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GROUP

Uwe Meyer Norbert Behrendt Zoran Uranjek Christiane Schetzchen Rüdiger Meincke
Curing Press Management Team

Günter Simon

CEO & Managing Director, HF TireTech Group;

Norbert Behrendt

Director Curing Presses & Managing Director, Belišće;

Zoran Uranjek

Managing Director, Belišće

in an interview with M Noorani



Günter Simon



Norbert Behrendt



Zoran Uranjek

It is now 8 years since your Group was acquired by L. Possehl and Co. in March 2005. Your Group is now 158 years old, almost the same age as your parent company. What have been the major developments since March 2005?

Günter Simon: Since the Possehl Group acquired HF in 2005, very strong external and internal growth of the entire group has taken place. By purchasing Pomini in 2007 and the Farrel Corp. in 2009, the market position was able to be improved significantly. In parallel to this, the other divisions are also developing above average, especially after the economic crisis in 2009, due to the strong growth in the tire industry. This growth was reflected in the dramatic expansion of the production facility in Croatia.

Has the strong financial backing of L. Possehl helped you in your expansion and in further acquisitions?

Günter Simon: You are absolutely right. Due to the fact that we are Possehl's core business and Possehl maintains a very strong financial position, we were able to take care of both the acquisitions as well as the growth previously described without recourse to external funding.

When was the HF Group aligned into the 3 Business

Units: Mixing Group, TireTech Group and Press+LipidTech Group?

Günter Simon: Splitting the whole of the HF Group into the three divisions: Mixing Group, Tire Tech Group and Press+LipidTech took place in 2010. This separating into divisions was particularly necessary in the Mixing Group, because here three strong brands had to be merged, but there was also growth in all other areas which made this repositioning with a decentralized character necessary.

Has your company further consolidated its position as the world's largest manufacturer of machinery for the tire and rubber industry?

Günter Simon: According to the information available to us, we are still the world's largest manufacturer of machinery for the tire industry and lead the field, particularly in the area of mixing technology and hydraulic curing presses. But we are also among the top three suppliers with extrusion technology and in tire building machines.

The HF Group is known by its customers globally as a Supplier of Integrity. What factors have led to your being so highly thought of by your customers?

Günter Simon: I think our new slogan Performance, Passion,



Günter Simon

Partnership - Innovative Engineering since 1855 expresses very well what we stand for, and also what we want to stand for. In the following text, these attributes are described in greater detail. But for the moment, just to summarize - the continuity in co-operation with our customers over decades has led us to formulate this core statement. We manufacture highly technical, quality products. Our staff are highly committed to the firm's values and want to serve our customers. We see our customers as partners with whom we want to build

long-lasting and trusting relationships.

Does the tire industry account for more than 50% of your Group's total sales?

Günter Simon: Today the tire industry is by far the largest customer base and contributes 70-80% of total turnover.

Have you intensified your co-operation with major tire companies for joint development work?

Günter Simon: Yes, in recent years we have significantly expanded co-operation with the largest tire manufacturers around the world and are working on some co-development projects that will be pioneering for the future.

Has your budget for R & D been further increased from the levels of 2005?

Günter Simon: Indeed, we have expanded development activities in all divisions to satisfy increasing customer demands and to maintain or extend our competitive edge, and to improve our products continuously.

The HF Group is also highly respected for its technical service. Has this been further intensified specially in the high growth regions of China and India?

Norbert Behrendt: The Market and our Customers expect a cost-effective and fast-reacting local service. HF provides a network of

qualified regional representatives, agencies and project co-ordinators in nearly all regions where tire building plants are located. Our clients can rely on a service 24 hours a day, seven days a week, coordinated by our Headquarters in Germany.

To lower production costs, has there been further increase in production of parts of your machinery outside Germany, while maintaining the production of key components in your factory in Germany?

Norbert Behrendt: By expanding our Croatian plant in Valpovo and by increasing our productivity we were able to maintain stable production costs to a large extent for all HF product areas.

You have managed to maintain high German standards in your factory in Belišće, Croatia. Do you intend to expand production in Belišće?

Norbert Behrendt: Due to a close co-operation between engineering teams and quality assurance, we were able to maintain high German standards under a German-Croatian management.

As mentioned earlier, we will further extend our sites in Croatia.

What is the present status of your production facilities in the new assembly plant in Valpovo?

Zoran Uranjek: The main production plant is currently located in Belišće. The second plant has been set up in the town of Valpovo, 5 km away from Belišće, including our latest assembly hall for tire building machines and curing presses. This spring a new center for hard-coated wearing parts and screws has been built and opened.

Where else do you propose to replicate the successful experience at Belišće and Valpovo?

Norbert Behrendt: The HF Mixing Group recently has taken over a Slowaken company, ZDS Najus in order to replicate the positive experience the HF TireTech Group has had in Croatia. At this time there are no further plans.

Machinery manufacturers in Asia and especially in China and Taiwan have made good progress in the last 10 years. Has competition from these manufacturers had any impact on your activities?

Zoran Uranjek: Against the backdrop that the competitive situation has changed indeed, it is our objective to produce state-of-the-art equipment of the highest quality at reasonable prices.

To achieve this, we are constantly working on the improvement of our production technology, on optimizing logistics and on implementing the latest quality managements systems also in Croatia.

