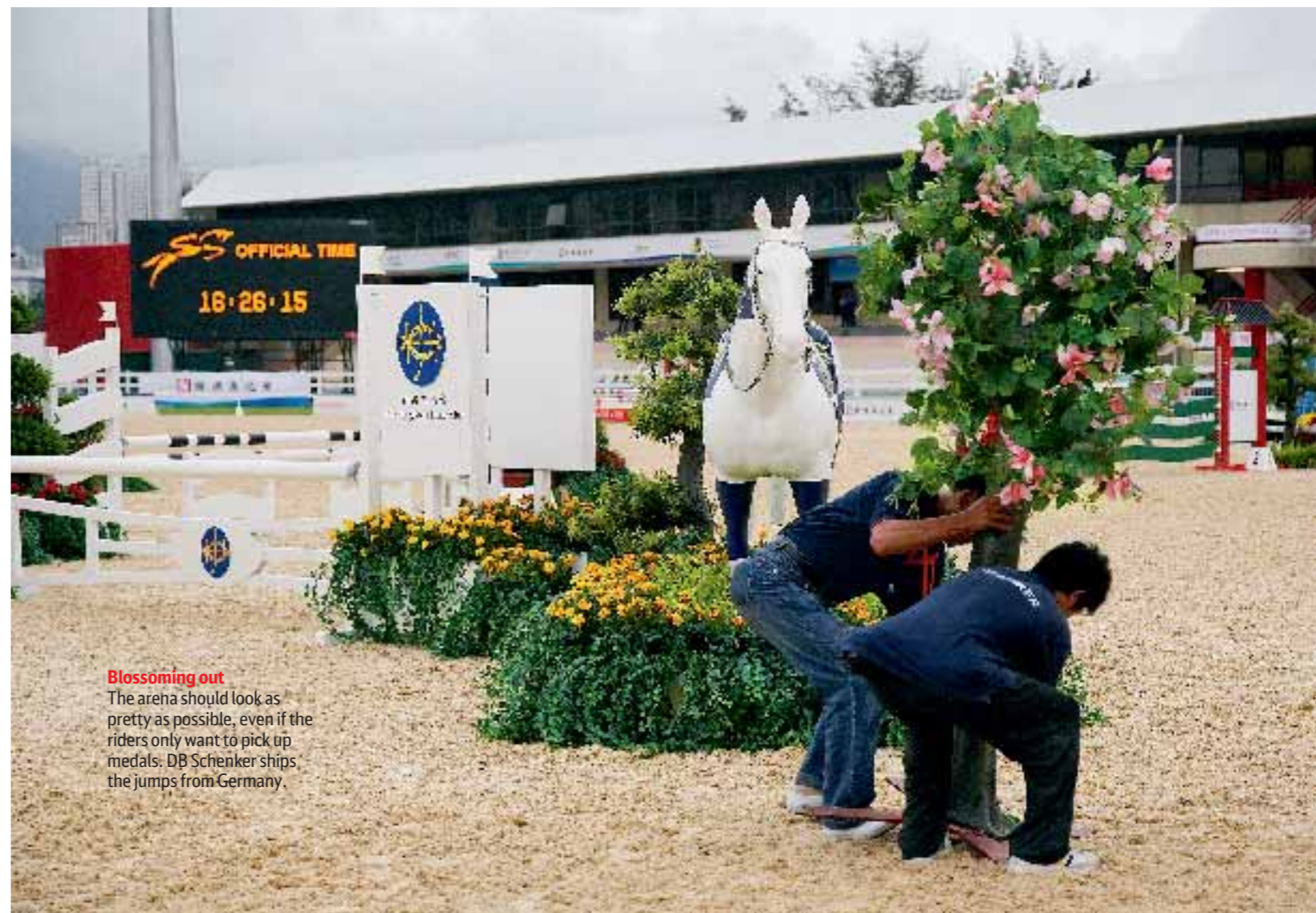
The shipping of the horses was undertaken by a specialist company, International Shipping Agents Peden Bloodstock, the rest was taken care of by DB Schenker – beginning with the show jumps for the jumping events that were produced in Germany, down to the feed for the horses and all the necessary horse care and grooming tools.

They also shipped the equipment that was specially developed for Hong Kong's extreme weather conditions. The participants try them out on the spot under local conditions. There were boxes of tall boots and paddock boots including specially designed ventilation holes to improve air circulation, all kinds of subtle Cool&Dry coolers, fly protectors and turnout blankets, plus equestrian helmets and dressage hats made of sweat-absorbing material and with special ventilation cutouts.

The delivery of all the equipment took just under a month, from the dispatch of the consignments, through air and ocean freight forwarding, to customs clearance at the final destination. "As always, our global network made things a lot easier," James explains. "Our people in Frankfurt/Kelsterbach, for example, coordinated all the procedures in Germany and then handed everything over to us and our branch offices here in Hong Kong and Beijing." Those were hectic days of communicating by mobile phone, backed up by hundreds of emails and surprises all the way. Top priority was given of course to meeting the strict security precautions prescribed by the Olympic Organizing Committee. From containers to the smallest parcel being shipped, everything was not only given a scrutinous visual inspection, but also x-rayed using special equipment. A nerve-wracking, enormously time-consuming procedure. Not only for the athletes and their entourage, but also for Longcroft's large team.

"Athens and the Olympic Games there were one thing," says Venue Logistics Manager Chen Ting Mow, "but China in 2008 will be something quite different in this respect. It's a much more complex event." To understand what he means, all you have to do is look at the army of uniformed police officers. There are more of them to be seen during this trial event than spectators.

Chen Ting Mow certainly knows what he's talking about. He's been a member of Schenker's Equestrian Events Competency Team for years now and there's no special feature of equestrian sports that is new to him any more. "The animals", he says, "are enormously valuable and at the same time infinitely sensitive.



Blossoming out
The arena should look as pretty as possible, even if the riders only want to pick up medals. DB Schenker ships the jumps from Germany.



Color code Eventing teams must travel to 'Beas River' for the cross-country events. Equipment is color tagged, while horse shipments are handled by specialists from Peden Bloodstock.





Hands up if you want to help Schenker employees in Kiel load German sailing boats into containers.



Ocean freight Boats on a long voyage: while the athletes fly to Qingdao, their equipment goes by container ship.

Even the tiniest mistake can have unforeseen consequences.”

Standing in the pouring rain, Chen is carrying out a final inspection of the shipments before the athletes taking part in the eventing competition leave on their way to the cross-country event at Beas River. Whether it is water, oats or carrot sticks, curry combs or blankets – whatever was stored in the stables has been placed into boxes – identified with team stickers – by the grooms and is now being loaded onto trucks. The amount of effort required for the short trip is enormous: and then tomorrow, when the event is over, they’ll return to Sha Tin. The equestrian venue in Beas River is a converted golf course.

“This is going to be the trickiest part of the entire logistics background operation in August 2008,” says James Longcroft, “because then it won’t be just twenty horses we’ll be transporting, but four times as many, plus all the equipment and material required by all the teams taking part.”

The convoy that is now setting off is impressive enough as it is, escorted by the flashing blue lights of a fleet of no less than fifteen police motorbikes. The air-conditioned horse trailers follow in a precisely determined order, with the trucks carrying the equipment and materials coming up behind, then a veterinary ambulance, lots of officials in cars and right at the back a breakdown recovery vehicle with two car mechanics onboard. “Just to be on the

Light show

Modern skyline and a completely new marina: everyone in Qingdao is proud of being chosen to host the Olympic sailing competitions and delighted with the performance of the city’s international partners.

safe side in China is never enough,” says James. And just a few hours later, when the lights at the main entrance go out during the jumping competition, he is the man of the moment when everybody else is running around in hopeless confusion. He lights up the way for the spectators with the headlights of all the golf cars he can lay his hands on. He and his team then organize emergency diesel generators and floodlights to get around the short circuit. His comment: “No big deal, that’s part of the job.”

But let’s take another tack now. The Olympics also need tough women. Like former hockey player Anne Högemann, who now holds a degree in Business Administration for transportation and logistics. Or Maggie Xu, the head of DB Schenker’s branch office in the port of Qingdao. A veritable human dynamo. Open-minded and friendly, she’s also a woman who resolutely tackles the job at hand and makes sure to get it done. A motto that hangs on the wall of her office says it all: “The road to success,” it tells her in big letters, “is open only to those prepared to go the extra mile.”

