

Niedersachsen Global

Logistics

The state is a gateway to Europe — not just owing to its central location. p. 10

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Hammering out new ideas: Hannover is a centre of research. p. 64

Initiatives

With its global activities Niedersachsen is heading for new markets. p. 50

The Energy Revolution p. 16

An engineer is rising high to work on Niedersachsen's considerable windy potential.



Niedersachsen

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as much as you.
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Niedersachsen

German for Business.

Talking to the World: Niedersachsen – German for Business

Gerhard Gizler CEO NGlobal GmbH

NGlobal is the central organisation for the coordinated domestic and international marketing of Niedersachsen as a business location, with the aim of promoting the internationalisation of the state.

There are plenty of indications that 2010 is going to be another year of hefty challenges for the global economy—but happily there are also a few more patches of blue sky on the business horizon than we could make out twelve months ago. This is particularly true for enterprises that have used these months to set up their stall with new, forward-looking products and to develop new or expanded international prospects. Happily again, there are plenty such companies in the German federal state of Niedersachsen.

This issue of 'Niedersachsen Global' tells how our business community is getting fit for an international future: how Niedersachsen is building on its leading position in the German energy sector, and how we are securing steady growth with durable investments in our infrastructure.

Now spring's on the way, Niedersachsen once again plays its trump card in the international high-stakes business location game. Hundreds of thousands of business visitors are converging on our state capital Hannover. Their destinations: CeBIT, the world's leading information technology trade fair, and Hannover Messe, the cutting-edge showcase for industrial trends with an ever-stronger focus on energy generation and energy efficiency.



«Our purpose is to make you curious about the state of Niedersachsen and the companies located here.»

Gerhard Gizler NGlobal GmbH

Photo: heinrichson photos

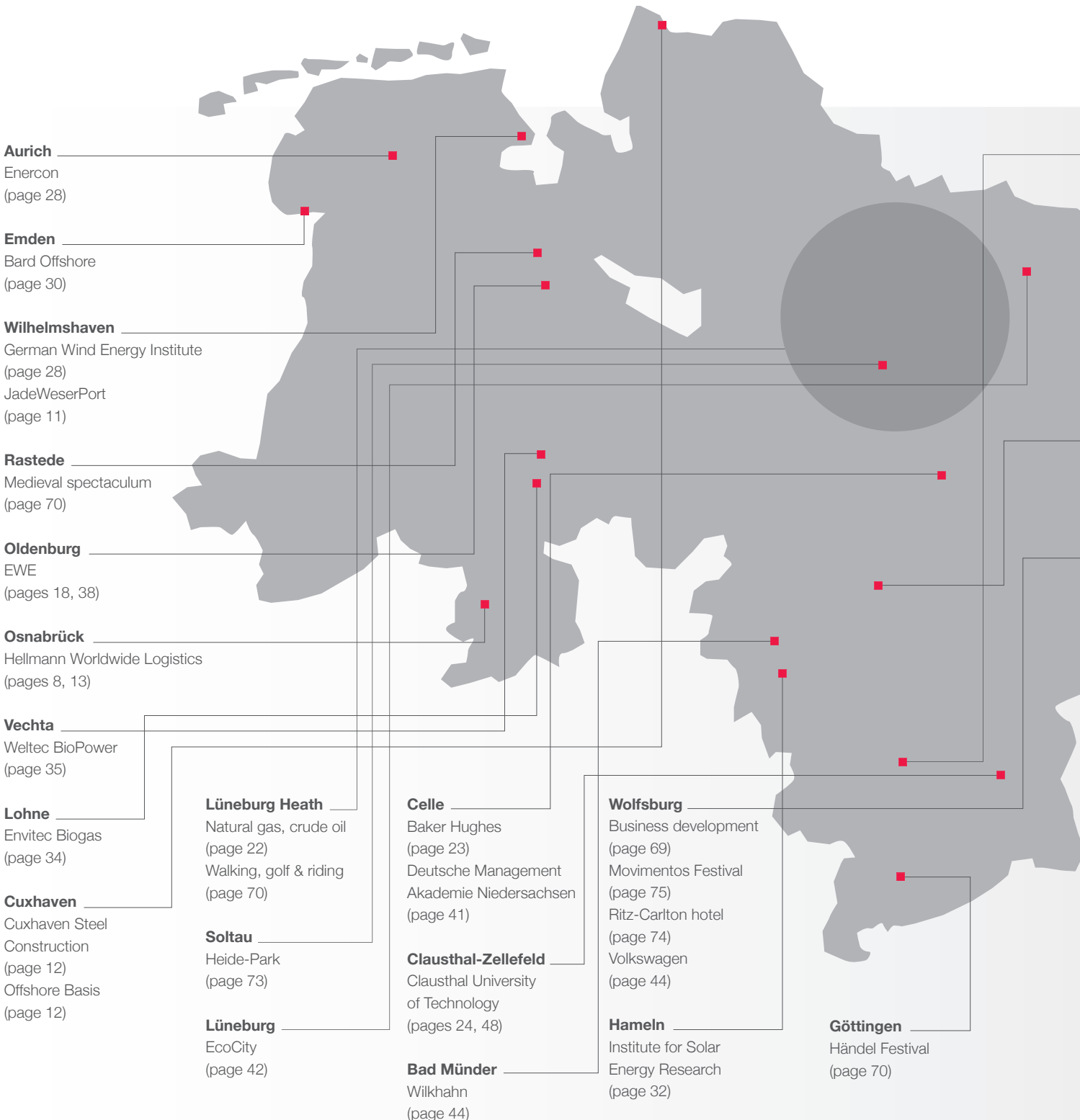
NGlobal, Niedersachsen's own trade and investment promotion agency, makes the most of these global events on its doorstep for direct dialogue with the enterprises of the world. We're looking for dialogue with the Hannover Messe Partner Country Italy. This year's Niedersachsen Foreign Trade Forum at Hannover Messe concerns itself with the Soccer World Cup and prospects in and for South Africa. In the conferences that we are supporting at the Global Business & Markets Forum in hall 27, the EU, USA, China, Japan and Abu Dhabi will be presenting their contribution to global economic recovery.

New contacts are crucial to any enterprise looking to enter a new market. NGlobal supports and advises Niedersachsen business community all over the world with its network of contact partners, with a presence at international trade fairs, with major business delegations to markets such as Brazil and Turkey, and also by coordinating the state's numerous activities at Expo 2010 in Shanghai.

This magazine will give you a lively and up-to-date impression of our state, and I'll be delighted if it initiates personal contacts and discussions at the trade fairs in Niedersachsen or out in the wide world. This is the readiness to talk business signified by our new motto: "Niedersachsen – German for Business". 🍷

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Cover picture: An Alpha Ventus engineer undergoes a helicopter training to reach the wind power facilities from the air.

Photo: DOTI

Logistics

80 inland harbours, 29,000 kilometres of state-wide roads, 13 high-capacity locations for intermodal traffic have turned Niedersachsen into a hub for the European goods traffic.

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Facts & Figures Niedersachsen

4th largest state in Germany by population. **2nd largest** state in Germany by area. **Largest** car manufacturer in Europe.
+124,8% increasing exports to the U.A.E.. **+119,6%** increasing imports from South Africa

Products

One in two potatoes and one in three eggs that are produced by German farmers comes from Niedersachsen. Besides, the state is famous for passenger cars, wind turbines, cookies, designer chairs, audio solutions, prostheses, vehicle parts, biomass plants, cruise liners, medicines, cables, frozen cakes, solar panels, drilling heads, motor trucks, seeds — just to name a few...

Knowledge (2008)

11	Universities
7	Technical colleges
5	Private technical colleges
2	Art colleges
140,000	Students
16,000	Foreign students
34,000	Employees at universities
1,500	Cooperations with foreign partner universities
1,755	Billion euros budget
7	Max-Planck Institutes
3	Fraunhofer Institutes
120	Other extra-university research facilities

The Brunswick region is the most research-intensive area in Europe.

Politics

Niedersachsen is governed by a coalition of the parties CDU and FDP with Christian Wulff (CDU) as Prime Minister and Jörg Bode (FDP), Minister for Economics, Labour and Transport, as his Deputy.

Map

Niedersachsen
 Inhabitants: 8 million
 Area: 47,624 km²
 Capital: Hannover



Within 15 hours by train, 12 hours by truck or 1,5 hours by plane you can reach cities like **London, Paris, Amsterdam, Bern, Vienna, Prague, Warsaw, Oslo or Stockholm**

Within 30 hours by train, 24 hours by truck or 3 hours by plane you can reach cities like **Dublin, Madrid, Rome, Bukarest, Riga, St. Petersburg or Helsinki**

Trade Fairs

Five out of the ten biggest exhibitions in the world take place in Hannover. Deutsche Messe occupies the leading position in the global trade fair business.

Exports Imports

worth of **76,729,000,000 euros** (2008)

worth of **74,797,000,000 euros** (2008)

Netherlands (9.7%)

Norway (20.0%)

France (9.3%)

Netherlands (10.3%)

UK (7.4%)

France (5.4%)

USA (6.9%)

Poland (5.4%)

Italy (5.7%)

UK (4.8%)

Spain (5.0%)

China (4.5%)

Belgium (4.2%)

Belgium (4.6%)

Italy (3.9%)

Poland (4.2%)

Mexico (3.0%)

Austria (3.9%)

USA (3.0%)

Russia (3.2%)

And the most important trade partners (shares/2008)

Economy (2009)

214 billion euros GDP; 3,662,400 employees

202,397,700,000 euros: turnover of the 10 biggest companies

Volkswagen	113.8 bn euros
TUI	24,9 bn euros
Continental	24,2 bn euros
Salzgitter	12.5 bn euros
Agravis	5.8 bn euros
EWE	5.5 bn euros
MGL	5.0 bn euros
E.ON Avacon	3.8 bn euros
hagebau	3.7 bn euros
Georgsmarienhütte	3.3 bn euros

Sources: Nord/LB, Statistisches Landesamt

Standards for International Container Freight

Hellmann Worldwide Logistics is the first company to implement the satellite-based container monitoring system SeCureSystem equipping 20 maritime containers to begin with. Hellmann Worldwide Logistics therewith responds to the increasing container freight safety regulations of the international harbours of the United States. After five years of development, Astrium and Hellmann aim to establish SeCureSystem as a safety standard for international container freight.

www.hellmann.net



Photo: ECE

New Hub for Hermes

Hermes is expanding its Germany operations to include a new distribution centre in Langenhagen near Hannover. The hub will be handed over in January 2011 and will process up to 60 million parcels a year, deploying state-of-the-art sorting technology. The 80,000 square metres site in Langenhagen will house a 230-metres long, 60-metres wide logistics centre with more than 110 bays to load and unload lorries and smaller vehicles. Each day, over 100 trucks can be handled that transport parcels as well as letters, catalogues, luggage and furniture. The new hub is a transshipment facility for all Hermes transports in northern Germany.

www.hermes-europe.de





North South East West

Niedersachsen provides
a future-oriented infrastructure geared
to European-wide logistics services.

Photo: Photocase

by Inka Ziegenhagen

An air of intense activity lies over Hannover Airport. An Antonov 124, one of the largest cargo aircraft, is currently approaching the 3,800 m long northern airstrip. It is scheduled to fly two huge, high-performance compressors to the Middle East where they are to generate compressed air on one of the oil rigs. Not an easy task. The core piece of the machine alone, which also contains the prime motor, weighs 32.5 tons. The ancillary unit adds another 26 tons to the total weight.

Tricky jobs like this one are the daily business of the transport managers of Air Service Hannover GmbH (ASH). About 80,000 tons of freight are shipped from Niedersachsen's largest airport to all corners of the earth every year. ASH, a fully-owned subsidiary of Hannover Airport, has developed into an important service provider for the international logistics business. As the handling agent for 25 years, it is responsible for over 60 airlines and charter brokers starting and landing in Hannover. Along with the handling business the Hannover freight experts also offer advanced services such as trucking, logistics services, mail services, customs examinations or the consolidation of shipments. Particularly in the freight charter business ASH in Hannover has become an established player. Be it spare parts deliveries with small aircraft or—as in the example above—a heavy goods shipment with the Antonov 124—ASH is competent for any kind of cargo. ASH is able to offer its customers video-controlled storage areas complying with all security requirements, special zones for radioactive shipments, valuable cargo, perishable products, explosives as well as chilled goods.

The airport in Hannover has developed into a logistic center of excellence. A total of 110 million euros have been invested in expanding the cargo and logistics areas in recent years. The most important investment project is undisputedly the World Cargo Center. On the Airport Business Park West grounds, Garbe Logistic AG is presently building a 20,000 square metre freight centre, specifically aligned to air cargo re-



Photo: Hannover Airport

Flying postman. Two planes are operating on the routes to Munich and Stuttgart five times a week, each carrying 15 tons of mail.



Hannover Airport is the central air freight re-loading point of Niedersachsen. With its central position, ideal traffic connections coupled with the airport infrastructure, which is suitable for every kind of aircraft, and its no-competition expansion options, Hannover Airport has become a logistic center of excellence.

quirements. Being located on the apron the World Cargo Center gives, for example, direct access to the aircraft's park positions. For the real estate developer Garbe, who operates offices in London, Paris, Istanbul and Moscow, Hannover represents a top logistics location. "The pivotal factors for our investment at the airport are the two parallel airstrips and the 24-hour operation, along with the high freight volume," says Markus Wolf, Managing Director of the Garbe World Cargo Center. The main advantage of Hannover as a logistics location is the outstanding road infrastructure with direct links to motorways running in north-south and east-west directions. A location with a future: in the medium term the World Cargo Center plans to handle a transport volume of 160,000 tons.

Investment in Infrastructure

Niedersachsen, centrally located and with an outstanding infrastructure, is an important hub and gateway for the European goods traffic. The central components of the logistics country are the transport routes.

With the multi-lane highways A 1, A 2 and A 7, Niedersachsen is exceptionally well-integrated within the German and European long-distance road networks. The various regions in Niedersachsen are linked together by an efficient, high-capacity network of motorways and federal major roads which also ensure effective access to the seaports. Altogether, Nieder-



Photo: JadeWeserPort

A double-tracked electrified railway line is going to connect the JadeWeserPort with the hinterland.

Niedersachsen is criss-crossed by almost 1,400 km of motorways. In the future, road haulage alone will not be able to handle the increase in goods traffic without placing sustained restrictions on individual mobility and the mobility of commodities as well. Because of the growing strain on the roads, rail freight transport is undergoing a renaissance. Niedersachsen has one of the most dense railway networks in Germany with a total of 4,200 kilometres.

To complement its road and rail networks, Niedersachsen has a well developed and extensive waterway infrastructure throughout the state which provides the basis for so-called 'wet transports' between seaports and inland harbours or transports with their origin and destination directly on the waterways. In addition to the rivers Ems, Weser, Elbe and Hunte, the Midland Canal, the Elbe Lateral Canal and the Coast Canal form the backbone of this transport network,

which allows ships with a tonnage of over 1,000 metric tons to navigate through a total of 1,100 kilometres of waterways.

New Maritime Perspectives

With its nine seaports in Brake, Cuxhaven, Emden, Leer, Nordenham, Papenburg Oldenburg, Stade and Wilhelmshaven and its direct proximity to the ports of Bremen, Bremerhaven and Hamburg, Niedersachsen has a concentration of seaports that is unique in Europe. In addition the JadeWeserPort in Wilhelmshaven, that will be capable of processing latest-generation container lines, will be operational starting in 2011.

The gigantic dimensions of the only deep water port in Germany that is not subject to tidal changes can already be recognized from a bird's eye view: a total of one million tonnes of rock from Norway have been piled up to build dykes. And more than 41 million of a total of 48 million cubic metres of sand have been pumped into the reclamation area to slowly displace the water. Since the beginning of the construction works in 2008 around 360 ha of new land have been developed—this is the size of more than 500 football fields. Due to the Jade's current fairway depth of 18 metres at chart datum, the JadeWeserPort is especially suited for large container ships with a capacity of above 13,000 TEU. Even giants with a length of up to 430 metres and draughts of up to 16.5 metres will be able to reach the port regardless of the tide and without waiting times. At the planned 1,725 metres long riverside quay, four large container ships and feeder ships with 16 container gantry cranes with a nosing of 62 metres can be dealt with at the same time. Along with the terminal, the deep water port, the largest investment project in northern Germany with 950 million euros at present, also incorporates a 160 ha logistics zone.

More than 52,420 million tons of freight were loaded on deck of ships last year—16 percent less than in the previous year. "This shows that the seaports in Niedersachsen have also felt the impact of the economic



29,000
km of state-wide roads

Freight transport volume: 514.3 million metric tons (2005)

4th position in Germany

3rd longest network in Germany

Regional road network: 28,266 km

Incl. motorways: 1,398 km

Federal trunk roads: 4,856 km



1,600
km electrified main railway lines

Freight transport (2006, without transit traffic): 52.7 million metric tons

2nd position in Germany
4,200 km railway network

National No. 2 in railway traffic

Concentrated Competence

The Logistics Initiative was launched by the state government of Niedersachsen in 2002 in order to concentrate and further develop logistical competence. By now the initiative's office has become the central hub for all issues associated with logistical matters. One of its main goals is to set up and advance a logistics network in Niedersachsen which is now affiliated with around 2,500 companies and institutions from all logistics sectors. The annual report "Marktspiegel" provides an overview of current developments and the investment climate in Niedersachsen's logistics industry.



Photo: JadeWeserPort

Niedersachsen's gate to America, the Far East and the rest of the world: the JadeWeserPort.

› crisis," acknowledged Andreas Bullwinkel, Managing Director of the seaport marketing firm Seaports of Niedersachsen. However: in terms of the seaward movement of freight to Hamburg the ports in Niedersachsen rank in third place — after Hamburg and Bremen. 74,400 (2006) employees in Niedersachsen depended directly or indirectly on the seaport business in the past year. The wind energy sector remained nearly unimpressed by the global recession. In 2008 the windmillers had 58,259 tons of freight to handle — 35 percent more than in the previous year.



1,100

km inland waterways

Inland shipping

Transport volume (2006, without transit traffic):
27.2 million metric tons

80 inland harbours

13 transshipment terminals for multimodal transport

Maritime shipping

Transport volume (2008, without transit traffic):
62.3 million metric tons

9 seaports

Particularly the offshore sector promises to be a huge growth market for the German industry. According to the Verband Deutscher Maschinen- und Anlagenbau (VDMA — German Association of Mechanical Engineering and Plant Construction) more than 40 billion euros are planned to flow into the construction of offshore windparks by 2030. The designated place of loading for the multi-megawatt installations, which are as high as a church tower, is Cuxhaven in Niedersachsen. Here at the North Sea — right in the middle between the Elbe and Weser estuaries — the state and the EU have invested 48 million euros in the completion of an offshore basis. The core piece of the new offshore port and unique to the German North Sea coast is the 1,665 square metres heavy-load platform. It can carry weights of up to 90 tons per square metre. This facilitates loading the wind generators not only in one piece but also in an upright position.

In addition, Cuxhaven is not only the place of loading for the gigantic wind energy plants, but also the place of manufacture. The gargantuan hall on the port site belonging to Cuxhaven Steel Construction GmbH (CSC) is the place of birth for the founding structures of the wind wheels — the so-called tripiles. Each of the three-footed yellow leviathans weighs around 500 tons. The Bard subsidiary CSC is the first company world-wide mass-manufacturing offshore foundations. In future 100 units are scheduled to be taken to sea in Cuxhaven every year. "The new port now offers the best possible conditions to ship our founding structures to the wind parks out in the North Sea quickly and safely," says former CSC Managing Director Manfred Bruhn and at the same time expands their operating range: "This gives us the capabilities to also supply offshore project areas in the Baltic Sea from Cuxhaven."

Along with the wind energy companies, also car manufacturers know how to use the proximity to maritime shipping. The most prominent example is Volkswagen which ship their models from Emden to the US. Recently Land Rovers as well as Jaguar luxury cars began making their first contact with the continent in Cuxhaven.

Smart Logistics for the hinterland

Along with the seaports the inland ports are also integral components of the tightly-meshed logistics web in Niedersachsen. Over 80 inland harbours and transshipment points along the inland waterways make up an extensive network of ports and harbours that is very closely integrated in the processes of industry and commerce through accompanying logistics services ›

Seaport Features

Brake	Hub for the import and export of agricultural products Commodities: forest products, steel, project cargos, wind energy
Cuxhaven	Base port for offshore wind energy development Centre for roll-on roll-off traffic, food logistics and food production, automobile logistics (BMW), cruise port
Emden	Car hub for the Volkswagen group Base port for offshore wind energy development Important port for bulk and breakbulk commodity transshipment (e.g. liquid chalk, forest products)
Leer	Municipal port for local and regional supply
Nordenham	Private port specialising in bulk commodities (coal) Coal imports, iron and steel as growth drivers
Oldenburg	Municipal port for local and regional supply
Papenburg	Home port of Meyer Ship Yard Municipal port for local and regional supply
Stade	Port for the aluminium industry Potential for expansion in bulk and breakbulk commodities
Wilhelmshaven	Largest transshipment seaport in Niedersachsen

Green Logistics

The Osnabrück based company Hellmann Worldwide Logistics is one of the world's leading providers of logistics as well as a pioneer for climate friendly logistics.



Photo: Hellmann Worldwide Logistics

Hellmann Worldwide Logistics

Founded in 1871, Hellmann Worldwide Logistics is a global leader for logistics with a network of 16,500 employees working in 157 countries. The range of services offered includes traditional forwarding agents' services, i.e. transport via lorry, rail, air and sea as well as a wide array of KEP services (courier, express, parcel), supply chain management and customized solutions for specific sectors including IT. In 2008 Hellmann achieved a turnover of 2.87 bn euros with 8,900 employees.

Interview with Karl Engelhard, General Manager, Hellmann Worldwide Logistics by Inka Ziegenhagen

Mr. Engelhard, Hellmann started to build an intercontinental network as early as in the 1980s. What is your strategy for internationalisation for the next few years?

