The customer magazine of ThyssenKrupp Steel Europe

compact

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1/2010

A host of innovations

InCar® offers modern solutions for the automobile

Interview with Adil Najam

The Nobel Peace Prize winner talks about climate change

bauma 2010 in Munich

ThyssenKrupp Steel Europe presents its heavy plate highlights

ThyssenKrupp Steel Europe
Thinking the future of steel

ThyssenKrupp

compact

Issue 32 – 1/2010

editorial 3

view

Blechexpo 2009 4
Customers and companies present themselves in Stuttgart.

Hoesch Additive Floor® 6
The floor system is a real eye-catcher – even on bridges.

cover story

InCar® – the wide-ranging package of modular solutions 8
ThyssenKrupp presents its results – customer-oriented, fully developed and marketable.

On Tour 12
The TechTruck attracts motoring fans with its many innovations.

In conversation 14
For Ford Vice-President Dr. Gerhard Schmidt, InCar® is an important project.

Discussion 16
Prof. Dr. Lutz Eckstein from RWTH Aachen talks to project manager Oliver Hoffmann about InCar®.

focus

PLADUR® ZM Premium 19
The new product is suitable for steel construction elements.

Interview 20
Nobel Peace Prize winner Adil Najam shares his views on the climate summit in Copenhagen.

bauma 2010 22
ThyssenKrupp Steel Europe presents its heavy plate highlights in Munich.

Heavy plate from Duisburg 24
Senior Sales Managers Roland Riesbeck and Mario Klatt talk about their rocky path through the economic crisis.

Herzog Coilex 26
The steel service center in Stuttgart delivers quality without compromise.

JadeWeserPort 28
The new port in Wilhelmshaven stands on a secure footing thanks to special pipes from Bender-Ferndorf. The semi-finished material comes from Duisburg.

Hoesch Hohenlimburg 30
The specialist for medium-wide strip has added new steel grades to its portfolio that are very light and flexible.

'Optischale' project 31
A new shell construction process saves the auto industry costs and weight.

Cooperation with Dresden University of Technology 32
A city for research scientists, leading thinkers and the talented.

SBH Tiefbautechnik 34
The specialist for steel shoring systems relies on strong partners such as ThyssenKrupp Steel Europe.

service

NewsFlash 18
Corporate information in brief

Agenda 36
Fairs, exhibitions, events

Echo 36
Comments from the media

About our cover picture:
The main story offers customers and other interested readers an insight into the InCar® automobile project. If you would like to know more, please come and visit our Tech-Truck, which is currently touring the globe with its load of 33 innovations and an InCar® demonstrator. Visitors to the truck will be able to gain a hands-on and detailed overview of the research and development project.

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ThyssenKrupp Steel Europe AG
Kaiser-Wilhelm-Strasse 100, 47166 Duisburg, Germany
Postal address: 47161 Duisburg, Germany
Phone: +49 (203) 52-0, Fax: +49 (203) 52-25102

Editorial team:
Rolf-J. Neumann (legally responsible)
Strategic Marketing/Support
Phone: +49 (203) 52-41003
Fax: +49 (203) 52-41007
E-mail: rolf-juergen.neumann@thyssenkrupp.com

Christiane Hoch-Baumann (editor-in-chief)
ThyssenKrupp Business Services GmbH, Communication
Phone: +49 (203) 52-24515
Fax: +49 (203) 52-25707
E-mail: christiane.hoch-baumann@thyssenkrupp.com

Photographs:
ThyssenKrupp Steel Europe Fotografie
P. 14 Ford
P. 21 Carsten Costard
P. 22 Alex Schelbert
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info.steel-europe@thyssenkrupp.com
www.thyssenkrupp-steel-europe.com

Dear Readers,

The global economy is starting to pick up again – albeit only slowly in the industrial nations. The first green shoots of recovery are also evident at ThyssenKrupp Steel Europe. We are now starting to recover from the dramatic downturn we experienced during the last fiscal year. In the European market for high-grade flat steel, incoming orders have started to pick up noticeably again. With levels of warehouse stocks and imports relatively low, demand is developing better than expected and remains at a good level for the second quarter of 2010, including for us. However, we believe that the current economic situation is still fragile, and as a result we need to retain a cautious outlook.

> "The global economy is starting to pick up again. However, we believe that the current situation is still fragile, and as a result we need to retain a cautious outlook."

We are deeply concerned about developments in the raw materials sector. Prices for ore spot transactions have shot up in response to the swift and surprisingly vigorous recovery of the steel business in Asia. In some cases this has already resulted in a wide gap from the conditions agreed in our long-term contracts. Individual discrepancies have been as much as 100 percent. Against this background, the raw materials conglomerates are currently pushing to move away from benchmark agreements in which fixed prices are negotiated for a 12-month period. They want to have shorter contract periods in which they can supply preferably large quantities at higher prices which are driven by the spot market.

This paradigm shift is in stark contrast to our business model, as it leads to greater price fluctuations when sourcing raw materials and hence reduces planning reliability. As a premium supplier of innovative steel products, we build on stable customer relationships. To date our focus on costs has largely been based on a pricing policy which has been predominantly built on long-term agreements.
This is a win-win relationship for us and for our customers, and one which has served all parties well in the past. It is not in the interest of our customers constantly to re-negotiate steel prices. Unfortunately, there is a risk of precisely this happening if the raw materials conglomerates manage to shift business away from long-term supply contracts and only follow spot prices.

Independently of this, ore is set to become significantly more expensive to purchase in 2010/2011 even under the old mechanism. The industry fears price rises of 70 to 80 percent, but even a doubling of prices is not out of the question. Raw materials and energy can account for more than 70 percent of the manufacturing costs for a tonne of hot-rolled strip. Consequently, we will have no option but to pass on these imminent and huge cost rises to our customers by increasing steel prices during the next rounds of contract negotiations. After the spot prices for hot-rolled strip crashed within the space of just nine weeks from a high of 800 Euros per tonne to just 350 Euros per tonne in the boom year of 2008, we have now been forced to raise our prices by 60 to 70 Euros per tonne to nearly 460 Euros per tonne in order to absorb the spiraling costs of raw materials. During the summer we expect the price per tonne to settle noticeably above the 500-Euro mark. This will depend on the actual conditions currently being negotiated with our raw materials suppliers.

Steel is and remains a valuable material; this is something the entire market has to understand, right up to the end customer. We will keep you informed about the latest developments in the steel market. This is also one of the primary aims of our customer magazine compact. This issue is once again packed full with lots of news and interesting information all about ThyssenKrupp Steel Europe. Find out for yourself – we hope you enjoy the read!

Kind regards,

Dr. Jost A. Massenberg
Sales Director
ThyssenKrupp Steel Europe

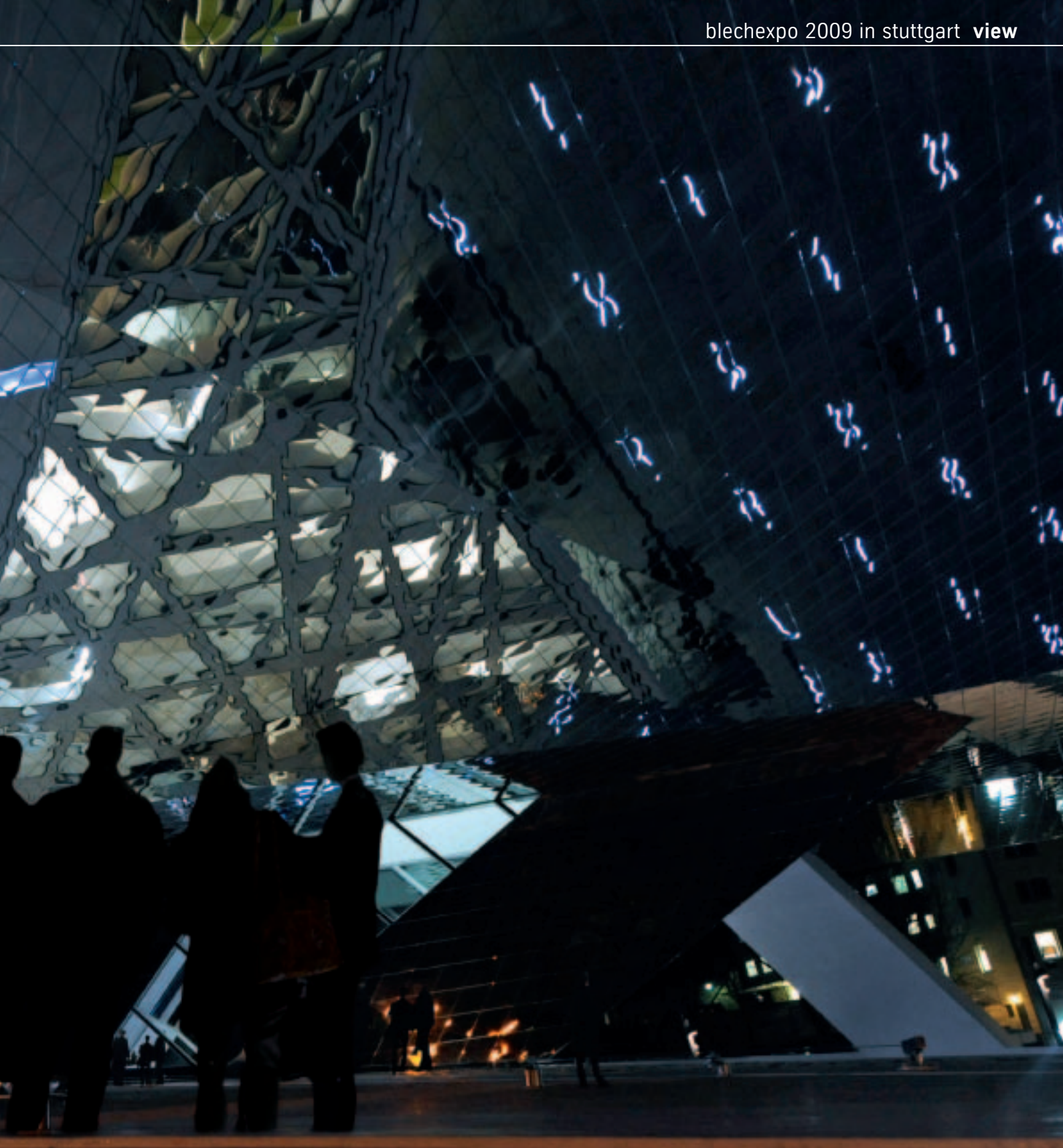
BlechExpo: An optimistic outlook

They had to wait for a long time for a meeting – but in the end it was worth the wait. At the end of last year, 270 customers of ThyssenKrupp Steel Europe came together for the third Southern-German Steel Customers' Day which was held alongside the BlechExpo trade fair in the Porschemuseum in Stuttgart. The participants exchanged a wide range of information and held long discussions. Main topics of conversation included both the current situation in the steel market and the restructuring of ThyssenKrupp Steel Europe.

