

ESSENTIALS

The customer magazine of EschmannStahl GmbH & Co. KG

2/2012



LOSANDER

The Master of Levitation Magic Enchants our Readers.

You've got to admit you were not expecting this to happen. Some of you probably already know him from the EschmannStahl stand at the past EuroMold trade fairs. But, with regard to our ESSENTIALS customer magazine, Losander is appearing in it for the first time.

That is not magic but, instead, it is for a simple reason: as a magician he is, basically a specialist for surprises and, in this way, we are pleased to be able to present you the DVD that we exclusively produced for the readers of ESSENTIALS.

Read more on what to expect in the video on pages 22 and 23. This is also where you will find the DVD.

His specialty is levitation magic. Amongst other places, he performs at the "World's Greatest Magic Show" in Las Vegas. For nearly 15 years he has been

enchancing EschmannStahl's trade fair guests at the EuroMold: Losander.

His floating table has become world famous even beyond the professional world – from the US over Europe to Japan and Australia. But he is not only home to big stages across the globe. He is also a master of close-up magic. Even for spectators watching from close proximity, he triggers expressions of amazement in the faces observing him.

With his creative ideas he has revolutionized levitation magic and, amongst others, has inspired David Copperfield in his shows. He has also received numerous awards such as the renowned Milbourne Christopher Award as the illusionist of the year. He already started doing magic as a child. Initially just for fun, later as a side job, and today as a profession. ■

"Losander is one of the most unique magicians in the world."
(David Copperfield)







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**DYNAMIC & ENERGY:
Helping Beyond Borders****Dear reader,**

This issue of ESSENTIALS is not a surprise but, rather, contains one you will already have discovered after opening the magazine. That negative can be positive is an old truism that finds its expression particularly in increasing ecological regulations. Why this is the case you can learn about starting on page 6. That changes can set new standards and provide for new impulses is something you can read about in our story on EschmannStahl's new corporate design. This is also about changes that occurred particularly in the wake of an improved perception of our products and services. At the end of the magazine you can find the reveal of our cover page's promise. I hope you have fun with it and enjoy reading this issue of ESSENTIALS.

A handwritten signature in blue ink, appearing to read 'MK' followed by a stylized flourish.

Your Markus Krepschik (Managing Director)

Negative is Positive!



Rising and increasingly specific requirements keep calling for innovations. That being said, short reaction times are important but not the main criteria.

Quality and application-orientation are decisive factors for new developments. Considering this premise as an opportunity and implementing it into market-oriented solutions is a key to success. How, for example, does one combine higher ecological standards and legal regulations with increased safety and convenience requirements?

Minimized friction, innovative drivetrain technology and weight reduction in the car's bodies are just a few main issues: the automotive industry has to meet a complex frame of requirements to stay future-proof. An important part of this are the materials that are employed for production tools as well as for parts.

Steel and light!

The demands of the automotive industry's OEMs on their suppliers have changed in the wake of these developments. Now, steel that is used for either parts or tools should be optimally tailored to the requirements. For instance, it is no longer enough to call for the characteristics of robustness and longevity and at the same time not providing weight reduction. Because, as a rule of thumb, every 100 kg of weight reduction saves 0.3-0.5 liters of gas per 100 km travel.

Many car manufacturers opt for the use of high-tensile and form-hardened steel in their car bodies and thus bank on steel material with many of their models. The weight of a car body floor pan can be thereby reduced by up to 21 kg. Using high-tensile and form-hardened steel helps to reduce sheet thickness. With A-pillars



and B-pillars, hot formed steel is often used. It provides for a particularly good stability. The examples show how important new innovative material concepts are for the development of new technologies. And this always needs people, people who are willing to question the here and now of today and willing to move ideas and visions into a new reality.

One of EschmannStahl's basic values provides for this way of thinking and acting: people are at the starting point of every process chain. Only they can guarantee and ensure the success of a company by acting in a way that looks ahead. Only then is negative also positive, threat also opportunity, and failure also success. The resources of the earth are finite. This is the challenge we all have to address.

EschmannStahl drives developments

Besides its standard steel grades, EschmannStahl is driving the development and optimization of special grades, grades that meet the unique requirements of various markets. In the last several issues of ESSENTIALS, EschmannStahl's individual steel grades have already been presented in detail.



"Hard things can sometimes be so easy – just with a change of perspective."