Today we have 443 offices in 157 countries. This includes 210 branches as well as a network of exclusive partners. We do attach great importance to cooperating with partners we have carefully chosen. Their expertise and knowledge of the markets as well as ties with customers are a mainstay of our worldwide air and sea freight network. We only open a branch of our own if we are unable to find suitable partners. If and when new markets open up we will access and develop them. At this point we are well-positioned and are not planning any expansion.

Everybody is talking about sustainability. Will the issue gain in importance and will the logistics sector reinforce its commitment in this respect?

I am sure the issue will become much more important. In 2009, due to the economic situation, reactions were still cautious. Over the next few years though a commitment in this area will become increasingly important. Customers enquire more and more frequently about the CO₂ emissions their shipments are causing. We are convinced that "Green Logistics" will represent a significant competitive advantage in the future. We are the first providers of logistics in Germany to have received certification according to DIN EN ISO 14001 in 1996. We offer services in line with the principles of ecological, economic and social responsibility, and we have to intensify our efforts and build on our role as pioneers in the field of sustainability.

Are you also thinking about alternative concepts for transport?

Of course we are constantly working on alterna-

tive solutions. In 2007 we ran a very successful test with Eurokombi. Unfortunately, its introduction was stopped by the government at the time. Now there are new tests which give rise to hopes for this option which makes sense both from an ecological and from an economic point of view. For the past few years we have also focussed on shipments by rail. At the Hellmann locations in Osnabrück, Hamburg, Hannover and Bremen we use trains on the North-South axis to Frankfurt, Basle, Nuremberg, Regensburg and Landshut on a daily basis. Every day we transfer 150 lorry transports from the road onto rails, which corresponds to a CO₂ reduction of over six tons per day.

What is it that sets the location of Niedersachsen apart?

Niedersachsen is ideally suited for being a logistics location. Our locations of Osnabrück and Hannover/Lehrte benefit from a good infrastructure. In Lehrte we are situated right next to the A2, close to the A7 junction. The A1/A30 motorway junction and the cross-shaped "tower" railway station of Osnabrück likewise offer excellent opportunities for transport. The deep-water port of Wilhelmshaven also offers new opportunities for us.

"Green Logistics will represent a significant competitive advantage."

Karl Engelhard,
Hellmann Worldwide
Logistics



Photo: Hellmann Worldwide Logistics



Photo: Hellmann Worldwide Logistics

There are 13 high-capacity locations for intermodal traffic which are spread across the entire state.

Logistics Links

www.logistikportal-niedersachsen.de
 www.nports.de
 www.seaports.de
 www.offshore-basis.de
 www.hannover-airport.de
 www.hellmann.de
 www.jadeweserport.com

› targeted towards the needs of customers and specific industries. This network of river and canal ports is being further extended.

In the long run maritime and domestic shipping are the most environmentally friendly types of transport with the highest energy efficiency per ton kilometre. Therefore the state of Niedersachsen intends to shift more cargo from land onto water. In addition, maritime, coastal and domestic shipping currently have significant free capacities. And to add to that, inland ports often act as trimodal locations, thereby bringing together water, road and rail transport—as is the case at the Eurohafen Emsland or the Hannover domestic port. The trimodally operating Eurohafen Emsland has free spaces totalling 450 ha. The port that was com-

pleted in 2007 benefits from its proximity to the Netherlands and has outstanding infrastructural capacities.

Intermodal Traffic

In view of the consistently growing amount of goods volume and the need to handle these goods as efficiently as possible, the importance of intelligently linking multiple carriers by means of intermodal traffic is rising. Intermodal traffic is the transport of goods in standardized loading units such as swap bodies, containers and articulated trailers by two or more transport carriers. The change between carriers is made by moving the loading units. The largest part of the transport route is made on rail, inland waterway or at sea, and the initial or last leg on the road should be as short as possible.

Intermodal traffic already has a high significance in Niedersachsen. This is shown in the modern and high-performance infrastructure of the existing transshipment facilities, freight villages (GVZ) as well as the sea and domestic ports. Today there are 13 high-capacity locations for intermodal traffic which are spread across the entire state. The long list of companies using Niedersachsen as their base for organising their Europe-wide or even worldwide spare parts supply, such as Bosch-Rexroth, Continental, MAN, Mercedes, MTU, or PSA, shows that there is a demand for these services.

The backbone of the Niedersachsen's logistics scene are 450 mainly SMEs involved in transport and logistics traffic as well as several branches of globally operating logistics service providers, such as Meyer & Meyer, Ebeling Intern. Spedition and the Osnabrück based Hellmann Worldwide Logistics. Taking into account those companies that are dealing with additional logistical functions and services such as intralogistics, logistics-oriented digital solutions, port services, etc., the logistics network of Niedersachsen features more than 2,500 firms and entities.

Investment in Brains

And in order to ensure Niedersachsen can hold on to their top position within Europe and intelligently develop it, investment in people is not neglected. The landscape is enriched by a large number of schools and institutes engaged in vocational training, education and academic qualification. The state has highly motivated experts and leaders who enjoy practice-oriented training that prepares them for the changes in the industry. All this to keep the economy booming—in the ports, airports and logistics centres of a European core region. 🚚

Meeting Niedersachsen (extract)

Cityscape Abu Dhabi

18 - 21 April 2010,
 Abu Dhabi
 International event
 for commercial real
 estate investment
 & development
 www.cityscapeabudhabi.com

Real Estate North

2 June - 3 June 2010,
 Airport Hamburg
 International trade fair
 for commercial real
 estate
 www.real-estate-north.de/
 homepage_e

Expo Real

4 - 6 October 2010, Munich
 International trade fair
 for commercial property
 and investment
 www.exporeal.net

16th World Route

Development Forum
 19 - 21 September 2010,
 Vancouver, Canada
 World's route
 development meeting
 www.routesonline.com

8th Logistics Network Congress

15 - 17 September 2010,
 Hannover
 German congress for
 mobility & logistics
 www.logistics-network.de

Site Selection

Centrally located and with an outstanding infrastructure, Niedersachsen is a good choice for industrial location.

Looking for a business location that is suitable for your venture? The database KomSIS.de allows you to search among more than 1,000 industrial real estates, business sites and commercial properties according to specific selection criteria. Deutsche Post properties are now also promoted by KomSIS.de. The 100 properties from the German postal services provider are mostly situated in attractive inner-city or town centre locations and are being offered for sale or rent.

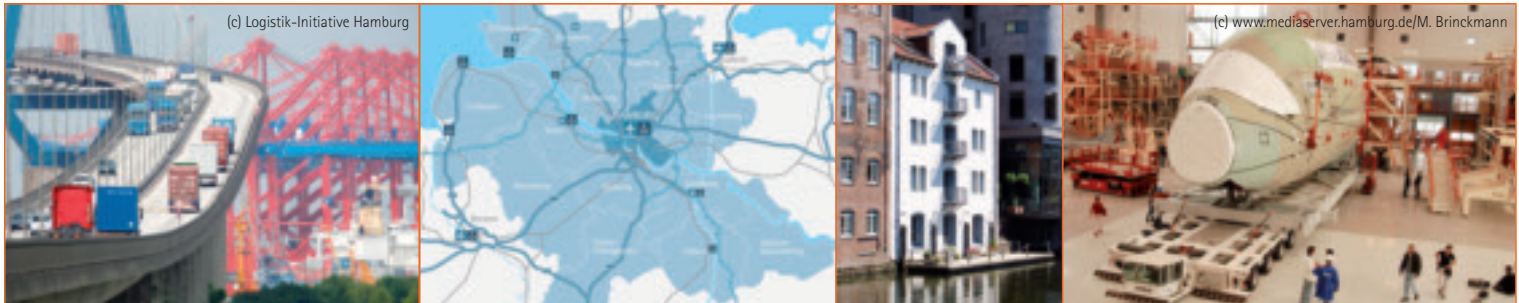
Additionally, the site selection database contains links to cities and districts as well as local economic development institutions which provide further information on selected locations. This multiple presentation facility not only saves time and effort, but also significantly increases the ability to find the offers that have been made on



Reasonably priced commercial and industrial properties are available for all types of investment projects.

the Internet. This is also reflected in the web statistics: with an average of 9,000 visitors and 120,000 page hits every month, KomSIS.de has established itself as one of the most-used statewide location portals in Germany. ↗

Further information about the services provided can be found at: www.komsis.de/en



Hamburg Metropolitan Region Business Development

Setting up business: Süderelbe AG is a central point of contact for all companies planning to expand, restructure, or locate in our region. In cooperation with our local partners we provide consulting services and information on potential sites. We concentrate on commercial Real Estate Service and develop projects along the entire value chain of the regional clusters: Ports and Logistics, Food Industry, Aviation and Maritime Industry.

Please contact us!

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Süderelbe AG
Hamburg Metropolitan Region

23 - 26 May 2010, Dallas

Windpower Trade Fair

Windpower is the world's largest and most anticipated annual event for wind energy, last year featuring over 23,000 attendees and 1,280 exhibitors. The conference and exhibition gather the thought leaders of the wind industry to discuss opportunities for the expansion of this market, how to strengthen the economy with wind technology, and how to establish long-term policy support for wind energy integration in the U.S. To present Niedersachsen's strengths in wind energy technology NGlobal will be on site with an information desk. <http://2010.windpowerexpo.org>

12 - 20 June 2010, Mexico

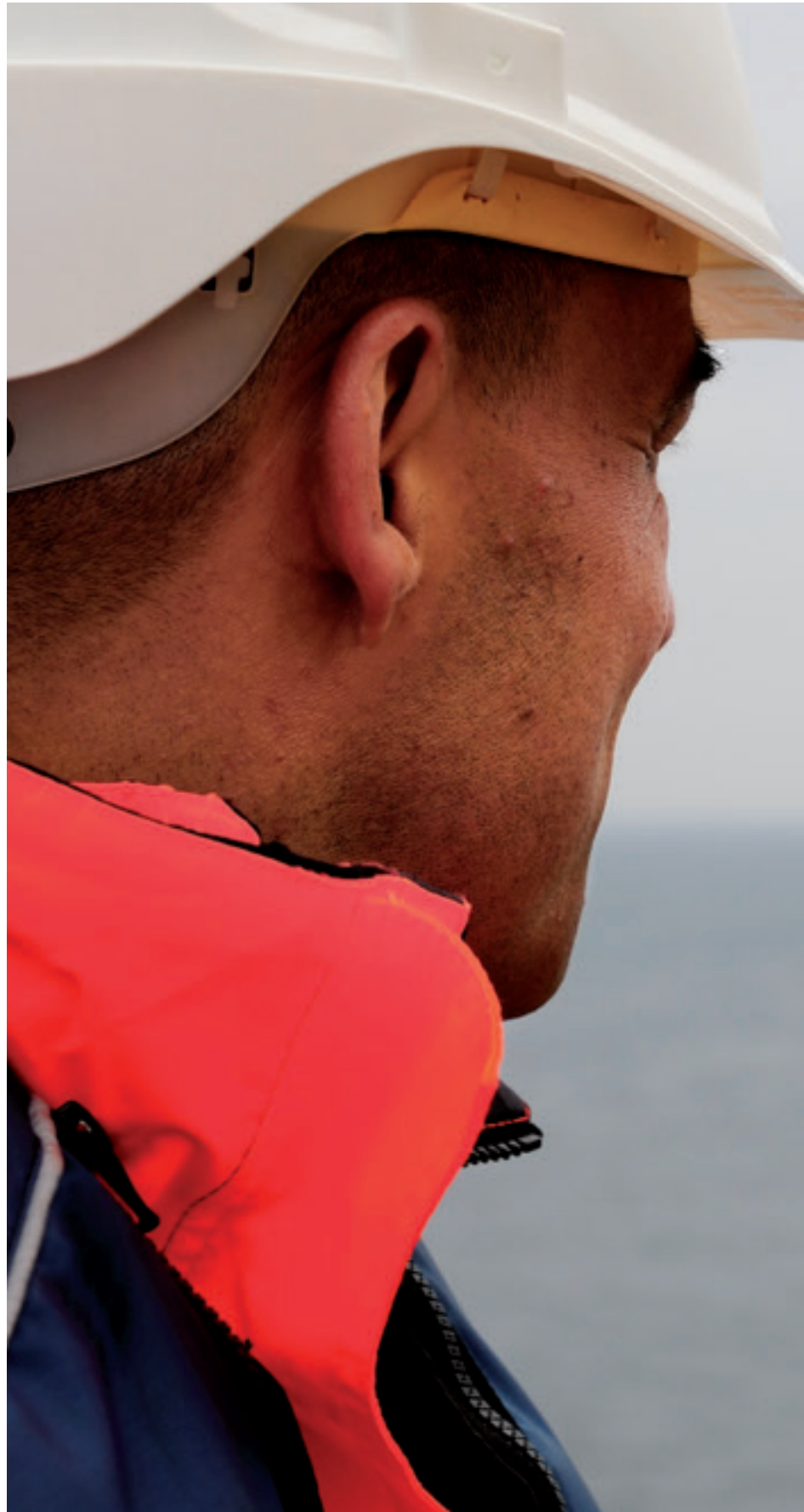
Energy Business in Mexico

In the coming years Latin America's second largest economy has to invest in the extension and modernization of its energy infrastructure. Besides increasing conventional power plants' capacities, one will also accelerate the renewable energy development. The 9-day trip to evaluate business opportunities is organized by the Business Association for Latin America (LAV) in cooperation with NGlobal, LBBW, German Centre Mexico as well as the German-Mexican Chamber of Commerce. www.lateinamerikaverrein.de

20 - 21 April 2010, Hannover

Discussing Solutions

On 20 and 21 April 2010, the international energy sector will meet at the World Energy Dialogue in Hannover. The event's presentations and panel discussions will examine the vital role of renewables and energy efficiency with reference to four main themes: sustainable energy supply for fast-growing urban centers, urban mobility, interconnected energy systems, and generating solar power in Africa. www.hannovermesse.de



Mapping out an Energizing Business

Niedersachsen is making maximum use of its resources: Wind, sun and biomass are increasingly supplementing traditional sources of power.



Photo: Alpha Ventus

Committed to Renewable Energies

The Oldenburg-based EWE is one of the largest utility companies in Germany with strong expertise in renewable energies.

Interview with Dr. Werner Brinker, EWE AG by Inka Ziegenhagen

Dr. Brinker, as early as the late 50s, EWE was using natural gas for heating—a milestone in Germany’s national natural gas supply. What are the competencies that set EWE apart from the rest of the gas industry? How do you want to position yourselves in natural gas sales in the future?

We have been consistently expanding our regional natural gas supply networks for decades and have achieved market penetration of 90 percent in the Weser/Ems region. Natural gas will continue to play an important role in the coming decades, not least as a source of energy with low levels of CO₂ emissions. However, it will be increasingly important to use natural gas as economically as possible in the future. This will test our skill as a utility company with its own import agreements, natural gas storage facilities and efficient infrastructure, and will pose an ever-increasing challenge to our expertise as an energy supplier. EWE provides its customers with personal advice and tailored solutions, such as contracting, at over 40 sales offices throughout the region.

Your company drummed up around five percent of all your gas sales last year. How are you looking to secure your procurement of natural gas in the long term? What kind of exploration and production activities do you have planned?

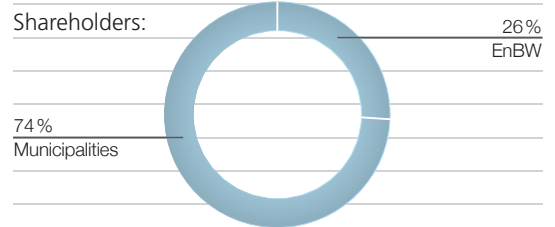
We have been importing natural gas from Holland for 48 years now and use our natural gas storage facilities to trade natural gas volumes. This allows us a certain amount of flexibility. EWE has been producing natural gas in the Dutch North Sea since 1983 and has been continuously strengthening its involvement here in small stages over the last 15 years. We will continue to do this, but we’ll feel our way through the process one step at a time instead of doing it on a grand scale.

The International Energy Agency (IEA) expects there to be considerable excess capacity in the natural gas market in the future and is concerned that there might be an enormous price crash. What do you make of their prediction?

EWE AG

5th largest utility company in Germany

Headquarters: Oldenburg (Niedersachsen)



Business activities: Supply of electricity, natural gas, water supplies; gas transmission, trade and storage; environmental technology; telecommunication and information technologies

Customers: 1 m (electricity), 1.2 m (natural gas)

Home market: Northern Germany

Expanding operations in: Eastern Germany, Poland and Turkey

Employees: 5,300

Recorded sales: 5.3 billion euros

Source: EWE

The IEA developed this what-if scenario based on very specific assumptions. For example, they assumed that an increased supply of natural gas would cause the gas-producing countries to abandon oil-based pricing in long-term supply contracts. Although there is some initial movement towards more flexibility, we have to work with what is actually the case in our medium-term operational business—and that still is long-term import contracts with gas prices linked to the price of oil. Our capital expenditure is based on a long-term perspective which extends far behind the forecasting horizon used by the IEA. The global demand for energy and therefore natural gas will increase in the



long term while we continue to exploit our finite reserves of natural gas. EWE is preparing for this, we are continuously expanding our natural gas storage capacities.

The liberalisation of the energy markets made an impact on the electricity market and is now beginning to affect the gas market as well. What arrangements are you making to handle the increased competition? What opportunities do you hope will come up for your network business?

Our comprehensive experience in transporting, storing and distributing natural gas allows our customers to benefit from low prices. Thanks to this and our broad catalogue of services and consultancy, we are well positioned in the gas business. We also have efficient technical and organisational structures in place in our network business which allow us to benefit from the upturn in the trade and transport of gas volumes.

EnBW AG recently acquired a 26 percent stake in EWE. How can your company benefit strategically from this alliance?

“We want to expand our conventional generation of electricity with the help of EnBW.”

Photo: EWE

In a market shaped by increasing competition, access to production capacities is more and more important. We want to expand our conventional generation of electricity with the help of EnBW. Acquiring Bremen-based swb also helped us towards this goal, because it has its own power plants. Therefore our partnership with EnBW and the strategic growth of our company are also important for our customers. Having a strong strategic partner means we benefit from knowledge-sharing as well as from pooling our activities. In the future, the collaboration between EnBW and EWE will focus on the areas of renewable energies, gas storage and electricity generation.

Both EWE and EnBW enjoy strong municipal partnerships. EnBW is 45 percent municipally owned, while 74 percent of EWE belongs to cities and districts in the Ems/Weser/Elbe region. What effect will this shareholder structure have on how the two companies work together?



“Thankfully we were one of the first foreign investors in the Polish and Turkish energy sectors; otherwise we wouldn’t have had much of a chance against the major companies as a comparatively small investor.”

› EWE is used to having a shareholder structure made up mainly of municipalities and a strong partner from the energy sector. Until its acquisition of Ruhrgas and the associated antitrust proceedings, E.ON held a stake in EWE. EWE's municipal shareholders acquired these shares after they were released in 2003, but we always considered that a temporary solution. We quickly began looking for a new strategic partner, which we have now found in EnBW. The districts and free cities are proud of "their EWE" and how their company has developed over the last 50 years. This relationship, the trust built up over decades and our commitment to long-term growth are the strong backbone of all our activities as a company as well as of our partnership with EnBW.

Germany's first offshore wind farm, Alpha Ventus, was hooked up to the energy network last year. EWE holds 47.5 percent of the shares in the project company DOTI, making it the strongest company in the consortium. What did you learn from constructing the twelve wind turbines and what conclusions did you draw from the experience?

Every day was a learning experience for us. But we were prepared for that. After all, there wasn't a single other offshore wind farm in 30 metres of water 60 kilometres off a coast anywhere in the world. The most difficult thing was a lack of suitable logistics like offshore floating cranes, jack-up rigs and specialised ships. We also found it hard to get hold of the experts we needed to construct the foundations, like divers. All of the other technicians and mechanics who installed the transformer station and the wind turbines and will be responsible for maintaining them in the future had to be specially trained for work on the high seas. We also had some difficulty with the weather. All in all, constructing Alpha Ventus took longer and was more expensive than we intended.

Nevertheless, I'm sure that we will benefit from all of these experiences. The RAVE research programme is taking an in-depth look at the consequences of using offshore wind energy on behalf of the German Federal Ministry of Education and Research, and will provide us with more important findings.

Our experiences have led us to strengthen research and teaching in the area of wind energy technology in our region in order to advance this technology of the future and do something about the lack of people in the next generation who are qualified in this area. On a political level, we are committed to removing the bottlenecks in the structure, in the areas of logistics or network capacities for example, as quickly as possible.

What role does wind energy play in your electricity generation portfolio? What other onshore and offshore activities do you have planned in the medium term?

We are already getting ready to start work on another offshore project, the Riffgat wind farm. We are also expanding our capacities or acquiring existing wind farms on the mainland. The facilities that we operate currently have a total capacity of over 100 megawatts and we will continue to expand our capacities, both onshore and offshore.

How important are other forms of renewable energy, such as biomass or solar energy, for your company?

EWE has been investing in the construction of biogas, photovoltaics and wind power facilities for over 20 years. We are committed to large-scale biogas plants which can be operated efficiently and economically by preparing biogas and feeding it into the natural gas network. We already operate five biogas and two feed-in facilities. The future development of biogas' market potential depends on how efficiently it is generated, distributed and used. Our photovoltaic power plants produce well over 500,000 kilowatt-hours of electricity every year. We installed a 16,000 m² photovoltaics system in Bremen's Weser Stadium which will become fully operational this year. We are also involved in developing thin film photovoltaics through the EWE research centre NEXT ENERGY in order to make using renewable energy sources more effective and efficient.

You have been active on the Turkish market since 2007 and now hold 80 percent of the shares in the natural gas suppliers Bursagaz and Kayserigaz. You have also been operating in western Poland since 1998 through your wholly owned subsidiary EWE Polska. What are your strategic objectives, and how do these activities help you to compete against the major international energy suppliers?