That sounds like a sports challenge, and it should be understood that way. Apart from Beijing itself and Hong Kong, Qingdao is the third Olympic venue of the Games in 2008, and the place where the regattas for Star Class, Laser, 470s and Tornado racing yachts will be held. Right now, the teams are setting their sails and steering the boats into the waters of Fushan Bay, which is notorious for its currents and changing wind conditions. Dress rehearsal here again, and, as Maggie says, “it’s a couple of meters on my extra mile”.

She has never seen her city like this before. So clean and tidy, with hundreds of brand-new taxis and city buses everywhere. Decorated in bright colors, the glass facades of tall buildings greet its “friends from all over the world.” At night, laser beams create domes of light high above the city and Olympic banners are to be seen virtually everywhere, spelling out “Good Luck Beijing 2008”. And there’s no lack of sponsor and partner banners a year before the official start of the Olympics. All the big names can be seen lined

up along the wide main arteries – from Coca Cola and China Mobile to DB Schenker.

“The people down at the docks know us of course, and those in business as well,” says Maggie Xu, “but now that they know about the work we’re doing for the Games, we’re greeted with great respect and even greater interest.”

There are times when the breathtaking development of the recent boom years seems somewhat unreal to her. “Back in 2001,” she recalls, “there were ten of us sharing two rooms. Now we occupy the entire floor. I have a team of 64 people. They are 24 years young on average, and we now handle 2,300 containers a month in our sea freight export business alone. Five years ago, we just about managed 300 TEUs. None of us back then expected to see this kind of progress.”

And nobody would have expected this kind of performance from a woman either. Not in China. “Generally speaking, you still find today that women who pursue a career and are successful are greeted with reservation,” says Maggie Xu. “This doesn’t make negotiations any easier: as a woman, you have to be better prepared and be just as tough and uncompromising during the negotiations as the men are.”

But that’s no longer a problem for her. On the contrary: the respect she enjoys and her diplomatic skills have brought her additional fruits, and smoothed the way for her and DB Schenker into the new

Qingdao Olympic Sailing Center, erected at a cost of around 320 million euros on the site of the former Beihai shipyard.

It’s Schenker territory at the moment and, during a recent visit, Qingdao’s mayor, Xia Geng, formally expressed his thanks “for the professional and faultless cooperation”. Praise that brought a red glow of pride and pleasure to the cheeks of Maggie Xu’s Chinese staff members, first and foremost Daniel Yuan (Venue Logistics Manager), Apple Yang (Customer Service), Vicky Zhang (Documentation) and Joana Guo (Assistant Manager). “Our local colleagues in particular,” explains Anne Högemann, “are incredibly dedicated and proud, because they feel a national obligation to show their new, modern China to the whole world.”

To Anne Högemann, the Olympic Games have long become routine. Whether it was the Olympics in Athens or Turin, or the FIFA World Cup in Japan and Korea – she’s missed none of the major sporting events of the past few years. She is now a member of the Sailing Competency Team with the DB Group’s sports logistics specialists. “That may sound quite glamorous,” she says, “but it’s actually hard work”.

How true. She was recently sighted early one morning in June at the Olympic Center in Kiel. She was supervising the loading of the containers with the German boats for the Pre-Olympic Regatta, dealing with the shipping documents and ensuring the loading onto the ship was going off smoothly. Then she flew to Qingdao and has been in action since then on the Olympic site.

In logistics terms, sailing is one of the most complex jobs the Schenker sports specialists have to deal with, because people who sail are not only to be encountered in home waters. They travel all the year round from one training area to another, and from competition to competition all around the globe. “Very rarely,” says Anne, “do they want to go from A to B and back, but carry on to C and then D. And they do so with their competition sailing boats and motorboats, with sails, masts and everything else associated with the sport.”

The main focus is thus on smooth coordination, on complying with complex customs formalities and – more importantly – on maintaining a precise time schedule and seamless shipment tracking. It’s a complicated puzzle that keeps Anne Högemann on her toes in Qingdao, taking piles of paper from one team to the other to clarify questions on the ‘Olympic Sailing Freight Grant Program’, which enables nations taking part in the Olympic Games sailing events to obtain freight cost subsidies from the Beijing Olympic Organizing Committee BOCOG.

There’s virtually no time for sightseeing – and there’s a lot to discover in a city with seven million residents: colonial buildings from the days of German gunboat diplomacy and short rule (1898-1914), giving parts of the city that is blessed with long bathing beaches a European air.

Most of the city, however, is new and wasn’t here seven years ago. The new airport, for example, at a cost of 1.2 billion euros, the skyscrapers of the business district, and the Olympic competition

Sails fill out in **Fushan Bay** – modern Qingdao is ready to host the Olympic Games.

areas, with ultra-modern buildings for the media, sports officials, athletes, spectators and boats.

Gigantic container terminals have recently been built in the deep-sea harbor, and Qingdao will soon overtake Hamburg in terms of its international ranking in container traffic. It is already China's most important transshipment point for ore, coal and oil. And it will soon have an ultra-modern rail station, most of which will be underground. High-speed trains will then be running to the country's capital right on schedule for the opening of the Games.

And one thing must be noted at this point: speed is one of the special talents of Matthew Clarke, Head of Schenker global-sportsevents. He is the mastermind behind every Schenker sports project. Constantly traveling around the world, he generally lives out of a suitcase, knows everybody and – what is even more important – receives a warm welcome in all the executive suites, from the IOC to the German Football Association, DFB. "It's all about speed", says Matthew Clarke in Beijing, and he knows what he's talking about. Because the success of this rapidly growing, prestigious business sector is due to the performance delivered by him and his team.

He's not only referring to the breathtaking speed at which the host country has erected the arenas and competition areas, but also to the pace set by the business of international sports in terms of new types of sport, new competition series, and competitions all over the world that are either new or have become increasingly important. "Schenker is now responsible for the entire global logistics for parts of the Beach Volleyball Grand Slam Series, for the Asian Games in Doha,

Out in front
Fit for the Olympics: Matthew Clarke sets a good example for his DB Schenker global-sportsevents team at the pre-Olympics warm-up in 2007.



In terms of organization and logistics, the **Summer Games** in Beijing will set new standards of Olympic performance.

for the Pan American Games in Rio, the University Games in the States and the Commonwealth Games."

And that's not all. The list can be extended at will, particularly when the really big global events are added, such as the FIFA World Cup in Japan and South Korea or in Germany, for example, or the Winter Olympics in Salt Lake City and Turin, or the Summer Olympics in Sydney, Athens and now in Beijing.

Schenker China Ltd has been appointed the Official Freight Forwarding and Customs Clearance Supplier of the Beijing 2008 Olympic Games for the IOC and for the Beijing Organizing Committee for the Games, BOCOG – but this is an inadequate description of the entire portfolio of services provided and doesn't come close to describing the breathless pace of a typical day in the life of Matthew Clarke and his team.

Just two days ago, they erected the temporary studio to be used by the U.S. TV station NBC on Beijing's Tiananmen Square. Here again a dress rehearsal. "Beginning in March," says Clarke, "we will be shipping around 200 containers of equipment for NBC Olympics broadcasts. Six trucks and twelve drivers will then be working round the clock." The total value of the equipment being shipped is around 120 million U.S. dollars.

Change of scenery. Matthew Clarke has moved on again. He's now in the newly built Beach Volleyball Stadium that has been designed to hold 15,000 spectators. DB Schenker not only delivered the posts and the nets for the test event, but above all the large electronic scoreboards supplied by its long-standing customer Swiss Timing. Images of the Olympic mascots Beibei, Jingjing, Huanhuan, Yingying and Nini move across the display, followed by the request "Clap your hands". "They call them 'the five friends'," says Clarke, adding: "If you write the names Bei Jing Huan Ying Ni as a sentence, then it says 'Welcome to Beijing'."