Dr. Jost A. Massenberg (Sales Director) and Dr. Matthias Gierse (Head of Industry Sales) and his team were on hand on behalf of ThyssenKrupp Steel Europe to speak to customers and answer their questions. Guest speaker Dr. Frank Schirrmacher, co-editor of the Frankfurter Allgemeine Zeitung daily newspaper, used his speech about the so-called Methusalem Conspiracy, i.e. the ageing of society and its economic consequences, for a brave look into the future, raising not just a few smiles among the audience, but also giving them plenty of food for thought.

www.porsche.com
www.blechexpo.de

Photograph: Rainer Kaysers



Contact: **Rolf-Jürgen Neumann,** Strategic Marketing/Support, tel. +49 203 52-41003, e-mail: rolf-juergen.neumann@thyssenkrupp.com

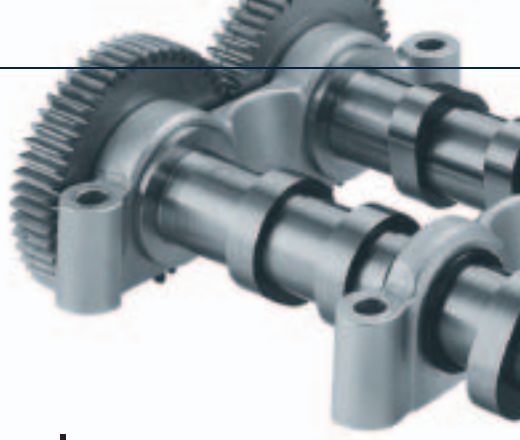
Contact: **Simon Rümmele,** Hoesch Bausysteme GmbH, tel. +43 161-5464036, e-mail: ruemmele@hoesch.at

Bridge across the river Ybbs: a floating raft

In the Lower Austrian region of Mostviertel there is a lot to discover – such as the historical Eisenstraße (iron road) with its unusual works of art, contrasting landscapes and all kinds of culinary temptations. A new highlight has now been added to the Culture Park: the new bridge across the river Ybbs in Amstetten, which was designed by architects Arch&More, has immediately announced itself as the latest addition to this list of attractions. "The bridge not only works perfectly in its role as a bridge for pedestrians and bicycles, but it also delivers aesthetically," explains Simon Rümmele from Hoesch Bausysteme, who looked after the project. The bridge appears to be floating in the countryside, hovering directly above the Ybbs river, which feeds into the Danube. "With a span of 92 meters, the bridge offers unrestricted views of the surrounding countryside," enthuses the architecture aficionado. The two striking, 13-meter high steel frames on the banks are accentuated with atmospheric lighting during the night and welcome visitors onto the bridge. "The design is particularly streamlined and elegant, and it was only made possible thanks to the Hoesch Additive Floor®, which is lightweight yet offers a high load-bearing capacity," explains Rümmele. "However, this bridge across the Ybbs river is just one of many potential applications for this innovative floor system in the construction sector."

www.hoesch.at

Photograph: Walter Luttenberger



ThyssenKrupp reveals a spectacular host of innovations

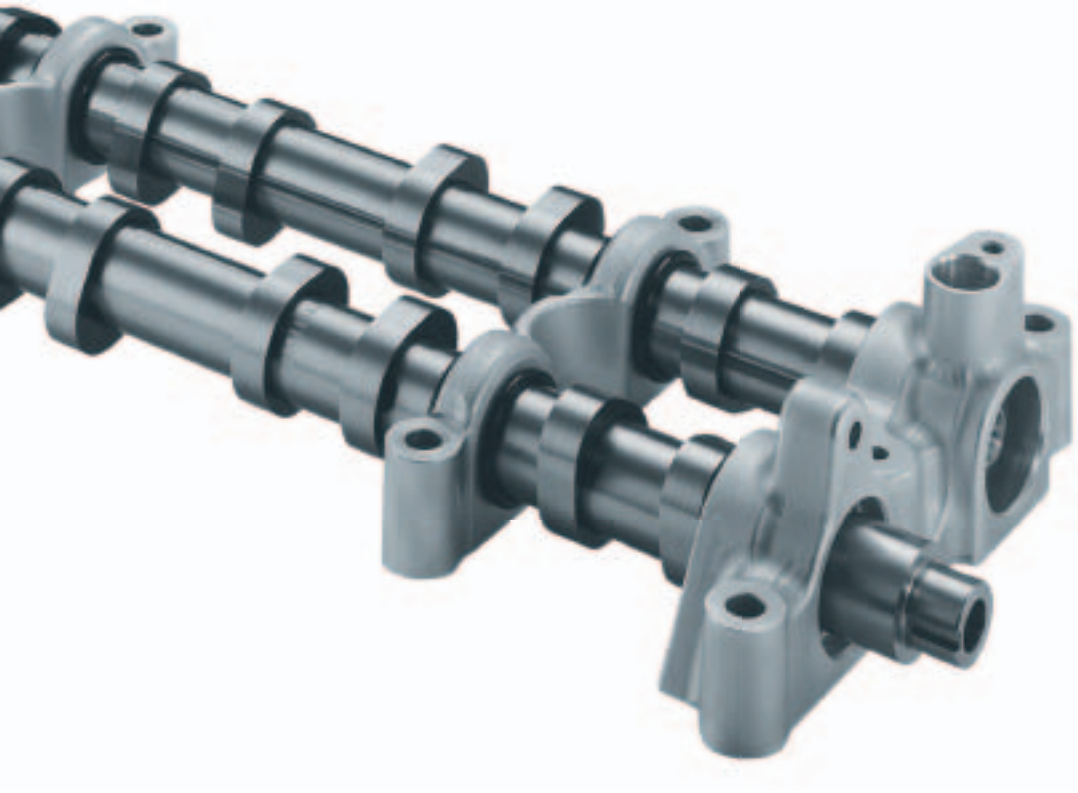
InCar® – a modern package of modular solutions for the automotive industry

The Austrian economist Joseph Schumpeter once noted that, "An innovation is the actual implementation of a new idea or an improvement, not just its invention." Although it would be difficult to beat the accuracy of this statement, it could be expressed more concisely. ThyssenKrupp has given the name InCar® to its technology offensive for the automotive industry – and these five letters contain everything you need to know. It is all about innovations, and all about the automobile. So, following on from Schumpeter, the key here is working out how to get these innovations "in car" as quickly as possible.

At the start of InCar® there were 460 ideas and a budget of 35 million Euros. Three years of intensive development work and various customer workshops later, 33 innovations have been delivered for automotive construction – all completely customer-oriented, fully developed and marketable. InCar® optimizes three subsystems of the car and covers several of the development goals of automotive manufacturers. The project offers new solutions in the areas of body, powertrain and chassis. With the aid of InCar® innovations, manufacturers can reduce emissions, save costs and weight and build cars with improved functions.

Such a comprehensive project approach is only possible with expert knowledge – and the particular breadth and mixture of expertise which is required only on offer from ThyssenKrupp. Up to 100 engineers from twelve subsidiaries of the business areas Steel Europe and Components Technology have contributed to the project: material development, component production, design, simulation, production engineering, plant engineering, tool design and construction and prototype construction are just some of the specialist disciplines on which the InCar® project draws. To date no other automotive supplier has developed and presented such an extensive package of non-proprietary innovations. At the same time, the new solutions are so thoroughly validated that they can be introduced very quickly into production.

"InCar® has come at exactly the right time," says Dr. Ulrich Jaroni, member of the Executive Board of ThyssenKrupp Steel Europe. "Automotive manufacturers have to win over customers with more environmentally friendly vehicles which offer greater value." New legal requirements like the average emissions limit of 120 grams of carbon dioxide per kilometer, which will come into force for new vehicles in the EU from 2012, are another challenge for manufacturers. Dr. Karsten Kroos, Chairman of the Management Board of the business area Components Technology at ThyssenKrupp, adds: "The development targets are closely coordinated with our customers."



Makes cylinder heads cheaper and lighter: the Presta Integrated Cam Assembly. The innovative camshaft bearing system saves up to ten Euros per cylinder head and reduces weight by more than one kilogram.

In detail, this means that InCar® takes the strain off the environment with innovations that save a total of more than 17 grams of carbon dioxide per driven kilometer. The largest contribution of 14 grams is made by a variable valve control system. This system adapts the quantity and composition of the air/fuel mixture in the engine so flexibly and with such pinpoint accuracy that up to five percent less fuel is consumed. If the engine load is reduced – for example during idling or at very low engine speeds – then individual cylinders can even be switched off altogether. Then the variable valve control saves up to 20 percent fuel. This is an advantage which will surely outweigh the increased system costs of 146 Euros.

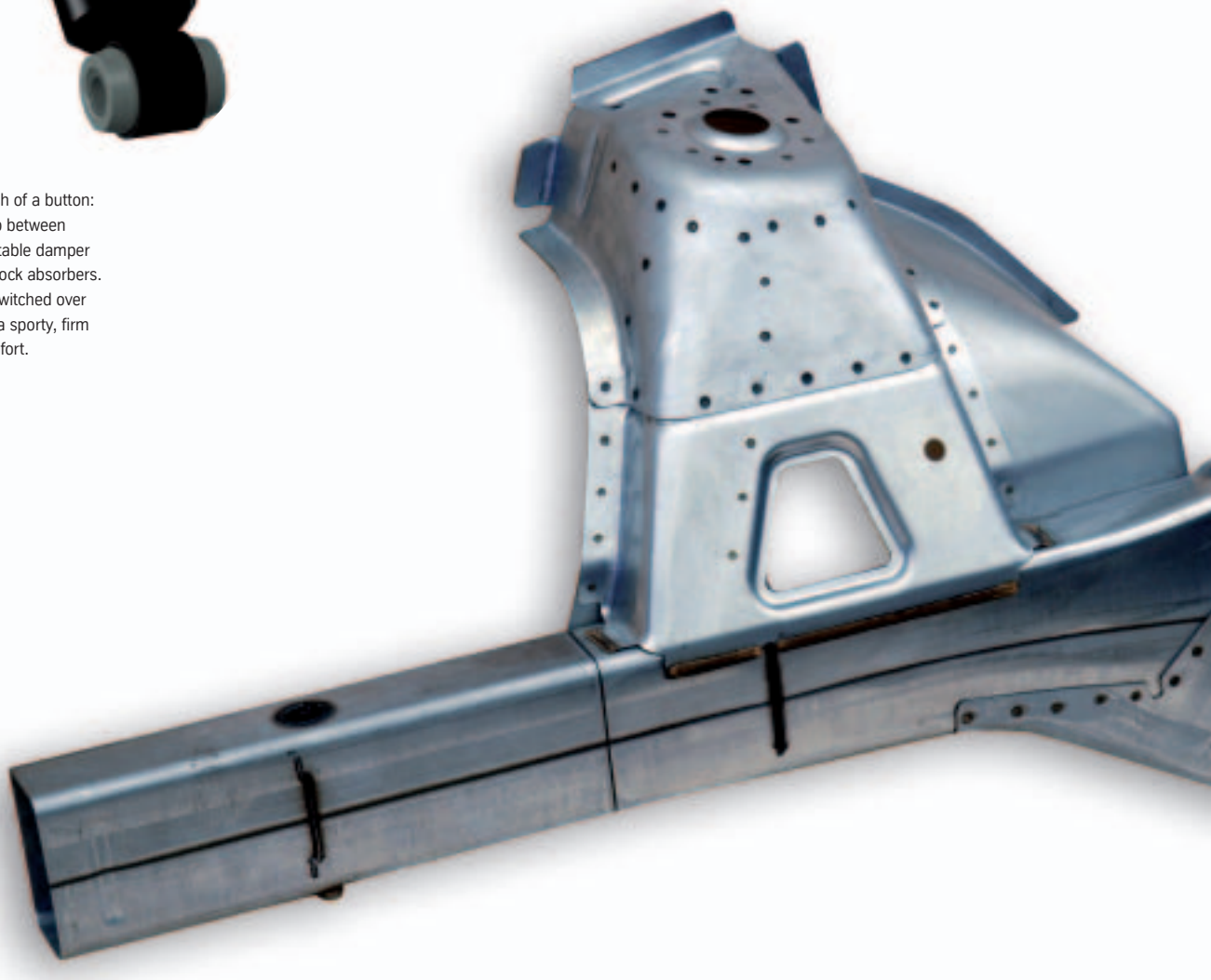
When considering ways to reduce the emissions associated with driving, improvements to the powertrain offer the greatest potential. However, ThyssenKrupp is pushing for a more holistic approach – after all, CO_2 and other greenhouse gases are also generated during the production of vehicles and components. Consequently, the InCar® eco-balance covers the entire product lifecycle for each of its innovations, starting with the production of the raw materials. The result: combining the production phase and a vehicle life of 250,000 km, the best InCar® solutions from an environmental point of view save around 5,500 kg of CO_2 equivalents (CO_2 and other greenhouse gases) per vehicle. The InCar® eco-balance was calculated by the German Institute PE International and certified by TÜV Nord.