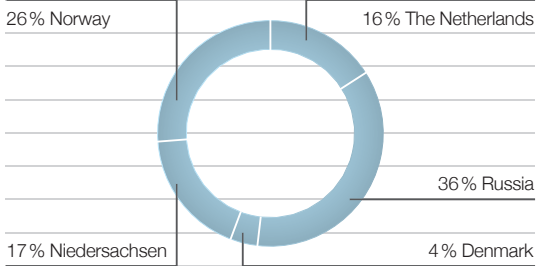
The grid-based energy industry is subject to increasing economic and technical regulation. On the one hand that's unfortunate, but on the other hand it allows us to be more certain with our planning. However, we want to remain entrepreneurial instead of just being administrators. That is why we're looking for new markets such as Poland and Turkey and new business areas like telecommunications and information technology in order to create new service products which are not subject to the regulations. Thankfully we were one of the first foreign investors in the Polish and Turkish energy sectors; otherwise we wouldn't have had much of a chance against the major companies as a comparatively small investor. We only operate in the sectors of these markets in which we have accumulated decades of experience and specialised knowledge: regional energy supplies, renewable energies and the ICT sector. This has limited competition with international investors until now. 🐾

Dr. Werner Brinker has 30 years of experience in the energy industry and was appointed CEO of EWE in 1998. Brinker began his career at EWE AG in 1978. Starting in 1980 he was responsible for gas procurement. In 1988 he took over development of the waste management division and was granted full power of attorney in 1992. He studied civil engineering at Braunschweig Technical University, where he obtained his doctorate in 1990. He is married and has two daughters.

94 %

of Germany's natural gas is found in Niedersachsen

National Natural Gas Supply (in 2008)



The Biggest Players

BEB Erdgas und Erdöl GmbH	7,893 (- 12%)
Mobil Erdgas Erdöl GmbH	3,170 (- 9%)
Gaz de France PEG	818 (+ 6%)
RWE Dea AG	2,762 (+ 6%)
Wintershall Holding	865 (- 21%)

in Germany 2008 in million m³. (changes compared to 2007)

Source: Association of German Oil and Gas Producers



Photo: Baker Hughes

Niedersachsen's Hidden Treasures

With its natural gas resources the federal state is a 'small sheikdom'.

by Inka Ziegenhagen

Large farms, handsome half-timbered houses and lush greenery as far as the eye can see. At first sight the villages of Völkersen, Böttersen and Söhlingen on the edges of the Lüneburg Heath do not appear as being very spectacular at all. However, unseen, thousands of metres below the surface of the earth, the region conceals immense treasures: this is where Germany's largest reserves of natural gas are located. "A small 'sheikdom'," is how the — otherwise quite sober — people of Niedersachsen proudly put it. As a matter of fact, 14.7 billion cubic metres of gas were extracted last year — that is 17 times more than in the rest of Germany. "Not only is Niedersachsen self-sufficient regarding the supply of natural gas, we also make an important contribution to ensure the energy supply of other federal states," explains Dr. Gernot Kalkoffen, Chairman of the Association of German Oil and Gas Producers and European head of ExxonMobil. Niedersachsen indeed covers 15 percent of Germany's natural gas requirements.

Gas supplies in the federal state may well exceed regional demand. Yet, here, too, the times of easy and cheap natural gas are long over. The abundance is not going to last indefinitely. According to recent estimates, gas supplies for commercial production are likely to be exhausted in 20 to 30 years. "We are aware of all the large deposits, and by now new findings have become as rare as a Blue Mauritius," states Niedersachsen's Prime Minister Christian Wulff.

This is why in the future extraction is to be expanded to deeper and less accessible layers of the earth. Close to the Dutch border is an area where ExxonMobil suspects large quantities of the so-called unconventional gas. The Texan gas and oil giant with German headquarters in Hannover is planning to invest a three-digit million sum to explore the zone by this summer. If

the company's scientists and engineers do discover gas, Kalkoffen hopes, availability of the fossil fuel could extend to 30 or 50 years.

World Record in Söhlingen

Unconventional gas types include tight gas, a challenging type of resource since it is found in compact and virtually impenetrable rock. ExxonMobil started to extract tight gas in the Söhlingen gas field ten years ago — and in the process reinvented extraction technology. To bring the precious gas to the surface, a flexible drill string bores some 5,000 metres deep into the earth. Given that gas fields tend to occur more frequently as horizontal layers than as vertical ones, the drill string, in its second phase, changes direction and moves into the deposit horizontally. This creates higher production rates with considerably fewer drillings. To induce gas flow in impenetrable sandstone, the stone is opened up by inserting liquid under high pressure. Then the cracks, which may be several hundred metres long, are filled with a propping agent which allows the gas to flow easily.

To ensure precision drilling in those deep layers of rock, civil engineers of the U.S. American oil and gas service provider Baker Hughes Inteq have developed a highly intelligent, "autonomous" as it were, drill robot. AutoTrak Rotary Closed Loop Drilling System® can follow a given course with unprecedented accuracy for as many as twelve kilometres, both in a horizontal and in a vertical direction. This precision allows an easier, faster and more economic extraction. The robot was devel-

"Not only is Niedersachsen self-sufficient regarding the supply of natural gas, we also make an important contribution to ensure the energy supply of other federal states."

Dr. Gernot Kalkoffen, Chairman of the Association of German Oil and Gas Producers and European head of ExxonMobil



Photo: ExxonMobil



Photo: Wintershall

A Touch of Texas

Many many decades ago, at a time when Hannover was still a kingdom, a German professor went looking for brown coal in the village of Wietze near Celle — and found crude oil. And that even a few months before what was, probably, the first commercial drilling for crude oil in the U.S. state of Pennsylvania. The Celle area was at the time considered the German centre of crude oil. Then the “Wietze Tar” was practically scooped by hand. Today it takes innovative technology to extract the precious raw material — for example steam flood technology as it is used in Emlichheim. In 2008, fields in Niedersachsen yielded a total of 1,063,091 tons of the black gold. This is just a small part of the required amount — still, having the resource available at one’s doorstep does convey a sense of comfort and security.

Developed and made in the picturesque little town of Celle where the Texan company, a worldwide leader in its field, has its European headquarters.

A Washing Machine for Natural Gas

The extraction of natural gas is, however, only the first step in the process. The gas cannot be used in the form in which it is brought to the surface. Especially in the South Oldenburg area, the gas is located in 250 million-year-old-reservoirs whose Zechstein layers frequently contain hydrogen sulphide. In the Großenkneten gas processing plant this so-called sour gas is washed and thereby the hydrogen sulphide is removed. The processing still leaves five billion cubic metres of pure natural gas, enough to cover two million households’ annual requirements.

The facility, built in 1972, is considered as one of the most environmentally friendly plants for processing natural gas in the world. Its rate of conversion is 99.8 percent — the highest rate achieved so far in indus-

trial applications. On top of that, the plant is one of the most important producers of natural gas sulphur worldwide: some 800,000 tons are sold every year, mainly to the chemical industry.

The Largest Storage Space in western Europe

Not only is Niedersachsen a leader for the extraction and purification of natural gas, it is also home to the largest storage facilities in western Europe. To balance consumption that undergoes seasonal and daily fluctuations, natural gas is being stored in huge chambers. “In addition, the storage space keeps us on the safe side should supplies be interrupted as they were during the Russian-Ukrainian gas dispute last year,” explains Prime Minister Christian Wulff. The gas is stored in so-called caverns, these are washed out cylindrical hollow spaces in salt formations a few hundred metres below the earth, or in former oil and gas deposits, like in the pore-space store in Rehden.

In the marshland surrounding the 1,900 inhabitants living in the hamlet of Rehden, extraction of natural gas stopped 18 years ago. Today the former reservoir is operated by Wingas and Wintershall as the largest storage area in western Europe. It extends over the sizeable space of eight square kilometres. At a depth of 2,000 metres and enclosed in rock stratum 20 to 30 metres deep, there is enough gas to supply two million single family houses for one year.

Deepening Research

To keep the caverns — for now at least — filled, it is necessary to develop and build on the existing know-how. As Dr. Kalkoffen puts it, “as a high-tech company we have an ongoing demand for flexible, highly qualified engineers and scientists, human resources that enable us to face the complex technological challenges of tomorrow’s energy supplies.” Clausthal University of Technology (TU Clausthal) has become an important partner for the federal state’s natural gas industry offering support both in terms of training and research. The University’s Institute of Petroleum Engineering (Institut für Erdöl- und Erdgastechnik, ITE) is the only German academic research centre in the field of natural gas technology, the Technical University of Freiberg taken aside. And, what is more, the Clausthal Institute founded another hotbed of research earlier this year. Now 80 scientists from the universities of Göttingen, Hannover, Braunschweig and Oldenburg are pooling Niedersachsen’s research competence at the Energieforschungszentrum Niedersachsen (EFZN) in Goslar. Using an interdisciplinary approach, the specialists are expected to further deepen research along the energy chain. 🚀



Photo: Wintershall

The service industry is represented with big names: Baker Hughes, Itag and Halliburton in Celle, Schlumberger in Vechta and KCA Deutag in Bad Bentheim.



One of the Favorite Homes of Bright Ideas

Fresh from Lower Saxony: innovations by EWE

As one of Germany's most progressive energy companies, we are passionate about intelligent supply concepts. For example, we are operating Germany's first offshore wind park, *alpha ventus*, in the North Sea. In addition, the E3 is the first electric car on the streets of Lower Saxony that acts as a mobile energy store, thus contributing to even more efficient energy supplies. These are just two of many projects that are part of a future with the right energy!

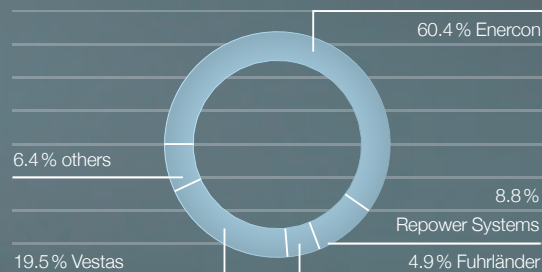


Winds of Change

Tall towers and deep waters — two Niedersachsen entrepreneurs are breezing through challenges in the wind energy sector.

5,268 wind turbines in Niedersachsen
 6,407 MW installed capacity
 12,0347 GWh potential annual production
 391 MW newly installed capacity

Capacity installed in Germany (in 2009)



Source: DEWI

About Alpha Ventus

Situated in the North Sea 45 km north of the island of Borkum, Alpha Ventus is Germany's first offshore wind farm research project. The power produced annually by the twelve 5-megawatt turbines will meet the energy needs of 50,000 households. Its construction was far more complex than that of other wind parks that had been built outside Germany. The concept at the heart of Alpha Ventus is the reason for this: two types of German-manufactured wind turbines were built on two different types of foundations using different types of constructions. As a result the construction will provide valuable insights for future offshore projects. All in all, 250 million euros have been invested in this pioneering project which is run by a consortium of three utility companies EWE, E.ON and Vattenfall.

Photo: Matthias Ibeler, DOTI

by Inka Ziegenhagen

They symbolize the trend towards alternative energies and it is difficult to picture Niedersachsen without them: over 5,268 wind turbines are located between the Harz mountains and the North Sea. With an installed capacity of 6,400 megawatt they feed almost one quarter of Germany's wind energy into the grid—more climate friendly energy than any other region in the federal republic contributes. And this is not just thanks to Niedersachsen's breezy geophysics, wind technology in the federal state is going strong, too.

The "East Frisian Bill Gates"

Aloys Wobben from Aurich has had a say in this from the very beginning. Today, "Mr. Wind", as he is called, is a household name in Niedersachsen. Over 25 years ago, when he started to look into the wind power business and founded the company Enercon, the sector was still in its infancy. Among the components used not a single one was fully developed in terms of technology. The main problem though was the grid. Then wind parks were connected directly to the grid and the turbines moved at a set speed. Given that the grid functions at a monotonous 50 hertz, the wind turbines were hardly running with maximum efficiency.

Wobben, of course, found this to be a highly unsatisfactory situation, even more so since he was then already keenly aware of the wind's immense potential. His aim was to uncouple the turbines from the grid. In 1984 Wobben and his small team hired a hall where they devised a frequency converter. When the manufacturers he cooperated with did not go along with his idea, Wobben decided to build the complete plants himself. Enercon's first commercially used turbine was erected in 1986 on the site of a furniture company. The turbine is still in use. Stefan Behrends, the company's first apprentice, remembers, "At the time we were a

dozen employees. Our 'production site' was a workshop which was just about big enough for two cars. The warehouse had enough space for two E-16. Once we had finished two of them, we had to put them up to have space to produce more." When he explained who he was working for, people used to smile at him. Then the company moved to their own premises in 1991 and started series production, and it dawned on some that this might turn into a big thing. It did.

Changing Gears—to Gearless

In the early 90s Aloys Wobben took a decision which was to become the cornerstone of the company's global reputation. After many years of dedicated research and development, he introduced his masterpiece to the market: the first series-produced gearless direct drive turbine. This was a ground-breaking development, equivalent to a revolution on the wind energy market. Up until then half of all turbine breakdowns were due to gearbox problems.

"We were market leaders for the E-32 then," remembers Wobben, "and we stopped production of the E-32 although it was selling well." Today the gearless drive is the trademark of the Aurich-made turbines. Since the number of rotating components is small, friction is kept to a minimum. Mechanical strain, operating and maintenance costs were reduced, the turbines' working life was extended. Wobben was also looking for ways to reduce the charge on the rotor (i.e. the drum). The result of his efforts were adjustable rotor blades which are able to turn around their own axis moving out of the wind if need be.

From 55 to 7,500 Kilowatt

Today's high tech installations have little in common with the first turbine models. Whereas the early E-15 turbine, in small series, had a rated power of 55 kilowatt, today's turbines can reach a maximum capacity of 7,500 kilowatt with a hub height of 135 metres. Along with the size of the turbines' towers and their capacity, turnover at Enercon moved up, too. Just from 1995 to 2006, the company's turnover increased more than fivefold to 1.8 billion euros. In 2008, the figure rose to 2.8 billion euros.

Research & Development

Over the last few decades Niedersachsen has realized considerable achievements in the power supply through wind energy. Much of this is owed to the research and development conducted in the federal state — such as ForWind. The joint centre for wind energy research of the universities of Oldenburg, Hannover and Bremen is the largest national association of its kind. The centre was founded in 2003 with the support of the federal state of Niedersachsen and carries out fundamental research in areas such as offshore meteorology, wind power forecasting, grid connections as well as in the assessment of installations' working life. ForWind also organizes further education and training for professionals in the wind industry. The joint centre has a strategic partnership with DEWI, the German Wind Energy Institute in Wilhelmshaven. As one of the leading international consultants in the field of wind energy, DEWI offers a wide range of wind energy related measurement services, energy analysis and studies as well as technological, economical and political consultancy.

Energy for the World

In Germany a market share of over 60 percent of installed capacity means that the Aurich company is clearly the top dog in the wind energy business. Early on Enercon's slogan "Energy for the World" already seemed to point towards an auspicious future. Today some 16,000 Enercon turbines are revolving in over 30 countries. With their distinctive drop-shaped generator housings, designed by Lord Norman Foster, and towers painted with green rings at their base, the turbines are easy to spot. As far as newly installed capacity goes, the company ranks number four on the world market. Enercon has production sites in Turkey, Brazil, India, Sweden and Portugal.

The company founder's inventive genius has not kept to wind energy only. "We spent a long time trying to figure out how to translate our insights into water power," relates Wobben. "The Weserkraftwerk power plant will show what we can do." Enercon's plans to supply two turbines with a maximum capacity of five MW each for the new Bremen hydroelectric power station, expected to generate electricity from mid 2011. Incidentally, Enercon's research and development subdivision, WRD, is also involved in reducing fuel consumption of ships by using sailing rotors. Re- >

The offshore industry greatly profits from the excellent infrastructure — like in Cuxhaven. Here, the state of Niedersachsen and the EU have invested 48 million euros in the completion of an offshore basis.



Photo: Bard

Niedersachsen accounts for one quarter of Germany's wind energy generation. One in four turbines is found in Niedersachsen.



Photo: Henning Reiter

The European headquarters of GE Wind Energy are based in the small municipality of Salzbergen. The U.S. company has over 10,000 wind turbines installed worldwide.



Photo: GE

"Virtually all projections regarding future energy supply have greatly underestimated us: in 1990 the conventional power industry did not think it likely that wind energy would ever provide close to one percent of the national power supply."

Aloys Wobben, CEO Enercon



The **Wind Lift I** is one of the key components of Bard's master plan. It allows the installation of the wind turbines even at high wind speed.

The control centre in Emden. From here the construction of 'Bard Offshore 1' — the first commercial offshore windpark — is also being monitored.



Photo: Bard

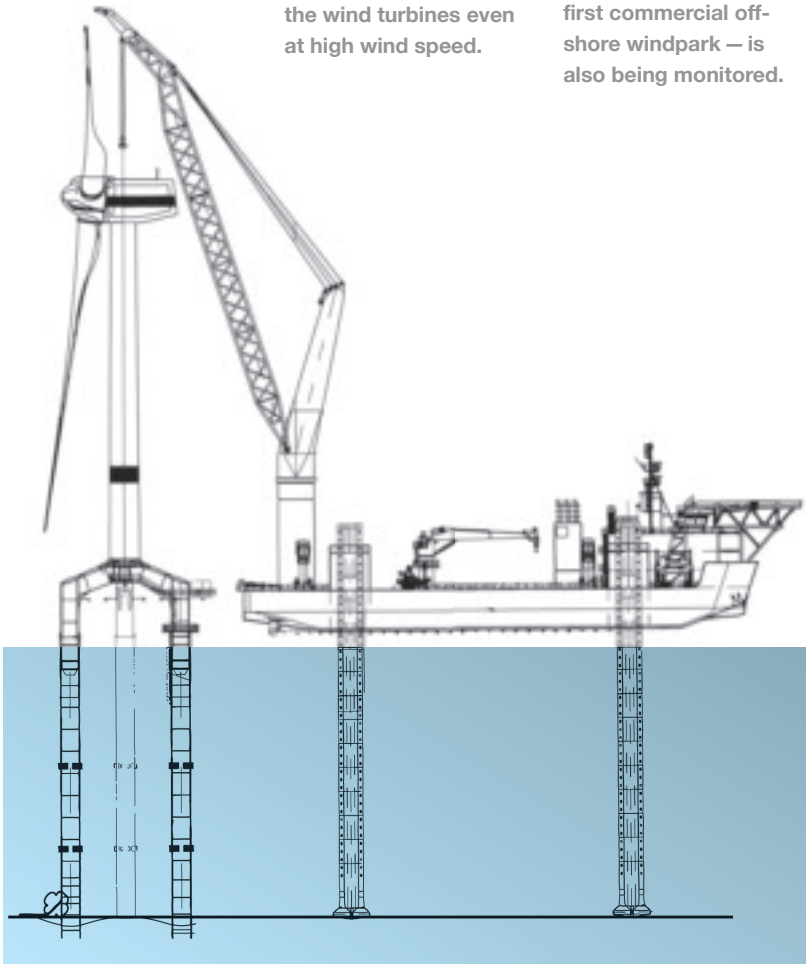


Photo: Bard

More Information

- www.enercon.de
- www.bard-offshore.de
- www.forwind.de
- www.dewi.de
- www.alpha-ventus.de

› cently construction of the prototype E-Ship 1 started at the Emden shipyards: It will start shipping wind turbines in summer 2010. Offshore wind energy is the one field Enercon has not gone into. This is a sector the company leaves to the Bard Group—whose story is a similar from-rags-to-riches tale.

Everything from one Source

The Emden-based company is currently building a wind park in the German North Sea, about 90 kilometres northwest of the island of Borkum. The turbines will reach 40 metres deep into the sea, a depth into which no other manufacturer has ventured so far. By the end of this year at least 50 turbines with a capacity of five MW each are scheduled to provide electricity for 400,000 households. It is not just that 'Bard Offshore 1' will be the first commercial wind park in the German North Sea. It is also being built by a company that eight years ago did not even exist.

Dr. Arngolt Bekker, a former Russian functionary, founded Bard with the idea of buying the wind power plants and their foundations and to then have them installed. However, when the solutions he envisaged were not available on the market, Bekker decided to make the offshore turbines himself. This not being enough, the businessman also took in hand to organize the building of the complicated and expensive foundations for the enormous turbines. Bard also wanted to be independent from the floating cranes of which only a few are available.

These were necessary to erect the turbines, and hiring cost the company up to one million euros a day. So why not build a ship of one's own? This is what Bard did. The company's own floating ship will be able to sink its hydraulic legs up to 45 metres onto the seabed and will then have a firm stand, allowing construction work even at wind speed 7. Bard also operates a transformer platform weighing 7,000 tons. The platform will gather the electricity produced by the 50 turbines and, to allow transport via sea cables towards the mainland, it will transform the current to a higher voltage. A 24-hour maintenance team on the platform will monitor operations of the wind park.

Bard's everything-from-one-source concept is part of a very ambitious plan. In the future Bard wants to build one offshore wind park every year: 'Bard Offshore 1' will, it is hoped, be succeeded by eight more installations. In addition, the company has recently received permission for three wind parks in the Dutch North Sea—which Bard is, likewise, going to plan, erect and operate.

With an installed capacity of 3,000 MW, the wind parks planned for the German North Sea alone could cover some two percent of the current electricity needs and replace three to four medium-size coal-fired power plants. This in turn would mean a cut in CO₂ emissions of ten million tons—a big step in the trend towards alternative energies. 🌿

Some Like it Hot

In Hannover, scientists go into new depths to prove that the use of geothermal power is not limited to Germany's southern provinces.

by Inka Ziegenhagen

When talking about geothermal energy, i.e. power coming from heat stored at a depth of several thousands of metres, one is probably first reminded of bubbling geysers in Iceland, or—staying within German boundaries—perhaps the Upper Rhine Graben comes to mind. Yet now a novel technology also seems to allow the use of geothermal energy in northern Germany. The pilot project is called GeneSys and it is based in Hannover. In June 2009 scientists of the Federal Institute of Geosciences and Natural Resources (BGR) first started to drill. In 2013, or so it is hoped, the entire institute building will be heated by the energy supplied through the project.