It's not something perhaps that everyone is aware of, but little details like this help in the many negotiations and meetings that he's constantly involved in. But Matthew Clarke is always one step ahead: even now he's thinking about the World Equestrian Games to be held in Lexington, Kentucky, in 2010, and the FIFA World Cup in South Africa, and even about Brazil in 2014, not to mention the America's Cup that is scheduled to take place in Valencia. "All these events," he says, "are the new goals we have set."

At the moment, however, it is still "Good Luck Beijing". The dress rehearsals at any rate went off without a hitch and now there's only one thing left to be done. It's a personal goal Matthew Clarke has set for himself: "Before the opening of the Games," he says, "I want to go by bike along my favorite route from the Ming Tombs to the Great Wall, and complete the journey in just over two hours." It certainly sounds challenging. The route is 68 kilometers long and includes two treacherously steep uphill sections. But, as with everything else he does that involves sports – he's a fighter and will go for gold.



Regatta time
Grandstand views guaranteed: Qingdao apartment towers and office blocks line the shore. The binoculars will be out to watch every jibe and every tack when the competitions begin.

Countdown From nets to electronic scoreboards: DB Schenker is behind the beach volleyball events.



South America

Latino Logistics

South America lives by its own rules: although the national economies there are growing as they do throughout the world, in terms of its transportation and logistics business, DB Schenker faces challenges that are completely different than elsewhere.

In high demand With the whole of Buenos Aires at their feet, these two employees concentrate on the job at hand. They're busy installing antenna systems for the US telecommunications group Nextel on top of the skyscrapers in Argentina's capital.

Divine location Not only are the growing conditions ideal between Santiago de Chile and the old port city of Valparaiso. With DB Schenker's wine specialists taking care of their export, the wines that mature on these slopes are also close to the customer.





Motoboy In the early hours of the morning in São Paulo, motorbike couriers are on their way with customs and freight documents from DB Schenker's offices to local authorities or customers. They are the fastest means of delivery through Brazil's business capital that is plagued with mega traffic jams.

A word from the Colombian writer Gabriel García Márquez before we begin. The Nobel Laureate in Literature once remarked that South America needed no great inventive talent. The real problem was “to make credible what one came across in reality.”

Three men nod in agreement. Unanimously, each of them obviously with some very special experience in mind, but nevertheless optimistic. Who are they? Well, there’s Eric Brenner, then Enrique Valera Holthus, and last, but not least, Kristian Wettergreen. They’re responsible for the fortunes of DB Schenker on the markets of Brazil, Argentina and Chile, and they are aware that “every new day is a new challenge.” Because what was true yesterday might not be true today, and may be completely different again tomorrow. Nice job.

Latino logistics – that’s the challenge they face, and it requires more flexibility and suppleness than elsewhere, because not only is everything incomparably different in South America than anywhere else, it is also in a constant state of flux.

Brazil

A case in point is Brazil. Planning certainty? Well, yes, depending on how you look at it. Regulations? Lots of them, but which ones apply at the moment? Warehousing? Oh yes. An interesting and popular subject. Customs formalities? That’s a big, in fact a really huge field. IT solutions? Very popular, but nothing gets done here unless it’s put down on paper. Yes, there’s a lot of paperwork to be done.

In the DB Schenker office in São Paulo alone, they produce 300,000 printed copies a month. Files stacked up around the clerks inside the office seem to grow faster than the skyscrapers outside. And, according to the latest statistics, there are more of those in this city, which has a population of 20 million, than anywhere else in the world.

You could easily go under in this flood of paper, but it doesn’t happen: 50 cartons full of carefully stapled documents leave the office every two months to be taken away and stored in a former Ford factory, where they join 7,000 other Schenker cartons from previous months. The warehouse is run by the clever people from ‘Metrofile’, a document storage company with around 2,000 customers, and it’s a treasure trove of ten million such records in boxes on an area covering close to 100,000 square meters.

Certainly a big job – and one that raises the inevitable question: why are things like this in Brazil? Gabriele Weber knows the answer. The head of DB Schenker’s ocean freight department picks up the customs documents required for a typical LCL container containing 113 separate items and goes through them: first the packing list, then bills of lading, commercial invoices, tax invoices, plus import licenses, import declarations and a host of attachments including statements for each individual item, certificates of origin, classifications, weight details, bank receipts. One document after another, adding up to a total of over 400 pages.

“Because of the many regulations we have to conform with, customs clearance is one of our main activities,” says Claudia, a qualified freight forwarder and a dog lover, who has been with DB Schenker for 22 years. “The basic attitude is that everything has to be checked. The state has implemented numerous safeguards to ensure that nobody gets around the regulations.”

Mountains of paper

Over 40 people work in the customs department in São Paulo. Because of the number of documents required, they have to deal with as many as 300,000 sheets of paper every month.

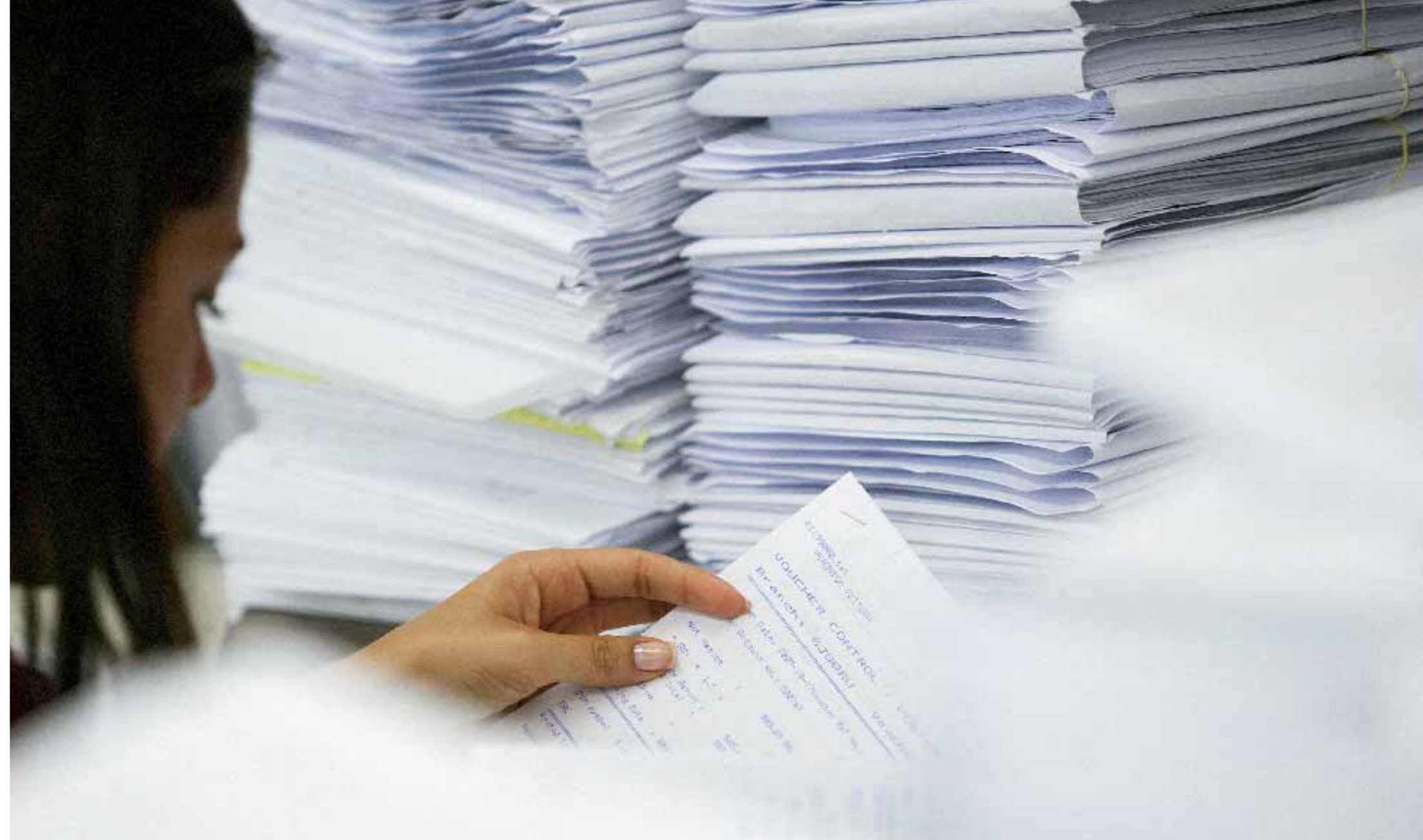


São Paulo

is Brazil’s business capital. Close to 20 million people live in and around the city (Grande São Paulo). Some 1,000 German companies have offices located here, including the headquarters of DB Schenker do Brasil.