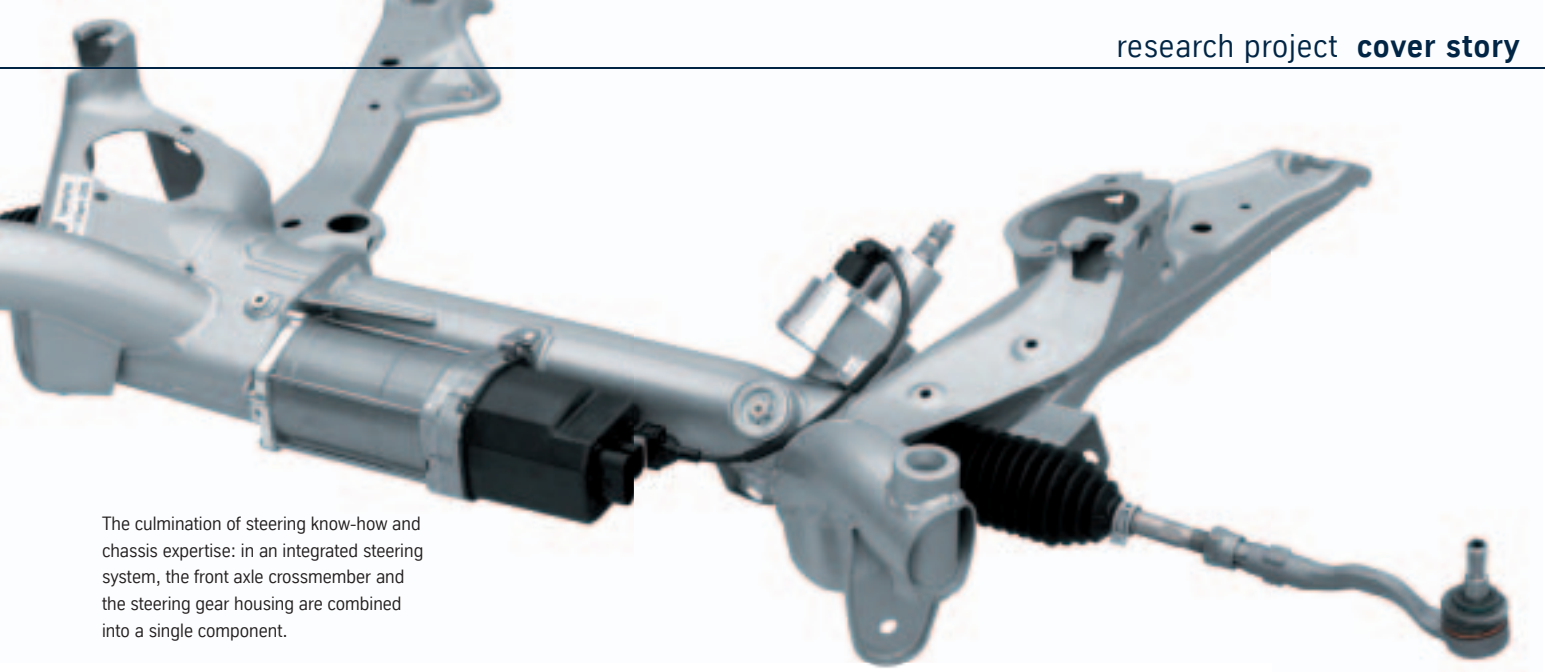
This holistic appraisal really highlights the strengths of steel as a material. For example, the InCar® team has developed a new rear axle made of high-strength lightweight steels, which it has compared to an aluminum solution. The aluminum assembly is currently used in upper mit-size vehicles. The InCar® axle only weighs four percent more than the reference axle, yet costs half as much. It also fares significantly better than the aluminum reference axle in terms of greenhouse gas emissions throughout the component lifecycle, with the steel solution weighing in at 120 kg less CO_2 equivalents per vehicle. Primarily this is down to the fact that the emissions associated with the production of the steel axle are significantly lower than those for the reference assembly.

Built to take the load: the B-pillar from the InCar® project is manufactured using the tailored tempering technique. In the foot area the component is ductile enough for targeted deflection of impact energy in a crash, while with values of around 1,900 megapascals, the upper area is so strong that the occupants are afforded effective protection in an impact.

Innovative solutions are also available for manufacturers seeking to reduce costs or offer their customers better value. In terms of costs, a newly developed two-stage shock absorber system is one of the stars of the InCar® portfolio. With a free choice between maximum ride comfort and a sporty, firm suspension, the new system is 70 percent cheaper than currently available, infinitely adjustable shock absorber systems. The cost aspect of the front longitudinal member from the InCar® project is also extremely attractive: not only will this component cost automotive manufacturers 13 percent less than reference components, but they will also enjoy weight savings of 27 percent and a reduction in emissions of 126 kg of CO_2 equivalents per vehicle. The longitudinal member is manufactured from the new ultra-high-strength multi-phase steel TPN® (three-phase nanoparticles) and offers a tensile strength of at least 780 megapascals. With an elongation at rupture of 15 percent, the material also offers first-rate formability for a steel in this strength class. The steel is a co-development of ThyssenKrupp Steel Europe and Japan's second-largest steel manufacturer JFE. The T^3 technology developed by ThyssenKrupp Steel Europe also contributes to the excellent characteristics of the longitudinal member. The innovative production process allows new, weight-optimized hollow profiles to be produced.

Sports suspension at the push of a button: DampTronic® bridges the gap between complex, electronically adjustable damper systems and conventional shock absorbers. The shock absorber can be switched over at the push of a button from a sporty, firm setting to maximum ride comfort.





The culmination of steering know-how and chassis expertise: in an integrated steering system, the front axle crossmember and the steering gear housing are combined into a single component.

Among other things, integrated steering systems offer significantly improved functionality: here, the InCar® engineers have integrated the steering gear for an electromagnetic power-assisted steering into a front axle support. The current state of the art is for the steering gear to be bolted to the support as a separate component. The new solution offers weight savings of eleven percent and cost savings of three percent. Not only this, but combining the two components frees up package space in the front end of the vehicle – for example for the electric motor of a hybrid drive system. InCar® project manager Oliver Hoffmann: "The new solution represents the culmination of steering know-how and chassis expertise from the two business areas of ThyssenKrupp which are involved."

InCar® not only impresses with the number of newly developed solutions, but also with the comprehensive validation processes which have been put in place. The InCar® team has done a lot to ensure that automotive manufacturers can adopt the innovations into production as quickly and smoothly as possible. In the process, investigations have covered the expected costs equally as much as the methods and tools with which the InCar® innovations can be produced. Here again, the competence of the involved ThyssenKrupp companies across virtually the entire automotive process chain has been responsible for delivering reliable conclusions. Prototypes were built on purpose-built tooling. Crash tests and a wide range of endurance tests also formed part of the project. By doing all this, the InCar® team has already carried out an important part of the investigations which would otherwise take place at the automotive manufacturer before the new solutions could be integrated into series production.

The aim of the project is not only to compete with existing high-quality solutions, but to significantly improve on them. As a benchmark for the body solutions, the InCar® engineers designed their own virtual body in white for an upper medium-category vehicle. They used the same software tools that are also used by automotive manufacturers to develop a new vehicle. Kroos emphasizes: "Rather than benchmarking the InCar® solutions against a real vehicle from a specific manufacturer, we use a non-proprietary reference structure. This makes it easier for our customers to integrate our innovations and adapt them to suit their specific brand, design and production strategies. At the same time, we now also have our own point of reference which we can use in the development and validation of future innovations."

InCar® does not just stand for automotive innovation, but also for a smart transfer of research and development results to the market. Naturally, this also includes a professional presentation of the results. ThyssenKrupp is also forging (or driving) new paths here with the InCar® TechTruck. With the aid of the truck the InCar® team can react quickly and flexibly to customer requirements and present the project results in a hands-on manner directly on-site – without customers having to go too far out of their way to make arrangements. This makes the TechTruck another small but important cog in the InCar® strategy of delivering innovations quickly to the automotive sector. Joseph Schumpeter would have no doubt taken great delight in this.

Bernd Overmaat

http://incar.thyssenkrupp.com

Weight reduced by 27 percent, costs down by 13 percent, 126 kg less CO_2 over the vehicle life. A longitudinal member based on the T^3 technology developed by ThyssenKrupp Steel Europe.

Contact: **Oliver Hoffmann,** Project Manager InCar®, tel. +49 203 52-44370, e-mail: oliver.hoffmann@thyssenkrupp.com

InCar® attracts many car fans
TechTruck on world tour

Since the end of 2009, the mobile trade fair stand of ThyssenKrupp has been touring the world. Along the way it has called in at automotive manufacturers, universities, trade fairs and conferences. A number of further events is also planned.

ThyssenKrupp competence in the TechTruck. Project engineer Adrian Paton whets visitors' appetites: "In addition to our InCar® body, into which a number of components and assemblies from our 'box' of solutions have been integrated, the TechTruck also shows off many other project innovations from the areas of body, chassis and powertrain." But this is not just something to look at. "You can pick up the parts and really get a feel for what you are looking at," he emphasizes. A visit is also well worth it for non-specialists. "Our navigator – a large screen suspended in the middle of the TechTruck – uses interactive animations to explain the InCar® project and the ideas which are behind it, so visitors quickly understand what it is we are trying to get across."

The mobile trade fair stand of ThyssenKrupp has been touring the globe since the end of 2009 and has already called in at several OEMs (Original Equipment Manufacturers). It is expected to be on a global tour of automotive manufacturers right through to the fall. The truck always carries a number of experts from the ThyssenKrupp Group. "We don't just put our innovations out there for people to look at, we are also on hand to explain them ourselves," says project engineer Michael Brenneis. The level of detail into which they go depends on the nature of the InCar® presentation and the audience's interest and willingness to engage in discussions. Technical papers are given, workshops are hosted by experts and opinions are exchanged. In the process, it is up to the customers to decide on the main topics that are covered. Explaining the idea behind the project, Paton says: "We have set the ball in motion with our non-proprietary research project, and with InCar® we can now offer our partners a diverse and technologically well-based development kit for the automobile. Our next target is to identify individual solutions with them, to translate this into tailor-made products and then to take these products to production level."

ThyssenKrupp's flagship project is not only being presented to automotive manufacturers and suppliers. Rather, the TechTruck is also stopping at universities and is booked for trade fairs as well as the CAR Symposium in Bochum and EuroCarBody in Bad Nauheim. Explaining the full tour calendar, Brenneis says that, "We want to show off the automotive expertise that we possess in the ThyssenKrupp Group, and we also want to reach students and a wider professional audience."

Christiane Hoch-Baumann

http://incar.thyssenkrupp.com

TechTruck visits the Technical University in Dresden: Adrian Paton (right-hand side) from ThyssenKrupp Steel Europe and Michael Brenneis (left-hand side) from the business area Components Technology work as engineers in the large InCar® team. In Dresden they were the experts on hand to answer all the questions of the interested audience.

Contact: **Adrian Paton,** ThyssenKrupp Steel Europe, tel. +49 203 52-44956, e-mail: adrian.paton@thyssenkrupp.com
Michael Brenneis, business area Components Technology, tel. +49 201 106-53088, e-mail: michael.brenneis@thyssenkrupp.com

Dr. Gerhard Schmidt is the Chief Technical Officer and Vice-President of Global Research at Ford in Dearborn, Michigan, USA. With his around 1,300 scientists and research engineers, he unlocks the secrets of the future technical requirements of Ford's customer base and allows innovative solutions to flow into the company's products and processes.

"InCar® is a very important project for us"

Ford Vice-President Dr. Gerhard Schmidt shares his views

Dr. Schmidt, which core development topics are currently being discussed at Ford, and what does this mean for the material steel?

The increased electrification of the drive systems is playing a key role. However, certainly for the foreseeable future the internal combustion engine will remain the dominant form of drive, and any hybrid concept can only be as efficient as the underlying basic engine. For many years and in almost all segments, Ford has offered more vehicles for alternative fuels than almost any other manufacturer, including bio-ethanol, CNG and autogas. This diversity is something which will continue to set us apart. As a long-term alternative, we are still looking at hydrogen in conjunction with fuel cell systems. Synergies in the development of hybrid and battery-powered electric vehicles will help us on our way to reaching this target.

Alongside hybridization, key technologies for efficient engines include downsizing, direct fuel injection, optimization of the combustion process and efficient charging systems. Further improvements will be achieved through the reduction of driving resistance, for example with the aid of low-resistance tires and aerodynamic modifications.

In terms of safety, passive restraint systems have done a huge amount in the last three decades to reduce the number of road traffic accidents, and the next major step has already been set in motion: Ford will be

offering a whole host of new active safety systems in vehicles in the compact class which have only been available in the luxury segment to date. In addition to the increased use of these active systems, vehicle-to-vehicle and vehicle-to-infrastructure communications will play an increasingly important role.

In terms of materials, the maxim "the lighter the better" applies. As a result, we expect steel materials to be pushed even further – particularly high-strength steels – and to see an increasing mix of materials with light metal alloys and plastics.

Alongside many other innovations, lightweight construction plays a very important role in ThyssenKrupp's InCar® project. How do you view the company's comprehensive research and development initiative?