Two in One

“Unlike previous technologies which used to require two bore holes, GeneSys just needs one boring,” explains project manager Dr. Michael Kosinowski. First high pressure is used to press cold water into the soil, thereby producing, at a depth of some 4,000 metres, fine cracks in the porous bunter. The water penetrates and warms up in the surroundings that are 150 degrees Celsius warm, just like a natural heat exchanger. It then rises in the space between the water tubes and the surrounding soil. Back on the surface, the heat is extracted and fed into a circuit to then serve as heating for the Institute's offices and laboratories. Once the water has cooled down again it gets pumped back in the bore hole.

With the new drilling technology Niedersachsen wants to not only show that the use of geothermal power is possible beyond southern Germany; they also want to reduce the cost of such projects. And there is dire need. Just one drilling devours 15 million euros of which 70 percent sink into the soil during drilling. Despite the enormous expense and efforts that are called for, geothermal power could come to play an important part. “Because geothermal power is a virtually unlimited source of energy, and, what's more, it is environmentally friendly, too.” BGR President Prof. Dr. Hans-Joachim Kümpel is full of praise.



Photo: W. Hanke / BGR

Deep knowledge:
Due to a decade-long search for oil and gas, the amount of data about deep earth structure in Niedersachsen is unrivalled in Germany.

Unlike the sun or the wind, geothermal power is available in any weather, 24 hours a day. Nevertheless, in the past geothermal energy has repeatedly made negative headlines. Deep drilling can cause minor earthquakes. In Hannover though, there is no such danger. The main reason for this is gypsum-like bedrock which, when in contact with water during borings, expands and causes tension in the soil. In Hannover the so-called anhydride is present at a depth of 2,000 metres, but in this case the tension down below does not allow the anhydride to absorb any water. Moreover, the soil in the area is not tectonically active. 🌱



Heavy weight:
BGR President Prof. Dr. Hans-Joachim Kümpel (right) is up to something big: the EUR 20,000-drill, weighing 233 kilos, is meant to help tap geothermal power.

Photo: W. Hanke / BGR

Technology on the Sunny Side of Life at the Institute for Solar Energy Research

ISFH scientists develop components for photovoltaic and solar thermal use.

by Annika Kielmann

It gets noisy when “artificial sun” Susi I shines in full glory. Her numerous lamps are hot inducing the fans in the Institute of Solar Energy Research’s (ISFH) test hall to turn full speed. Solar panels are enjoying the sunshine, not minding that they do so merely for testing purposes; at temperatures of up to 180 degrees celsius, their heat conductivity is being examined. (Sun Simulator) Susi II sits next to her, exposing the panels to even higher temperatures, to electrical power of 1,200 watt as well as to even more intensive UV radiation. Scientists at ISFH do seem to live on the sunny side of life. In three core areas—photovoltaics, solar thermal and scientific services—139 of them are working on maximizing the efficient use of solar energy and new components.

Metal Vapour for Thin-layer Cells

In the photovoltaics section solar cells go through all stages of production until they are eventually able to supply electricity on the test roof. No matter what the function of the solar cell might later be, its basic plate—the so-called wafer—starts out in the clean room. Here everything is clinically clean, even the scientists are wrapped up head to toe in white coats. No speck of dust that has been impudent enough to settle on one of the wafers escapes their attention. The scientists’ interest in the clean wafers is related to the research and optimization of highly efficient silicon solar cells. Their degree of efficiency is about 20 percent. Particularly RISE thin-layer solar cells (Rear Interdigitated Single Evaporation) are setting very high

standards for the processing of the wafers: the slim wafers don’t allow any kind of conventional electronic items, which would conduct electrical current, to be soldered neither at the front nor at the back. This would cause the cells to break. Therefore, in the ISFH test hall vapour is used for the contacts or, using enormous heat, the contacts are burnt into the cells. Having later been assembled in modules, the solar cells end up on the ISFH’s rotating test roofs where they follow the sun’s course. One project has produced solar cells which, with a thickness of 20thousandth parts of a millimetre, are eleven times slimmer than ordinary solar cells. How to adapt the creation of these minute cells to financially profitable, industrial production is one of the key questions.

Sunglasses for Windows

On the test roofs not only photovoltaics modules but also sun panels are garnering sunbeams. In the solar thermal section, work teams look into the various possible uses of solar heat, how to store it as well as into optimum insulation. The scientists carry out tests with thermic material, i.e. with heat protection glass and weather-proof coatings for sun collectors. They also work with sunglasses for windows. Specific crystals dim out the window panes at a push of a button when an electrical current runs through them. Layers are responding to optical stimulation and the window panes adjust accordingly.

The Susis, Marta and Uwe

At ISFH innovative technology is part of everyday life. In the solar thermal area, for example, Susi I and Susi II seem to be trying to out-beam each other. In close cooperation with the Scientific Services unit, sun panels used in companies are being tested on them as well as on other outside facilities. Unlike the sun, the Susis work independently of the weather and the seasons. Beside Susi I and II, there is Marta, a serviceable lady who is much in demand and indispensable at ISFH. The mechanical testing device gets the upper hand over all sun panels; it breaks them into tiny pieces. Marta simulates storm and hail and her 15 stamps can exert enormous pressure on the collectors. Up to one ton of pressure is her potential with

services ranging from hailstones hitting specific spots of the panel to the enormous weight of a blanket of snow covering the entire panel. Alongside the ladies there is also a male figure, Uwe, supporting the scientists' work. The testing device measures the U-value, i.e. the value referring to the insulation capacity of windows.

Tapping Hot Energy

First implementations of the innovative energy system are already under way. In Nordstemmen, for example, solar energy is being tapped along principles that were developed in Hameln. The roof of the local outdoor swimming pool is ornamented with a pilot facility testing the use of metal roofs as sun collectors. The solar cells are not only to be found on roofs in Niedersachsen but worldwide. The thin photovoltaics cells with contacts on their back sides who owe their existence to research done in Hameln are already being mass-produced by the American company Advent Solar. Tiny laser borings are responsible for minute holes in the cells through which contacts to the back side are laid. Loss of energy due to the metal on the front side are now a thing of the past.

On the Sunny Side of Research

The building of the institute founded 22 years ago seems to belong to another time. It leans against the Ohrberg hill which cuts through the structure diagonally. As a result there are hardly any right angles to be found in the laboratories. On the other side sizeable glass fronts offer the staff a glorious view of the Weserbergland landscape. Nearly 9.8 million euros are given annually to ISFH, of which almost half stems from economic and business partners, one fourth comes from the state of Niedersachsen.

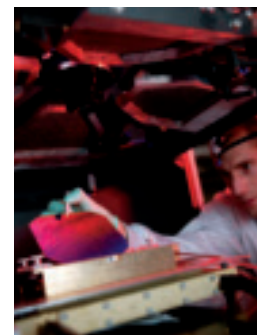
It took quite a while to build up the Institute of Solar Research to its current size. It was founded in 1987, at a time when nuclear energy was the talk of the town. Photo voltaics, solar thermal and photocatalysis were its three basic units then. In the early 90s the photocatalysis section, not being sufficiently application-oriented, was separated and transferred as a research group to Leibniz University Hannover. ISFH has been attached to the University as ISFH An-Institute since then. In the 1990s, with the foundation of the scientific services department, the Institute started to focus on today's core competencies. Last year a new "technology hall" was completed, it does make ISFH feel braced for the future and scientists are confidently looking forward to sunny spells in the solar arena. 🌞

www.isfh.de



Photos: Ulf Salzmann

Above: With the help of artificial sun Susi I the scientist checks the performance of the solar panels. Her 'colleague' Susi II exposes the panels to higher temperatures as well as to even more intensive UV radiation. **Right:** Cameras help to understand the material influence on the panels' qualities.



Power Plants

Last year's yield of corn in Niedersachsen?
Excellent: 2.7 million megawatt hours.

by Inka Ziegenhagen

Niedersachsen's farmers measure their harvest twice, in tons as well as in megawatt hours. For the region between the Harz mountains and the North Sea is indeed full of energy. Niedersachsen is the land of biogas. Nowhere else in Europe is the generation of energy from renewable raw and waste material as advanced as in the federal state. Last year a yield of the equivalent of 2.7 million megawatt hours of electricity was being "harvested" in over 700, mostly agricultural, biogas plants. This means that in Germany one in four kilowatt hours of electricity from biological sources originates in the fields of Niedersachsen.

Reducing Emissions

Biomass does have enormous potential. A football pitch sized area of energy crops or liquid manure from 20 cows create enough energy to supply four households with electricity and one household with heat. Through the conversion of the liquid manure methane gas emissions, which are very harmful to the climate, are being significantly reduced. Ferment residues are returned to the cycle as fertilizer. And unlike the production process of other types of biofuel, biogas production uses the entire plant.

In the face of steadily declining milk prices, for many farmers energy crops have turned into an important second source of income. "18 years ago biogas was nothing but a niche. Now many farmers have come to realize the numerous advantages that biogas offers," confirms Josef Pellmeyer, President of the German Biogas Association. One advantage being that feed-in tariffs for green electricity are fixed and guaranteed by the Amended Renewable Energy Law. Particularly operators of small plants that generate up to 150 kW are profiting. Including all additional bonuses, one kilowatt-hour fed into the grid can pay as much as 29 cents—at least for the 20 years to come. Little wonder then that more and more farmers are turning towards bioenergy crops. With tariffs being set, it is the degree of efficiency of individual biogas plants which decides on farmers' revenues.



Photo: MT-Energie

230,000 ha

had been used to plant energy crops — equivalent to 8.8 percent of the total agricultural land

More energy from less biomass—this probably describes best the mission of Envitec Biogas. A very successful mission since the Lohne-based company has clients from Bilbao to Seoul. As the market leader in its field, the firm both builds and assists in the operation of biogas plants. Recently its expertise was confirmed when the "Envitec Feedcontrol" machine was voted "Machine of the Year 2010" at the Agritechnica in Hannover, the world's largest fair for the agricultural machinery sector. "Feedcontrol" starts out with organic matter, such as energy crops, liquid manure, biodegradable waste and sewage sludge that get pumped into a heated

6%

of Niedersachsen's energy requirements are being met through bioenergy.

ferroconcrete fermenter. At temperatures between 35 and 38 degrees Celsius the biomass is kept snug and decomposes thanks to the work of bacteria. These bacteria produce a gas which is rich in methane, the so-called biogas. This gets used later to operate block-type thermal power stations that produce electricity and heat.

Bacteria Feedcontrol

Up until now the biomass was added according to a set rhythm. "Feedcontrol", however, has sensors and computers measuring the current status of fermentation, thereby allowing the machine to feed in the bacteria at the precise time when these can process the substratum best. As a result, owing to the more efficient use of biomass, ten percent less of cultivated land is needed to produce the same amount of energy. Looking at a 500kW-plant, annual savings of up to 20,000 euros are possible. As a final step, once the biomass is fermented, the remaining matter is used for the production of compost and liquid fertilizer which, in turn, boost plant growth. The cycle closes.

Highlights Made in Vechta

Weltec BioPower is another manufacturer of biogas plants that enjoy international popularity, such as in England, Finland, the U.S. and in Japan, indeed all over the world. What makes them special is a fermenter—which is the heart of any biogas plant—made of stainless steel. For during the production of biogas, hydrogen sulphide and ammonia particles are released. Stainless steel is much better suited to dealing with these aggressive chemicals than concrete. It also has a longer lifetime. The Vechta-based company is planning to build, soon, near Magdeburg, the world's second largest plant for the feeding in of biogas.

Weltec is also scheduled to put up the first biogas plant in China that complies with German quality standards. For a good reason China counts among Weltec's most important target markets. The Chinese government plans to equip seven percent of all rural households with biogas plants by 2020. Weltec reck-

Also, unlike natural gas, biogas does not need 300 million years to generate but just one season's yield of crops.

Biogas is the only renewable energy source that is suitable for generating heat, power, gas, as well as liquid fuels.



Photo: KWS Saat



Photo: KWS Saat



Photo: Bio Fuel 24

About "Renewable gas"

Among renewable energies, biogas has turned into a true all-rounder. Next to supplying electricity and heat, biogas or biomethane also serves as fuel in gas-powered vehicles, and it can replace natural gas in industrial processes. In order to go beyond local use and to feed biogas into the existing natural gas grid, biomethane needs

to undergo processing. One of the first biogas processing plants in Germany is located in Ronnenberg near Hannover. Every hour the facility feeds some 300 m³ of methane biogas into the grid. On average the total annual production of 2.4 million m³ of gas covers 1,400 households' requirements for heat. The market for feeding biogas into the

natural gas grid is still relatively young and has huge potential. Germany plans to replace six billion cubic metres of natural gas through its renewable alternative by 2020. According to estimates by the German Energy Agency, this would require 2,000 new biogas processing plants. At present there are some 30 installations in Germany.



Photo: KWS Saat



Photo: Envitec

Higher yields, superior disease and pest resistance and improved performance in adverse conditions. KWS Saat spends around 15 percent of its turnover on R&D to breed highly productive plants.

Last year the equivalent of 2.7 million megawatt hours of electricity was being “harvested” in over 700, mostly agricultural, biogas plants located in Niedersachsen.

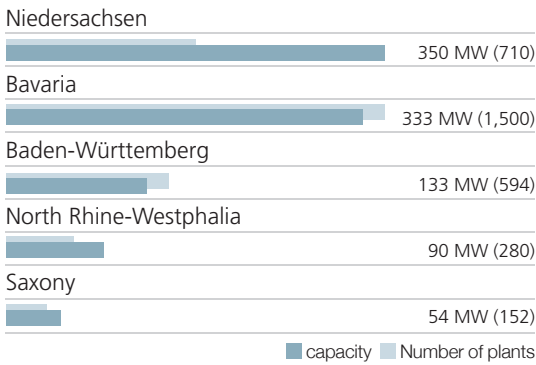
Niedersachsen is the land of biogas. Nowhere else in Germany is the generation of energy from renewable raw and waste material as advanced as in the federal state.

› ons that the Chinese biogas potential is around 145 bn cubic metres per year—enough to supply the entire rural population with energy. For now, the plant ordered by a Chinese investor will only have a total installed capacity of 370 kW. But Weltec hopes that the order might set the biogas ball rolling. The Chinese customer will put the plant on show at this year’s world exhibition in Shanghai.

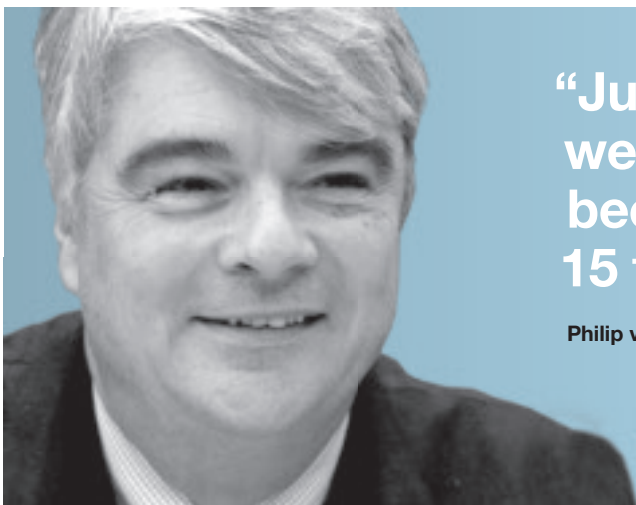
Criss-cross

In biogas generation it is, however, not just the efficiency of the biogas plant that counts. The quality of the organic matter that is broken down in the fermentation vessel is decisive, too. In Einbeck KWS Saat produces the seminal ingredients for the process. KWS seeds are sold all over the world. The best-selling top dog among the energy crops is corn. It is easily grown and produces much organic matter. KWS Saat saw the potential of corn early on. Next to the classical varieties for silos and grain corn, the company offers a full range of seeds for corn as an energy crop. In order to breed crop varieties that grow faster and supply even more energy, scientists have to constantly find new ways of crossbreeding. With some 15,000 test crossings over the last four years, the choice of varieties is big, and only the best make it to the fields. Since 2002 KWS Saat has been able to boost yields per hectare by 20 percent. Where there is light there is shadow.

Biogas in Germany



Sources: German Biogas Association



“Just over the last three years we have had incredible sugar beet yield increases of up to 15 tons per hectare.”

Philip von dem Bussche, CEO, KWS Saat

Photo: KWS Saat

Our Energy Companies

Solar Technology

alfasolar GmbH
 INNOFORM GmbH
 Energiesysteme
 Jade Hochschule
 Oldenburg
 Oldenburger
 Energiecluster e.V.

Bioenergy

Akademie für
 Erneuerbare Energien

Corntec GmbH

REW GmbH

Tacke

3N

Fuel Cell / Battery

Eisenhuth GmbH
 & Co. KG

EWE NextEnergy

Fraunhofer ICT

Hy-LokD Vertriebs

GmbH

I+ME ACTIA GmbH

LI Nds.

Brennstoffzelle/Eatt.

Wind Energy

BARD Engineering
 GmbH

ForWind

PSW-Energiesysteme

GmbH

TimberTower GmbH

3G GearCheck

Geothermal Energy & Energy Management

Baker Hughes INTEQ
 GmbH

Geozentrum Hannover

Energie-Forschungs-
 zentrum Niedersachsen
 (EFZN)

FEN

INGA mbH

QNE GmbH & Co. KG

The corn plants' shadows seem to grow, increasingly, longer. A number of quite critical voices do not speak out in favour of the ever expanding cultivation of corn. Not only do corn monocultures endanger soil fertility, single crop farm land is also prone to erosion. And it, obviously, does not contribute to biodiversity. In addition, monocultures are frequently not accepted by the local population who don't want to live in desolate cornscapes. Gradually farmers are starting to think again—also because of the Western corn rootworm whose favourite food is corn. The offspring of the pest is being brought into the country by airplanes, and specialists have, therefore, come to speak of it as the "jetset beetle". The jet-setters are indeed fond of the corn plants' scrumptious roots, a gourmet tendency that can destroy entire fields.

Sweet Shooting Star

The energy crop with much potential to restrict the omnipresence of corn is the sugar beet plant. KWS lovingly call it the shooting star—although research on the plant has actually been going on for some time. So far its use has been limited to the production of ethanol fuel. Yet comprehensive studies have revealed that sugar beet is particularly well suited for the production of biogas, since she forms much mass. "What is more, efficiency of the sugar beet crop is high. 90 percent of the carbon produced through photosynthesis turns into biogas," explains Dr. Andreas von Felde, head of the department for energy crops at KWS.

In Germany every other sugar beet is produced through KWS seeds – for a reason, since the company has been improving crop yield. "Just over the last three years we have had incredible yield increases of up to 15 tons per hectare," adds head of KWS Philip von dem Bussche proudly. Lately the firm also solved the problem posed by the beet's tendency to attract soil. Before sugar beets can be fermented they need to be cleaned. The recently developed mobile beet washing machine cleans the crops and removes stones at the unbelievable rate of 60 tons per hour, an enormous speed which is symbolic for the drive with which Niedersachsen's farmers are promoting the growth of the energy business. 🌱



Photo: Deutsche Messe

Meeting the Power State

Joint presentation at
 Hannover Messe 2010

Like last year the federal state of Niedersachsen will realize the joint presentation "Energy from Niedersachsen" at Hannover Messe 2010. 26 innovation leaders from the areas of fuel cell & battery technology, wind power, solar energy, bioenergy, and geothermal energy will present their technological capability on over 450 square metres.

The Hannover Messe is the most important meeting point for the energy sector. In 2009 the three leading international energy fairs at the Hannover Messe, attracting more than 1,000 exhibitors and over 100,000 visitors, showed last year's mega-trends in halls 11-13 and 27.

Hannover Messe

19 - 23 April 2010, hall 27, booth F23

www.nglobal.de, www.hannovermesse.de

Electric Cars As Flexible Energy Storage Facilities

The EWE E3 is the first electric car to be built on behalf of an energy service provider.



THE EWE E3

Maximum speed: 140 km/h
Power: 37 kW (50 HP) to max. 58 kW (79 HP)
Acceleration: 15 s (0–100 km/h)
Current range: 170 km on a single charge
Four door model, designed for 4 people
Kerb weight: 1,492 kg, of which batteries: 330 kg
Battery type: lithium-ion technology
Front charger

Photo/Source: EWE/Karman

The E3 is more than just a car for EWE. Its primary purpose is to enable the company to research the integration of electric cars into the electricity network. For this reason, the vehicle forms an important part of the company's overall strategy, which is dedicated to energy conservation, energy efficiency and extending use of renewable energies.

EWE's Chief Executive Officer, Dr. Werner Brinker, sees the E3 as a crucial step in the company's research efforts: "Storing electricity from renewable energies plays a crucial role in mastering the challenges posed by the future energy supply." And there's another advantage: by making practical use of the technology, EWE will be able to identify where further research is needed.

Meanwhile, a second vehicle has been delivered, six to eight prototypes will follow until 2011. The miniature fleet will hit the road to help with EWE's research projects. However, EWE is not looking to start mass production. Karmann founded a separate company, Karmann E-Mobil GmbH, to develop electric cars. The VW Group has since acquired other assets belonging to the Osnabrück-based vehicle manufacturer.

Ecological Convenience

The EWE E3 is ideal for everyday use and is geared towards meeting the typical commuter's need for increased mobility. The car can comfortably seat four people with enough room for their luggage, and provides all the usual comforts, from air conditioning to heated seats to airbags. The car can travel up to 170 km on a fully charged battery. The batteries are installed under the floor of the car and are charged through an intentionally eye-catching charging flap at the front of the car. The car's top speed of 140 kilometres per hour is a compromise between speed and range to suit the needs of commuters. The engine's 50 to 79 HP makes the car technically capable of higher speeds. The electric drive system allows the car to reach its destination extraordinarily quietly without producing any emissions.