Customer support

L’Oréal, with headquarters in Rio, is one of the largest and most important customers in Brazil. The man in charge of L’Oréal’s logistics, Philippe Reale (r.), and Schenker Key Account Manager, Rodrigo Ferreira, meet regularly.



Customer visit Eric Brenner (right), Managing Director of DB Schenker do Brasil, and Francisco Uceida (General Manager Airfreight) in the production hall of transformer manufacturer ABB.





Copacabana

Staying in shape on the beach: Kyssia works with Schenker-globalsportsevents in Rio de Janeiro. She was involved in organizing the PanAm Games, sculls in her spare time and plays volleyball.

In the case of imported goods, this restrictive policy has resulted in so-called customs inspection channels being set up on the traffic light principle: green means that only the documents are inspected and the shipment takes two days to be processed. Amber involves a detailed examination of the documents, and additional evidence must be provided. Processing in this case takes approximately five days. Red naturally means alarm and halt, and is immediately enforced in the event that the weight of the goods deviates from the weight indicated by at least five percent. A thorough examination of the documentation and goods now

takes place, with a delay of at least ten days. There is also a fourth channel, which has the color gray. Goods fall into this category if the customs officers consider the import value stated on the documents to be too low, which results in them making their own investigations to determine the actual value of the goods. This takes at least twenty days.

It's all about money, of course. A lot of money in fact, because goods entering Brazil are subject to high customs duties and taxes. Including a social charge, they come to 68 percent. The so-called SISCOMEX system is supervised by the central bank, which carefully controls money entering and leaving the country, and in this way tries to eliminate every possible form of tax evasion. An interesting aside: there is also a 25% freight surcharge tax levied on imports arriving by sea – for the renewal of Brazil's merchant navy.

What may sound a little complicated is even more so on a day-by-day basis and in dealings with the authorities. For this reason, DB Schenker has prepared a comprehensive book of rules containing a detailed code of behavior it recommends for its clientele. There are currently forty members of staff in São Paulo alone dealing exclusively with customs matters. One of them has the job of reading and evaluating the official government bulletins that are published each day. "Regulations change overnight and

Customs inspection in **Brazil** works on the traffic light principle of green, amber and red.

with no advance warning or reason given," says Eric Brenner. "It's something you have to get used to, and of course we also have to inform the customer. And there's no argument. If you don't accept the way things are done here, then you won't be successful."

Rule No. 1, therefore, is: accept and respect the system; learn to be patient and stay calm when differences of opinion arise. "Raising your voice or even shouting," says Eric Brenner, "is frowned upon here – as is insisting on procedures that may be common practice in Europe or the United States. Including our understanding of punctuality."

But you can still do business here. "And have a great time doing it even," adds Brenner. As he tells his colleagues back in Germany: "You don't get the kind of challenges we have to deal with." Things are different in Brazil. Even though logistics costs are thirty percent higher than in other countries, demand is growing in this segment in particular, with its global network solutions and 'door to door concepts'.

DB Schenker's services are in demand primarily in the automotive and in the mechanical engineering and plant construction sectors, but also in cosmetics and consumer goods, pharmaceuticals and in the food processing industry. The current list of customers is long, extending from commercial vehicle manufacturer Volvo to the driveline and chassis manufacturer ZF in Friedrichshafen, Germany. The portfolio also includes L'Oréal located in Rio de Janeiro and Motorola, plus transformer manufacturer ABB and pharmaceutical and diagnostics specialists from Swiss-based Roche.

A large number of these companies operate their own production facilities in and around São Paulo, and if you accompany Eric Brenner when he visits his customers you will understand why he says, "You won't manage more than two meetings in one day." The hours before, between and after the meetings are spent in traffic deadlock. Six million cars on the main traffic arteries stick to each other like glue, and there's no sign of the sky above. It's questionable whether the sun shines at all. An endless sea of houses stretches out in all directions, while the pungent vapor rising from the city's two severely polluted rivers, the Rio Pinheiros and Rio Tietê, pervades the entire city.

The huge, sprawling city produces 14,000 tons of waste day after day, and 200,000 cases of assault, including 10,000 murders, per year. Even the air space above the city has gone crazy: an estimated 700 helicopters buzz around the rooftops like hornets, while down below, on the eight-lane highways, the poor motorists are stuck in solid lines of cars 150 kilometers long.



Brazilian magic

An enthusiastic team: teamwork is the name of the game in Brazil and in DB Schenker's office in Rio de Janeiro, where the staff are already looking forward to the FIFA 2014 World Cup.

Speed is something unknown to the city's road users. Only the 'motoboy's, the motorbike couriers employed by the authorities, the offices and trading companies, are really fast, as they travel through the asphalt jungle at breathtaking speed. On their 125cc Honda bikes, they run their own races at 80 km/h, weaving through the empty spaces between the lines of cars, risking their lives to earn a couple of reales.

Eduardo Cortez, 36, is one of them. Like fourteen others employed by Millenium Express, he is on the road from dawn to dusk carrying customs and other commercial documents for DB Schenker. An unsung hero, this Cortez. When he flips up the visor of his black crash helmet, his dark eyes sparkle and his mouth broadens to reveal an engaging smile. He has to feed three small children with his job, which he describes as "dangerous."

Eduardo's body bears the scars of minor and major crashes. He once had to take a nine-month break due to severe knee and elbow injuries. "At the end of the day," says Eduardo Cortez, "you're pretty exhausted. Your eyes smart and your whole body vibrates, even when you're asleep." But then, with pride in his voice: "Nobody else crosses this city as fast as we do."

What, you may ask, is going on here? It looks like the tragedy of the final days of urban society, but Schenker's Managing Director Brenner does not agree: "Call it chaotic, if you like. But beneath São Paulo's exterior beats a strong heart, and it dictates the heartbeat of all of South America. All you have to do is come to terms with the local circumstances and try not to apply any other standards, such as those imported from Europe, for example."

Which he doesn't find difficult. Eric Brenner was born in Birkenfeld an der Nahe, but he's spent most of his life abroad. Traveled around the world with his parents as a child. Lived in Gijon, Spain, and Lisbon, Portugal. Later attended an English missionary school in Abu Dhabi, where he was caned on the palms of his hands every time he made a mistake, and then graduated from an Austrian high school in Guatemala.

His father would have liked him to follow in his footsteps – as a mechanical engineer. Eric actually made the effort, but soon transferred to business administration, specializing in logistics. And that's how he eventually came to DB Schenker.

He initially handled a customer project for Siemens and Bosch in Brazil, went to Dresden, where he was involved in getting the Infineon semiconductor plant up and running, then on to Newcastle, and later to Porto, before returning to run the Dresden office. „Next time,“ he decided, „it’s off into the big, wide world again.“

That’s what happened, and that’s how Eric Brenner tells the story to Philippe Reale, logistics manager at L’Oréal, who’s also a very cosmopolitan guy. The two men understand each other and have a close working relationship. DB Schenker has organized a complete supply chain for the global hair care and cosmetics giant. It collects raw materials or finished products from one hundred European suppliers at its Paris hub, takes containers from there to Le Havre, where they go by ship to Rio de Janeiro, and delivers them to the final destination. The French are very demanding. “We expect the highest quality and best service at the best price,” says Philippe. “And that means fast, precise information and innovative skills, because innovation is what our business thrives on.”

For Eric Brenner, going to Rio is a bit like going on holiday. Not because of the beaches, but because of the fresh air. DB Schenker maintains an office there, as it does in such places as Campinas, Porto Alegre and Santos. They have more than 20 staff to look after the day-to-day business, and the most exuberant of them all is Adriana Madeira. She’s a bundle of energy. She loves sports – and for good reason, because Adriana manages all the activities for ‘Schenkerglobalsportsevents’, DB Schenker’s sports logistics provider, in Rio. “And Rio”, she says, “has the ambition of becoming the sports capital of the world.”