With InCar®, ThyssenKrupp has initiated a very important pre-development project. We welcome and support such projects on the part of our main development partners. After all, they highlight the potential of new technologies. For us, this acts not only as a benchmark for our own appraisals and research work, but it also gives us an impetus to embark on new paths. In addition, these types of study help us better to understand their technologies in a direct comparison with each other. Here, the relationship between cost and benefits plays the key role. Only if the business case for new technologies is within reach can they reveal enough potential for subsequent use in production vehicles.

Furthermore, it is also important that all issues relating to the new technology are already addressed very carefully in advance. Close cooperation between suppliers and automotive manufacturers, between product development and manufacturing are the critical success factors here. This ensures that there are no "surprises" later on when the developments are implemented in our products and processes. Our steel experts are of course really well informed thanks to the bilateral projects with ThyssenKrupp Steel Europe. However, as the next step it would now be important to validate the findings on Ford vehicles in order to check that the design concepts can be transferred to our products. The results of the study have been very promising. ThyssenKrupp has demonstrated a level of competence which far surpasses normal supplier levels. It is very clear that the globally aligned technology corporation has successfully brought its concentrated expertise to bear on the InCar® study. One particular aspect which I think is ideal about this project is the fact that the individual departments were able to work across different areas and in different technical specialisms.

To date, InCar® has introduced 33 innovations.

Ford welcomes the approach of pre-developing alternative, competing solutions and presenting these solutions as the results of the study. In terms of the production development process, this opens up the opportunity of providing tailor-made solutions for different applications. The validation of costs, technical feasibility and weight saving potential can then be performed on the specific vehicle program.

Do you think any criteria are missing from the project?

For the analysis of the transferability of the InCar® project results, direct cooperation between Ford and ThyssenKrupp is indispensable as the next step. Then, the competences offered by both companies – vehicle-specific expertise on the one side, material-specific expertise on the other – can complement each other perfectly during potential implementation in production. It would also be important to incorporate material-specific problems into the studies, as they generally have a high priority in our day-to-day business. For future projects we would also welcome greater competition between different materials, even though the main focus would understandably remain on steel.

How important is it to actually hold the innovations in your hands?

Computer-based simulation techniques are gaining increasing importance. This helps to reduce the number of hardware iteration loops in the product creation process. However, this does not replace the step of actually manufacturing prototypes using near-to-production tooling. This is still very important and part of the internal technology release processes at Ford. In these processes, the feasibility on the one hand and the entire production process on the other are assessed in terms of technology and cost. Without these release processes no new material technology can be used in the development of vehicles.

A final word on the subject of CO_2. The eco-balance for the InCar® project not only indicates emission reductions during vehicle operation, but also during the manufacturing stage of the components. Do you subscribe to this point of view?

Absolutely. For many years now, the Ford philosophy has been driven by a holistic approach to how we analyze the energy requirements of our products, and this of course also includes the production process. Thanks to a large number of savings measures, we have succeeded in reducing the global CO_2 emissions of our production sites by nearly 40 percent since 2000. The bulk of the electrical energy is sourced from renewable resources like wind power and solar energy. In the logistics area we have been able significantly to reduce CO_2 emissions by increasing the proportion of vehicles and components which are transported on ships and by reducing the proportion of road-based transport. Projects like InCar® can help to reduce CO_2 emissions further throughout the entire product chain.

Thank you for taking the time to talk to us.

The interview was conducted by Bernd Overmaat.

www.ford.de

Contact: **Oliver Hoffmann,** Project Manager InCar®, tel. +49 203 52-44370, e-mail: oliver.hoffmann@thyssenkrupp.com

Lutz Eckstein and Oliver Hoffmann in discussion
Ivory tower meets factory tower

A successful interchange of ideas between science and business: Prof. Dr. Lutz Eckstein from the Institut für Kraftfahrzeuge (Institute for Motor Vehicles, ika) of RWTH Aachen recently met up with InCar® project manager Oliver Hoffmann from ThyssenKrupp Steel Europe. ThyssenKrupp has made a commitment to shift the focus of the company's InCar® project more towards the sub-compact class and to provide the Institute with new concepts for steel bodies and chassis. The Institute in turn checks and verifies the developments – resulting in a highly effective cooperation for the car of the future.

Hoffmann Prof. Dr. Eckstein, as a scientist you adopt a neutral position in the debate about the development of modern cars. What comes to mind when you hear the phrase 'car of the future'? Alongside the design of a car, will the criteria weight, costs, performance and environmental concerns continue to play an important role in the future?

Prof. Eckstein Even more so than now. We elaborate the individual criteria even further depending on the vehicle concept and the field of application. For example, the mass-motorization of the BRIC nations (Brazil, Russia, India and China) is very much driven by economic factors. Here, the costs associated with a vehicle are very much in the foreground. By contrast, in dense urban areas in Europe, lightweight construction plays a very important role, as a lightweight vehicle not only saves fuel, but also allows vehicles to be powered with electric motors which generate no local emissions. Finally, in the USA for example – but also here in Europe – we see a great deal of long-distance overland traffic, and this shifts greater emphasis onto the criteria of crash safety and comfort.

Overall, the importance of mobility in our society will continue to increase. In the process, this mobility is becoming individualized, which means that manufacturers will need to respond even more to the wishes and requirements of individual customers in the future. Starting from a simple electric scooter and going all the way up to heavy-duty commercial vehicles, the vehicles of the future will be more specific and more intelligent than they have been to date. In this process, of course the way in which these identified criteria are weighted will play a decisive role. In the process, the automobile not only widens the personal opportunities of every individual, but it also sets trends because it is such an emotional product.

So the vehicles of the future will be based on an individual and intelligent design philosophy?

Hoffmann Yes. This is a view we share at ThyssenKrupp.

And this is exactly the direction into which we are purposely evolving our InCar® research project: we make important contributions towards reducing the weight and costs of automobiles, adapting them for modern road traffic, minimizing CO_2 emissions and – at the same time – maintaining passive safety levels. InCar® as a whole package of modular solutions is based on the requirements of a medium-sized vehicle with an internal combustion engine, and for automotive manufacturers and suppliers it offers many alternatives for the body and chassis, ranging from cost-effective design and construction to an unrivalled eco-balance, always maintaining excellent crash performance. We offer something for every requirement.

InCar® project manager Oliver Hoffmann from ThyssenKrupp Steel Europe was talking to...

...Prof. Dr. Lutz Eckstein from the Institut für Kraftfahrzeuge (Institute for Motor Vehicles) of the technical university RWTH Aachen about the cars of the future.

Prof. Eckstein Particularly because of this diversity the ThyssenKrupp research project is delivering important findings which we can check and apply with our methods in tests and simulations. The involvement of the Forschungsgesellschaft Kraftfahrwesen Aachen (Motor Vehicle Research Association in Aachen/Germany), with whom the Institute cooperates very closely, was also undoubtedly very fruitful for everyone involved in the project. Beyond this, the findings of the project will provide the automotive industry with invaluable decision-making tools. The advantage of InCar® is that the project is based on verified facts, and that, as a result, the results will remain valid for a long time.

Of course, at the Institut für Kraftfahrzeuge we also look at other concepts and trends relating to the overall mobility of our society. Against the background of ecological performance, focus is increasingly shifting to vehicles in the sub-compact class which are powered with electric motors in inner-urban traffic. In this respect, however, the InCar® research project has not yet provided us with any answers.

As a result, I would like to ask you this, Mr. Hoffmann: What does this trend mean for InCar®? What new requirements are placed on the body and chassis in terms of crash performance and operational stability by the increased electrification of drive systems?

Hoffmann There is no doubt a whole range of new aspects which need to be taken into consideration. For example, we will need to ask ourselves how we can manufacture certain components so that they are even more lightweight and even more compact, both in order to create the necessary space in the vehicle for the electric motor and in order to save enough weight to make the vehicle economical to run.

InCar® should be seen as a comprehensive and wide-ranging fundamental concept which we will specialize more and more as time goes by. Thanks to the fact that our performance specifications are fully validated, we are in a position where the InCar® solutions can also be transferred to other vehicle classes like the sub-compacts. The project lives on, and we will immerse ourselves further into this aspect. Initial preparations have already been put in place with the development of the semi-independent suspension and integrated steering solutions – both of which will help to save space and thus provide a foundation for the integration of further components.

Drive systems are the key area for research. Which concept do you think will ultimately be successful?

Prof. Eckstein Internal combustion engines are the dominant drive system, and this will not change in the foreseeable future. At the moment there is a lot of focus on the development of electric drive systems for short-distance and urban traffic in the sub-compact class. In order to establish mobility based on electric drives and effectively push its development, well-informed and validated findings from InCar® would be desirable.

The aim is to reduce CO_2 emissions in line with the demands placed on automotive manufacturers by the EU in order to mitigate the effects of global climate change. In your eyes, what role does the InCar® project have to play here?

Hoffmann A big one. For example, with its development of modern lightweight steels and powertrains, InCar® is making an important contribution towards a CO_2-reduced automotive future. But it doesn't stop there. We also consider the complete lifecycle of a vehicle in what are called lifecycle analyses, or LCA for short. This starts with environmentally friendly production of our products and finishes with a recycling quota of almost 100 percent.

Prof. Eckstein A vital, holistic approach: the end customer, i.e. the motorist, is generally only interested in the phase in which his or her car is actually used. We have to work together to raise awareness and really drive home the message that, in addition to the actual utilization phase, production and disposal/recycling also play a very important role in the ecological assessment which is so important for all of us. In this context, the material steel undoubtedly plays a leading role. Here again the four criteria mentioned in your opening question come into play. As has been demonstrated quite impressively by ThyssenKrupp with the InCar® project, steel offers many opportunities to save weight and costs in a car without compromising the key areas of crash safety and CO_2 reduction. We will be immersing ourselves further into this topic in the near future.

The discussion was led by Christiane Hoch-Baumann.

www.rwth-aachen.de

Contact: **Oliver Hoffmann,** Project Manager InCar®, tel. +49 203 52-44370, e-mail: oliver.hoffmann@thyssenkrupp.com

NewsFlash

Tailored Orbitals:
new production method
Together with ThyssenKrupp Nirosta, ThyssenKrupp Tailored Blanks has developed a new production method for Tailored Orbitals. With the aid of this new technique, different materials with varying thicknesses and different coatings can be connected with lasers to form tailor-made pipes. This marks the expansion of the Tailored principle to rotationally symmetrical components. The plant produces stainless steel components for auto exhaust systems. In the process, different qualities of stainless steel can be used with pinpoint accuracy according to the prevailing corrosion exposure and heat loads.
www.tailored-blanks.com
www.nirosta.de

45th final of the Jugend forscht research competition for young scientists at ThyssenKrupp in Essen
ThyssenKrupp will be hosting the 45th final of the Jugend forscht research competition for young scientists between May 13 – 16 in Essen, where events will be held in the Exhibition Center and the Philharmonie. The meeting of young researchers, jurors and guests is being hosted for the third time by ThyssenKrupp. Prize money, research internships and study trips await the winners from the seven specialist fields: the working world, biology, chemistry, geosciences and geopolitics, mathematics/computer science, physics and technology. The winners from the regional competitions, who were chosen back in February, are competing at Federal State level in order to qualify for the national finals in May. The Jugend forscht competition is open to young people up to the age of 21. Younger students must at least be in fourth grade in the year of application. University students are only allowed to take part during the first year of their course.
www.jugend-forscht.de

Insulating doors:
same brand, same quality
ThyssenKrupp Bausysteme has sold its insulating doors production facility in Pansdorf in Schleswig Holstein/Germany. The purchaser is the newly founded company ems Isoliertüren GmbH. The owner and CEO of the new company is Wilhelm Dück, who previously worked as the plant manager at the Pansdorf site. As before, the doors will be sold under the brand name ems-isolier®, which is also used for the corresponding cold room elements from ThyssenKrupp Bausysteme for cold room construction. "The new ownership structure is ideally matched to the requirements of the doors market with its predominant focus on medium-sized companies," explains Horst Dieter Schulz, CEO of ThyssenKrupp Bausysteme.
http://construction.thyssenkrupp-steel-europe.com