The practical test was an impressive demonstration of the advantages of electric mobility. However, there is still much to do before a large number of electric cars are seen on the roads, fulfilling their role as flexible energy storage facilities. The issue of sustainable mobility is becoming increasingly important for the industry, researchers and policymakers. Together they are driving electric mobility to maintain and build on Germany's leading role in the fields of automotive and energy technology. 🚗



Photo: EWE AG

"We're not about to transform EWE from an energy supplier into a car manufacturer."

Dr. Werner Brinker, CEO EWE AG (left) and Christian Wulff, Prime Minister of Niedersachsen (right) driving the E3

We make individual
mobility safer, more
comfortable and
more sustainable.



Continental 

Battery Driven Cars

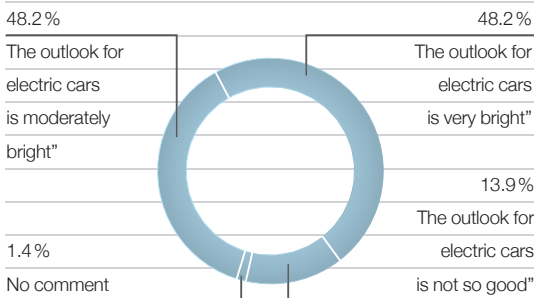


Photo: Continental

Hannover based Continental delivers smart solutions for electric cars.

Outlook Electric Cars

Questions: How do you rate the outlook for electric cars compared with models with conventional or other alternative powertrains?



Source: Continental in cooperation with TNS/Infratest, 999 Interviews in Germany

Stringent emissions legislation — with the aim, for example, of achieving a sustained reduction in CO₂ emissions — as well as limited oil stocks and the demand for thrifty vehicles put car makers just as much as suppliers on the line to come up with a rigorous and effective response. Seen from this perspective, and with a view to potential fuel savings of 25 percent and more, as well as additional torque, hybrid vehicles represent an attractive option in the short- and medium-term and electric vehicles in the long run.

The transition from today's internal combustion engines to the zero-emission electric cars of the future will proceed gradually. It will be a seamless transition, involving a host of drivetrain concepts. Since 2003 Continental, one of the world's leading auto-

otive suppliers has been producing a hybrid system that encompasses all the basic electric components: power electronics, an electric motor and energy storage. These modules can be adapted to meet specific vehicle requirements worldwide and can therefore be used in all vehicle categories, from compact vehicles to SUVs, and also with all types of drives, e.g. electric, hybrid and fuel cell. The flexibility of this concept can reduce the customers' time to market and their development costs while simultaneously upping quality.

International Acceptance for Electric Vehicles

Continental's 2008 representative international hybrid survey among more than 8,000 drivers in eight countries was not the last to highlight the inroads that hybrid and electric vehicles are making with drivers all around the world. Half of all motorists queried would like to have a zero-emission and battery-driven car for getting around the city, motivated as much by rising fuel costs as by environmental aspects. The study also showed that the state could encourage motorists in this direction by offering tax advantages for the purchase of such a car.

In 2008 Continental was the first manufacturer anywhere in the world to launch series production of a lithium-ion battery for use in cars with hybrid drive and, since 2009, available in the Mercedes S400 Blue-HYBRID. As state-of-the-art energy storage, lithium-ion batteries provide significantly higher energy and power density than the technologies still in use in hybrid vehicles (nickel-metal hydride battery). Starting in 2011, moreover, the first purely electric vehicles with Continental technology will go into series production. 🚗

www.continental-corporation.com



Photo: Continental

"Our market studies have shown that the vast majority of motorists predominantly travel short distances and in urban traffic, with more than two thirds of these journeys being almost entirely in urban traffic. Electric driving will consequently be increasingly important for this area."

Jörg Grotendorst
 Head of the Powertrain Business Unit Hybrid & Electric Vehicles
 Continental

Energy Know-How

Energy Research Center
Niedersachsen

www.efzn.de

German Wind Energy
Institute

www.dewi.de

ForWind – Center for
Wind Energy Research

www.forwind.de

3N Competence

Center Renewable
Primary Products

www.3-n.info

District Heating

Research Institute

www.fernwaerme.de

State Authority for Min-
ing, Energy and Geology

www.lbeg.niedersachsen.de

Federal Institute of Geo-
sciences and Natural

Resources

www.bgr.bund.de

Institute for Solar
Energy Research

www.isfh.de

Institute for High
Voltage Technology and
Electric Power
Systems

www.htee.tu-bs.de

Fraunhofer-Institute for
Surface Engineering
and Thin Films

www.ist.fraunhofer.de/

Energy Process

Engineering and Fuel
Technology

www.ievb.tu-clausthal.de

Institute for Electrical
Engineering

www.iese.tu-clausthal.de

Institute of Petroleum
Engineering

www.ite.tu-clausthal.de/

Clausthal Institute for En-
vironmental Engineering

www.cutec.de

Research Association
Energy Niedersachsen

www.fven.de

How can Renewables Contribute to Cover the Increasing Demand for Energy?

In Celle, managers from all over the world are trained on important issues like that.

While most of the industrialized countries have already adopted extensive environment legislation and energy supply concepts, they often lack experience with sustained resource management and renewable energy sources, such as bioenergy, solar energy, wind energy, hydroelectric energy and geothermal energy.

Hence, the Deutsche Management Akademie Niedersachsen (DMAN) offers manager training programmes and seminars dealing with technical and engineering questions, ecological topics and the economic advantages of renewable energies. In the seminars, various application options are presented and analyzed in the context of different projects and case studies. In addition to the classroom training, the participants visit successfully implemented projects, institutions in the energy sector, and companies in Niedersachsen dealing with energy technologies. Like all DMAN qualification programmes, the seminars on renewable energies cater to the specific interests and requirements of customers in the academy's partner regions. After the seminar programmes, experienced DMAN experts can support the continued know-how transfer. On demand, they help the participants put their newly acquired knowledge into practice in their home countries.

Training and Consulting

DMAN provides management training and consulting to international business and administration managers. Through the exchange of know-how and experience, the academy facilitates effective business



Photos: Regine Rabanus

The DMAN seminars cover a broad range of topics – from modern business management to industry-specific themes.

contacts and co-operations between companies in Germany, Middle and Eastern Europe, Asia and the Middle East. Founded in 1989 by the federal state of Niedersachsen and local business partners, DMAN has its headquarters in Celle castle and representations in Moscow and Shanghai. 🌐

www.dman.de



Photo: City of Lüneburg

EcoCity Lüneburg

The city of Lüneburg is forward-looking. Its waste water company AGL seems to be well on the road to an environmentally friendly fleet of utility cars.

by Jürgen Enkelmann



EcoCarrier

CO₂ emissions: 0 g/km

Tare weight: ES 1,380 kg,

EL 1,550 kg (including lead gel battery)

Permitted gross weight: ES 1,750 kg, EL 2,250 kg

Towing capacity, ES and EL: 450 kg (unbraked)

Acceleration from 0 to 50 kph: 8.5 seconds

Maximum speed: 75 kph

(electronically speed-governed)

Motor output: 15 kW

Torque: over 950 Nm at the driven wheels

Gearbox: single-speed, no clutch

Photo/Source: EcoCraft Automotive / AGL

It was towards the end of 2007 when the electric car arrived in the streets of Lüneburg. Abwasser, Grün & Lüneburger Service GmbH (AGL company—“waste water, green spaces and Lüneburg services”) test-drove the prototype utility vehicle for a number of months during which the ‘EcoCarrier’ was checked on a daily basis – until it was eventually given the go-ahead. Mid 2008 its manufacturers, EcoCraft Automotive, presented their first series-produced electric car to AGL. “We were happy to see it at last,” says Ralf Dibowski, head of operations at AGL while patting the orange bonnet of the small, angular van, serial number eleven. Numbers one to ten were test cars. One of them was test-driven by Dibowski himself, and he actually grew fond of his EcoCarrier.

Briskly on its Way

Before he was able to fully enjoy the drives though, he had to help the manufacturers to get rid of some teething problems. Now the EcoCarrier moves at a brisk 75km/h with some 80 kms of autonomy. “The priority was an autonomy which would allow drivers to easily move about town,” explains Dibowski.

Right now the EcoCarrier draw their energy from lead/gel batteries. Charging time is eight to ten hours, with a potential of around 800 to 1,200 charge cycles. From April, the manufacturers will also offer vehicles with lithium ion batteries which weigh less and, therefore, allow an increased payload of around 200 kg. Recharging time will be reduced to three to five hours with a potential of 2,000 to 2,500 recharges. Once the battery is spent, the electric car itself is plugged into the grid. “We produce the electricity ourselves in the water treatment plant, for this we use biogases which discharge from the purification ponds. A block-type thermal power station produces electricity and heat. “The concept of the vehicle is integrated into a natural cycle, this results in ecological and economic advantages,” says Eugen

Srugis, chairman of the supervisory Board at AGL. "By charging the electric car with the ordinary electricity mix you get from the grid, we get 113 grammes of CO₂ per km. When we use electricity from renewable sources the result with only 7 grammes looks a lot better," he underlines.

4.40 euros for 100 km

It is more economic, too. "Acquisition costs, which are slightly higher than those of fuel-powered vehicles we have used up to now, are very soon made up for by the electric car's longer lifespan and by its lower operating costs," explains Dibowski. The EcoCarrier generates operating costs of 4.40 euros for every 100 km. Expenses for cars of the same size with a petrol motor come to around 19 euros.

AGL would like to purchase four additional EcoCarriers by the end of the year. "We could envisage using only compact electric vans in our fleet," adds Dibowski. A move from which both the environment and the company's finances will benefit. 🚲

www.lueneburg.de, www.ecocraft-automotive.de

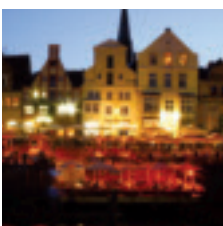
Ralf Dibowski (left), AGL-head of operations and Eugen Srugis, chairman of the supervisory board, tested the orange van themselves.



0 g/km CO₂ emissions and low operating costs turn the EcoCarrier into a perfect mobile for the inner city.



Photos: EcoCraft Automotive / AGL



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Entrepreneur of the Year

In January 2010, Dr. Jochen Hahne, CEO and president of the office furniture manufacturer Wilkhahn, was awarded as the “Entrepreneur of the Year” by the Association of Private Family Companies in Niedersachsen. The family-run company has won many international design prizes for its products which are considered perfect examples of design made in Germany. In addition to its innovative product design, Wilkhahn is also known for its social and ecological approach.
www.wilkhahn.com

New Brain for Continental

In 2010, Continental plans to hire around 1,000 university graduates and young professionals worldwide — primarily engineering and natural science majors but also graduates in business and economics. Continental employs roughly 30,000 engineers in the areas of production and R&D.
www.conti-online.de

Premiere in Detroit

This year, Volkswagen will introduce more modes than ever before in the company’s history. Number 1 of the list of new products is the new Compact Coupe, which had its world premiere at the Detroit Auto Show. The car has a combined fuel consumption of 4.2 litres per 100 km, a top speed of 227 km/h and needs 8.6 seconds for the classic sprint to 100 km/h.
www.volkswagen.de



Photo: Volkswagen



Photo: Peppermint

The Sounds of Hannover

Mousse T. makes music for the whole world.



Photo: Peppermint

by Hans Gäng

The Dome, created by Peppermint, will be the meeting point of the exhibition Global Business & Markets at this year’s Hannover Messe.

In 2010 CeBIT had an additional section and an additional star: “Sounds” is the name of the new section, which is all about the technology and business models of the digital and web-based music industry. And Mousse T. will be at the microphone—this time as a speaker at the world’s leading trade fair for information and communication technology.

The musical artist and producer Mousse T. is one of the impulse generators in the German music business. He took part at the discussion at the CeBIT’s Global Conferences. “Sounds is a totally new experience at the CeBIT. Right now we are witnessing an unbelievable revolution in the music world,” analyses Mousse T., the music manager. “The business has become more democratic. Everyone can use the internet to create a market for any kind of product.” This doesn’t necessarily mean that in a world of mobile phone downloads, casting shows and YouTube clips there

“For all we do here in Hannover we have a simple guideline: It’s gotta be good enough for the world!”

Mousse T.

is no space left for professionals such as Mousse T. It’s just the opposite: “Precisely because there is more and more competition, there is a higher demand for distinction through the highest level of quality and professionalism. Only then can the individual talent become unmistakable.” Mousse T. goes even further: because the new marketing channels also compete with each other, the successful musical artist has the option to totally and utterly focus on quality.

Mister Sex Bomb

And the fact that the full-blooded musician Mousse T. always puts in “more than 100 percent” into his successful productions has gotten around in the world of music. Zucchero, Ziggy Marley, Roachford, Randy Crawford—many more names can be added to this list through the years and the different styles of pop music. He helped Tom Jones to an internationally acclaimed comeback with “Sex Bomb”. Previously the song “Horny as a Dandy” propelled Mousse T. himself into the charts all over the world. Dancefloor productions, mega-gigs as a DJ, orchestral soundtracks: Whatever Mousse T. tackles, he does with absolute and contagious enthusiasm. Maybe that is why he is quite successful.

Peppermint

In Mousse T. Hannover does not only have a sizzling musical volcano, but also a model entrepreneur in the modern music business. In 1990 Mousse T. opened his own first studio there. Since then he is developing the brand “Peppermint” with various partners—as a production company, as a music label and finally as an entertainment company in the broadest sense. His lat-

Born Mustafa Gündogdu in Hagen (Germany), Mousse T. has contributed in a positive way to how the world views music made in Germany.



Mousse T. featuring Suzie Furlonger. The single “All Nite Long (D.I.S.C.O.)” is the first release of their album coming soon.



Photo: C.Windrich

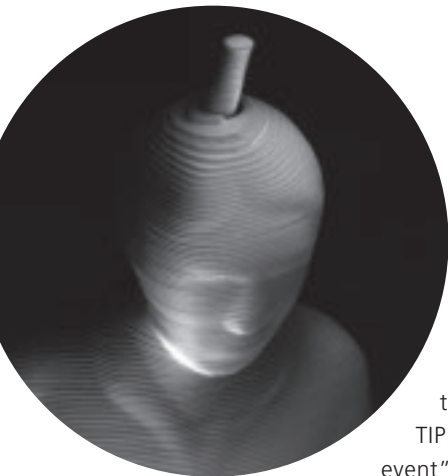
est and most notable production: The Dome—a futuristic location that initially fascinated visitors on the Maschsee last summer—and that is now erected on the Hannover Messe in hall 27 as a meeting point for the “Global Business & Markets” conference.

Mousse T. is definitely a global player himself. He prefers to feel the grooves of the world in the places from which they originate. Living in Hannover and having Turkish roots, he is not beating about the bush with his intense love to Istanbul. “Forget Berlin. Istanbul is the true East-West hub in the international music business,” Mousse T. once confessed in public. By the way, has he ever thought about moving to one of the world’s metropolises? “In my business I often have to leave the city where I live. Meeting friends, visiting the clubs around the world, networking.” But a 10 square metre den somewhere in New York or Tokyo for composing music is not a valid option for the top-professional from Niedersachsen. “In Hannover I have an unrivalled infrastructure and a fantastic network,” raves Mousse T.. “Everyone here is giving us the support we need.”

Mousse T. transforms the sympathy and encouragement he enjoys in his adopted city into artistic assets for his international image: “For all we do here in Hannover we have a simple guideline: It’s gotta be good enough for the world!” 🌍

Mini-Ronaldo: New Player for the Soccer World Cup

The world's smallest TIPP-KICK player is only 6.8 mm tall.



The rod through player's head, which triggers the kicking mechanism, is as thin as a human hair.

by Michael Botts

Hopefully in due time for the soccer World Cup in South Africa in 2010, the Laser Zentrum Hannover e.V. (LZH) and the company TIPP-KICK are preparing for an exciting "mini event": the world's smallest functional TIPP-KICK player. The first developmental step has already taken place, and the LZH produced a game figure that is only 6.8 mm tall. However, the micro-player is not yet able to kick a ball.

Tricky Work

Now engineers at the LZH are working on giving the player full functionality. Project partner Trimetric GmbH, Garbsen first took a digital image of the original game figure. The image data served as the basis for the mini figure, which was made in 340 layers of a liquid polymer which was hardened by a laser. Each layer is only 0.02 mm thick. "Miniaturization of the mechanical parts is quite tricky," says Ulrich Klug of the LZH, "since the figure is produced in one step, in a ready-to-play condition. We haven't been able to send this player out on the playing field, because moving parts of the 'Mini-Ronaldo' are still too fragile for the rough competition using tweezers," Klug adds winking. "The technical parts of the player show which challenges we are facing when building up parts layer by layer. This is especially true when making real micro-components for applications in biomedical-technology, micro-fluidics or micro-system technol-

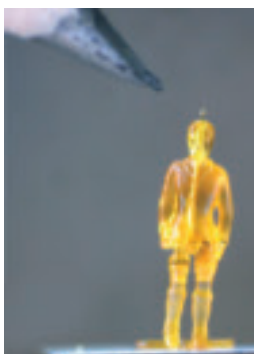
ogy. Usually the whole new design of a micro-part is necessary. Not too many people know what possibilities micro-stereolithography has, and we are trying to make this visible with the micro-TIPP-KICK player."

All About Lasers

Starting as a spin-off from the University of Hannover in 1986, the LZH has since become one of the largest independent laser research institutes in Europe. "We cover almost all areas of laser research and development," says Dr. Dietmar Kracht, executive officer of the LZH. "Our center has expertise from welding thick ship hulls down to manipulation cell material using lasers." The LZH has been able to serve as an interface between university research and industrial applications based on both the interdisciplinary interaction between physicists and engineers, as well as an affinity to industrial firms. Around 270 staff are involved in laser research activities, from the development of lasers, for example for use in outer space, to the 'classical' laser applications (cutting, welding, marking etc.), to the generation of nanoparticles.

They are also well networked within and without the laser community, with project partners throughout Germany, Europe and the world. In order to solve the problem of 'Mini Ronaldo', the LZH has brought another competent partner on board. The phoenix GmbH & Co.KG in Munich is working on a completely new mechanical design of the kicking leg for the micro-player. The next stages of development will show whether this new layer-by-layer concept can be miniaturized. When all the minute parts work together, "Mini-Ronaldo" can start working on winning the title as top scorer. 🏆

www.lzh.de



Photos: LZH

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The China Link

Among German universities, Clausthal University of Technology draws the largest number of Chinese students. For Beijing Minister of Research Wan Gang, Clausthal has served as a stepping stone to a brilliant career. Many of his compatriots have been flocking to the springboard in the Harz mountains ever since.

by Christian Ernst

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Chinese are currently enrolled at Clausthal TU, one in five students comes from the Far East.

More and more universities are citing famous alumni to attract new students. When Clausthal University of Technology (TU) wanted to place an advertisement featuring three of its most renowned graduates, the TU had to ask for approval from the Chinese Ministry of Sciences and Technology in Beijing. A few days later the Minister gladly faxed his consent. Professor Dr.-Ing. Wan Gang, Minister of Research in the Middle Kingdom since 2007, has indeed acquired a PhD from the Institute for Mechanical Engineering in Clausthal. Tracks from Beijing to the Oberharz engineering hotbed are still short; for his PhD supervisor, Prof. Peter Dietz, the Minister is still available for a chat on his mobile phone. Wan Gang was born in 1952 in the metropolis of Shanghai. After having graduated as a mechanical engineer from the reputable Tongji Uni-

versity, he came to Germany, that is to the Clausthal University of Technology. From 1985 until 1990 the present-day minister was a research associate at TU whilst working on his PhD on propulsion technologies. "He was very well organized and thanks to his quick grasp of things he was able to adapt quickly to the ways in which knowledge is passed on in Germany," recalls his PhD supervisor Prof. Dietz.

Keeping in Touch

Having received his doctorate, Prof. Wan Gang moved on to work in the research and development section at Audi AG for ten years. This did not blemish his good relations with Clausthal TU. He upheld his teaching commitment at TU and also became the driving force for an intense cooperation between the school and Tongji University in Shanghai. In 2001 he followed a call by his alma mater to build a department for automotive technology. In 2004 the reputable scientist was named President of Tongji University. A few months later, to honour his contributions to Sino-German cooperation, he was awarded the Niedersachsen Cross of Merit with ribbon by Prime Minister Christian Wulff.

Following his appointment as Chinese Minister for Research, the "German Chinese" statesman announced his intention to create an awareness for sustainable and innovative development in China. On 1 May the World Exhibition will open its doors in Shanghai. Minister Wan Gang, who is a member of the Zhigong and not of the Communist Party, would then like to see a fair number of hydrogen-powered cars in the streets of the People's Republic, the aim being to save petrol and thereby reduce the country's dependence from oil imports in the long term.



**Showing the way:
Wan Gang, Minister of
Science and Technology
of China was once
a student in Clausthal.**

Photo: TU Clausthal

The environment, energy, raw materials and innovative mechanical engineering – these are promising areas and fields of study which have led not only Wan Gang to Clausthal. According to statistics, Germany's smallest university town has the largest percentage of Chinese students in Germany. Over 600 Chinese are currently enrolled at the prestigious TU, mostly for geoenvironmental studies, mechanical engineering, IT and business engineering. Looking at a total number of 3,300 students, this means a "Chinese percentage" of 18 percent. Clausthal is attractive for Chinese students because the school's course profiles correspond to areas which are considered as especially promising in China; a degree from Clausthal TU is regarded as a spring board for excellent career prospects in the Far East.

ABC Studying

This is confirmed by Professor Michael Z. Hou. Prof. Hou habilitated at the Harz university and is now in charge of his fellow nationals at TU: "TU Clausthal enjoys a very good reputation in China—and it is very well known." At the time when Hou went to Germany—17 years ago—the opinion back home was that in Germany scientific subjects were best studied at one of the ABC universities, meaning the technical universities of Aachen, Berlin and Clausthal. Meanwhile quite a number of Chinese universities are headed by Clausthal alumni.