She was responsible recently for organizing the logistics for the PanAm Games that were centered in Rio with its Copacabana and Ipanema beaches and involved 5,500 athletes and 3,000 journalists. The Beach Soccer World Cup is taking place at the moment, and in 2011, the city at the foot of the Sugar Loaf Mountain will be hosting the World Military Games. And then, well then comes 2014, and the greatest sporting event of all – the World Cup. They’ll be inundated with work, but this doesn’t discourage Adriana and her delightful assistants, who join in the chanting with all Brazilians: “It’s tremendous. It will be simply fantastic, and of course we’ll win.”



Workout

Twice a week, fitness coach Betiana turns up in the office in Buenos Aires and then it’s Office Gym for everyone. Even Enrique Valera Holthus (r.), head of the local branch office, and his financial manager Esteban Marino (l.) take part.

Needle and thread

Staff members sew customs tags onto plastic bags containing fluffy giveaways for McDonald’s, one of DB Schenker’s customers.



Buenos Aires is the most fashionable and elegant city in South America, Argentina’s economic, political and cultural center, and home to around 13 million people.

Argentina

With so much euphoria, it’s time to change location. Brazil is not the only place in the world where soccer is played, and teams elsewhere are certainly no worse than those in the Maracanã stadium. Argentina’s famous stadiums are La Boca and River Plate. And Brazil is the arch enemy, at least as far as soccer is concerned. The steep soccer stadium stands are clearly visible, certainly from the top of a skyscraper in Buenos Aires.

Something that Gabriel Esparza and Esteban Avalos will confirm. The two men work for DB Schenker and on behalf of the US telecommunications group Nextel regularly install entire antenna systems on platforms placed high up on top of the city’s skyscrapers, like the one where they are right now, 27 floors above the busy Avenida Corrientes. The number of the building in this case is 327, and it’s the headquarters building of the German-Argentinean Chamber of Industry and Commerce.

And what a wonderful view they have from here. Not only can they see the soccer stadiums, they have a panoramic view of the whole of Buenos Aires, and even get a glimpse of distant Montevideo on the horizon. But that doesn’t seem to distract the two men in any way. They are more interested in the installation drawings. They tick off the items on the list of requested and supplied materials and start on their journey down again. Their schedule today includes one more bird’s eye view of the city before they return to logistics center.

Parcel service

Esteban Avalos travels all over the country for DB Schenker’s customer Nextel.

Unlike in Brazil, warehousing in Argentina is a well-established and growing business. DB Schenker has no less than three locations available, with a total floor space of 25,000 square meters on the outskirts of the city. The credit goes to Enrique Valera Holthus, 42, head of the local branch office. He invested in SCM logistics solutions early on, set up IT networks with capital earned by the branch office itself, bought forklift trucks, storage racks, scanners and established his own warehousing system. Major customers today include L’Oréal and Nextel, but also Sony, Procter & Gamble, McDonald’s, General Electric and MAPA.

He’s tall, slim, and obviously keeps very fit. Right now, he bends forward, raises his arms and squats on his haunches, and then loosens up his arms and legs again. What is this? A workout perhaps, before going off for a round of golf? Nothing of the sort: the relaxation and gymnastic exercises are performed between the desks in the office. They are supervised by fitness coach Betiana and everybody takes part, without exception – from the message boy to the boss.

The ‘Office Gym’, as it’s called, takes place twice a week – and that too is South America. Enrique says: “The fascinating thing about Argentina is primarily the relationship people have to each other. The office and the company mean more to them than just having a job to go to. They enjoy doing things together, they love conversation and the feeling of belonging, and of course they also get together after work.”

In Argentina, DB Schenker is the **market leader** in supply chain management services.

Argentina has not forgotten what the **'Tango Crisis'** did to the country.

The members of his team are all young. Logistics manager Christian Albrecht has just turned 30, financial manager Esteban Marino is 34. As he says: "I was really born in the wrong country, because we South Americans love living simply for the moment. I'm a more organized and very untypical Argentinean. I like clear concepts and live by the rules of the game, and I attempt not only to develop concrete plans for the future, but also to implement them. And because that's the way I am, I enjoy working for a German company."

Marino has been with DB Schenker Argentina for eight years now. "When I started," he recalls, "we were just a small branch office, but we've grown very quickly since then and we're now on the way to becoming a really big company." As long as the economy here plays ball. And that unfortunately is not certain, because the land of the gauchos slips into severe economic crisis at regular intervals.

If Esteban Marino's calculations are correct, they can expect the next one in 2011. They will then be able to look back precisely ten years to the so-called 'Tango Crisis'. At that time, the peso dropped 300 percent in value within a period of just four months, and the country saw five presidents come and go in the course of a couple of days. Looking back, those were terrible times. "Primarily", explains Esteban, "because it was difficult to convey to headquarters in Essen what was happening over here. They were on the phone every day and wanted binding information on exchange rates. But that was simply impossible."

Today, everybody's happy with Argentina's contribution to the company's business performance. Revenues valued at just under two million euros are generated each month, and the business is steadily growing. Even so, Enrique Valera Holthus adds, with a word of caution to his visitors: "Buenos Aires may look very European, but much of what you see is only a facade." As is the case in Brazil, there are many trade restrictions that make business



Santiago de Chile

lies in a valley at the foot of the Andes at Rio Mapocho. Greater Santiago has a population of just under 5.3 million people, which is equivalent to almost 40 percent of the country's entire population.

difficult, particularly the customs regulations that are constantly changing. And there's more: an increase in prices, for example, that is way above the official figures; and the tax laws that are very complicated.

Buenos Aires is a beautiful, vibrant city that captivates every visitor, and is certainly one of the world's most attractive places. And though it may be hard to believe, day-to-day life here also includes muggings, break-ins and robberies. The social contrasts between the poor and the rich may be less obvious here, but they are just the same and as extreme as you'll find them in Brazil. Only a relatively short time ago, Enrique's wife was standing at the front door of their house, when a stranger put a gun to her head. They moved, and since then have been living with their two daughters a little outside the city in a gated community.

Reason to complain? "No, not at all," says Enrique Valera Holthus, who actually hails from Hanover. "The people here are more open and much friendlier than in the old world - and that's what makes a difference." Despite all the stories as told by Gabriel García Márquez that really happen, but seem hardly credible. They even had a truck stolen once by heavily armed gangsters, complete with the entire load, as if it had all been pre-arranged. That was a long time ago, but still.

Chile

Such a thing is unthinkable a few hundred kilometers away on the other side of the Andes. When you land in Santiago de Chile, you have the feeling you've been sent to Switzerland. The traffic glides sedately by, the sidewalks are neatly swept, and a gentle breeze caresses the leaves and blossoms on the trees. It's spring, and that's the time of year that Kristian Wettergreen, head of DB Schenker's local branch office, suffers from pollen allergy. A runny nose and watering eyes are annoying and force him time and again to interrupt his fascinating story. It's about a Norwegian seaman, 6 ft 5 tall and as solid as a tree, who in 1916 left ship in Valparaiso to settle down there. The reason was a pretty Bolivian girl, 4 ft 9 tall. They got married, had children and the rest is history, as they say. "They were my grand-parents," says Kristian Wettergreen. As a young man, he played a lot of rugby. "Best position on the field, number 10, fly half," he mumbles with a hoarse voice, adding in frustration: "Bloody spring."

Chile is also South America, but different. "In Chile", Wettergreen says, "we are very lucky. Unlike the situation in Brazil, we're through customs in a day. And we don't produce anything. We do have some raw materials like copper and natural gas, plus agricultural products, such as fruit, wine and olives. They go abroad. Other than that, everything is imported, and that describes fairly accurately most of the work we do."

DB Schenker in Chile - that's 6,000 square meters of spanking new logistics space and 114 employees in a total of five offices. They handle medical instruments from Siemens, for example, which they deliver throughout the country, fertilizers from BASF, and telecommunications products from the Chinese manufacturer Huawei. One must realize that, although the national territory of Chile is 4,300 kilometers long, it is never wider than 180 kilometers. It is a narrow strip of land extending from north to south along the Andes.