Each grade is the result of market demands and real technical applications. The example of **ESMULTIFORM SL** is a special case in point. The merging of the basic properties of construction steel and tool steel to a material that can be applied in manifold processes points to the creative opportunities this kind of development offers.

Sometimes a change of perspective is enough to enable new insights to be made into ways of thinking that are to some extent set. ■

All-Rounder?

Carbon



The Latin origin of the word carbon is “carbo” which meant ‘wood charcoal’. It is a pretty common element, abbreviated “C”. We know it, for instance, as graphite in pencils and, in its most-compressed form, as diamonds.

Carbon as a material for components is employed in combination with special plastics. The materials thereby generated are of particular importance mainly for the automotive industry. Yet the closer we come to the end of the fossil age, the more important alternative drive technologies are becoming, especially for modern electric engines.

“Experts at McKinsey state that in 2030 there will be significantly more carbon fiber composites used as car parts than today. Compared to high-end steel, however, their share will be extremely small.¹”

1, Source: Financial Times Germany, 01/2012



Production plant for ribbon-shaped carbon material



Carbon comes into play because weight reductions are a main requirement; first of all, so that they do not lag behind gasoline-driven cars too much in terms of speed and range; and second of all, so that the additional weight of car batteries can be compensated.

The aerospace industry and motorsports have been a trailblazer for the application of new materials ever since. In the air and in high-performance areas of racing the advantages of carbon especially take effect. Already today there are airplanes (fuselage) and race cars (cockpit) whose core components consist of carbon.

In Formula 1 cars, everything except wheel trunks, engines, and transmissions are nowadays made of carbon. Up to 20,000 carbon fibers are interwoven in a way

that ensures ideal stiffness, stability, and weight values. Carbon is already gradually finding its way into serial production cars – even if this as yet pertains only to up-market segments. Lamborghini, for example, has developed a passenger cabin that consists of almost only carbon fibers.

Jobs in Germany too are being established and secured in conjunction with carbon technologies – even if this is taking place only on a small scale as yet. The company SGL Carbon, for instance, is the only big European carbon fiber manufacturer.

The Germans are catching up. There are several indicators underlining this trend. Since 2007, companies working with carbon have joined forces in an association entitled “Carbon Composites”. A further industrial initiative called “Innovations

Alliance Nanotubes” is spurring on research, development, and marketing.

Due to its many positive characteristics, the question is whether carbon as an application material can or will become a competitor for steel. Here, McKinsey experts draw a different conclusion (see box). Rather, it seems to be the case that new opportunities for both industries are developing. In this way, EschmannStahl is in close contact with the carbon-manufacturers to quickly react to the industry's requirements. ■

Extended Workbench

Various opportunities through
extended machining capacities



Due to its state-of-the-art machinery, EschmannStahl acts as an “extended workbench” and offers its customers a greater degree of planning reliability and flexibility in handling its process tasks. This is the case both for time-consuming pre-machining of large blocks, deep-hole drilling and precise grinding as well as for geometrically demanding contour processing.

In this area EschmannStahl resorts to modern vertical as well as horizontal processing machines. TOS drilling tools and select machines for every process step made by renowned companies lay the basis for reliable processes as well as consistent quality, particularly with respect to serial components.



Applications in highly stressed areas

With size ranges of 150 to 3,000 mm and a maximum unit weight of 15 tons, Eschmann-Stahl processes any required geometry as a preparation for later processing by the toolmaker. Pre-processing takes place out to depths from 1 mm to 3 mm allowance with tool diameters from 80 mm to 20 mm.

“With our extended machining capabilities we take over as many of the processing steps as the customer desires. We provide the steel know-how and the processing expertise as a one-stop-shop. The result is maximum security for all subsequent production processes of our customers. In addition, customers no longer have to worry about logistics. They can rely on a competent partner at all times. This enables us to contribute to greater planning reliability and our customer’s process speeds. In

times of peak capacities we have adequate long-time partners to keep delivery times short as usual” is how Managing Director Markus Krepschik describes the advantages of EschmannStahl’s comprehensive service portfolio.

Businesses in the area of mold making, for instance, save on investments in additional processing machines and thus can concentrate on their core competencies. In addition, through-put times in mold making are reduced – a further contribution to cost reductions.