The first students from the People's Republic—there were three of them—arrived in southern Niedersachsen shortly after China opened in 1978. Their numbers grew, very steeply so towards the end of the 1990s. Today most of the Chinese students in Clausthal come from the TU's partner universities. One of the cooperations, with Sichuan University, offers a dual graduation programme for the B.A. The geoenvironmental engineering course, for example, offers graduates degrees in both countries.

Now I like it!

Fei Wang a student in Clausthal speaks excellent German. He has moved from dazzling Shanghai with some 14 million inhabitants to the community of Clausthal counting a population of no more than 15,000. It took him a little while to get used to the contrast. "Now I like it," he comments. "Here it is easier for me to focus on my studies." Moving to another country means facing a multitude of new impressions. The size of the small town is manageable and that helps. And it is no secret in China: graduation from TU Clausthal can be a ticket for success—Professor Wan Gang has shown the way. 🌱

A degree from the Clausthal TU is very much sought-after. Particularly in China it is considered a ticket for success.



Clausthal extends a warm welcome to its guests from the Far East. Even the local sun & tanning salon uses Chinese characters to offer its services.



The course in geoenvironmental engineering offers twofold chances on the labour market: in addition to obtaining a B.A. degree from TU Clausthal, students can at the same time acquire a degree from Sichuan University.



Photos: TU Clausthal

7 - 9 April 2010, Turin

Italy

Focussing solar energy and biomass, the 3-day trip will be headed by Hans-Heinrich Sander, Niedersachsen Minister for Environment and Climate Protection. Co-Organized by NGlobal and AHP Group.

9 - 21 May 2010, Santiago de Chile, Barranquilla

Chile and Columbia

The delegation trip for the German mining-technology-suppliers is organized by the Business Association for Latin America (LAV) in cooperation with the German Engineering Federation (VDMA) and Chambers of Commerce in Chile and Colombia.

2 - 11 June 2010, Shanghai, Beijing, Shandong

Expo 2010 and China

At the Expo in Shanghai, Niedersachsen's companies will be showing cutting edge technology and cultural gems. In addition a delegation of Niedersachsen, headed by the Prime Minister Christian Wulff will visit China.

24 - 28 May 2010, Ankara, Istanbul, Izmir

Turkey

The delegation trip is headed by Jörg Bode, Minister for Economics, Labour and Transport of Niedersachsen and Deputy Prime Minister.

3 - 6 May 2010

Chicago

The federal state of Niedersachsen will be present this year at the BIO International Convention in Chicago, the largest global event for the biotechnology industry, which attracts the leading names in biotech and offers key networking and partnering opportunities.

Innovation Driver

Niedersachsen's new Minister for Economics, Labour and Transport, Jörg Bode, has a clear vision of what the future strength of the federal state is based on.

Interview with Jörg Bode, Minister for Economics, Labour and Transport of Niedersachsen by Hans Gäng

Mr. Bode, the focus themes at Hannover Messe 2010 are sustainability, energy efficiency and renewable energy sources—how would you rate Niedersachsen against the international competition?

Niedersachsen already plays a strong role in German energy provision, and it will grow even stronger as we develop our offshore wind power capacity. By 2020 our state will be meeting a quarter of its entire energy demand from renewable sources and making a decisive contribution to Germany's climate protection targets. Niedersachsen already leads on wind power supply in Germany, delivering 25 percent of all the wind power in the national grid. This deliberate and consistent expansion of renewable energy also makes our state a highly attractive business location and is already stimulating new inward investment and start-ups. On biomass, too, we're in the vanguard—a quarter of all the electricity from biomass in Germany comes from Niedersachsen. With all this, we'll be setting out our stall at Hannover Messe as a cutting edge energy state; at the shared stand in hall 27 alone there are 26 exhibitors presenting 'Energy from Niedersachsen' this year.

How will Niedersachsen's economic structure be affected by these 'greentech' energies?

Niedersachsen has a broad energy mix. Along with fossil fuel reserves—oil and natural gas—we can count on wind power on land and sea and the most various forms of biomass use. Over 40 percent of all the wind turbines built in Germany are made by Niedersachsen companies; the energy sector is a strong driver of in-



Photo: Ministry for Economics, Labour and Transport of Niedersachsen

novation in our state. Generating energy efficiently, developing new plant technologies and penetrating international markets—these are the leitmotifs in this sector. By the same token new jobs are created in highly-qualified areas that can only be partially filled from the immediate labour pool—and so targeted skill-building and qualification measures with state government support, and attracting specialists from home and abroad, respond to the growing strength of these sectors for Niedersachsen.

And out of all this we see more new opportunities emerging. The coastal regions have excellent prospects of developing into a second economic axis in Niedersachsen: construction of the JadeWeserPort deepwater harbour and settlement by the offshore power industry—and E.ON is considering building the world's first coal-fired power station with an efficiency of over 50 percent in Wilhelmshaven, for instance. The state government would welcome this wholeheartedly, as such a plant could produce 30 percent more electricity from the same amount of coal as existing power stations—a quantum leap for power station technology.

What opportunities does this offer international enterprises for investment and joint ventures in Niedersachsen?

The helpful statutory framework for renewable energy in Germany in recent years has stimulated a constant increase in investment in this sector. Thanks to their innovative strengths, medium-sized enterprises in Niedersachsen have been highly successful in marketing their technologies in Germany and abroad. This also means that foreign investors turn their attention increasingly to these key industries to reap the benefits of this positive development through cooperation, holdings and joint ventures. In the offshore energy sector especially, the excellent infrastructures of the seaports Emden and Cuxhaven offer prime investment opportunities right on the North Sea coast. A major contract from Great Britain that was won by a German offshore energy consortium in January is proof positive of Niedersachsen's renewable energy capacities.

You'll be leading business delegations to South Africa and Brazil—can the Niedersachsen econ- >

After graduation from high school in Celle and having completed his military service, Jörg Bode served an apprenticeship with Commerzbank where he also received training to work with corporate clients. From 2000 until his election into the 15th Niedersachsen Parliament, he was a contact for Deutsche Bank's corporate clients in Hannover. In October 2009 Bode succeeded Philipp Rösler as Minister for Economics, Labour and Transport of Niedersachsen.



Photo: Ministry for Economics, Labour and Transport of Niedersachsen

“There’s no other event in Europe that attracts as many medium-sized industrial enterprises as Hannover Messe.”

Jörg Bode, Minister for Economics, Labour and Transport of Niedersachsen



Niedersachsen

German for Business.

› **omy benefit from growth in emerging markets?**

But of course—there are already very successful business models in South Africa and other threshold countries that offer shining examples for other Niedersachsen enterprises to invest there—also in the light of the football World Cup. Brazil, especially, got through the global economic crisis virtually unscathed, so there are still fine business opportunities for Niedersachsen enterprises there. For this reason I’ll be taking a business delegation to Brazil in March, and Prime Minister Christian Wulff will be travelling with representatives of the Niedersachsen business community to the threshold countries of China and India in the course of this year.

In the light of all this, what impulses do you expect for the state’s economy from the Foreign Trade Forum at Hannover Messe?

There’s no other event in Europe that attracts as many medium-sized industrial enterprises as Hannover Messe—so it’s the perfect place for our companies to tap into the latest know-how and sense the trends of the future. Hannover Messe is also, with the international ‘Global Business & Markets’ showcase, one of the most important foreign trade events in Germany and the perfect platform for sharing experience and networking between business and economic policy-makers. In this framework, Niedersachsen Foreign Trade Forum is crucial to trading relations between our state and other countries (this year the focus is on South Africa). Furthermore, events like the Foreign Trade Forum deliver the basic information for entering the showcased markets and provide a setting for initial contact discussions.

This year, the Niedersachsen Foreign Trade Prize is being presented for the first time at the Foreign Trade Forum in recognition of and to publicise exceptional achievement by a medium-sized enterprise from Niedersachsen. The prize is sponsored by the Foreign Trade Forum organisers: Niedersachsen Global GmbH, Niedersachsen’s chambers of industry and commerce, NBank, the Niedersachsen employers and industrialists association UVN, the chambers of craft trades and Deutsche Messe AG.

At Hannover Messe you’re encouraging craft trade companies to look abroad for business—what’s behind this initiative?

Currently there are around 50,000 German craft trade companies working in foreign markets. Sixty percent

of them have fewer than 20 employees—which indicates clearly that even small businesses have a good chance of success on the export side. Foreign activities can also help a company establish a broader economic base. The German Confederation of Skilled Crafts estimates that a further 70,000 companies have the potential for international activities. We want to show these companies their market opportunities abroad, and provide information to raise their chances of succeeding. Another campaign will be the delegation that I'm taking to Norway from 22nd to 24th June, co-organised with Norddeutsches Handwerk. In future we'll be offering such a delegation trip for craft trade enterprises every year.

What are this year's priorities for communicating Niedersachsen worldwide as a business location?

We started the New Year with a new image campaign for Niedersachsen that we'll be promoting at trade fairs abroad, on business delegations and in print. Niedersachsen is also widely known as Lower Saxony—but Niedersachsen is unique and distinctively German! It was clear that we should keep and promote our 'own brand' more; our aim is to make the central messages and strengths of Niedersachsen instantly recognisable in all our international communications. Along with the energy sector and infrastructure projects that I just mentioned these include the food sector, which in Niedersachsen covers the whole value added chain from the field to the dinner table. Niedersachsen earns its leading position as a rich agricultural land.

And what foreign initiatives are high on the list?

This year the World Exposition must take precedence: Expo 2010 opens its doors in Shanghai under the motto 'Better City – Better Life' from the first of May till the end of October, and NGlobal is coordinating all the activities from Niedersachsen. The state government and Hannover city council, with numerous partners, will be presenting solutions for the future and setting strong emphases in Shanghai: Niedersachsen enterprises such as Sennheiser, Bard Group, Wilkhahn and Otto Bock, along with institutions and facilities like Leuphana University in Lüneburg, Musikland Niedersachsen, Hannover's Goetheschule high school and the University of Oldenburg will be presenting technological and cultural excellence—an impressive showcase for Niedersachsen as the home of innovation and business. 🌟

Business Card

NGlobal: Foreign trade and locating in Niedersachsen bundled under one roof.



by Hans Gäng

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NGlobal (Niedersachsen Global GmbH) is the central organisation for the coordinated domestic and international marketing of Niedersachsen as a business location, with the aim of promoting the internationalisation of the state. NGlobal's core functions are the foreign trade and locating business, location marketing as well as domestic and international trade fair activities. As the direct contact in Niedersachsen, NGlobal is the interface to businesses and investors at home and abroad.

In the area of Foreign Trade NGlobal is able to offer support to Niedersachsen-based businesses in entering the international market or in developing existing foreign activities through consulting and related activities. These include trade fair participation, delegation trips and events. In addition, the build-up and expansion of worldwide networks is among NGlobal's responsibilities.

Overall Service Package

In the area of Locating NGlobal supports businesses in all phases of their establishment, from project guidance to location and real estate research to realisation, in collaboration with the state's Ministry for Economics, Labour and Transport as well as the regional and municipal trade promoters and institutions in Niedersachsen.

In its function as the trade promotion organisation of the state of Niedersachsen, NGlobal works in close cooperation with its stakeholders. These are, along with the state of Niedersachsen, the seven Chambers of Industry and Commerce in the state, the Norddeutsche Landesbank and the Deutsche Messe AG. 🌟

New Growth Drivers Wanted

Hannover Messe 2010 is offering a plenty of opportunities to discover new markets. NGlobal is the initial partner of Global Business & Markets, where SMEs can benefit from new contacts and services.



Photo: Deutsche Messe

Dr. Wolfram von Fritsch (right), Chairman of the Board of Deutsche Messe, expects that Global Business & Markets and the Niedersachsen Foreign Trade Forum will create new business opportunities.

by Hans Gäng

NGlobal, the state's trade and investment promotion agency, helps SMEs to benefit from new trade fair services and contact opportunities. In hall 27, Global Business & Markets is the dedicated foreign trade platform at Hannover Messe, offering ideal opportunities for establishing and nurturing international business contacts.

Fundamental changes are imminent in the global economy, as the leading industrial nations deploy long-term initiatives to overcome the global economic crisis. Global Business & Markets highlights the resulting opportunities for international businesses in the current environment. The event puts key economic policymakers, international networks and service providers in touch with precisely those businesses that are looking for growth drivers in foreign markets. It also provides comprehensive coverage of international in-

centive programs, services and business locations for new business development abroad. Global Business & Markets is backed by a large group of support partners, all committed to helping small and medium-sized enterprises in particular to explore and capitalize on new opportunities abroad. The patron of the event is Christian Wulff, Prime Minister of the German state of Niedersachsen. International partners and business associations will be active participants in the high-caliber conference programme complementing the trade fair activities in hall 27.

International Audience

The conference will identify precisely how international industrial businesses can tap into the incentive programs that are now being developed around the world to revitalize export and foreign direct investment. The conference is an opportunity for economic industrial policymakers at international, regional and sector level to present their projects and initiatives to an international audience.

The opening event and flagship attractions at Global Business & Markets highlight the potential of the new-look exhibition space to generate fresh momentum in the export and foreign trade activities of industrial enterprises. The supporting conference programme focuses on the role industrial policy initiatives will play in driving growth in the world economy.

The USA is charting an innovative course in energy and industrial policy with a massive capital investment program. This in turn opens up new opportunities and cooperation possibilities not only for US players, but for companies all over the world. For technology companies in particular, US-based subsidiaries are potentially an excellent avenue for entering the new and growing market for clean technologies in the

Global Business & Markets

19 - 23 April 2010
Hannover Messe, hall 27
www.global-business-markets.de

USA. Not only due to its vast economic stimulus package, China seems to be the first nation to emerge from the global economic crisis. The country is actively driving new growth across a wide range of sectors, all of which will be represented at Hannover Messe

Japan Meets Europe

A Japan Forum will discuss strategic approaches and technical solutions to meet the electromobility challenge. The aim is to boost cooperation in the area of battery recharging infrastructure, intelligent network integration and electric energy storage. Export sales of innovative technologies and a presence in foreign markets depend on having well-qualified personnel on the ground. This highlights the importance of investing in training and awareness programs for staff, partners and customers. The event will introduce some case studies of successful and sustainable technology exports through effective investment in training. SMEs are the cornerstone of the European economy. The Europe Day forum will discuss the prospects for developing and maintaining the competitiveness of SMEs.

18,000 Business Contacts

Global Business & Markets will also host the b2fair matchmaking events, organized jointly by Enterprise Europe Network and Deutsche Messe. This event is designed to help businesses find ideal partners in their foreign markets. b2fair is the leading cooperation exchange on the international trade fair scene. It gives business operators an easy, efficient way to meet new business partners, customers and suppliers. The b2fair matchmaking concept is specifically tailored to the needs of small and medium-sized companies. Its strong international focus and comprehensive service coverage range, before, during and after the fair, provide exhibitors with a cost-effective way to get the most out of their participation. Since its introduction at Hannover Messe in 2005, the b2fair cooperation exchange has successfully networked over 1,600 companies from over 40 countries. And more than one third of the 18,000 initial contacts made have led to further business dialogue.

With another new project Niedersachsen is motivating its SMEs to do more international business. During this year's Foreign Trade Forum, the Niedersachsen Foreign Trade Prize is to be awarded for the first time: it will be bestowed upon an SME based in Niedersachsen to honour and publicise outstanding achievements in foreign trade. The corporate foreign trade activities should foster employment and new growth in Niedersachsen. 🇩🇪



Photo: NGlobal

7th Niedersachsen Foreign Trade Forum: South Africa
20 April 2010,
1 pm - 6 pm
Hannover Messe,
hall 27, Global Business & Markets
www.nglobal.de

Real Estate North
2 - 3 June 2010
Hamburg Airport

“We have noticed a tangible upturn in business as a result of the current low interest rates and a more stable property market. The response from the industry with regard to taking part in the trade fair is therefore very positive.”

Katariina Rohrbach
Head of International Trade Fair Department,
Deutsche Messe

South Africa: More than Sports

As one of the most important conferences of Global Business & Markets, the 7th Niedersachsen Foreign Trade Forum will focus on South Africa. As an international forum, the event will act as a platform on which South Africa can present itself and its business strengths to an interested audience drawn from the areas of business, science and politics. In a complementary role, it will also of course be looking at the Soccer World Cup 2010 as well as at the entrepreneurial opportunities the southern part of the African continent has to offer the German business community after this major global event.

Numerous German companies already have a presence in the country, and in recent years South Africa has become a sought-after trading partner, with increasingly close business links to Latin America and particularly Asia. NGlobal also arranged a South African tour for a large delegation of Niedersachsen business people ahead of this conference.

Hannover Heading North

Deutsche Messe AG is expanding its product portfolio. On 2 and 3 June 2010, it will stage the first-ever Real Estate North – the international trade fair for commercial real estate – with Hamburg as venue. The trade will allow the industry in northern and north-eastern Europe to show what properties are being traded on the markets for commercial use. There will also be a comprehensive overview of all the services relating to construction, acquisition, management and maintenance, with a particular focus on logistics.

The two-day trade fair will be staged at the Tango Terminal at Hamburg Airport. Real Estate North will be held with the exclusive support of the business development agencies of Niedersachsen, Schleswig-Holstein and Hamburg. For the trade fair, NGlobal offers site inspections to selected locations in Niedersachsen, such as JadeWeserPort, offshore basis Cuxhaven and the Braunschweig Research Airport.

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South Africa

The Cup of Good Hope

For the FIFA World Cup all eyes will be on South Africa. A chance to present itself as the up-and-coming business location into which it has turned over the years.

Representative Office

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by Yorck Wurms

South Africa is frequently associated with little more than violence and hunger. Yet the republic is one of the most developed countries on the Southern African continent. Its infrastructure is very good, its legal system functioning and democracy is intact. Also, according to the World Economic Forum, its banking system is safer than that of Switzerland. Little wonder then that South Africa unites almost one third of the whole of Africa's economic power and that it has attracted numerous investors. Volkswagen and Continental moved there quite some time ago, now Niedersachsen companies including furniture manufacturer Steinhoff and textile company Daun & Cie. are following suit.

60 billion Euros to be Invested in Infrastructure

There will no doubt be plenty of opportunities for investment, also after the World Cup. The country's finance minister has promised 60 billion euros for the development of harbours, airports and railway lines. Energy supply will be another vital sector. Eskom, the national supplier of energy, is discussing a partial privatisation to enable the construction of new power stations. Prospects for the use of renewable energies will certainly be good, too, given the country's extensive area. Its vastness will make it impossible for all households to be connected to a central electricity network — a niche for decentralized power solutions. South Africa has also aggressively pursued a policy of CO₂ reduction, which could lead to the restriction of coal-fired power stations. On the other hand, the country favours the construction of nuclear plants. It is good to bear in mind that when it comes to placing orders the government will give preference to local companies.



Photo: shanediaz120/flickr

The World Cup will be a brilliant occasion for South Africa to demonstrate that its not so positive image abroad no longer holds true.

Private household consumption has in turn tended to be relatively weak. The global economic crisis has meant private households' debts rising to an average 80 percent of their disposable income. Although the demand for private loans is on the decrease, a rise of individual spending power to the pre-recession level is not expected. With the crisis a new law placing tougher conditions on consumer loans has come into effect.

Other factors hindering investment are the lack of security as well as the requirements imposed by the Black Economic Empowerment scheme. To better integrate black people into the country's economy, companies, as an example, need to look for black shareholders, managers, employees or suppliers in order to meet the quotas set by the government. 🇿🇦

South Africa

Pop.: 47,6 million

GNP: 5,390 m USD

Growth: -1.5 %*

Inflation: 5.7 %*

Strengths

- + politically and economically a heavyweight
- + great wealth of mineral resources
- + diversified industrial landscape
- + strict economic policy

Weaknesses

- chronic energy crisis
- lack of qualified labour
- social and political tensions

* forecast / Source: Coface



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Keep It Real

Nord/LB bank is one of the leading commercial banks in northern Germany. It is also a reliable partner for medium-sized companies.

Particularly so in times of crisis.



Photo: Nord/LB

Nord/LB

Nord/LB Norddeutsche Landesbank Girozentrale, with a staff of 6,200 employees and a consolidated balance sheet total of 242.3 billion euros, is one of the leading commercial banks in the north of Germany, with the focus of business activities on North and North East Europe. It offers a wide range of financial services to its private, corporate and institutional clients and to the public sector. The main areas of specialisation of Nord/LB are investment, agricultural and real estate banking, corporate finance, ship and aircraft financing and private banking. www.nordlb.de

Interview with Eckhard Forst by Hans Gäng

Mr. Forst, over the entire course of the financial crisis proper, Nord/LB has hardly been on the news. How come?

Nord/LB bank has a very customer-oriented business model which is deeply rooted in the real economy. We cooperate with flesh and blood customers whom we know very well. And we are guided by a very conservative risk policy. We keep out of highly speculative business and intransparent financial products. This did help us during the financial crisis. Nonetheless, we will have to brace ourselves for noticeable strain over the next few years. The crisis has not yet come to an end, and we have been affected by it, too. But will we be able to cope with its effects.

There is a debate going on about regulatory policy in Europe, about the role of the German state banks. What is your position?

We do not get involved in discussions about politics, we try to do our homework well. We had our business model and our risk policy in place before the crisis, our costs were under control and we were well-positioned as far as capital goes. We are working hard to be a reliable partner for our customers. This is our responsibility as a bank and also vis-à-vis the public. We leave regulatory policy to others.

What part does Nord/LB play in the development of the regional economy and infrastructure, particularly in the maritime economy?

It is important for us to live up to our responsibility as a state bank. This is why, in close cooperation with savings banks, the Sparkassen, we support the regional economy. In doing so we also share our special know-how in specific areas of finance such as maritime financing, which to a significant extent in northern Germany means the financing of medium-sized businesses, or in project financing. We are, for example, one of the leading institutions who back the renewable energies sector. In the field of offshore wind farming, new and challenging perspectives for growth are opening up for the maritime economy, particularly in Niedersachsen.