A total of 200,000 vehicles are sold here every year. DB Schenker imports 10,000 of them for Ford, and around 4,000 for VW, Audi and Volvo. DB Schenker's pre-delivery service



Wine tasting Whether in Chile or Argentina, Australia or California - when it comes to wine logistics, DB Schenker is everybody's taste. Professional storage and a good nose are essential in this business.



Beauty salon Vehicles imported by DB Schenker are inspected for technical faults and given a thorough cleaning before they are delivered to the dealers.

includes vehicle storage until the dealer requests delivery, plus incoming inspection and preparation: this means a complete vehicle check with battery and light test, and a test drive. Cars are cleaned inside and outside, and the engine is washed. Minor damage is repaired and user manuals provided, along with special labels for Chile.

The head of the automotive business is Miguel Scheibel. "With today's software, we have access to key pre-shipment data and are linked to the dealers online in real time. This means that we are able to deliver the vehicles within 48 hours of receiving the order. Regardless of where they're going."

Wine and fish are the top exports. No less than 100 tons of fresh salmon daily is shipped by air from Santiago to Miami in Florida alone. Nobody there has any idea of the difficult journey this delicacy has to make: the fish originate in fish farms in the southern-most part of Chile and cover the 1,200-kilometer journey to the capital by truck in close to 15 hours. This is where DB Schenker maintains a 'cross docking' cold storage facility - with delivery directly from the producer guaranteed in just 32 hours.

The booming business in wine is less time-critical, but just as sensitive. One thousand containers have to be handled annually. Thirty percent of the wine is shipped to Europe and North America in so-called flexitanks (24,000 liters per TEU), while the remaining 70 percent is shipped in bottles (15,000 liters per TEU). All good quality wines that mature in the valleys and on the slopes south of the country's busy capital that will soon see the tallest building in South America - sixty floors high - that, despite the constant risk of earthquakes, will compete with the mountain panorama not far way.

Definitely a superlative. But nothing compared with ALMA. This acronym stands for the 'Atacama Large Millimeter Array telescope', which, when completed, will be the world's largest radio telescope, and is being built for astronomical research purposes in north-eastern Chile on a desert plateau 5,000 meters above sea level. ALMA is Cristina Cornejo's baby. It's her job and her great passion. Cristina manages DB Schenker's project business in Chile and is thus responsible for "the really big things". Making the impossible possible is second nature to her. In her youth, she was a daring downhill skier, who only



Desert caravan Transporting the Japanese antenna dishes, the 'Three Sisters', from the port of Antofagasta into the Atacama Desert was quite a challenge.



Summit talks Cristina Cornejo, project manager in Chile, and William Garnier from the Atacama Large Millimeter Array Project.



Atacama Desert Due to the climatic conditions, it is regarded as an astronomer's paradise. It is the driest and highest desert region in the world and borders on Peru, Bolivia and Argentina.

skied the steepest slopes in the skiing region of Valle Nevado and Portillo. The memory of those early days produces a broad smile. "Our country is so narrow, everything's close to everything else," she says. "We went skiing first thing in the morning and on the beach for a swim in the afternoon." What a life!

These days, she has hardly any time for trips like that. The company's project business is booming. The global demand and the search for natural resources have kissed Chile awake. A huge natural gas liquefaction plant is presently being built close to Valparaiso, they're drilling for oil in the south, laying pipelines all over the country, and reopening disused copper mines.

DB Schenker is involved in all these projects, transporting thousands of tons of pipeline, importing cranes from North America, or steel sheets from Finland, delivering enormous storage tanks and, with its experts in Houston and Tokyo, is responsible for delivering the antenna dishes being built in Europe, North America and Japan for the ALMA project. The work covers the entire supply chain: from loading the dishes onboard ship to final delivery by heavy transporter overland from the port of Antofagasta. They cover a distance of 350 kilometers as 'oversized loads' to the base camp close to the dusty little town of San Pedro de Atacama. It's a huge puzzle consisting of thousands of different parts, and the work is being completed literally at breathtaking speed: the site of the 'Operation Support Facility',



otherwise known as OSF, the base camp, is located 2,980 meters above sea level - at this altitude, the air is very thin.

A fantastic place with a dream-like, extraterrestrial quality and at the same time, the driest place on our planet. If one didn't see the moon rising above the Atacama Desert, one would have the impression of actually standing on it oneself. There's not a tree in sight, there are no shrubs. Nothing. It's dry and empty, covered in some areas with bizarre, salt-encrusted rock. As far as the eye can see, and then some.

The climatic conditions here are the delight of astronomers all over the world, and they are the reason why this place was chosen for the ALMA project (costing one billion dollars): the telescope array made up of 66 movable, interlinked antenna dishes will look further into deep space as of 2011 than even the Hubble telescope, which was sent into space for this very purpose. Until

A first peek At 2,900 meters above sea level, the antenna dishes (in this case a Japanese dish, with a diameter of 12 meters) are assembled before being transported to the high plateau.

then, however, the path remains a difficult one. At the end of 2007 the first four antennas were delivered, and more will follow this year. They will be assembled at base camp, then calibrated, a job that takes several weeks, and then configured for their ultimate purpose. In the second stage, they will be transported at a later date to their actual location, the so-called 'eyeside' on the Chajnantor high plateau. Cristina Cornejo has already been there, albeit carrying bottled oxygen, but still - she was up there at over 5,000 meters above sea level.

"Never before," she says, "have I been as close to the stars as I was then, in the absolute darkness of night in air that was crystal clear." A very special experience. One of the freebies that go with the job. There's little to add really, except perhaps that reality cannot always be expressed in words. As Cristina Cornejo says with a dreamy look in her eyes, "You have to experience it yourself".

Close to the stars: by 2011, 66 antenna dishes will be looking deep into the universe from the **5,000-meter-high** Chajnantor high plateau.

Giant of steel The 550-hp Mack tractor looks like a little toy in front of the 195-ton iron ore dumper cell.



Transportation

Big Move in the Outback

Precision work 'down under': logistics experts working in DB Schenker's project business in Australia provide heavy haul transportation services, including oversized loads. They handle jobs that still have a feel of adventure about them.



Police escort
Ready to leave with the prescribed escort and pilot service: weeks of planning and detailed preparation were necessary before the 'big move' got underway.



Men at work
It's experience that counts: the core team under contract to DB Schenker.



No man's land
Just a few kilometers from the unloading point, the convoy moves at snail's pace along a sand track in the blistering heat of 39°C in the shade.

Stranger beware. In Port Hedland, the air is on fire. When you climb out of the aircraft, the heat leaps at you, robbing you of the air you breathe. The faintest movement of the air breathes fire into your face, and you ask yourself: What have I got myself into? It's as hot as the coals of hell here!

If you have to work in the burning heat here around midday, then you'd better wear some fireproof clothing, otherwise you'll feel like a barbecued chicken. Rule No. 1: never roll up your shirt sleeves, cover your nose with piles of sun blocker, and always wear something on your head. And make sure it protects the back of your neck, because the enemy here in the Australian Outback plays dirty. The sun will find even the tiniest exposed area and knows no mercy.

What a magnificent country - but at the same time what a wild and uninhabitable place this is. A burning furnace far from civilization as we know it. Over in 'Marble Bar', the hottest place on the entire continent, cosmic rays will fry you up a wonderful breakfast. On the car hood. Fried eggs 'sunny side up' and strips of bacon spread out over eight cylinders at 45°C. And more. But until we get there, we have 203 kilometers to cover from Port Hedland - and 203 kilometers are nothing at all here, 'down under' on the edge of the world.

Hello, and welcome to the world's hot spot for the most coveted essentials for growth. What are they? What is it that the nations of the world really want? The Chinese? The Indians?

Hungry Europe, and insatiable America? Natural resources, of course! Such as oil and gas. Manganese, iron ore, and coal. Gold, uranium and diamonds.

It's all here. All you have to do is scratch the Earth's crust and it gushes forth, or gleams and sparkles in the ground. Vast, mineral-rich Western Australia!

Klaus Gonschorek, Head of DB Schenker Global Projects, has a hard time finding the words to describe the driving forces of everyday Australia. The usual terms, such as dynamic and booming, seem too weak. "Ecstatic is more accurate perhaps," he says. "Or even intoxicating. There's a sense of excitement there that's driving everyone into a frenzy."