Ruhr 2010: European Capital of Culture
Industry, culture and nature – this and much more is on offer this year from the European Capital of Culture. Representing of a total of 53 towns and cities in the Ruhr area, Essen has been chosen to be the European Capital of Culture for 2010. Under the banner "Change through Culture – Culture through Change" there will be plenty to see, hear and discover every day. With a total population of 5.3 million people from 170 nations, the diversity of the region is matched by the spread of activities on offer from Bochum to Voerde. The title "Capital of Culture" has been awarded since 1985. Not only is intended to emphasize the richness, diversity and common ground of the cultural heritage of Europe, but the organizers also hope that it will improve Europe's citizens' understanding for each other. Pécs in Hungary and Istanbul in Turkey are also Cultural Capitals of Europe.
www.essen-fuer-das-ruhrgebiet.ruhr2010.de

CES: Center for Electrochemical Sciences
Together with the government of the state of North Rhine-Westphalia, ThyssenKrupp Steel Europe is supporting the Center for Electrochemical Sciences (CES) at the Ruhr University in Bochum. The plans are for the CES to evolve into a central, international research institute for electrochemistry in North Rhine-Westphalia, and for it also to work together with the Max Planck Institute for Iron Research. The center will focus on a discipline which is widely seen as the foundation for numerous high-tech applications, and its research findings will benefit the energy industry, the chemical industry and users in the fields of surface finishing, microsystems, diagnostics and environmental monitoring. The CES, which is being funded with a total of €3.75 million, will be headed by Prof. Dr. Wolfgang Schuhmann.
www.ruhr-uni-bochum.de/ces

Steel…and all that
This was the motto of the employer mini-fair at the University of Duisburg-Essen, during which students were given the chance to meet and speak to potential employers. The hosts – Hüttenwerke Krupp Mannesmann (HKM), ThyssenKrupp Steel Europe and the Förderverein Ingenieurwissenschaften (university development association for engineering sciences) – were delighted with the huge response. Around 90 participants from industry and science discussed new ways of cooperation for the university and companies in the region. No stone was left unturned, with numerous presentations covering all aspects of steel and an interesting podium discussion with Dr. Herbert Eichelkraut (member of the executive board at HKM), Dr. Ulrich Jaroni (member of the Executive Board at ThyssenKrupp Steel Europe), Dr. Wolf-Eberhard Reiff (chairman of the development association) and Prof. Dr. Dieter Schramm (Dean of the Faculty of Engineering Sciences). During the last two years, the employer mini-fair has established itself as a main event in the regional business and university calendar. It focuses ideas and possibilities in order to counter the shortage of highly qualified specialists in engineering and the natural sciences. With some success: the exchange between teaching, research and business practice has already resulted in plenty of synergies and new cooperative ventures.

PLADUR® ZM Premium:
Steel as a beauty treatment for buildings

The gleaming facade of the Yacht Club Hotel in Kiel, Germany is made of the new material PLADUR® ZM Premium. ThyssenKrupp Steel Europe's Color/Construction Unit has further refined its successful product PLADUR® ZM, an organic-coated thin sheet material. The results are really worth looking at: with a zinc-magnesium coating of 160 grams per square meter, the already good anti-corrosion protection of PLADUR® has been improved further still. At the same time, the weight of the coating has been reduced by an incredible 40 percent. This unique combination – i.e. the reduction in the quantity of zinc-magnesium which is applied in the coating and the improvements achieved in terms of anti-corrosion protection – will help to ensure that zinc, a scarce and expensive resource, can be used even more sparingly in the future.

The new product is particularly well-suited to construction elements made of steel – particularly for flagship building projects where appearance is important. A special paint system comprising an undercoat and several topcoats is applied to the zinc-magnesium layer. The layers of the coating are coordinated with each other so that they form a lightly structured surface with a pearlescent metallic appearance. Together, the zinc-magnesium coating and the four layers of paint ensure that the high-quality character of the surface is preserved in the long term – without wind, weather or other external influences being able to affect the quality of the surface finish.

http://construction.thyssenkrupp-steel-europe.com

Contact: **Dr. Erich Nabbefeld-Arnold,** Color/Construction Unit, tel. +49 2732 599-4621, e-mail: erich.nabbefeld-arnold@thyssenkrupp.com

"Competition is really tough in the industry"

Nobel Peace Prize winner Adil Najam speaks about the climate summit

After the climate summit in Copenhagen, German companies fear that their ability to compete has been compromised more than ever before. Whilst they devote major resources into climate protection, a lack of equivalent requirements in other countries means that those other countries' industries are not burdened in the same way with additional costs for environmental measures. In conversation with compact, the Nobel Peace Prize winner and lead author of the fourth progress report of the Intergovernmental Panel on Climate Change (IPCC) stresses the long-term competitive advantages for the industry which are associated with a shift in outlook towards greater concern for the environment. Adil Najam also explains how the process will continue: environment ministers are due to meet again in Bonn as early as May, before the next global climate conference is hosted in December in Cancun, Mexico.

Prof. Najam, the Copenhagen climate summit is widely seen as having been a failure with respect to limiting the greenhouse effect. Do you see it the same way?

While Copenhagen was clearly not a success, I am not sure if it was necessarily a failure. I think that two important things happened in Copenhagen. The first is that, having clearly been out of the game for some time, the USA now definitely wants to take the lead in relation to climate change. If you are going to solve the most global of all global issues, you need the USA to be fully engaged. This is what happened in Copenhagen. Secondly I think that China is now in the game together with India and Brazil. They are now adopting a different attitude towards climate issues; they are no longer sitting aside and saying that 'as developing countries we have no role and no responsibility'. They are willing to take responsibility – although they are not yet willing to take on the timetables and targets that many other countries would want them to. But the fact is that 1.3 billion Chinese and 1 billion Indians will play a pivotal role when it comes to mitigating the effects of climate change. So in this sense Copenhagen has made a difference.

The large nations have committed themselves to limiting the increase in global average temperature to 2 °C. When does there have to be the turning point concerning a stabilization of global emissions?

Right now it seems that those commitments are being postponed. The climate first has to be stabilized before the temperature hopefully starts to come down at some point. The bad news from Copenhagen is that we did not define a target which is required in order to meet this kind of stabilization. We now have to push to ensure that the voluntary targets adopted by the USA, China and others are actually met.

The point about climate change is that we do not have so much time left. If we think of it as a long-term issue, failure to act today will progressively limit our ability to act more and more every day. If by the time we meet in Mexico we still don't know how to meet our targets then we will be in serious trouble.

What should governments do now?

Governments could be engaged on all kinds of levels – on the national level, the multinational level and even on the level of the cities. They have to turn their international commitments into national legislation. We do concentrate a great deal on what we say on the international stage, but this is not matched by the level of focus on what we actually do on a national level.

German companies fear becoming less competitive because they do significantly more to protect the climate than industry in other countries.

This is a legitimate concern. However, the key issue is that companies in other countries are also beginning to see things in exactly the same way. Even companies in the USA and some of the world's leading companies are now complaining that if they take these measures for environmental protection while other companies don't, this will hurt them competitively. They are pushing governments now for more clarity. They want to know where they stand before they make their investments.

Is there such a thing as a "green movement" in industry as well?

Yes, of course. Companies are starting to realize that whole new branches of industry are being born out of energy and climate issues, and that those who take a lead here will have a competitive advantage down the line. If a company develops new technology, although this might mean additional costs today, in the long term it could enable that company to capture new markets. Particularly in the automotive industry we can see that there is a major technology race going on. Germany and the US realize that, as does Japan which currently has a certain advantage through hybrid engine technology.

The Chinese take the same view. They all want to make the first move and take the lead in the markets. So the companies can see both sides – that the environmental

Adil Najam, a US-American born in Pakistan, is Professor for Global Public Policy, International Relations, Geography and Environment at Boston University in Massachusetts, USA. He also serves as the Director of the local Pardee Center for the Study of Longer-Range Future. Prof. Najam is a leading figure on the Intergovernmental Panel on Climate Change (IPCC), work for which the IPCC was awarded the 2007 Nobel Peace Prize along with former US Vice-President Al Gore. In all, the IPCC has so far published four extensive reports. In 2008 Adil Najam was nominated by the United Nations Secretary General to serve on the United Nations Committee on Development Policy. Being an expert in international diplomacy, he is also involved in the efforts aimed at reconciling rival groups in Pakistan. To promote the peaceful exchange of opinions, he founded the Internet blog Pakistaniat.com. Last year he received the Star of Excellence Award, Pakistan's highest civil award, for his commitment.

requirements might be more costly, but that they will be profitable in the long run.

Some observers argue that – because the multilateral process in Copenhagen was not very successful – we should go back to the national level and ask every country to achieve the standards it has already agreed upon. Would such a "coalition of the willing" be a more realistic approach?

Indeed one of my fears after Copenhagen is that people might give up the multilateral effort, that they could abandon the UN approach and do things either just at a national level or in small groups of a few larger countries. I personally do not think that this is a good idea. The greenhouse effect is a global problem and we have to recognize that really all countries must get involved. The question is how this can be achieved – and I think we can differentiate here.

What does that mean for the different countries?

There are certain countries which represent larger markets and have a particularly important responsibility. A second set of countries are countries whose per capita emissions may be lower, but whose total emissions are very large and growing very quickly – e.g. India, China and Brazil. I think they have to take on a different set of responsibilities. Another set of countries contributes very little directly in terms of carbon emissions but will be worst impacted by the consequences, e.g. as a result of rises in sea level. They need to be helped in a different way. The biggest challenge is to find the most suitable steps for adapting to these different starting situations.

The Intergovernmental Panel on Climate Change (IPCC) is working on its fifth assessment report, which is due to be published in 2014. The latest report is currently under increased scrutiny because of mistakes that were made in assessing the consequences relating to global warming. What can be done to prevent such mistakes in future – and what are your guidelines for the next report?

We have to be clear that these recent controversies have not changed the basic science of climate change as we know it, and they have also not altered the basic findings of that science. As the IPCC is the focus of so much attention, diligence and control over the process are absolutely vital. The next report will have to tell different countries what is happening, what needs to be done and where they could learn from each other. But let us be honest: the problem of climate change cannot be resolved through reports and conferences. As long as we keep shifting blame and responsibility onto the scientific community or onto politicians, we are neglecting our personal responsibility. Reports, conferences and agreements are important, but the problems caused by climate change are going to be solved by actual actions taken by all the people, like you and me, in our professional and personal lives.

Thank you for taking the time to talk to us.

The interview was conducted by business journalist Dr. Bettina Wieß


POTAIN
POTAIN
GROVE
GROVE

Heavy plate highlights for the major event in Munich

bauma 2010 trade fair

The international construction machinery industry is coming together once again in Munich. The ThyssenKrupp Steel Europe Heavy Plate Unit will be represented with its large product families XAR®, N-A-XTRA® and XABO®.

Munich will be hosting a top event: bauma 2010 opens its gates for seven days from April 19 – 25 and will tempt visitors with the choice of India as the partner country and numerous superlatives among the exhibits. The international trade fair for construction machinery, building material machines, mining machines, construction vehicles and construction equipment is already by some distance the largest of its kind. The numbers prove that no other trade fair in the industry can match the event in Munich in terms of the range of exhibits on offer and the international outlook of the event. True to its motto – "The Peak of Excellence" – the world-leading trade fair has this year gone one bigger: more floor space, more exhibitors – and more visitors are expected to attend.

In total, more than 3,000 international companies will be showing off their innovations, products and services to decision makers and potential customers from all around the world on a combined floor space of nearly half a million square meters. As the response of exhibitors and visitors alike to the new area of mining machines was very positive, it has now become a fixed part of the fair's program.

The heavy plate specialists from ThyssenKrupp Steel Europe also appreciate the advantages offered by bauma and the new focus of attention on mining machinery: "The increase in the number of international visitors provides us with a platform for a unique and intensive dialog with our customers," explains Katja Schenkmann, remembering the 155,000 people from 191 countries who attended bauma 2007. "Our intelligent solutions in the field of mining machinery, among others, guarantee potential applications all around the world and numerous advantages: not only can they withstand extreme climatic conditions, but they also offer exceptional resistance to wear and are a real opportunity for significantly reducing maintenance and repair costs."

The secret behind these components is the material from which they are made: the wear-resistant, high-strength special structural steels XAR®, N-A-XTRA® and XABO®. "Innovation of the highest quality," says Schenkmann – with more than a passing reference to the motto of the trade fair. "This is our response to the global growth in the mining sector."

If you are interested in finding out more about the ThyssenKrupp Steel Europe Heavy Plate Unit and its trade fair highlights, why not pay a visit to our team at bauma in Munich, where you can find us in hall A6, booth 429.