Markus Krepschik explains: “Thanks to the industry expertise of our staff, we are very close to our customer’s applications and end products. This enables us to consult our partners in a targeted way.” ■

BENEFITS AT A GLANCE

- Shorter production times
- Lower investment costs
- Diversity of processing options

CAD/CAM

A precise formatting of workpieces necessitates sound data and comprehensive software capabilities.

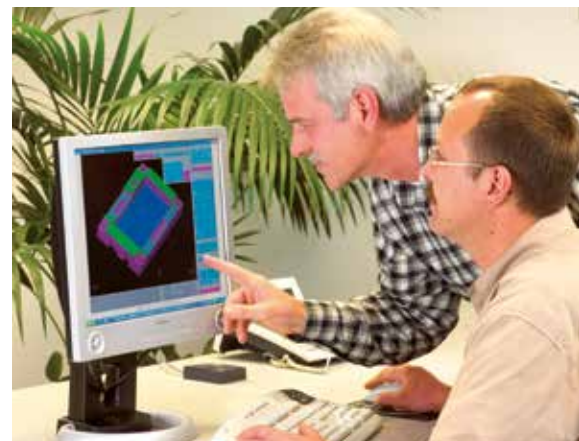
EschmannStahl can process all kinds of contemporary data formats. Various CAD and CAM programs are available for this. All programs and data formats currently being used are listed below. All data can be accessed and supplied via email, ISDN or OFTP (Odette). ■

SOFTWARE:

Unigraphics NX	CAD
AutoCAD	CAD
Catia V5	CAD
SpaceClaim Eng.	CAD
Tebis	CAM
EdgeCam	CAM

DATA FORMATS:

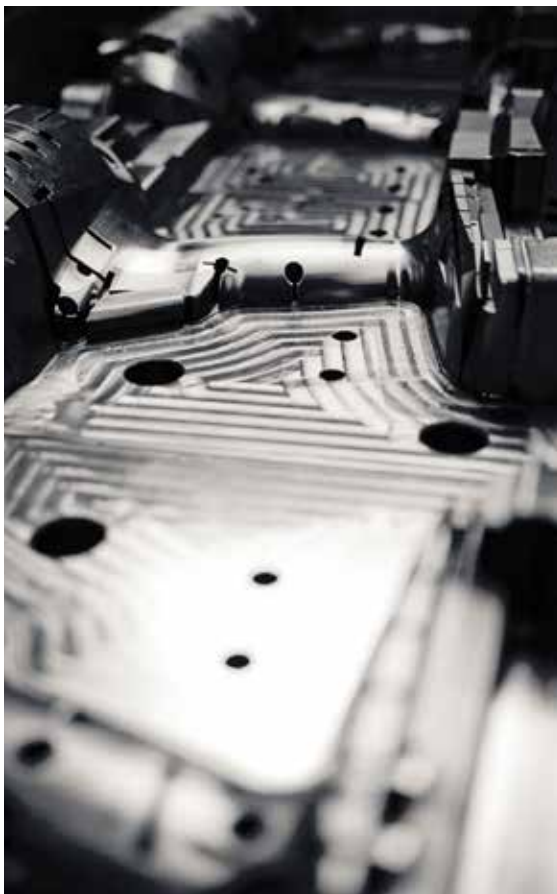
DXF, Igs 2D / 3D, Catia V5, Step, ParaSolid, Jt-Open



Staff processing data

Focusing on the Process

FKT Formenbau und Kunststofftechnik GmbH from Triptis in Thuringia, Germany, manufactures precision injection molds, particularly for applications in the automotive sector.



Precision mold

Its history has been eventful, and its present and future are marked by hi-tech. In its nearly 90-year company tradition, FKT moved from a classic crafts business to a hi-tech and highly specialized company. The construction and manufacturing of molds for plastics processing has now been FKT's core competence for over half a century.

In order to meet the high demands of the innovation-driven automotive industry and its components suppliers regarding mold geometries and exact dimensional tolerance, the company has concentrated on precision injection mold production. In doing so, all development work always takes place with an eye for securing a profitable and safe process on the ground. Beginning with accompanying product development and moving all the way down the line to actual serial production, the focus is on consistent quality of customers' end products.