How do you—as an international leader in the area of finance—see global economic trends in the sectors energy and maritime economy,

“We are represented in the significant financial centres and trade hubs of New York, London and Luxemburg, but also in Shanghai, Singapore and Beijing. This is where we accompany our clients as local partners.”

Eckhard Forst, member of the Nord/LB board of management

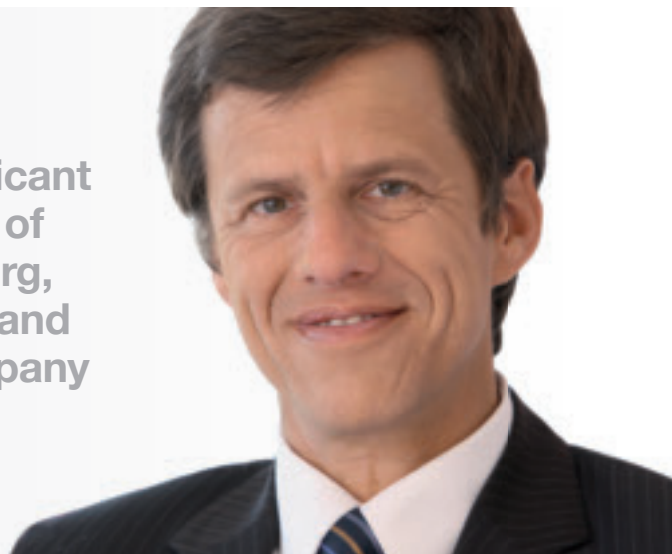


Photo: Nord/LB

Eckhard Forst

The lawyer Eckhard Forst has been a member of the Nord/LB board of management since 2007. Having first served a bank apprenticeship from 1978 to 1980, he then worked for Deutsche Bank, mainly in charge of the bank's major corporate clients. Before moving on to Nord/LB in 2007, Forst also served as a Managing Director for Deutsche Bank as well as the Directeur Général of Banque Worms S.A., both posts were in Paris.

two areas which are of particular importance in Niedersachsen? What sort of perspectives and challenges result for Nord/LB?

Over the past few years the maritime economy, particularly in the Niedersachsen coastal regions, has stood out as being remarkably dynamic. This trend was interrupted by the current global economic crisis. Despite first positive signals in the development of the global economy we are not dewy-eyed, for the time being we see the maritime industry experiencing further strain. Quite a bit of work lies ahead of us. As far as the power industry is concerned, we are particularly active in the field of renewable energies. Wind energy, photovoltaics and bioenergy remain for us without a doubt an important and promising sector.

Currently there are discussions about making credit available for medium-sized companies. How do you see the financial situation of medium-sized businesses?

A number of medium-sized companies do feel the effects of the crisis although they have no share in causing it. Therefore, banks are needed that do not shirk their responsibilities. State banks and savings banks have even expanded their lines of credit for this reason. Nord/LB started a corporate customer campaign before the financial crisis, and we have upheld it during the crisis. By doing so we have increased our credit volume with mid-sized companies by 20 percent while winning 250 new clients. This does not mean that today we will do any credit business that comes our way. If we would not have given credit three years

ago, we, of course, won't today. One has to always be able to justify a commitment, both its economic side and its risks.

What role do you want to play in the future, accompanying medium-sized companies' export business?

This is a classical state bank business, and we will remain a reliable and competent partner for our medium-sized companies also in this area. We are represented in the significant financial centres and trade hubs of New York, London and Luxemburg, but also in Shanghai, Singapore and Beijing, to give you some examples. This is where we accompany our clients as local partners.

As a shareholder of the state owned one-stop consultancy and promotion agency NGlobal, what perspectives is Nord/LB guided by?

Nord/LB has been rooted in Niedersachsen for more than 250 years. It is obvious that we should feel particularly close ties with this federal state. Our commitment at NGlobal allows us to play an active part in the efforts to further strengthen Niedersachsen as a business location. We are pleased to contribute our experience and contacts. NGlobal aggressively promotes the state's foreign trade activities; the company also works towards attracting even more companies to the state as a location for business. As Landesbank Niedersachsen it gives us pleasure to support these all these activities. 🌱

Benvenuto Hannover Messe

At Hannover Messe, NGlobal will offer special services to all exhibitors from partner country Italy. NGlobal provides information about current market situations as well as sector developments. Moreover, the agency establishes contacts to state initiatives, research institutes and technology partners, identifies suitable tax consultants, auditors and lawyers, and gives advice on selecting service providers for special financial issues. NGlobal will also inform about general and state-specific finance sources such as NBB, MBG, NBank as well as local authorities, and advises on further funding possibilities. Three fair stands are planned on the themes of sustainability, energy efficiency and renewable energy.

- › Industrial supply (hall 6)
- › Niedersachsen Lounge (hall 27)
- › Energy from Niedersachsen (hall 27)

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CeBIT 2011 .pro .lab .gov .life

CeBIT 2010 was a positive sign for the strength and vitality of the world's largest ICT show. 4,157 companies from 68 countries exhibited at the trade show. "CeBIT 2010 has been very impressive," declared Deutsche Messe's board member Ernst Raue, adding: "There has been a truly infectious sense of enthusiasm here in Hannover over the past few days." With an enhanced concept for next year's event Deutsche Messe will feature an even sharper focus on new target groups. The concept for 2011 revolves around four user-centric pillars. "CeBIT pro" will address professional users, "CeBIT gov" will target government and the public sector, "CeBIT lab" will be home to international research institutions and universities, and "CeBIT life" will cater to prosumers and the techno-savvy consumer. The event 2010 also successfully reinforced its profile as an international economic policy platform. The concept of integrating corporate events into CeBIT was also termed a success. The next CeBIT will be staged from 1 to 5 March 2011 in Hannover. www.cebit.com

Mediterranean Charm

CeBIT and Hannover Messe are the spring flagship exhibitions in Hannover. Their focus 2010 lies on the economic potential of the respective partner countries Spain and Italy.



Photo: Deutsche Messe

Looking for a bright future: Dr. Angela Merkel, Chancellor of the Federal Republic of Germany, and José Luis Rodríguez Zapatero, President of the Government of Spain, at CeBit 2010.

Hannover Messe
19 - 23 April 2010,
Hannover
www.hannovermesse.de

President of the Italian Institute for Foreign Trade, **Umberto Vattani** (right), believes that Italy and Germany together have the potential to be key drivers of a pan-European energy policy.

by Hans Gäng

As this year's CeBIT partner country, Spain sent more than 100 exhibitors to Hannover and played an outstanding part in the communication of the world's by far largest ICT show. Deutsche Messe's board member Ernst Raue said: "Spain's performance here has definitively established it as one of Europe's leading ICT nations." The German Chancellor, Dr. Angela Merkel, and the Spanish Prime Minister, José Luis Rodríguez Zapatero, had officially opened CeBIT 2010. Zapatero highlighted the role of Spain's economy as bridge to global markets: "Spain is not simply one of Europe's most popular holiday destinations. It is also an attractive place for high-tech industrial companies". Due to their experience specifically on South American markets, Spanish companies are seen as highly interesting partners for joint ventures and cooperation.

Hannover Messe 2010

Italy will bring in the next Mediterranean accent to a world industry show in Niedersachsen: Hannover



Photo: Deutsche Messe

Messe 2010 will see an unrivaled industry summit. The country will showcase its industrial excellence in the fields of energy, mobility and automation. Italy and Germany will use Italy's partner country role as a springboard for enhanced bilateral cooperation in the areas of technology and research.

Partner Country Pavilion

The organizer of Italy's partner country presentation is the Italian Trade Commission (ICE). Its president, Umberto Vattani, owes his intimate knowledge of Germany to his time as Italian Ambassador to Germany in Berlin. "We will have a very clear focus on Italy's role as a powerhouse of cross-border European industrial and energy policy," Vattani explains. The bilateral intergovernmental summits and high-level industry forums to be held at Hannover Messe 2010 will highlight the wealth of new opportunities for B2B cooperations arising from the two countries' joint economic and environmental projects in Europe. Spanning some 2,000 square metres, the central partner country pavilion in hall 6 will profile Italy's key initiatives and projects in response to the big challenges of our times.

The Italian pavilion will feature leading transport technology innovations—spanning air, rail, sea and road transport solutions—in the areas of energy efficiency, reduced noise pollution and sustainable fuels. Other Italian group pavilions will further highlight Italy's technology clout in industrial automation, motive power engineering and electrical engineering—areas in which Italy is world leader. Conferences and seminars will focus on future mobility, renewables and energy efficiency, research and development as well as international industrial cooperation.

As Italy's former Ambassador to Germany and President of the Italian Trade Commission (ICE) Umberto Vattani has a clear vision for a new era of bilateral industrial cooperation and the fresh impetus it will receive in Hannover. Vattani: "I personally am very confident that Hannover will yield tangible progress towards German-Italian—and indeed European—cooperation."

Energy Cooperation

The challenges of renewable energy production and distribution, energy R&D, technical realization and investment are simply too great to be resolved without a Europe-wide bundling of resources. In the Mediterranean region in particular, Vattani sees opportunities for Italy and Germany to work together very closely and become key drivers of a pan-European energy



Photo: Deutsche Messe



Photo: Deutsche Messe

CeBIT and Hannover Messe, the worldwide leading trade fairs for ICT and innovative industrial products, are ideal platforms for deepening economic relations, developing new international markets, and promoting business locations.

policy. Especially in North Africa and Middle East, European partners could benefit from Italian presence in the area: "Take North Africa for example. The close economic ties that Italian businesses have developed with North Africa over many years are central to the development of energy projects in the region. Hannover Messe will show that there are still plenty of untapped opportunities for international cooperation and new growth, based on partnership," says Vattani. 🇮🇹

Trade Fairs Created in Hannover

10 - 12 May 2010, Dubai
DOMOTEX Middle East
International Trade Fair
for Carpets and Floor
Coverings

24 - 26 May 2010, Sydney
CeBIT Australia
Australasia's leading
business and technology
event

2 - 3 June, Hamburg
REAL ESTATE NORTH
International trade fair for
commercial real estate

2 - 4 June 2010, Shanghai
BIOTECH CHINA
International trade fair
for biotechnology

23 - 30 September 2010,
Hannover

IAA Commercial Vehicles
Motor vehicles, equip-
ment and systems for
transport of goods and
Passengers

28 September - 1 October
2010, Moscow
CeMAT RUSSIA
International trade fair
for materials handling
and logistics

28 September - 1 October
2010, Moscow

IAA Russia
International trade fair
for factory, process and
industrial building auto-
mation

28 September - 1 October
2010, Moscow

MDA Russia
International trade fair for
motion, drive and auto-
mation

Debuts in Brazil

In 2011 two flagship exhibitions of Deutsche Messe will be localized in Latin America.

CeMAT South America

4 - 7 April 2011,
São Paulo

BITS – Business IT South America

10 - 12 May 2011,
Porto Alegre

by Hans Gäng

Hannover based organizer Deutsche Messe continued its international expansion with the announcement of two new shows in Brazil: CeMAT South America in São Paulo and BITS—Business IT South America—in Porto Alegre. CeMAT South America scheduled to debut from 4 to 7 April 2011 at Centro de Exposições Imigrantes in São Paulo, is an extension of CeMAT Hannover, the world's leading intralogistics fair. It will showcase the complete range of material handling and logistics solutions.

"South America is a key component of our international strategy, one in which Brazil is currently the largest market for our exhibiting customers," explains Dr. Andreas Gruchow, member of the executive board of Deutsche Messe. "Brazil has managed to avoid

much of the impact of the worldwide financial crisis. Economic growth this year is projected at roughly five percent and, as the economy grows, will demand for modern logistics solutions. Subsequently, many leading manufacturers have expressed strong interest in CeMAT South America." Deutsche Messe is organizing CeMAT South America with the cooperation and support of the Brazilian logistics association ABIMAQ (Chamber of Material Handling) and the German Engineering Federation VDMA.

BITS

Deutsche Messe also announced the launch of BITS, a new trade fair and conference developed specifically for the Brazilian and Latin American IT markets. BITS will debut from 10 to 12 May 2011 at FIERGS Exhibition & Convention Centre in Porto Alegre, Brazil. The trade show will provide the region's IT and communications industry with its first comprehensive B2B platform, one that combines exhibits with supporting events such as seminars, forums, and matchmaking to deliver more value to participants than a one-dimensional fair or congress.

"South America is a key component of our international strategy, one in which Brazil is currently the largest market for our exhibiting customers."

Dr. Andreas Gruchow,
Member of the Executive
Board of Deutsche Messe



Photo: Deutsche Messe

"Brazil is Latin America's largest economy and an industry leader in information technology and business process outsourcing," said Dr. Andreas Gruchow, Member of the Board of Deutsche Messe. "Brazil's IT industry benefits from five decades of strong government and private investment and the region's largest technical-skills labor pool. Growth in the Latin American IT market is projected at 3.1 percent in 2010, increasing to 4.3 percent by 2016. Even more impressive is that GDP is expected to grow five percent in 2010. When considering these positive factors, it is clear that now it is the time to bring a CeBIT event to this region," says Gruchow. Deutsche Messe is organizing BITS with the cooperation and support of the Center of Industries of the State of Rio Grande do Sul (CIERGS) and the Federation of Industries of the State of Rio Grande do Sul (FIERGS), which collectively represent 41,000 factories with 600,000 employees. Additional partners include the IT industry associations SOFTEX and SOFTEXUL. 🇧🇷



Global marketplace

Trade Fair Dates 2010



HANNOVER MESSE, 19 – 23 April

The world's most important technology event



PROMOTION WORLD, 19 – 23 April

International Trade Fair for Promotional Products and Incentives



INTERSCHUTZ, 7 – 12 June

International Exhibition for Rescue, Fire Prevention, Disaster Relief, Safety and Security



O&S, 8 – 10 June*

International Trade Fair for Surface and Coatings



IAA NUTZFAHRZEUGE, 23 – 30 September

Motor Vehicles, Equipment and Systems for the Transport of Goods and Passengers



BIOTECHNICA, 5 – 7 October

International Trade Fair, Conferences, Partnering and Award for Biotechnology



EuroBLECH, 26 – 30 October

International Sheet Metal Working Technology Exhibition



EuroTier, 16 – 19 November

International DLG Exhibition for Livestock and Poultry Production and Management

* in cooperation with Landesmesse Stuttgart GmbH

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www.messe.de

Global Fairs. Global Business.



Deutsche Messe
Hannover · Germany

Column

“Come over to Hannover!”

Whatever could the south German industrial village of Emmingen, the Basque city of Bilbao and the Chinese provincial capital of Hangzhou have in common? Easy: there and now — like every year and in countless other towns and cities around the world — exists a restlessness in businesses. “Come over to Hannover” was the rhyming exhortation of a handwritten poster stuck.

Adrenalin, itchy feet, entrepreneurial optimism ... Why else put up with the crazy stress of making perfect preparations only to succumb to last-minute pre-show panic about whether those brochures, precious products (or staff) will turn up at Hannover’s exhibition halls on time? Hundreds of thousands, coming over to Hannover ... **‘Hannover’ has become, for all of them, the global trademark trade fair.**

And you have to hand it to the Hannoverians, an easygoing, open-minded folk. In Hannover, there are literally thousands of families who pull out the sofa bed or clear out the children’s room for perfect strangers from the four corners of the earth. For me as a start-up boss, my staff’s reports on their private accommodations are a regular item at the morning meeting: the annual reunion with the Barbie dolls; the solo aria by the opera singer to welcome the guests; the temporary accommodation in the Buddhist temple at the exhibition ground.

Hannoverians’ immaculate German pronunciation is matched only by Hannover’s German breakfast: **fresh bread rolls from the corner bakery, butter and jam and cheese and ham and eggs and gallons of coffee — heavenly calm before the storm.** Ironing board and needle and thread for sartorial emergencies, hot lemon to fend off an impending cold, an ice-cold beer late in the evening — the very stuff of friendship and fond memories of Hannover. **A trade fair week without Hannoverian company? Like Laatzen without the ICE train station.**

Hans Gäng, CEO of local global GmbH in Stuttgart, has been a regular visitor to CeBIT and Hannover Messe since the nineties.



by Hans Gäng

Around 1.2 million people live in the Hannover region, an area covering approximately 2,300 square kilometres. The inhabitants account for 15 percent of Niedersachsen’s population, 18 percent of its jobs and generate around 20 percent of its gross domestic product.

Competitive Infrastructure

Thanks to the World Exposition EXPO 2000, Hannover has one of the best communications infrastructures in the world. More and more start-up businesses are exploiting this advantage and are coming up with business ideas that sharpen the profile of Hannover as a business location. Some ten million people live in the catchment area of Hannover’s Langenhagen Airport, from where they can travel to destinations throughout the world. And Hannover is also becoming more and more important as a freight traffic hub: The German Railway Company has heavily invested in Seelze marshalling yard, which occupies a leading position in Germany. As a Metropolitan Region, the Hannover-Braunschweig-Göttingen-Wolfsburg agglomeration can boast a unique combination of economic, academic and cultural potential, and, by concentrating these strengths it is able to make its mark in the competition between national and international locations. As a hub of international flows of traffic, trade and information, it unites a remarkable variety of com-

Capital Impact

In business matters, Hannover is an all-rounder — the capital of Niedersachsen is an industrial location, a services centre and a market place, and it also hosts the biggest trade fairs in the world.



Photo: istockphoto

petences and strengths in the fields of manufacturing, logistics, science, research and culture.

Competence in Technology

World-famous companies such as TUI, Bahlsen, Komatsu-Hanomag, Solvay, Sennheiser electronic, Kind hearing aids and Rossmann are based here. In the automotive industry Hannover is home to a number of technological leaders, such as Volkswagen Commercial Vehicles, Continental and Wabco.

Automotive is still the most important industrial branch in Hannover. More than 30,000 people are employed in this sector. With this service, Hannover belongs to the top five locations in Germany. The Volkswagen Commercial Vehicles Transporter (VWN) factory at Hannover-Stöcken is the biggest employer in the region and operates a huge plant at the northern edge of town, alongside the Mittellandkanal and

Numerous creative enterprises hammering out new ideas ensure that the transfer of high technology to industry thrives.

Motorway A2. Together with a plant of German tire and automobile parts manufacturer Continental AG they own a coal-burning power plant. Continental AG, founded 1871 in Hannover, is one of the major companies in town even if there's a takeover in process: The Schaeffler Group from Herzogenaurach (Bavaria) holds the majority of the stocks but, due to the crisis had to deposit the options as securities at banks.

Hannover is a location which is, in terms of energy and CO₂ efficiency, concerning in research, development, production and application without equal throughout Europe. For 175 years, Hannover has been in a leading position in the field of energy supply. Over 1,200 companies with 23,000 employees guarantee Hannover's role as an IT location of the premium class—and during the globally renowned Ce-



Photo: Deutsche Messe

Every year in spring the world's biggest trade show for ICT opens its gates to showcase the latest trends in communication and technology.



Photo: Volkswagen

30,000 people in the capital are employed in the automotive industry. Hannover is home to a number of technological leaders, such as Volkswagen Commercial Vehicles Transport, Continental and Wabco.



Photo: ECE

Hannover's pedestrian zone is one of the longest in Germany and includes one of the country's most popular shopping streets, as a national survey has shown.

It provides a powerful incentive for firms to set up research and development facilities close by. Also Production Engineering has been at home in Hannover for a long time. Good ideas and products are delivered continuously here, for example in the Hannover Production Technology Centre (PZH). It has a unique space of 20,000 square metres for work and research.

Investment in Brains

More than 36,000 students live in Hannover region. Many of them also embark on their careers here. Hannover region has evolved into a university landscape offering a diversity and a level of education which fully deserves its international acclaim, providing excellent career opportunities for graduates. The list of establishments is long: Leibniz University, Hannover University of Applied Sciences and Arts, University of Veterinary Medicine, Hannover Foundation, Hannover Medical School, the Hannover University of Music and Drama, the Business University of Applied Sciences and the German International Graduate School of Management and Administration (GISMA) to name just a few.

The Leibniz University Hannover is the focal point of a vibrant scene that provides new impetuses to cultural and business life: numerous creative enterprises hammering out new ideas ensure that the transfer of high technology to industry thrives. The capital of Niedersachsen is world-famous in both human and veterinary medicine. The Hannover Medical School (MHH) has become the centre of transplant medicine in Germany, with more than 400 organ transplants per annum. The Cochlear Implant technique for treating the deaf makes the MHH Europe's leading institution in this field.

In the field of biotechnology MHH cooperates closely with companies established in the nearby Medical Park. The School of Veterinary Medicine Hannover is a top international address and maintains partnerships with institutions in approx. 20 other countries. Not far from the MHH there is the International Neuroscience Institute INI, a special clinic and research establishment for neurosurgery, neurology, neuroradiology, ear, nose and throat medicine, orthopaedic surgery and internal medicine. Its architecture reproduces in an abstracted form the shape of the human brain.

Vitality of the Service Sector

Besides research a modern and highly competitive service industry is contributing to the region's role as one of the top business locations in Germany. Tourism giant TUI AG is headquartered in Hannover. Hannover is

› Bit trade fair, the city becomes literally the focal point of the IT world community. Niedersachsen's capital is also proud of its international position in Life Sciences, since the university and research landscape is one of the most valued in Germany. And it's always just a small step to business—by the implementation of research results in Hannover. Hannover also shows an eye for proportion when considering the networking of research and production in the field of optical technology. The region possesses leading research centres in the fields of production and laser technology already over a period of many years already. The internationally leading Laser Zentrum Hannover (LZH), for example, has been around for over 20 years. The cen-



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www.hannover-airport.de



Photo: Laserzentrum

The long list of major German research institutes hosted by the state capital underlines the attractiveness of the region for both future minded enterprises and individuals.

home for many insurance companies, many of them just with national relevance. One major global re-insurance company is Hannover Re with its headquarter situated east of city centre.