It's all happening, and it's all happening now and all at the same time. New oil and gas fields are being developed, new mines opened. BHP Billiton and Rio Tinto are just two of the many big players in this exciting game. And they need workers, more and more workers. They're looking for engineers and carpenters, for mechanics,

and even train drivers. And they're looking everywhere for them, even abroad. The pay's good, better than anywhere else.

And they need materials. More and more materials. And more machines. They're building offshore drilling rigs to pump out the black gold. Erecting huge gas liquefaction plants. Power plants to generate electricity. Port facilities to handle the millions of tons of raw materials being exported overseas. And they're purchasing giant-sized excavators to be used in surface mining. And of course dumpers as big as houses. With cranes and stackers to match.

They're buying pipes for hundreds of kilometers of pipelines, and rails for railways that disappear into endlessness. Plus locomotives, freight cars, and belt conveyor systems. They're investing capital and placing orders for everything imaginable and for whatever the forecasts of future demand suggest. Forecasts that still sound like the oracle in Delphi. "There's a storm sweeping across our country," is how the people involved in DB Schenker's project business describe the situation. "It's a cyclone, and we're in the eye of the storm."

The world is quenching some of its thirst for **raw materials** in Western Australia - the continent contains enormous mineral resources.

Even so, it's anything but still here: work goes on without a break and, as a logistics services provider with a global network, the company is helping to keep the wheels of progress moving, particularly in the case of the 'heavy metal'. A total of 44,000 tons of rails were recently delivered from China and shipped to Port Hedland, where a brand-new railway line now covers the 240 kilometers to the iron ore mine owned by Fortescue Metals Group in Cloud Break.

But there was much more than that in over 1,700 truckloads they delivered there: a complete belt conveyor system for loading ships with excavated iron ore; electricity pylons, cable drums and transformers. Plus all sorts of 'bits and pieces'. And now there are these two gigantic monsters for unloading iron ore waiting to be picked up. They call them 'car dumper cells.'

They look like giant wheels straight out of 'A Voyage to Brobdingnag' from Gulliver's Travels, and when they finally go into operation, they'll turn everybody's heads. They work much like an egg timer, emptying the ore cars weighing tons and



Movin' out The convoy has left Port Hedland and is now moving along an asphalted road that passes the salt pans just outside the city limits.

Pacemaker
Split is the decision-maker during the journey: he pulls the dumper cell with his Mack and determines the speed.



Gentle giant
Push truck driver Steve cools off with iced coffee during a brief stop. He and his Mack have the job of easing the load through curves and across traffic islands.

tons by simply turning them upside down. The material rumbles out and obediently drops into a dumper pit 18 meters deep. It all takes less than five minutes, with two cars emptied at a time.

But we've not yet reached that stage. The giants of steel are still in the port area of Port Hedland, strapped to two trailers, each riding on a total of 256 rubber tires. They stand over eleven meters high and weigh 195 tons a piece, and even the 550-hp Mack tractors look like tiny toy vehicles by comparison. It's 5:30 on a Saturday morning, and the crew is getting ready to move off. "Curtain up for the final act," says Schenker man Andy Smeda, the man in charge and the driving force behind the project business in Perth until the end of 2007, making a final check of the armada of vehicles waiting to set off.

The official documents and approvals required for the 38-kilometer journey, all neatly stapled, are in a thick folder he's carrying under his arm. It also includes a pile of sketches and calculations. There isn't a meter of the road ahead that hasn't been surveyed. The radius of every curve has been recorded, every obstacle noted - and there are plenty of them on the way for an oversize load like this one. Two railway lines, an airport, bridges, overhead power cables: "The whole package, as always," he says, summing up.

Plus time pressure, and of course 'the imponderable nature of the unforeseen' - which teaches us that you cannot always rely on Australia's police force, which is conspicuous this time by its absence. With no escort, there'll be no 'big move'. Which means that all the arrangements agreed on with railway staff, the marshals along the route, airport tower, and power utility companies are obsolete even before the convoy has started out. And all because of a low battery. „Sorry“, says the police officer, as he drives up in his own car an hour late, „my patrol car wouldn't start.“

This was something nobody had anticipated, but Smeda takes it all in his stride. He's been working on this project for months, and the schedule he and his team have prepared, which now fills almost 500 pages, has so far gone virtually without a hitch. The car dumper cells were built 1,500 kilometers away in a production plant near Perth. The specification for this major order therefore initially included transport by road to the Port of Fremantle. The dumper cells were then loaded onto a ship chartered for the purpose and then sent on a three-day sea journey to Port Hedland. That too went off smoothly in spite of the fact that a sharp wind made it difficult to unload the cells from the ship. No shifting at

Not one meter of road that hasn't been surveyed. **Every curve radius** along the way is known, and all the obstacles documented.

all was allowed, since there was a tolerance of 25 millimeters only. Weeks earlier, when the rails were unloaded, things were a lot rougher: the freighter had to put out to sea again to seek shelter from a cyclone that was developing. They lost a couple of days.

Luckily, there is none of that this Saturday. So, let it roll. Truck driver Split slips his Mack into the lowest of a total of 18 gears, the engine whines, and very, very slowly the convoy begins to move. His tractor is not enough for the total weight of 350 tons (tractor, trailer and payload): Steve is pushing from behind with the power of another 550 horses. This much power, length, and weight is a big attraction, even in the land of the 'road trains' that haul three, sometimes even four trailers at a time. Port Hedland's only arterial road is lined with crowds of on-lookers this morning. Nobody complains about the temporary closure of the side roads, access routes to service stations and drives, where Smeda's people have



been posted, and electronic signs purchased especially for this event further contribute to increasing safety.

The convoy moves along at 30 km/h, barely more. Driving over traffic islands and negotiating bends at walking pace, and infinitely slowly, axle for axle, as if in slow motion, crossing the tracks of the iron ore railway line owned by the BHP Billiton Group. They run into the outback for a distance of 275 kilometers, and six years ago carried the world's longest freight train ever, with a length of 7.3 kilometers. One train driver controlled eight locomotives and 682 freight cars carrying a payload of 82,262 tons of ore to Port Hedland.

"Everything here is just that bit bigger," says Split, sitting in his Mack. Nothing makes him lose his cool, ever. Not even the eleven burst tires on the 4-day journey from Perth to Port Hedland. His ancestors came to Australia from the Iberian Peninsula, and if you didn't know better, you'd probably think the man with

a graying Don Quixote moustache, who stands 6 foot 6 in his socks, really was a Spanish Grandee.

"This job," he says with a laconic smile, "is perhaps a little more difficult, but actually nothing special. There are just too many bloody people traveling with us." Split really prefers the 'long run', the journeys right across the continent, alone, that often take days. From East to West, and back again. He even tends to avoid the truck stops. Instead, he lights up a camp fire, boils water, makes himself some tea, then fries a piece of meat, quenches his thirst with two or three cans of beer, and finally rolls out his sleeping bag next to his truck and gets some sleep.

"Whenever circumstances allow, then the stars are my blanket," he says, and then talks of his great love. Books. Split devours books, as many as he can get his hands on.

No time now to read a book. That at least is the way it looks today. After a journey that has taken just under four hours, the convoy finally arrives at the Fortescue Metals Group's huge construction site at Anderson Point. They're in the process of converting the entire area into a huge loading site for an annual production of 45 million tons of iron ore. Port facilities, railway line and their own wharf, plus the train unloader that will consist of two of these huge car dumper cells. Cost of the entire 'Pilbara Iron Ore and Infrastructure' mining project: 3.3 billion dollars.

It's now almost midday, and the thermometer says the temperature is 39 °C. The slightest movement is difficult, but

Big Lift
Two cranes lift the previously disconnected power cables of the main power supply to Port Hedland, to allow the 13-meter high load to pass.

Big wheel Arrival at the destination after a journey of 38 kilometers: the dumper cell now rests on four iron pads, so-called elephant feet, and is freed from the chains securing it to the trailer.