A core element for securing and extending the company's own specialist know-how is the human resource development of junior staff. As Managing Director Mr Udo Staps emphasizes, the company recognized the importance of vocational and technical training for

INFORMATION • DETAILS • FACTS

- Founded: 1924 (as Gräbner und Co.)
- Staff: more than 100
- Company headquarters: Triptis, Germany
- Products: Injection molds
- Specialization: Multi component technology



Large part



its own future early on. In this way, a relatively high average of about fifteen percent of over 100 staff members are apprentices/trainees, who are nearly all given a full contract after finishing their specialist vocational training. A former apprentice, for example, today heads a mold production center at FKT. Staff loyalty is way above average. Beyond training, the company is also committed to various regional promotion schemes for children and youths.

Basically, FKT's products can be divided into two categories. The first one is large molds up to 20 tons, and the second one is small and medium-sized precision molds up to 2 tons weight. A large part of the products manufactured with the help of the tools are multi-component parts used in automotive and device assembly, often as visible components. This is an indication of the high quality and performance demands the finished products boast.

Despite all of its own expertise in mold making, FKT needs to rely on committed suppliers and cooperation partners who contribute their respective specialist expertise and thus ensure the quality of FKT

tools. What contribution the tool steel supplier EschmannStahl makes to this and why a customer relationship isn't a "one-way street" is the topic of the ESSENTIALS interview with Udo Staps. ■

PRODUCTS & SERVICES

- Mold and tool construction
- Rapid prototyping/rapid tooling
- LaserCusing
- Own technology center for R&D
- Sampling/function tests
- Measuring of parts
- Measuring and sample test reports
- Tool optimization
- Small batch production of plastic parts
- After sales service
- Laser welding
- Mobile maintenance at customer site

Flexible, Customer-Oriented, on Time



ESSENTIALS interview with Mr Udo Staps, Managing Director of FKT

ESSENTIALS: Mr Staps, as a designer and producer of hi-tech molds for plastics processing, you are the contact person for mold users in terms of new solutions, but also in terms of problems. How do you see yourself in this role?

At first glance it seems very easy: our customers want to produce immaculate quality parts in a way that is as efficient as possible. At the end of the day, it is our job to meet this requirement. But if we have a look at the various factors influencing this outcome, doing it is not nearly as easy as talking about it. Ultimately, our performance and our product is only as good as the sum of the indi-

vidual factors making up the overall system we call "mold". An important part of this is the tool steel we use for our molds.

ESSENTIALS: You have been getting steel from EschmannStahl for about 20 years. How would you describe this long-term partnership?

EschmannStahl has a performance commitment that is very similar to the one we have. We maintain to be "flexible, customer-oriented, and on time", rightfully so. All these characteristics also apply to EschmannStahl. That's why we are a perfect match. The performance we get has for a long time been

**"More than 55 years
of experience in
mold production
have laid a good
basis for targeted
innovations."**



Training and technical consulting at FKT



Service on location: mobile maintenance

way beyond the mere delivery of the actual material. When required, for instance, we benefit from out-sourcing tasks such as pre-processing or hardening. In doing so, we know that we can rely not only on the quality of the material but also on the quality of the services, and that is decisive. Because, at the end of the day, our reliability towards our customers depends upon the quality of our suppliers' work.

ESSENTIALS: For which molds do you currently get your materials from EschmannStahl?

We mainly get p-plates for the superstructural parts of our large plastic molds and dies as well as material for mold inserts – and in doing so we meet highest demands on surface quality in automotive industry applications.

ESSENTIALS: Moving beyond steel and the logistics connected to it: What other factors do you like about the collaboration?

For me personally as well as for our designers, it is also of crucial importance that the human touch is right. The contact people at EschmannStahl are not only competent regarding our business. Rather, they are always friendly and solution-oriented. These are important basic considerations.

ESSENTIALS: A dynamic sector such as the automotive industry also requires innovative partners. In what way do you rely on your suppliers here?

Of course, the decisive know-how on all kinds of issues pertaining to mold technology as well as design and processing steps lies with us. More than 55 years of experience in mold production have laid a good basis for targeted innovations – while al-

ways keeping an eye on the profitability of our customers' processes. But something else is important here too: EschmannStahl also helps us to make these innovations a reality. When they introduce us to new, specialized materials that enhance our solutions we are, of course, thankful. This is what is presently happening, for instance, with **ESPRIMUS SL**. Its advantages for mold making were recently communicated to our designers in a comprehensive training event delivered by EschmannStahl's product management. If required, the colleagues from EschmannStahl also visit with the OEMs to provide for a listing of new materials in contract documents and performance specifications.