Major insurers and financial service providers such as the Talanx Group, VGH, Hannover Re, VHV or AWD have their headquarters here, providing for security in the future. In the financial sector, Nord/LB and Sparkasse Hannover are amongst northern Germany's leading banks. In the media area, the players of more than regional importance include the Madsack and Schlütersche publishing houses and the television programme-maker TVN. Norddeutscher Rundfunk, with its State Broadcasting House, and the private radio stations Hit-Radio Antenne, ffn and Radio 21 all broadcast from Hannover, and media specialists train at the ARD.ZDF medienakademie. 🚶

The Landscape of Research (extract)

Academy for Spatial Research and Planning (ARL)

Research into the spatial impacts of human activities in the economic, social, ecological and cultural spheres, and analysis the scope for sustainable spatial development

www.arl-net.de

District Heating Institute in Hannover (FFI)

Research: heat conductivity, district heating technology, metering and measurement technology, environmental research, soil mechanics and refrigeration technology

www.fernwaerme.de

Eduard Pestel Institut for Systems Research

Modelling and simulation of dynamic systems

www.pestel-institut.de

European Research Association for Sheet Metal Working

Promotion of collaborative research on the entire technology chain of sheet metal working

www.efb.de

Fraunhofer Institute for Toxicology and Experimental Medicine (ITEM)

Research foci: inhalation toxicology, environmental and health protection, research and applications of modern biotechnological methods, toxicological investigations

www.item.fraunhofer.de

Geozentrum Hannover

Geozentrum Hannover comprises the Federal Institute for Geosciences and Natural Resources, the State Authority for Mining, Energy and Geology and the Institute for Applied Geosciences

www.geozentrum-hannover.de

German Institute of Rubber Technology

Research into elastomer chemistry, elastomer physics, materials development and processing technology

www.dikautschuk.de

Hannover Centre for Production Technology (PZH)

PZH brings together all the Leibniz University Hannover's manufacturing technology institutes and their facilities, where more than 350 scientists and technicians from all fields of the natural and engineering sciences work with partners from industry.

www.pzh-hannover.de

Higher Education Information System (HIS)

Development of standardised software, sociological surveys, planning, use and maintenance of higher education buildings, advisory services, training programmes

www.his.de

INI Hannover – International Neuroscience Institute

Comprehensive diagnostic and treatment facilities for diseases of

the nervous system
www.ini-hannover.de

Leibniz Institute for Applied Geosciences (LIAG)

Independent research establishment, funded by Federal and State Government, for applied earth sciences with a geophysical dimension

www.liag-hannover.de

Institute for Building Research (IFB)

Research in economically viable planning and construction, construction physics, process technology and building materials

www.bauforschung.de

Laser Zentrum Hannover e.V. (LZH)

LZH links physics and engineering technology; close collaboration between manufacturing technicians, materials scientists and physicists create cross-disciplinary solutions to problems from all areas of laser applications

www.lzh.de

Institute for Peptide Research (IPF)

Preparative and analytical peptide chemistry, peptide synthesis, molecular biology and function analysis

www.peptide-research-hannover.de

Niedersächsisches Institut für Wirtschaftsforschung e.V. (NIW)

Independent economics research institute

www.niw.de

Businesses in the City of Volkswagen

In Wolfsburg one knows how to realise innovative ideas.

The town of Wolfsburg, home to the headquarters of Volkswagen AG, is characterized by a good transport infrastructure, with the A2 and A39 motorways nearby, good rail connections as well as the 'Midland Canal', the longest artificial waterway in Germany. Spread over 16 industrial estates, floor space covers a total of 160 hectares, out of which 40 hectares are available for immediate occupation. In the city high-quality plots of land and property are available for use as offices. There is also a variety of shops in the city centre, including those in the "City-Galerie" and the Wolfsburg designer outlets; the new pedestrian area is in turn lined with attractive, privately-owned shops.



Photo: Emanuel Raab

Networking for Your Business

The offices of Wolfsburg Marketing & Business Development offer competent advice for trade, industrial businesses, retail, restaurants and service providers. We will be pleased to put our extensive networks at your disposal, inform you about possibilities of promotion and help you find the right office and industrial space for your business. And we welcome innovative ideas. Please visit us or our website which provides further information on industrial areas, a property market data bank as well as a list of tradesmen (the "Baufibel online").

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13- 16 May 2010, Rastede

Medieval Spectaculum

History will come to life in the town of Rastede with the world's largest Medieval Culture Festival. Over 1,000 valiant knights and fair ladies, jugglers and jesters in 13th century armour and attire are planning to lay siege to the small community (just 15 km from the North Sea), offering visitors fantastic shows, a vast medieval market as well as breath-taking tournaments.

Open: daily from 11 am
www.rastede-touristik.de

14- 25 May 2010, Göttingen

International Händel Festival

The International Händel Festival Göttingen is the world's longest-standing Festival of Early Music. It pursues the process of rediscovery and revival of Händel's works that originated in Göttingen in 1920.
www.haendel-festspiele.de

24 July - 1 August 2010, Bad Harzburg

131st Gallop Racing Week

The 131st Bad Harzburg Gallop Racing Week is expected to, once more, thrill its spectators, some of whom will be spellbound by the Race's fast thoroughbreds while others will, no doubt, be fascinated by its female visitors' eye-catching hats.
www.bad-harzburg.de



Photo: Bad Harzburg



Photo: Lüneburger Heide GmbH

Bispingen

Bispingen is the ideal starting point for a tour of the Lüneburg Heath: from here the quaint and pristine heath village of Wilsede with its Heath Museum, the Wilseder Mountain and the Totengrund, one of the most beautiful spots of the area, are just round the corner.

Taking a Walk on the Wild Side

Romantic rivers and wild juniper, interspersed with rustic timber-framed villages from a time long forgotten. The Lüneburg Heath offers one of the most beautiful sceneries in Germany.

Hanstedt

The heath areas around Hanstedt are home of the famous gray horned heath sheep.

Schneverdingen

A few minutes from the heath blossom city the region's most beautiful heath areas beckon.

Egestorf

The national park around Egestorf is the largest heath expanse in Europe.

Amelinghausen

The new Heath Queen is crowned at the Heath Blossom Fest in summer.



Photo: Snow Dome

The Snowdome in Bispingen is one of the most modern indoor ski arenas in Europe. A 300 metre long and up to 100 metre wide slope offers enough space for fast-paced downhill skiing, doing tricks in the fun park or the first attempts on skis. Open daily. www.snow-dome.de



Photos: Lüneburger Heide GmbH

Cycling or hiking tours, Nordic walking, horse riding or touring on waterways: the hilly landscape of the Lüneburg Heath, with abundant water and woods, is a true Garden of Eden for leisure activities! www.reiseland-niedersachsen.de

Explore Your Part of the Lüneburger Heide!



Photo: Lüneburger Heide GmbH

Golf from its most beautiful side: The Lüneburg Heath has no less than 12 golf courses with 252 holes and is the one of the regions in Germany with a relatively large number of courses. www.golfland-niedersachsen.de

by Daniela Sandmann

Tartly-scented juniper shrubs, old oak trees, the humming of bees and heath as far as the eye can see: the Lüneburg Heath is a unique natural landscape in Europe. Particularly in late summer. Then the heathlands transform into a sea of heath blossoms gleaming in purple and violet colours. So it is not really astonishing that the territory in the south of Hamburg is the second-most popular holiday region in Niedersachsen after the North Sea, attracting more than five million overnight guests every year. The Heath is not only famous for its flora, but also for its fauna. Many types of birds have adapted to living in open spaces and have made the Lüneburg Heath their home. If you are lucky you can also encounter a flock of black-faced German heath in the Lüneburg Heath, being driven over a sandy path by a shepherd. This modest breed of sheep is the symbol of the Heath.

A Queen for the Heath

The most beautiful heathland scenery is to be found in the north-western part of the Lüneburg Heath. Here, in the 1,130 km² large 'national park Lüneburger Heide', there is also the 169.2 m high Wilseder Berg, the highest elevation in the Northwest German Plain. With good visibility even the Hamburg skyline is within sight from here. Along with the "Totengrund", the region is one of the best-known landscapes of the Lüneburg Heath, as here the largest continuous heath expanse in western Europe is located. These areas have been a nature reserve since 1921. On the last weekend in August the Heath Blossom Festival takes place in Schneverdingen in honour of the blossoming heath when the most beautiful Heath maiden will be crowned queen.

On Horseback

But the Lüneburg Heath has more to offer than just heathlands and beautiful women. In accordance with the motto "There's nothing so good for the inside of a man as the outside of a horse" this unique natural landscape can also be explored on horseback. The Lüneburg Heath is virtually the ideal place to spend some leisure days on horseback. A total of 1,450 km of designated riding trails lead through pine and beech forests, along heath areas and moors, and across picturesque rivers. 🐾

Further information

Please visit www.lueneburger-heide.de to find out when and where the Heath blooms as well as information on all Heath-related events.

Park & Ride

Ready, steady, curtain up. The Pirates are on the loose in the Heide-Park, Northern Germany's largest theme park.



Photo: Heide-Park Soltau

by Inka Ziegenhagen

"It's hard to see this 62-year-old cutter become a real pirate ship any time soon." The disbelief in the faces of the people working at the Heide-Park could not be mistaken when their ship arrived on a police-escorted heavy-goods vehicle to the park.

A few weeks earlier they had bought the twelve metres long and four metres wide ship at an eBay internet auction. Even if right now the old ship looks as if it had already lost one battle or the other, they have big plans for it at the edge of the Lüneburg Heath. Beginning in March 2010 the pirates will take over command in the Heide-Park resort. And the new ship will become the lake stage for a new and spectacular stunt show. Captain Hook and Jack Sparrow, though, are not the only attractions to enthuse adults and kids in Soltau. 1.6 million visitors came to the Lüneburg Heath last year to experience the 40 rides and see the numerous live shows. Particularly spectacular is Colossos; at 52 metres it's the world's highest, and for a long time even steepest, wooden rollercoaster.

Those who not only want to watch pirates, but feel like pirates themselves can also stay overnight in one of the pirates' cabins at the park's own hotel. The "Captain Hook" Bar will certainly be able to offer the appropriate barrel of rum. Aye aye maties, ship ahoy! 🏴‍☠️

Heide-Park Highlight

Colossos

With 60 metres Colossos is the steepest wooden roller coaster in the world. Top speeds of 120 km/h are in the realm of the possible.

Scream

Scream ist the largest gyro-drop tower the world has ever seen. It is a real experience for the 'unshockable'. Height 103 metres, free fall from 71 metres. At a speed of 100 km/h!

Steam Boats

The 'Mark Twain' and 'Peter Pan' Mississippi steamboats are exact replicas of the famous

paddle boat steamers of America.

Swiss Ride

Get hurtled through claustrophobic channels at 50/h where the closeness of the side walls forces you to look straight ahead.

Desert Race

The breathtaking ride of Desert Race is 640 meters long and 'only' 19 metres high but it is fast. Very fast: 'Desert Race' shoots its passengers from 0 to 100 km/h in vertiginous 2.4 seconds — airtime at its best! Experts speak about 4.7 G.!



Photos: Heide-Park Soltau

Heide-Park Soltau

Opening hours

From 27 March until 31 October 2010. Daily from 9 am until 6 pm. Admission until 4 pm.

www.heide-park.de



Photo: Ritz-Carlton

White Gold

In Germany one in five stalks of asparagus comes from Niedersachsen. The luckier ones make it to the Ritz-Carlton where they are served with venison topped by a pumpernickel crust.



Photo: Ritz-Carlton

Chef de cuisine and creator of this recipe Robert Scheibe knows all about asparagus — and not just that. He offers hands-on cooking classes in the Ritz-Carlton hotel in Wolfsburg. www.ritzcarlton.com/wolfsburg

Wash vegetables and cut into slices. Chop the venison bones and roast in the oven for 45 min. at 180°C. Put oil in a pot and fry the vegetables. Add roasted bones as well as a tablespoon of tomato paste. Deglaze with wine and cognac. Bring everything to a quick boil, then simmer. Cut the rack of venison in six equal portions. Roast the meat in a pan, then cook in the oven for around 12 min. at 140°C. Take out and allow to rest for at least 10 min. Then briefly fry in butter with herbs and spices. Now spread the pumpernickel crust in a thin layer onto the meat and cook au gratin (upper heat) for 3 to 6 min. The gravy is ready when it is reduced to about 30 per cent. Strain and, if necessary, thicken with starch flour.

Peel asparagus, boil water and add some of the asparagus peels, orange and lemon zest, lemon juice, sugar and salt, using roughly equal amounts. Drop the asparagus into the water at near boiling point and cook until tender. This should take about 9 min. Drain the asparagus and cover with melted butter.

Mix the egg yolks with the reduction of white wine, white wine vinegar and shallots. Use a water bath (bain-marie) for cooking. Do not allow the water to boil. When the mixture turns frothy, very gradually, drop by drop, add the melted butter. Mix until everything has emulsified. Season with salt and lemon juice.

Allow pumpernickel to become dry and crunchy. Chop into crumbs. Whisk butter in a kitchen aid until fluffy and white. Then stir in egg yolks, pumpernickel crumbs as well as a little salt. 🍴

Ingredients

(serves 6)

- 1 kg rack of venison
- 150 g onion
- 75 g celeriac
- 75 g celery
- 50 g leeks
- 50 g mushrooms
- 50 g tomato paste
- 100 ml cognac
- 100 ml Madeira wine
- 100 ml red port wine
- 10 g garlic
- 5 g coriander seeds
- 500 g bones of venison
- pimento, rosemary, thyme, laurel

Asparagus & Sauce Hollandaise

- 1.2 kg asparagus
- 2 shallots
- 2 eggs
- 140 g butter
- 50 ml white wine
- 20 ml white wine vinegar
- 1 lemon, salt
- 2 passion fruits
- 1 orange

Pumpernickel Crust

- 80 g pumpernickel
- 50 g butter
- 2 egg yolks

Where Asparagus is Queen

With a harvest of almost 25,000 tons, Niedersachsen is Germany's largest producer region for asparagus. Now as spring is approaching, asparagus will once again be omnipresent: on markets, festivals and there will even be local beauties acting as "Queens of Asparagus". Oh to be in Niedersachsen now that Spring is there...

Courage and Humility

Movimentos Festival Weeks in Wolfsburg counts among the major festivals for contemporary dance while featuring at the same time numerous acclaimed classical, jazz and pop concerts.

by Inka Ziegenhagen

A pontoon bridge leads from the glass-roofed Wolfsburg Autostadt reception lounge across the river to a monumental, brick-coloured building dating back to the founding days of the Volkswagen group. The power station does not just supply electricity and heat for the factory and the town, it is also the venue for "Movimentos", one of the main festivals for contemporary dance in Europe. From 29 April to 13 June seven internationally renowned dance companies will explore the theme of "Courage and Humility" in front of the listed building Kulisse 7.

Dance embodies the interplay between courage and humility, continually challenging the dancer both physically and mentally. The seven ensembles performing at this year's festival approach this in very different ways. The Nederlands Dans Theater, which has been at the forefront of contemporary dance for the last 50 years, comes to the Movimentos Festival Weeks for the first time. A further highlight will be a world premiere of the Kibbutz Contemporary Dance Company's.

As far as music goes, every Friday evening the Museum will turn into a jazz lounge where Dianne Reeves, China Moses, the Yaron Herman Trio and Carloline will bring to the life the vibrant sounds of jazz, soul and salsa. 🎷



Photo: Ben Rudick



Photo: Nele Martensen

Creative Director
Dr. Maria Schneider,
initiated the Movimentos Festival Weeks in 2003. With success: 30,000 people visit the event every year.

Movimentos Highlights

Ailey II

18- 19 May, KraftWerk

Kibbutz Contemporary Dance Company

29 April - 2 May, KraftWerk

Sadler's Wells

23 May, KraftWerk

Hofesh Shechter

Company (big picture)

3 - 5 June, KraftWerk

Nederlands

Dans Theater I + II

8/9/11/12 June, KraftWerk

Diavolo Dance Theatre

13 - 16 May, KraftWerk

Dianne Reeves

7 May, ZeitHaus

China Moses

14 May, ZeitHaus

Quasar Companhia de Dança

6 - 9 May, KraftWerk

Yaron Herman Trio

21 May, ZeitHaus

Caroline Henderson

28 May, ZeitHaus

Biréli Lagrène

4 June, ZeitHaus

Ensemble Sarband

10 June, St. Bernward-Kirche

Vocal Sampling

11.6.2010, ZeitHaus

Detailed programme, ticket booking and more information are available at

www.movimentos.de



Classics at Home

Movimentos presents the the up-and-coming artists of the festival in a CD edition:

Yorck Kronenberg: Pieces for Piano by Brahms

Maxime Heintz: French Organ Music

Nicolas Altstaedt: Haydn, Concerts for Violoncello and Orchestra Nos. 1 & 2

Celebrating Playfulness

This summer Hannover is presenting the first edition of KunstFestSpiele Herrenhausen, a festival that will devote itself to the Baroque Age's pleasures of playfulness while also including experimental forms of modern art.

by Inka Ziegenhagen

Passion, playfulness, sensuality and opulence. The KunstFestSpiele Herrenhausen invite the audience to a fascinating space of sounds and images.



Photo: Herrenhäuser Gärten

KunstFestSpiele Herrenhausen

For Ticket booking and detailed programm: www.herrenhaeuser-gaerten.de

Highlights

Alexander Charim:
"Orfeo – Love will tear us apart"

Claudio Monteverdi's opera Orefeo featuring the music of rock legend Kurt Cobain
4-6 June 2010

Heiner Goebbels:
"Stifters Dinge" performance and music theatre for five pianos without pianists
10-12 June 2010



Photo: Sebastian Bolesch

There are countless festivals in Germany. Yet another one? This one though is novel indeed. KunstFestSpiele festival will revive the baroque tradition of garden parties while remodelling the courtly partying culture into a modern format, a scheme which is certainly unique in the German cultural landscape. From 4 to 27 June 2010 the KunstFestSpiele Herrenhausen will make their debut under the theme "The Power of Play". Organizers are presenting a European festival that includes opera and concerts as well as events in the areas of the graphic arts, philosophy and sciences building a bridge from baroque to modern times. Part of the programme will also be live opera transmissions, garden illuminations and an interdisciplinary series of discussions on the subject of playfulness.

The Art of Gardening

Scene of the festival will be the Royal Gardens of Herrenhausen, one of the finest gardens worldwide that attract some 400,000 visitors every year. Spread out over more than 50 hectares, the gardens unite the main styles of garden design, including French baroque as well as English landscape gardens. A major attraction is the historical grotto which has been transformed into a unique piece of art to designs by the artist and honorary citizen of Hannover Niki de Saint Phalle. Three lavishly decorated rooms invite visitors to an imaginary journey through a world bathed in light and colours.



Photo: Kristof Fischer



Photo: Sebastian Bolesch

Hot Beats

The Masala World Beat Festival is a big European festival of world music. It has become a meeting place for musically minded global citizens.

by Daniela Sandmann

This is where every spring the musical cultures of the world come together as a vibrant blend of traditional and contemporary music: jazz from Sweden, folk from Ireland, classical piano from Brittany and afro pop from Portugal. "Masala" — a term which in Indian cuisine designates a mixture of spices — offers a unique journey through our planet's different musical styles. The festival will be accompanied by workshops, African and Latin American dance classes, an international market as well as by exhibitions, readings and theatre performances at various venues in Hannover. 🌍

Masala World Beat Festival

5-16 May 2010,
Hannover

Tickets & programme:
www.masala-festival.de
www.hannover.de



Photos: Masala Festival

Melting pot of musical styles, ranging from jazz and tango rhythms through to funk and salsa.

Best of Classical Music

The Brunswick Classix Festival 2010 presents the *crème de la crème* of classical and light music.

by Daniela Sandmann



Photo: N. Razina

The Mariinsky Theatre Symphony Orchestra is one of the top twenty orchestras in the world.

The Classix Festival is an all year round celebration of classical music with over 40 concerts and events in 28 venues. This year the festival will focus on pianist and composer Frédéric Chopin. Italian soprano Lucia Aliberti and the outstanding French pianist Cyprien Katsaris will whet the audience's appetite with opening performances on 2 May. The artists will present works by Chopin along with songs and arias by Bellini, Rossini and Verdi. Another highlight will be the world-famous St. Petersburg Mariinsky Orchestra. Hélène Grimaud, "the philosopher among the pianists of her generation", will also be joining as well as the renowned baritone singer Thomas Quasthoff. 🌍



Photo: Jim Rakete

Thomas Quasthoff will present arias by Mozart.

Braunschweig Classix Festival

2 May – 11 December,
Brunswick

Tickets and programme:
www.classixfestival.de



Photo: Lüneburger Heide GmbH

Next Issue Autumn 2010



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Publisher
local global GmbH
Marienstr. 5, D-70178 Stuttgart
Phone: +49 711 22 55 88-0
redaktion@localglobal.de
www.localglobal.de

NGlobal
Niedersachsen Global GmbH

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Print
Bechtle Druck & Service

Did you know that ...?

- ... the Leaning Tower of Pisa is no longer the world's most tilted tower?
The **Leaning Tower of Suurhusen** in Niedersachsen has now challenged the former's status leaning at an angle of 5.19 degrees.
- ... "DER SPIEGEL" and "Stern", two of Germany's foremost news magazines, were **founded in Hannover?**
- ... Schmorl & von Seefeld in Hannover is **Europe's largest retail bookstore?**
- ... **Hannover Medical School** is the only university in Germany devoting itself exclusively to the teaching of medicine?
- ... **14th century Eastern Frisia** was reigned by proper chieftains?
- ... "Steinhuder Hecht" (Pike of Steinhude) does not designate a fish but what was probably **Germany's very first submarine?**
- ... **Germany's tallest lighthouse** is located in Campen?
- ... the **Rammelsberg mine** is the world's oldest still active mine?
- ... **Werner von Siemens and Robert Koch** were born in Niedersachsen?

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