Final assessment
Andy Smeda discusses details of the operation with one of his men. No doubt about it – “A job well done!”



fortunately almost all the work has been done. The monster car dumper cell is now sitting securely on four so-called elephant feet, and all the vehicles are getting ready to return to Port Hedland, where the second dumper cell will be made ready to make the journey the following day. Everything goes off smoothly this time. Even the police escort is on time, and arrives with an official patrol car. As a result, the entire operation takes little more than two hours. Final comment: “Well done, perfect job.”

That’s it: the keyword ‘perfect’. “Every job in our business is time-critical. It’s extremely complex, and if you don’t approach everything logically, if you don’t plan every step perfectly in advance, then you might win a small game, but you’ll never win the big ones.” And as far as Andy’s concerned: he wants to win. Always.

That’s quite possibly due to his second great love – cricket. Besides project business, there’s nothing he likes more than this game, in which, as an all-rounder, he won games going in to bat as number 7 and number 8. That was while he was in London, when he worked for DB Schenker at Heathrow Airport. In 1996, he left for Australia. He was looking for a place for his wife and two children “with lots of space, that was safe and clean, with good schools and fresh air, and one that held out a new challenge for me.”

Looking back, Perth was the right choice. The project business was still in its infancy, but there were already the first signs of growth on the horizon. “We made most of the opportunities that presented themselves,” says Smeda, summing up, and opens his arms wide as he takes in the people in the office sitting at their desks. There’s Adam Munro and then Jackie Barron, known as Jacks. The German Nina Heidelauf, and Raymond Nell. And then Smeda himself, the man in charge of the documents, the schedules and the technical drawings.

What one finds stacked up here in files are orders from companies making billion-dollar investments in the country. Some of them, such as the car dumper cell project for the Fortescue Metals Group, have already been ticked off as completed. Just like the delivery of pipes and compressors for the 1,594-kilometer long natural gas pipeline from Dumpier to Bunberry, the handover of heavy diesel locomotives to an international mining consortium, or a major order for the construction and commissioning of a mobile oil drilling rig on the FPSO vessel ‘Front Puffin’.

The last one is a good example for Smeda of the close working relationship enjoyed within the global DB Schenker network: “We organized the delivery of key components in this case with our colleagues from the Oil & Gas Division in Singapore. The Front Puffin was then fitted out in the Southeast Asian port with assistance from our specialists, and, when the work was completed, returned to Australian waters. We then cleared the entire vessel, including all the modifications and retrofitted equipment.” A total of 57 staff members were involved in this order alone.

A look at the world map may be helpful at this point. Back in the company’s headquarters in Essen, Klaus Gonschorek takes



Teamwork
Plans and drawings spread out on a table in the Perth office. When preparing the schedule for the coming months, those involved in the project leave nothing to chance.

us on an imaginary trip around the world and explains the structure of his rapidly growing Global Projects operations.

“In Houston,” he says, “we have our oil people, also in Singapore. But other things are also handled from there, such as the delivery of radio telescope antennas for the ALMA project in Chile. London on the other hand is where our design specialists are located. Tokyo and Beijing mean mines and gas. We also have project people in all the major branch offices and, of course, a large number of key locations in Europe. Milan, for example, and Rotterdam, and naturally Frankfurt-Kelsterbach and Düsseldorf. The people there are close to the manufacturing industries and manage projects primarily for the Middle East and India, where we recently delivered generators and transformers for the Sugden power plant.”

The close-knit network provides all those involved in a project with fast and easy access to resources and know-how. Anywhere, and any time. “We have



specialists for everything and an answer to every question,” says Smeda’s colleague in Perth, Adam Munro, and emphasizes one of the key requirements of his job: “Being able to work in a team is tremendously important, even if we tend to be looked on by our colleagues in the regular transportation and logistics business as mavericks.”

This reputation does have its reasons. Unlike the transportation and logistics operations, project business has no standard procedures for doing things. Each new project begins with a new, detailed transportation and time schedule, which has to be followed to the letter right to the end. And all aspects of the logistics chain are involved: from sales and quarantine regulations to customs clearance, from the choice of transport mode to in-depth technical and legal expertise. This level of specialization that only a very few possess worldwide is valued highly by the customer – and rewarded accordingly. The total revenues generated in Perth in 2007 alone amounted to 8.4 million euros.

Project business benefits from the company’s **global network** and is based on tailor-made logistics solutions.

Easy does it
All 256 tires have done their job of carrying the load to its final destination. The next stage is to unload the giant of steel with millimeter precision. A job that requires experience and careful judgement.

And there’s still no end in sight to this ecstatic minerals boom. It would take hours to describe all the tenders for various imminent projects that are worth fighting for.

To name but two: a project with an estimated value of seven billion dollars being set up by a Japanese group for the construction of a natural gas processing plant on the Maret Islands. And no less than 14.5 billion dollars is to be invested in a similar project by US giant Chevron far out on Barrow Island. There are also major mining projects being planned primarily by Chinese mining conglomerates. It came as no surprise therefore when Chinese Premier Wen Jiabao began his visit to Australia last year in Perth instead of Sydney.

The center of the world at the end of the Earth – what an amazing story! “And there is more to come”, the members of the Schenker project team predict – and they’re all convinced: “We will make things happen.”

Facts and Figures

Key Financial Figures in € million

	2007	2006	absolute	Change in percent
Revenues	31,309	30,053	+1,256	+4.2
Revenues – comparable	31,066	29,989	+1,077	+3.6
Profit before taxes on income	2,016	1,555	+461	+29.6
Net profit for the year	1,716	1,680	+36	+2.1
EBITDA ¹⁾	5,690	5,427	+263	+4.8
EBIT ²⁾	2,895	2,477	+418	+16.9
EBIT ²⁾ before special items	2,370	2,143	+227	+10.6
Non-current assets as at Dec 31	42,046	43,360	-1,314	-3.0
Current assets as at Dec 31	6,483	5,080	+1,403	+27.6
Total assets as at Dec 31	48,529	48,440	+89	+0.2
Equity as at Dec 31	10,953	9,214	+1,739	+18.9
Financial debt as at Dec 31	18,062	19,881	-1,819	-9.1
Net financial debt as at Dec 31	16,513	19,586	-3,073	-15.7
Capital employed ³⁾	27,393	28,693	-1,300	-4.5
ROCE in percent ⁴⁾	8.7	7.5	-	-
Gross capital expenditures	6,320	6,584	-264	-4.0
Net capital expenditures ⁵⁾	2,060	2,836	-776	-27.4
Cash flow from operating activities	3,364	3,678	-314	-8.5

Key Performance Figures

Rail passenger transport

Passengers (million)	1,835	1,854	-19	-1.0
Transport performance (million pkm) ⁶⁾	74,792	74,788	+4	+0.0
Train kilometers (million train-path km) ⁷⁾	694.1	702.7	-8.6	-1.2

Rail freight transport

Freight carried (million t)	312.8	307.6	+5.2	+1.7
Transport performance (million tkm) ⁸⁾	98,794	96,388	+2,406	+2.5
Capacity utilization (t per train)	481.4	473.7	+7.7	+1.6
Train kilometers (million train-path km) ⁷⁾	205.2	203.5	+1.7	+0.8

Rail infrastructure

Passenger stations	5,718	5,730	-12	-0.2
Train kilometers on track infrastructure (million train-path km) ⁷⁾	1,049	1,016	+33	+3.2
thereof non-Group customers	(147)	(128)	+19	+14.8
Length of line operated (km)	33,890	34,122	-232	-0.7

Bus transport

Passengers (million)	779	738	+41	+5.6
Transport performance (million pkm) ⁶⁾	9,099	8,705	+394	+4.5

Other key figures

Employees as at Dec 31 ⁹⁾	237,078	229,200	+7,878	+3.4
Rating Moody's/Standard & Poor's	Aa1/AA	Aa1/AA	-	-

1) Operating profit before interest and taxes, depreciation and amortization; 2) Operating before interest and taxes; 3) Operating assets, comprising fixed assets and net current assets; 4) Return on capital employed, defined as EBIT/capital employed; 5) Gross capital expenditures less investment grants from third parties; 6) Passenger kilometers: product of number of passengers and mean distance traveled; 7) Train-path kilometers: distance covered by trains in kilometers; 8) Ton kilometers: product of freight carried and mean distance traveled; 9) Full-time employees; i.e. part-time employees are included on a pro rata basis.

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