ESSENTIALS: Mr Staps, thank you for the interview. ■



Better Informed

Good communication is based on precise statements regarding all service areas of a company. In addition, a clear demarcation of individual services is a precondition for transparency within a comprehensive portfolio.

In this way, an initial step was taken to define three service groups which have been clearly flagged by symbols and colors. In the areas PRODUCTS and SERVICES, brands were created and with that standards defined – for more clarity, transparency and efficiency. The head brochures of the areas will give new customers, existing customers, and sales staff an ideal overview of the overall portfolio. Detailed information, for instance on EschmannStahl's steel grades, will be captured in individual brochures.

A new part of the brochure system is the customer information on plate processing. Various formats in all quality levels will give customers a broad range of processing options.

Beyond the issue of utility itself, EschmannStahl's profile is to be further improved and sharpened. The strategic path of external communications will continue to be pursued true to the maxim that "only he who defines himself clearly is understood". You can, of course, request printed copies of the new brochures at any time. ■

Brochure requests via:
Ulrike.Geschwinde@eschmannstahl.de

The lead brochures pertaining to the business areas Products and Services provide an overview of the entire performance portfolio.

EschmannStahl's new specialist brochures on its grades **ESPRIMUS SL** and **ESMULTIFORM SL**

The new specialist brochures on EschmannStahl's grades **ESANTIKOR SL** and **ESAKTUELL 1200**

In the area of special plate production, EschmannStahl now differentiates between various execution versions. In this way, the company can offer customers the right solution for a specific demand.