Daria Szygalski

www.bauma.de

Contact: **Katja Schenkmann,** Heavy Plate Unit, tel. +49 203 52-75671, e-mail: katja.schenkmann@thyssenkrupp.com
Rolf-Jürgen Neumann, Strategic Marketing/Support, tel. +49 203 52-41003, e-mail: rolf-juergen.neumann@thyssenkrupp.com

“The economic crisis forced us into a rethink”

The heavy plate sector is now much more diverse and innovative

Unfortunately we are not completely out of the woods yet. Nonetheless, after a crisis in demand which lasted a good 15 months, the Heavy Plate Unit of ThyssenKrupp Steel Europe is starting to look ahead with renewed optimism. In conversation with compact, the two Senior Sales Managers Roland Riesbeck and Mario Klatt reveal how the initial positive signs from consumer groups and from the trade offer further proof that the situation is improving.

Mr. Riesbeck, “THE PEAK OF EXCELLENCE” is the motto of this year’s bauma trade fair. Which measures are helping to propel your heavy plate products further forward?

Riesbeck Our products have always performed very well in terms of quality. We have used the long and difficult months we have just been through to improve our delivery performance further as well. Internally we are currently working on the optimization of existing processes and systems in order to shorten delivery lead times. In addition, we are also going to increase the availability of our heavy plate significantly – particularly for export markets – through external logistics solutions.

bauma is well known in the industry as an international platform for innovations. What new products will you be presenting to customers this year?

Riesbeck One of the innovations we will be introducing at bauma is our XAR® 450 Plus steel plate. With an increase in average hardness of 15 HB (Brinell hardness), we have been able to extend further the service life for applications in which wear is a key

The Heavy Plate Senior Sales Managers Roland Riesbek (left-hand side, responsible for exports) and Mario Klatt (domestic) agree: “Things are slowly starting to improve again.”

factor. Of course, the familiar excellent machining and working properties of our XAR® range of abrasion resistant steels will still be preserved.

In addition, this year we will also be presenting the high-strength and wear-resistant steel strips in the PAS 700 and XAR® 400 MS product families to our customers. Here, we are aiming to have a wider range of thicknesses and widths available which will offer our customers new alternatives to the steels currently in use and which will allow them to optimize cutting plans.

Klatt In this context we should also draw your attention to our new investments. Since December 2009 a state-of-the-art high-pressure descaling plant with an operating pressure of 320 bar has been reliably removing the persistent and difficult-to-remove scales from the slabs. This plant, which is the most powerful plant certainly among the European four-high plants, is particularly advantageous for our nickel-alloyed steels, but also for improving the surface finish of all ThyssenKrupp heavy plate materials.

That is very interesting. What developments are you currently working on?

Klatt Among other things, our research and development department in Duisburg-Hüttenheim is developing processes for heavy plate grades which are thermo-mechanically rolled and offer significant improvements in terms of weldability compared to the normalized steels used to date. Ultimate targets include offshore applications, bridge construction and – of course – the construction machinery sector.

That sounds promising.

Klatt It is! Our R&D department is securing a lead for us in terms of expertise, and in doing so it is improving our sales opportunities and shortening our product innovation cycles. All in all, this allows us to respond more quickly to market requirements. This is exactly how we will be presenting ourselves at bauma.

Mr. Riesbeck, this year's partner country for the trade fair is India. Have you also got any projects up and running there?

Riesbeck Yes. The development of the Indian market is one of our strategic goals. We are working on this together with our partner Union Stahl, and we have set up UnionSteel Associates in Mumbai as a regional sales channel which will represent our sales interests in India. We aim to increase our market presence here in the future. For example, we will be showing off our range of products and services at next year's BC India 2011 trade fair.

And what about other export markets?

Riesbeck We aim to develop them as well. Here, we are working very closely with the export departments of the dedicated trading chain ThyssenKrupp Materials. ThyssenKrupp Mannex plays a special role in this context, and we are currently planning and updating a number of highly interesting business projects with them.

Thank you for taking the time to talk to us.

The interview was conducted by Christiane Hoch-Baumann.

The world's first high-pressure descaling plant for heavy plate cost €4.5 million and runs with an operating pressure of 320 bar. The advantage for customers: top quality plate surfaces.

Contact: **Katja Schenkmann,** Heavy Plate Unit, tel. +49 203 52-75671, e-mail: katja.schenkmann@thyssenkrupp.com

“We supply quality without compromise”
Herzog Coilex: more than a good cut

Sandwiched between the River Neckar and vineyards, Herzog Coilex is right in the middle of one of the highest-performing economic regions in Germany. A steel service center with a fine tradition, for nearly 40 years this Stuttgart-based company has offered its customers highest grade slit strip and cut blanks, as well as a full range of associated services.

“We made a virtue out of necessity,” explains CEO Hans-Peter Pfaff, alluding to the cramped location in the port of Stuttgart. In the production hall, three slitting machines and one cut-to-length machine jostle for space with the packaging lines. “In recent years we have made investments to optimize technology and logistics. The resulting short transport distances have allowed us to speed up production times significantly.” Expressed in numbers, this amounts to a total of 110 employees, 60 of whom work in production, and an output of 1,000 tonnes of steel per day – the equivalent of 50 fully-laden trucks. “During the 2007/2008 period, when business was booming, we dispatched 240,000 tonnes to our customers, but today we are still battling the effects of the economic crisis, which hit the 2008/2009 fiscal year with losses of 30 percent.” However, Pfaff is optimistic: “Our order books started to recover last October, and we have been back on a good level for the last few months. We are now building on this progress.”

With good cause: from its location in Stuttgart, Herzog Coilex impresses customers not only with a high degree of flexibility and exceptionally high quality, but also with a positive working environment and excellent customer contacts. “We fulfill almost every request within 24 hours,” is how Pfaff explains the company’s philosophy. “This is made possible not just by our management system, which is certified to the standards ISO 9001 and ISO/TS 16949, our extensive stockholdings of semifinished products, our sophisticated logistics system and our extremely capable range of vehicles, but also by the way we work with each other in an atmosphere based on trust, where everyone can always rely on everybody else.” On average, around 20,000 tonnes of coils are stored in the semifinished materials storage hall, which has direct connections to the River Neckar and to the German railway network. Around 70 percent of the diverse range of flat steels comes from ThyssenKrupp Steel Europe in Duisburg alone. “That in itself really vouches for first-class quality,” stresses Pfaff.

The employees of the steel service center in Baden-Württemberg put their heart and soul into Herzog Coilex – and this is something they are particularly proud of. “For us, the people and of course our customers come first,” explains Hans Steczka, technical customer service consultant, when talking about the long-standing close personal contact which is maintained to the company’s customers. “We are in constant communication - not just over the telephone, but also directly on-site.” The core clientele of the service center includes automotive manufacturers and suppliers, which are responsible for the bulk of the business, along with companies in the fur-

Contact: **Hans-Ernst Steczka,** Herzog Coilex, tel. +49 711 3207-257, e-mail: hans-ernst.steczka@thyssenkrupp.com
Roger Hannig, Industrial Sales, tel. +49 203 52-41154, e-mail: roger.hannig@thyssenkrupp.com

Left The well-stocked semifinished goods warehouse guarantees tailored deliveries within 24 hours.

Middle Slit strip is a specialty of Herzog Coilex. Customers have access to a wide range of products and large prefabrication capacity.

Right Short distances, perfectly organized logistics structures and a highly capable range of vehicles add up to a comprehensive service package for customers in the field of steel materials.

niture, fittings, electrical and construction industries.

The intensive relationship with customers is supported through close dialog with ThyssenKrupp Steel Europe, in special cases with the technical customer services consultant Roger Hannig from the Industrial Sales department. Hannig: "Our daily agenda of subjects we talk about includes everything from quality issues and innovative developments to feasibility studies. We leave no stone unturned and always strive towards cost-neutral solutions." In doing so, the company always keeps a clear focus on the interests of its customers. Pfaff: "This is a clear bonus. As a link between the steel producer and the processor, we offer our customers a comprehensive range of products and services under the umbrella of the ThyssenKrupp Stahl-Service-Center Group. In the process, we can fall back on concentrated expertise as well as materials and prefabrication competence. This allows us to stand side by side with our customers as a strong partner for new developments or problems. This is a key competitive advantage which means that our customers really are in the best hands with us."

Christiane Hoch-Baumann

www.herzog-coilex.de

Herzog Coilex CEO Hans-Peter Pfaff (middle), technical customer support consultant Hans-Ernst Steczka (left) and Roger Hannig, technical customer support consultant at semi-finished materials supplier ThyssenKrupp Steel Europe, are a well-oiled team which makes sure that every last customer wish is met.

Steel needs a concept

A Europe-wide network guarantees the best connections and the highest flexibility in terms of tailored solutions in all aspects of the material 'steel'. The company processes hot-rolled strip, cold-rolled strip and coated strip, as well as electrical steel, tin plate and stainless steel. Depending on customers' requirements, slit strips are prefabricated in thicknesses ranging from 0.25 to 16 mm and cut into sheets or trapezoids in thicknesses of 0.4 to 5 mm. Integrated in the new business area Materials Services, Herzog Coilex currently operates from the site in Stuttgart and supplies customers in southern Germany, Austria, Switzerland and France.

The **JadeWeserPort** is Germany's only deep water port. The largest container ships from all around the world will soon be able to berth here. For this purpose the port will offer four berths for ships with a length of up to 430 m and 18 container bridges with an overhang of 62 m. Key terminal data:
Wharf length: 1,725 m
Terminal depth: 650 m
Water depth: 18 m below chart datum
Turning area: 700 m
Handling capacity: 2.7 million TEUs
Investment: €950 million

With the JadeWeserPort at the Jade shipping channel in Wilhelmshaven, a major project is under construction which will invigorate the North West of Germany as a region of economic expansion. Port operations are already due to start next year, with the first ships with a capacity of more than 10,000 TEU containers (TEU = twenty-foot equivalent unit) berthing. The full port is due to be completed by 2012, at which point it is due to handle 2.7 million containers per year.

By comparison: around 8.9 million TEU are handled every year in Hamburg, with the equivalent figure for Bremerhaven around 4.9 million. These figures are set to rise. The international flow of goods is increasingly dominated by ever larger ships. One of the reasons for this is the powerful momentum coming from globalization, the European Union, the expansion of the EU to the east and the economic upturn in Russia. Experts believe that the volumes handled by container shipping routes will double during the next ten years.

The advantages of Germany's sole deep water port are obvious: "With an available shipping channel depth of 18 m below chart datum, it will be perfect for large container vessels," explains Axel Kluth, CEO of JadeWeserPort Realisierungs GmbH & Co. KG, highlighting the importance of the new port. "Even ships with a length of up to 430 m and a draft of up to 16.50 m will be able to call at the JadeWeserPort at any tide and without any waiting time." Another positive aspect: the container terminal, which will cover an area of some 130 hectares, will link up directly with an even larger logistics zone including a goods transport centre with good connections to all of the centers of commerce in Europe and the rest of the world.

Looking back: the first pile driven at the end of 2008 officially marked the successful cooperation between the JadeWeserPort, pipe specialist Bender-Ferndorf from the region

The port welcomes the new generation of ships

JadeWeserPort: A container terminal right on the edge of the deep shipping channel

of Siegerland and semifinished materials supplier ThyssenKrupp Steel Europe. "We supplied exactly 2,937 pipes for the construction of the port," explains Bender-Ferndorf sales director Udo Weinem. The pipes from Bender-Ferndorf offer unusually thick walls at lengths of up to 36 meters, but remain relatively flexible and hence allow extremely stable and long-serving structures to be built. They are driven into the ground like anchors and become securely fixed in place. In Venice for example they have been successfully protecting the city for many years against the risk of water erosion. In Wilhelmshaven they will provide the JadeWeserPort with an absolutely reliable and safe footing. "If we were to lay the pipes end-to-end, it would add up to almost 62 km." Quite something. "To date we have driven more than 28,000 tonnes of steel pipes into the ground, some of which were more than 43 m long. They will offer a secure footing for the walls of the port and a stable subsurface for the extended wharfage."