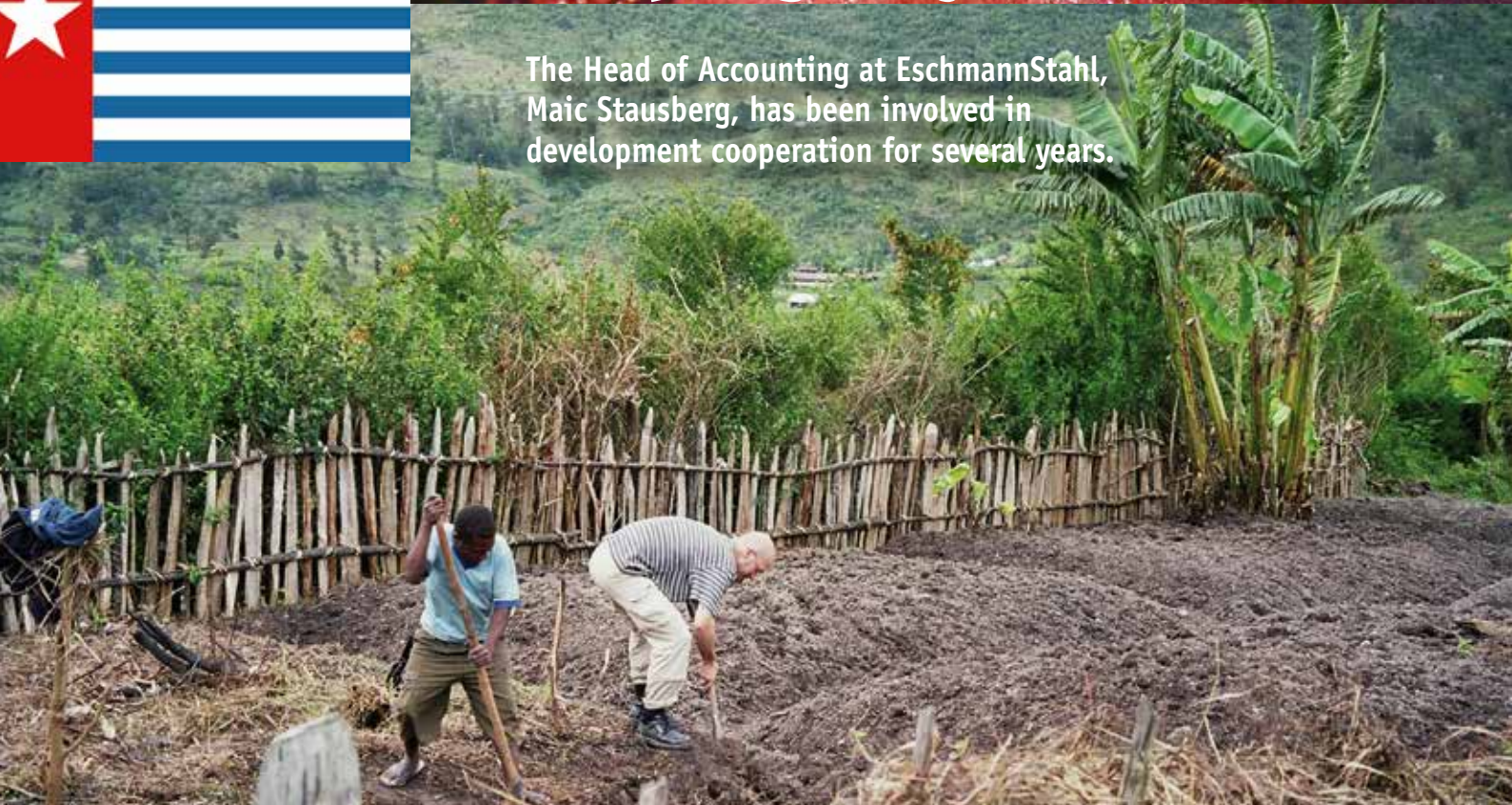
SERIES

**DYNAMIC
&
ENERGY**



Helping Beyond Borders

The Head of Accounting at EschmannStahl, Maic Stausberg, has been involved in development cooperation for several years.





Maic Stausberg feels like he was being watched. Together with his fellow travelers, he is sitting next to a whole pig being cooked in an earth oven. Hundreds of villagers are watching the Europeans closely.

It is a festive meal – in West Papua. Pork is only available on special occasions and not everyone can join in eating it. For inhabitants of the village in the highlands of the Indonesian province it is a special occasion that a delegation of those people who have been assisting them for decades is here amongst the natives, the Papua.

Within the context of a church development project in the central highlands of West Papua, the protestant congregation in the town of Waldbroel near Cologne, Germany, has been supporting a girls' boarding school as well as various women's promotion programs for 50 years. The girls' boarding school was originally established and managed by German and Dutch nuns together with local inhabitants. Since 2003, the lo-

cals have been managing the boarding school autonomously and consistently with great success.

An important basis for this cooperation is the Waldbroel Bazaar (MIBA), which began in 1962 as a small church market and now takes place as a big bazaar on November 1st every year. From waffles to art, all kinds of things are on display and sold. Led by Maic Stausberg, more than 200 helpers generate a handsome sum of money every year, which is passed on to the Papua. In 2012, about 30,000 euros were once again gathered.

On the ground, Maic Stausberg wanted to get a personal impression of the development cooperation project and life in West Papua in general. In an interview for the series DYNAMIC & ENERGY, he gives an account of his impressions and describes what different cultures can learn from one another as well as why a festive meal is not the same as a festive meal. ■



The western part of the island of Papua New Guinea is, in contrast to the eastern part, New Guinea, not an independent state. West Papua has been occupied by Indonesia since 1963, and there have been acts of oppression as well as human rights abuses against locals in the past and to this day.

- Area: approx. 420,000 km²
- Population: 2.93 million
- Official language: Bahasa Indonesia and 268 other different languages and dialects
- Capital city: Jayapura

Further information on the current situation in West Papua as well as on the country and its people: www.west-papua-netz.de



“Gratitude is the Best Reward”



In his interview with ESSENTIALS, Maic Stausberg talks about development cooperation with West Papua and about how he personally experienced the situation and people on the ground.

ESSENTIALS: Mr Stausberg, please tell us a little about yourself.

I received my formal training as an industrial clerk and accountant and have been working at EschmannStahl for eight years. As the head of accounting, I am responsible for EschmannStahl and several national and international Eschmann Textures subsidiaries.

ESSENTIALS: As Head of Accounting at EschmannStahl, how did you end up travelling to West Papua as a development worker?

I have always enjoyed travelling, particularly to exotic places not listed in normal travel guide books. Then, a couple of years ago, I discovered on the Waldbroel Church Bazaar that people are organizing the support of this beautiful patch of land called West Papua. When I learned that a trip there was being planned I definitely wanted to join the group. Why not combine my own wanderlust with supporting others, I said to myself. This is how I got involved in the issue. Today, I head the organization of this Bazaar which has in the meantime expanded so much that we got into trouble with the police once because we caused traffic to break down across town.

ESSENTIALS: What does one experience when one travels to West Papua?

Getting there is already an adventure. It takes two full days to get there from Germany. And then you still have to get to the highlands. On top of that, you have to be prepared for a number of complications, as you never know how the current visa and security situation is on the ground. Indonesian officials don't really like it when "Westerners" travel to West Papua. It is a different way of travelling.

ESSENTIALS: How did the locals, the Papua, react, when you arrived in their village?

The natives are very kind and friendly and were grateful for our visit as well as for the support they receive. From an overall perspective, it was impressive how the Papua live: in the simplest way you can imagine, without any luxury, and totally content. We went to areas in which the children playing in the villages had never before seen a wheel. Many things that we are so accustomed to and believe to be important simply do not exist there. And: people don't miss them. This is why, in my eyes, we can learn a lot from the people there: contentment, calmness, patience, and thankfulness are values that we can by all means learn from.

ESSENTIALS: And, the other way around: what did the locals learn from you and/or the now 50 years of development cooperation?

From a long-term perspective, I think, the decisive thing the Papua achieved together with the Europeans was peace amongst themselves. In the past, there was a recurrent pattern of acts of violence and

murders between the tribes. Particularly through education and through belief, they were able to overcome the vicious circle of violence and live together peacefully. That is the biggest success of our work there.

ESSENTIALS: Looking at development cooperation in general, there are critical voices saying that we should just leave the people alone ...

The success stories in terms of health, livelihoods, and legal education have helped secure the survival of the local inhabitants. If we don't help them they will continue to be deceived and oppressed by others. They will be subjected to external influences anyway. Who knows how long they will be able to live in today's conditions. With the cooperation we do our best to ensure they are not helplessly at the mercy of certain things. Here I would also add diseases and malnutrition, which have significantly decreased due to education. They are thankful for that and also proud of what they have learned. They displayed this thankfulness to us every day. Again and again during our time there, a festive meal was prepared for us: we received a whole pig, a specialty, while the Papua ate potatoes and were happy watching us while we ate. The fact that the meat did not really correspond with European habits of taste simply didn't matter at all – the gratitude was the best reward for all the work at home and for all the travel strains...

ESSENTIALS: Mr Stausberg, thank you very much for the interview. ■

IN BRIEF



A strong showing with excellent references

This year EschmannStahl was once again represented on the specialist trade fair FAKUMA together with its subsidiary Eschmann Textures. On their joint stand, the two companies presented innovative solutions, particularly for the automotive industry. The Eschmann grade **ESAKTUELL 1200**, the number

one material when looking at grained surfaces, is the basis for Eschmann Textures' innovative solutions. Exemplified by BMW's new steering wheel, trade fair visitors were able to literally sense the quality. ■

Printed on FSC certified paper

from responsibly managed sources

Source

Page 8/9, Story: All-Rounder? Carbon

Online magazine "kompakt", story by Alexander Nortrup



PREVIEW ESSENTIALS 1/2013

Further topics planned

Continuation of the series Dynamic & Energy Trends, developments, interesting and strange things from the world of steel
New media products
and a lot more!

IMPRINT

Publisher:

EschmannStahl GmbH & Co. KG
Dieringhauser Straße 161-183
51645 Gummersbach, Germany
Phone: +49 2261 706-0
Fax: +49 2261 706-100
E-mail: info@eschmannstahl.de

Editorial staff:

EschmannStahl GmbH & Co. KG
C&G: Strategische Kommunikation GmbH

Concept, layout, text and realization:

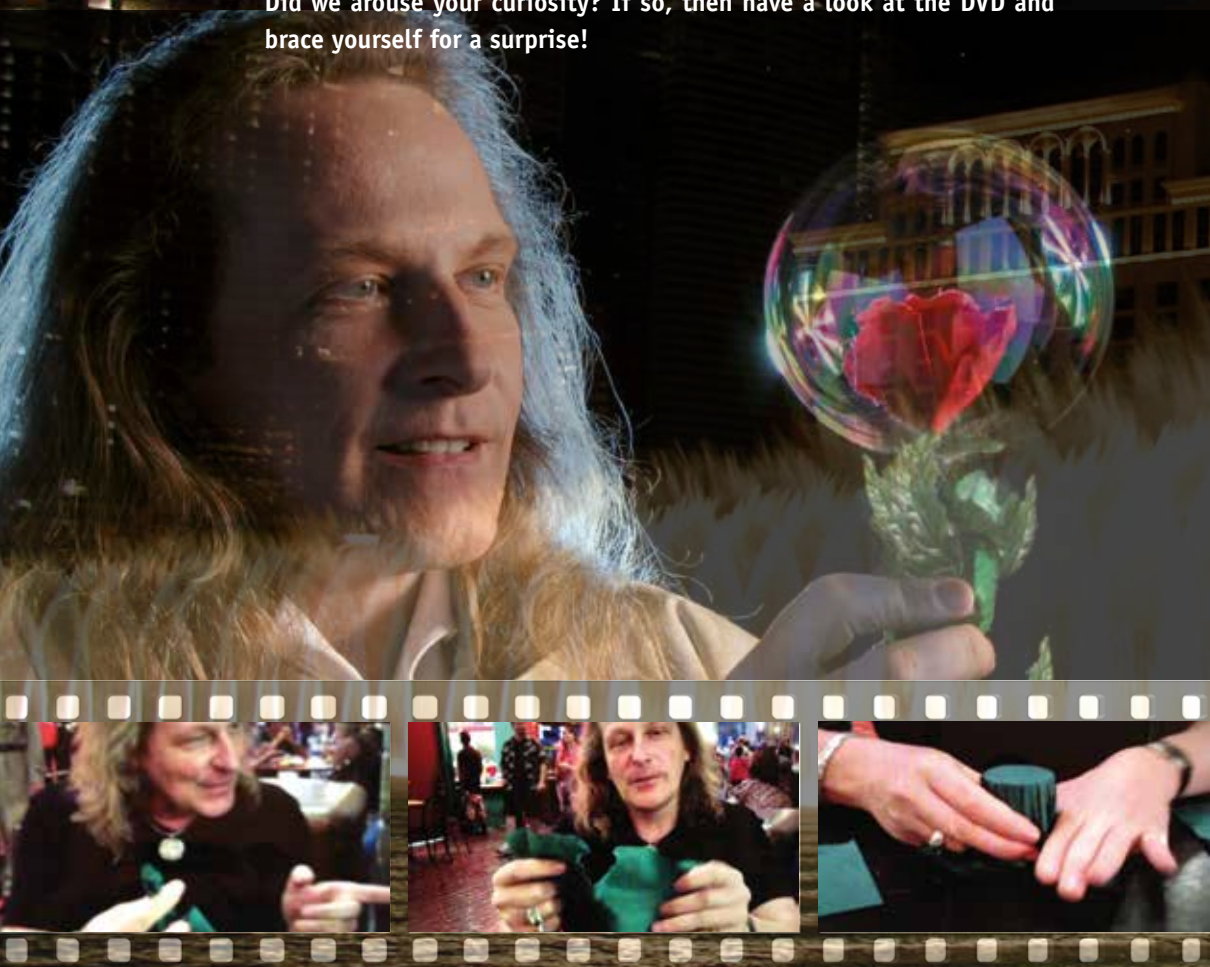
C&G: Strategische Kommunikation GmbH
Olper Straße 10
51491 Overath, Germany
www.wir-verstehen-technik.de

Enchant Others!

Have you always wanted to know how a magician makes things disappear?

As an exclusive service for all of EschmannStahl's customers and readers of ESSENTIALS, Losander reveals a few tricks you can easily reproduce. Amongst other things, he shows you how you can move a shot glass through a thick table board.

Did we arouse your curiosity? If so, then have a look at the DVD and brace yourself for a surprise!





LOSANDER 3

TRICKS
TO
LEARN

Should the DVD be missing here, please give us a call.
We will then ship you the genuine DVD as quickly as possible.



ESSENTIALS

The customer magazine of EschmannStahl GmbH & Co. KG

2/2012

Headquarters Gummersbach



Wehnrath Location

ESCHMANNSTAHl

EschmannStahl GmbH & Co. KG
Dieringhauser Straße 161-183
51645 Gummersbach
Germany
Phone: +49 2261 706-0
Fax: +49 2261 706-100
E-mail: info@eschmannstahl.de