One of the secrets of the success of the pipes from Bender-Ferndorf is the semi-finished material which goes into them. "In this case we supplied our customer with 31,500 tonnes of hot-rolled strip in coils with thicknesses ranging from 17.5 to 25 mm which were made from a specially modified type of steel," explains Hendrik Langenbach from ThyssenKrupp Steel Europe, alluding to the steel quality S355J2H which is used for hollow profiles and pipes with particularly high requirements. At the company's plant in the region of Siegerland, the coils were then continuously welded using the spiral seam method and delivered to Bremerhaven, where they were then first welded together into the required lengths by subcontractors and coated with suitable anti-corrosion protection, before they could then be finally placed in the Jade shipping channel as dolphin pipes and foundation pipes.

The JadeWeserPort is very happy with the progress and quality of the construction. This is also a result of the good cooperation between Bender-Ferndorf and ThyssenKrupp Steel Europe, which dates back decades: "We see our customer Bender-Ferndorf as an extended workbench which allows us to test and keep improving steel grades for the highly specialized pipe market," stresses Langenbach. The end customer – in this case the JadeWeserPort – benefits from this: "The supplied pipes are of a consistently high quality and thus form a solid basis for the life of our port."

Christiane Hoch-Baumann

www.bender-ferndorf.de
www.jadeweserport.de

Contact: **Hendrik Langenbach,** Head of Technical Customer Consultancy and Industrial Sales, tel. +49 203 52-41170, e-mail: hendrik.langenbach@thyssenkrupp.de
Udo Weinem, Bender-Ferndorf, tel. +49 2732 552-146, e-mail: udo.weinem@bender-ferndorf.de
André Heim, JadeWeserPort, tel. +49 4421 40980-60, e-mail: a.heim@jadeweserport.de

New steel grades for complex components

Medium-wide strip from Hoesch Hohenlimburg

Barbara Timm of Hoesch Hohenlimburg's technical customer support service knows all about the many advantages of the new steel grades for complex shaped precision blanked and formed parts; the material has already been used with success in seat adjuster units.

Hoesch Hohenlimburg has added some new, microalloyed steel grades to its product portfolio. These not only save weight but are also ideal for use in automotive production and the components industry for manufacturing components and parts with complex shapes.

HSM 550 HD, HSM 600 HD, HSM 650 HD and HSM 700 HD – these are the names of the four new members of the microalloyed fine-grained steel grades family. "HSM stands for Hoesch Special structural steels Microalloyed," explains Barbara Timm of Hoesch Hohenlimburg's technical customer support service. "HD is the abbreviation for "high ductility," in other words having excellent formability." The numbers in the product designations, she continues, "refer to the respective minimum tensile yield strength given in megapascals (MPa)."; The new materials have levels of up to 900 MPa.

"Most of the high-strength steel grades available today are formed via multiphase steels," she explains, "but we have based our HD grades on a single-phase concept." The materials developed by the North Rhine-Westphalian company owe their first-class forming properties to a pearlite-free, fine-grained microstructure. What sets the chemical composition of these new steels apart from that of standard steel grades is its significantly lower carbon content. Their high tensile strength results from extremely finely distributed precipitations in the nano range rather than from harder structural phases.

These HD grades are already being used by car manufacturers and automotive suppliers. "Our customers are employing them with great success in the manufacture of complex shaped, precision blanked and formed parts," Timm tells us. One example in this context is the seat adjuster, in which the newly developed materials show what they are capable of, above all in the form of the finely contoured toothed rings which have to withstand torques of around 2000 Newtonmeters. "Another of the many advantages of these grades lies in the weight reduction they make possible." The high strength of the materials means that the components can be given a more thin-walled form, and what is more, no strength-enhancing heat treatment is required any longer, as is otherwise the case with C-steels.

"It goes without saying that we supply the innovative new materials as Hohenlimburg medium-wide strip – which is the guarantee for absolute premium quality," she emphasizes. Medium-wide strip is hot strip in widths up to 685 mm and thicknesses ranging between 1.5 and 16 mm. A further distinguishing feature is its exceptionally tight cold strip-like thickness tolerances and superlative surface quality.

Editorial team

www.hoesch-hohenlimburg.de

Contact: **Gerd Deckert,** Hoesch Hohenlimburg, tel. +49 2334 91-2161, e-mail: gerd.deckert@thyssenkrupp.com

New shell construction process saves costs and weight

Advantages for the automotive industry

A team of ThyssenKrupp Steel Europe engineers focused its attentions on the shell construction process in the car building sector. The name of the project: Optischale.

Lighter, better, less expensive. "Our objective was to optimize the shell construction process," explains Dr. Lothar Patberg, head of the 'Optischale' project. To this end, a variety of materials were tested and all production phases closely scrutinized, the reason being that, thanks to new developments, the established technology – with around 98 percent of all automobile bodies being built from formed sheet metal parts, in other words shells – offers a lot of potential in terms of saving weight and costs. With this in mind, ThyssenKrupp Steel Europe is investing in and producing new materials with exceptional strength and good formability at the same time. "In the interests of helping simplify our customers' development process with our innovations, we have significantly enhanced our simulation possibilities and improved their precision," Mr. Patberg tells us.

However, his team's attentions were not only focused on highest-strength steels. "We also devoted a lot of work to the topic of steel composite materials," continues subproject manager Erik Hilfrich, "and, for example, we used this new material to build the door of a production limousine as prototype." The result is quite impressive: the special sandwich materials enable a 20-percent saving in weight – without compromising on stability, strength and crash safety.

The team also made significant advances where trimming is concerned: "The punching of high-strength steels is a highly demanding process," says subproject manager Stefan Wischmann. "With this in mind, we studied laser cutting technologies and their effects on the production technique." The result: blanks for pressed parts and semi-finished steel products can be manufactured far more cost-effectively.

The results of the team's work are now being put into practice. "Our work forms the basis for providing our customers with optimal advice and for developing materials, processing methods and products," summarizes Mr. Patberg enthusiastically.

Daria Szygalski

From left: Stefan Wischmann, Dr. Lothar Patberg (project manager), and Erik Hilfrich, all of ThyssenKrupp Steel Europe, have worked together with other colleagues on a total of 13 subprojects relating to shell construction. One example is their use of steel composite materials to build the door of a production limousine as prototype – and thus make enormous savings in terms of weight.

Contact: **Dr. Lothar Patberg,** 'Optischale' project head, tel. +49 203 52-45558, e-mail: lothar.patberg@thyssenkrupp.com

Blossoming city for research scientists, leading thinkers and the talented
Dresden University of Technology (DUT)

The Dresden University of Technology has had a cooperation arrangement – i.e. as a cooperating university – with ThyssenKrupp AG since 2001. The institution is a source of talented young people for ThyssenKrupp Steel Europe as well, and the company correspondingly fosters these employees of the future. And the city itself offers a uniquely concentrated research environment, and this overall situation enables a lively and fruitful knowledge transfer between the spheres of research, teaching and industry.

Dresden is a city with a long and illustrious history – with 800 years of culture reflected in the world-renowned ensemble comprising the Semper Opera House (Semperoper), the Church of our Lady (Frauenkirche), Dresden Castle (Residenzschloss), the Brühlsche Terrasse and the Zwinger Palace complex. The promenades along the Elbe River are a further firmly established attraction. However, the capital of the Federal State of Saxony also has much to offer on the academic front, with forward looking scientific and technical institutions, in particular the Dresden University of Technology (DUT for short), twelve Fraunhofer facilities, three Leibnitz and three Max Planck institutes – soon to be joined by a Helmholtz center in 2011. Against this background, the phrase "blossoming landscapes in the East" as famously uttered by former chancellor Helmut Kohl certainly applies to Dresden as center of scientific and technological activity.

Focal points of activity here include R&D disciplines which are also of relevance for ThyssenKrupp Steel Europe, for which reason the DUT is one of the company's seven cooperation universities – with the interest focused on interesting young engineering talents and their encouragement. Dresden is also home to a huge number of non-university high-tech institutes, and there is no other city or town elsewhere in Germany with as many as there are here. "This is a unique characteristic of our location," says Professor Werner Hufenbach (director of the ILK, i.e. DUT's Institute for Lightweight Construction and Plastic Technology), not without pride. Prof. Hufenbach supervises the cooperation activities with ThyssenKrupp from the DUT side.

The high degree and concentration of competence in Dresden is the result of a new path taken after Germany's reunification, explains the ILK's director. "The heads of the non-university institutes also research

TECHNISCHE UNIVERSITÄT DRESDEN

and teach at the DUT – with the advantage that this has led in a natural way to an intensive interdisciplinary cooperation platform, and all of the activities involved take place without bureaucratic complications and efficiently." The benefits from ThyssenKrupp's point of view are expanded by the fact that the work at several of the Dresden-based Fraunhofer institutes is explicitly focused on fields which are of key importance to the company – namely production technology and applied material research, material and beam technology, machine tools and forming technologies. This in turn means that besides the university cooperation there are also contract research activities in Dresden.

First commenced in December 2001, the TDU-ThyssenKrupp cooperation is aimed at fostering and encouraging young engineers of the future. No less than 46 percent of the around 36,000 students at the TDU have dedicated themselves to engineering and twelve percent to the natural sciences – making a total of almost 60 percent in all. This reflects the huge potential in terms of talented engineering graduates. The underlying objective is to gain the interest of the students for a career with the company, to which end activities are organized and held at the university and in the company, for example research forums, contact-fostering events, application and job interview training, business simulation games and factory tours. Besides all this, the company also enables internships, degree dissertations and projects, and, not least, ThyssenKrupp Steel Europe offers an annual award which especially serves to raise the company's profile among the upper ten percent of students in particularly relevant subjects. This award is conferred for an outstanding intermediate diploma in mechanical engineering, metallurgy, materials technology, economics/business management and industrial engineering, and is endowed with a monthly grant of 250 Euros; in addition, the company puts a member of its executive staff as mentor at the award winner's side until the end of the standard period of study. "These activities all open up extremely favorable opportunities for our young academic talent," enthuses Mr. Hufenbach. "During their studies they can, for example, acquaint themselves with the practical aspects of a corporate group and gain an insight into its structure. Besides this, our students have realistic chances of being able to join ThyssenKrupp on their graduation. These opportunities and the possibility of added assistance during their studies provides enormous motivation for a great many of our students."

Like, for example, Sebastian Held, a 25-year-old student of economic sciences in his fourth semester. Born in Paderborn, he had completed a vocational training course with a medium-sized timber company as industrial clerk before commencing his studies. He regards the opportunities offered by ThyssenKrupp as "really brilliant, because they make for specific career guidance and perspectives." Last summer the student undertook an internship in ThyssenKrupp Steel Europe's Controlling department in Duisburg, and, having just completed a further one in the Logistics department, likewise in Duisburg, he enthuses about the next opportunity to be opened by ThyssenKrupp Steel Europe in terms of further training: in his summer semester he will be undertaking a two-month internship with Tagal, a joint venture company located in Dalian in north-eastern China.

This internship came about at a "Get Together" – likewise a cooperation event – with executive personnel, in the course of which Dr. Peter Biele of ThyssenKrupp Electrical Steel's Executive Board stressed how important it is for economists to differentiate themselves from the mass of their many colleagues in this sphere of activity. "This gave me the motivation to go to China. Professional contact with and working within the framework of a foreign culture while enhancing my command of English will have a positive impact on my development and also make valuable additions to my CV." No matter how energetically and diligently Sebastian Held goes about his studies – he certainly also appreciates the cultural benefits Dresden has on offer. It's simply the place to be.

Ulrike Wirtz, freelance journalist

www.tu-dresden.de

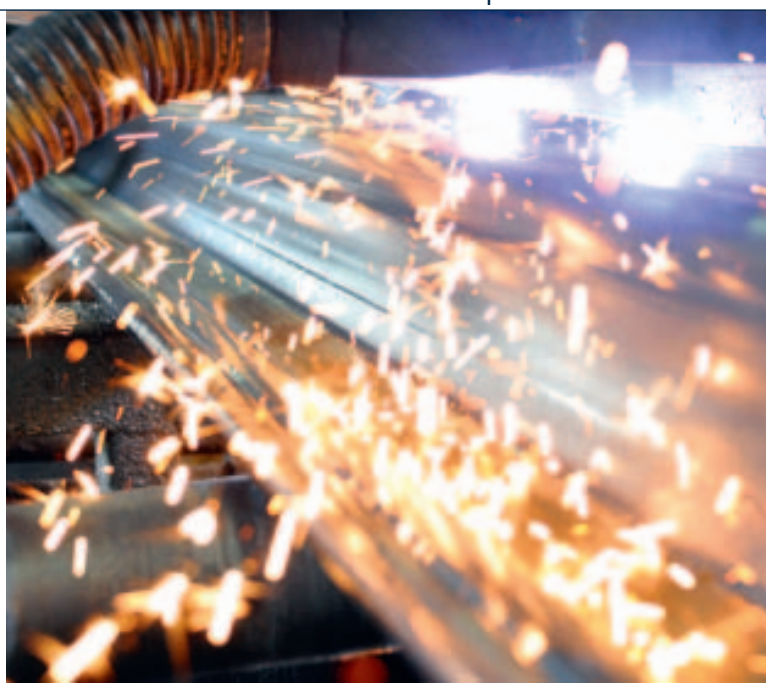
Building the future: representatives of the spheres of research and industry: (from l.), Professor Werner Hufenbach, director of the ILK (TUD's Institute for Lightweight Construction and Plastic Technology), ThyssenKrupp award winners Karsten Tillmann and Denise Vossler, and Dr. Ulrich Jaroni, member of ThyssenKrupp Steel Europe's Executive Board with responsibility for operations.

Contact: **Dr. Peter Biele,** ThyssenKrupp Electrical Steel, tel. +49 209 407-50, e-mail: peter.biele@thyssenkrupp.com

Excellent service makes the difference
SBH Tiefbautechnik

Based in the North Rhine-Westphalian town of Heinsberg, SBH Tiefbautechnik is a successful company specializing in steel shoring systems. In what continues to be a tense economic environment, the company is placing its strategic trust in a new commercial manager as well as in proven elements such as a basic attitude of optimism – and in ThyssenKrupp Steel Europe as partner.

After 19 years with SBH Tiefbautechnik, Wilfried Thelen (r.) vacated his management position with the company. During his time with SBH Tiefbautechnik he came to appreciate the problem-solving competence of ThyssenKrupp Steel Europe's Technical Customer Support Service. The transition to his successor Ulrich Klöppels (l.) and to Lutz Hollenberg – who represents longstanding partner ThyssenKrupp Steel Europe as technical customer consultant – went smoothly.



With an annual volume of around 7,000 tonnes of hot wide strip, ThyssenKrupp Steel Europe has been exclusive supplier for SBH Tiefbautechnik's sheet piling production since 1992. Based in Heinsberg, SBH Tiefbautechnik forms the material on a state-of-the-art profile system and subsequently cuts it into lengths of up to 16 meters.

Based in Heinsberg, SBH Tiefbautechnik has had a new man at its helm for more than one year, namely Ulrich Klöppels. He succeeded Wilfried Thelen, who vacated his position as managing director after almost two decades with the company. In spite of a continuingly restrained mood on the industrial and economic fronts, the people in the federal state of North Rhine-Westphalia have and continue to maintain a positive attitude. As Mr. Klöppels puts it: "The company is excellently positioned, has a highly motivated team and a living, breathing, family-like corporate culture." Founded in 1986, SBH Tiefbautechnik (SBH stands for Stahlblechhandel or sheet steel trading, which was the company's focal activity initially) now has a total staff of 70 employees, 55 of whom work in production. The production activities today are focused on the sphere of civil engineering and underground construction – from ultralight aluminum shoring right through to triple slide rail shoring for great depths.

Following an intensive initial period, Mr. Klöppels appreciates the advantages of a sustainable strategy. "The economy has recovered somewhat in the meantime, but this doesn't mean that the tension is over yet," says the qualified businessman candidly. "For us too, the situation continues to constitute a challenge." However, precisely in times such as these, the company is placing its trust in its strengths: "We supply high-quality products at a reasonable price and with very short lead times." Take any given special product for a civil engineering application as example: the design process takes about one week, the ordering of materials a further week, and the actual manufacture of the components is likewise completed in no more than seven days. "We are the fastest in the market," stresses Mr. Klöppels. "But that's not all. There are some orders which we can virtually take care of at a stroke, so to speak." And that as a rule means within two to three days – with top quality guaranteed at all times.

"This type of service is something we can only afford to provide because, among other things, we have suppliers on whom we can rely," he adds. ThyssenKrupp Steel Europe has been involved right from the beginnings of SBH Tiefbautechnik, and has been the company's exclusive supplier for sheet pile profiles since 1992. "And we want this to stay that way," assures Mr. Klöppels. "In ThyssenKrupp Steel Europe we have found an outstanding producer of materials which, by virtue of its geographical proximity in Duisburg, is able to supply us with hot wide strip on a just-in-time basis – precisely as we need it in terms of time and quantity. This also enables enormous storage cost savings for us."

SBH Tiefbautechnik takes delivery of around 7,000 tonnes of hot strip per year. "What makes our material so special is its high elongation at rupture," says Lutz Hollenberg, customer consultant at ThyssenKrupp Steel Europe. "This enables reliable manufacture of the profiles, even where the tightest bending radii are concerned." The quality of the material is of key importance to the civil engineering specialists, given, for example, that the sheet pile profiles used in excavation pits have to withstand high compressive forces. High quality is guaranteed via DIN certification. "This has its price. We used to buy in lower-price steels from time to time, but these were not covered by standards and therefore not of high quality. In the long term it is simply not worth saving money in this context."

The strategy has already proven successful. Not only is SBH Tiefbautechnik registering positive figures even in the current difficult economic environment, but is also selling its products on all five continents. "The fact is that we have excellent contacts which have grown over time," says Klöppels in reference to the working successes of his staff. "Examples in this respect are project orders for sheet piling for canal construction in the Netherlands, Australia and the USA." Against this background, he is hoping that the fiscal stimulus measures implemented by the governments in Europe and America – which among other things also call for renovation and refurbishment work – will give rise to further new orders. Two major projects are already in progress in the Middle East as well. "Our service is still in demand, even if a lot of things are still changing in the global economy," says Mr. Klöppels confidently.

Daria Szygalski

www.sbh-tiefbautechnik.com

Contact: **Ulrich Klöppels,** SBH Tiefbautechnik, tel. +49 2452 9104-0, e-mail: u.kloeppels@sbh-tiefbautechnik.com
Wolfgang Deussen, SBH Tiefbautechnik, tel. +49 2452 9104-0, e-mail: w.deussen@sbh-tiefbautechnik.com
Lutz Hollenberg, Customer Advisory Service Sales Industry, tel. +49 203 52-41167, e-mail: lutz.hollenberg@thyssenkrupp.com

Agenda

TUBE 2010
12 – 16 April 2010, Düsseldorf
As an international industry platform, Düsseldorf becomes the center for specialists from the wire, cable and tube/pipe industry every two years. There will be around 1,130 exhibitors at TUBE 2010. Visitors can look forward to a show covering the entire spectrum, from raw materials to machinery, tube/pipe manufacture, right through to test engineering and other special fields. ThyssenKrupp Steel Europe and ThyssenKrupp Tailored Blanks are represented on a stand shared with ThyssenKrupp Materials International and other Group member companies (Hall 3, Booth 3C28).

bauma 2010
19 – 25 April 2010, Munich
The bauma in Munich is regarded by visitors as the premier event in the sphere of construction machinery and mining machinery, and is the world's biggest trade show in this sector. As in the past years, all of the exhibition halls and the expanded outdoor areas will be fully occupied again. A total exhibition floor area of good 555,000 m² with over 3,000 exhibitors from 49 countries provides visitors with the opportunity to gather all possible information on topics covering construction sites, mining, raw materials production and processing, construction materials manufacture, suppliers, as well as services. ThyssenKrupp Steel Europe is represented via its Heavy Plate Unit, showing special steels including highly wear-resistant grades (Hall 6, Booth 429).

Hannover Messe 2010
19 – 23 April 2010, Hanover
Intelligent lightweight construction systems are gaining importance in virtually all sectors of industry, especially against the background of spiraling raw material and energy prices. The deployment of lightweight materials and the associated lightweight construction technologies cuts requirements in terms of energy and materials and makes for enhanced efficiency and cost effectiveness of individual systems. This leading topic is bundled in Hall 6 at this year's Hannover Messe event, with exhibitors presenting products and systems in the spheres of lightweight materials, lightweight construction technologies and sector-specific lightweight construction solutions. ThyssenKrupp Steel Europe is exhibiting on a joint booth with the Steel Information Center.

International Betontag/Concrete Day 2010
22 – 23 April, Vienna, Austria
Held every two years, the construction technology congress with trade exhibition is a communication platform for decision-makers from the spheres of building and construction, politics and science. The Concrete Day is aimed at representatives from the areas of project development and planning, as well as public and private clienteles and construction companies. Hoesch Bausysteme is presenting its portfolio of products and services with the focus on Hoesch Additive Floor® (Booth 19).

Seafood
27 – 29 April 2010, Brussels, Begium
Seafood is the world's biggest trade fair in this sector, with visitors from more than 140 countries and around 1,600 exhibitors. A three-day event, this industrial meet takes place in Brussels, with the focus on all topics concerning seafood products, including freshness, canned goods, storage, processing, transportation and services. The exhibitors include Isocab with its products in the field of cooler and freezer construction (Booth 4-6143).

Coilwinding 2010
22 – 24 June 2010, Berlin
The CWIEME (International Coil Winding, Insulation and Electrical Manufacturing Exhibition and Conference) is the biggest trade fair for the spheres of, as its name suggests, coil winding, systems for electrical manufacturing and materials for electrical insulation. Around 580 companies from 40 countries present the latest machinery, products, services and plant systems. On show will be, for example, insulation materials, enameled copper wire, coil winding machines and electrical structural steels. Together with ThyssenKrupp Magnettechnik, ThyssenKrupp Electrical Steel will be presenting its products in the fields of grain and non grain-oriented electrical steel (Hall 2.2, Booth 3323).

Alihankinta 2010
21 – 23 September 2010, Tampere, Finland
This international trade fair takes place on a floor area of around 13,500 m² at the Tampere exhibition and sports center, and attracts top-tier representatives of the subcontracting trade. This is Finland's biggest industry trade event, and offers visitors the opportunity to develop and expand effective networks with new and existing business partners – which is after all an important factor since growing internationalization and networking of industrial enterprises are increasingly leading to the outsourcing of business. ThyssenKrupp Steel Europe will be present with its heavy plate products on the exhibition stand of Flinkenberg.

EuroBLECH 2010
26 – 30 October 2010, Hanover
ThyssenKrupp Steel Europe will be exhibiting together with other ThyssenKrupp Group member companies at the EuroBLECH 2010 in Hanover. With around 1,500 exhibitors from 38 countries, this leading trade fair for the sheet metal working sector is the biggest of its kind worldwide. The sector itself is today facing more complex challenges than ever before. Companies investing in the future are focusing their attentions on production optimization, energy efficiency, innovation, and the expansion of R&D activities. In its capacity as leading international technology event, EuroBLECH is recognized by the sector as marketplace for global business and platform for ideas and know-how.

Contact: **Achim Stolle,** Strategic Marketing, tel. +49 203 52-41005, e-mail: achim.stolle@thyssenkrupp.com

Echo

ThyssenKrupp working at full tilt in search of lighter steel
A huge, windowless hall. Silver-colored metal bars on the floor, […]. The scene of one of ThyssenKrupp's most advanced projects. In this hall on the premises of the plant in Duisburg, the industrial giant is developing and showing what the steel of the future is to look like. […] According to ThyssenKrupp, the first automobile manufacturers have already expressed their interest in the new "InCar" lightweight steel. […] Industry experts say that the steel concern's potential has not been exhausted yet.

Handelsblatt, 4 March 2010

ThyssenKrupp Develop 33 Innovations for Automotive Manufacturers
After implementing a new, more efficient corporate structure within a very short space of time, the ThyssenKrupp Group is beginning the fiscal year with a technology offensive: In the cross-Group research project InCar®, ThyssenKrupp engineers from the Steel Europe und Components Technology business areas have developed 33 innovations for auto manufacturers. No other automotive supplier has ever launched such an extensive package of independently developed innovations.

American Society of Metals online, 6 November 2009

ThyssenKrupp: Group-wide InCar® project provides an insight into the automotive future
The ThyssenKrupp Group is starting out into the new fiscal year with a technology offensive. […] The focus is on structural and production-related technical optimization in the body, chassis and powertrain areas with a view to conserving resources, saving costs and enabling enhanced functionality. Against this background, great emphasis has been placed on ensuring that the innovations can be put into production quickly and at low cost.

MM MaschinenMarkt – das Industrieportal, 10 November 2009