Can you tell us more about the philosophy behind your participation in various international rubber exhibitions worldwide?

Günter Simon: The growth markets in Asia have increasingly come into focus over the recent years. The nature of these markets is characterized by a strong geographical diversification of customers. Since a close partnership with our customers is crucial for a successful co-operation, we frequently attend key events in the respective regions for a personal exchange with our partners. Furthermore, we would like to position ourselves on the emerging rubber industry markets as a competent and experienced mechanical engineering company with the highest quality standards. As the global leader in the rubber processing tire industry we are highly respected by Asian tire manufacturers who appreciate our high quality standards and reliability. Due to efficient manufacturing processes at our production facility in Croatia, we are able to prove our competitiveness day after day. This corporate orientation enables us to meet the specific demands of the market.

What is your vision for the TireTech Group for the future?

Günter Simon: We want to consolidate our position in the traditional markets and further strengthen our positive customer relations. Continue to expand and reinforce our network in growth markets in order to be able to build up new customer structures. Orientate our product portfolio towards future market requirements through innovation and continuous improvement. By means of a targeted mix of our activities, we will be successfully involved in shaping the future of the tire industry.



Zoran Uranjek



Norbert Behrendt



*Performance. Passion. Partnership.
Innovative Engineering since 1855.*

HF TireTech Group is a giant in the global rubber Machinery industry and dominates its field as international market leader in machinery and systems for the rubber-processing and tire industry. While there are few who are not familiar with the brand, the back ground of its parent company, HF TireTech Group's recent acquisitions and moves, and its true scope are worthy of a deeper look. We take you inside the HF TireTech group in this issue's cover story and find out more about its product range, new facilities and target markets and about how the company hopes to consolidate its leading position. Engaged in innovative engineering since 1855 – the HF Group stands for tradition as well as innovation. It is impressive to note that along with its business partners, HF has developed technical solutions on a daily basis for the last 150 years. HF is still well known for its reliability and quality manufacturing which became famous during the affiliation with the Krupp company and still remains unchanged.



HF curing presses - series production

Overview:

Founded in 1855 as an ironworks factory called Harburger Eisenwerke AG by German Julius Koeber in the city of Harburg, Germany. HF has evolved into a pioneer in the development and manufacture of specialist machines for the global rubber, tire and edible oil industries. Through acquisition of the Farrel Corporation (based in the US and UK) and the Pomini-Mixing Technology of Italy, the HF Group strengthened its position as the leading player within the tire industry. Since 2005, the company has been named Harburg-Freudenberger Maschinenbau GmbH, following its acquisition by the Lübeck-based firm, L. Possehl & Co. mbH. The HF Group consists of three business divisions: HF Mixing Group, HF TireTech Group and HF Press+LipidTech. Farrel and Pomini – along with the mixing business of Harburg-Freudenberger GmbH, Farrel and Pomini comprise the HF Mixing Group, which Possehl set up in 2010. The HF TireTech Group makes high-quality

extrusion equipment, tire-building machines and curing presses for customers across the world, especially global tire majors. The Italian tire giant Pirelli presented it's **"Best supplier Award 2012"** to the HF TireTech Group, which was recognized for innovation and service.



HF's well-established manufacturing plant in Belišće, Croatia

The development of HF TireTech's new production site in Croatia was a very significant move for the company. Harburg-Freudenberger Belišće d.o.o. was founded in 1998 as a joint venture between the former Tronica strojeva Belišće AG and Krupp

hf-group.com



HF manufacturing plant in Belišće, Croatia since 1998 - "Belišće Entrance"

Elastomertechnik GmbH. The history of industrial production in Belišće dates back to 1884. The machine factory of Tronica Strojeva Belišće AG, which was originally part of a paper mill, was set up in 1953.

In the first stage, the Belišće plant had reached its limits, by producing curing presses and mixing components. Due to the positive plant utilization



New manufacturing hall in Valpovo, Croatia only 5 kms away from HF plant in Belišće

and to HF's market leadership in the field of curing presses, the company decided to purchase further buildings and territory for expansion, in the town of Valpovo, just 5 km away from Belišće.

In 2011, production facilities were built for columns and small parts, and early the following year, a spacious production hall for the assembly of tire building machines and curing presses was put into operation. The construction of a welding center with robots started in January 2013, with production getting underway this May.



Welding robot



Valpova Assembly Hall - Tire building machines

Last year, HF was able to achieve complete ownership of the Belišće plant and to acquire the buildings and territory of the Belišće site. The company invested in high-tech production machines and in a new central warehouse.

The Belišće site has many advantages, including a well educated and highly motivated workforce. A number of co-operation agreements exist with local



HF Engineering Team Hamburg & Belišće: (R-L) Ivan Baraci, Christiane Schetzchen, Dino Pozar & Sinisa Dohmal

universities, such as the University Zagreb and University of Applied Sciences of Slavonki Brod. Staff turnover is minimal due to local ties of many employees and few job opportunities in the region. Other factors contributing to the success of this facility are the German-Croatian management team; lean organization structure, continuous data integration by using a joint ERP-System in Hamburg and Belišće; good transportation networks across Europe; a fully developed infrastructure; stable manufacturing costs and high productivity; programs to ensure continuous improvement; excellent competitiveness which enables HF to compete against Chinese and Indian rivals and a high level of quality awareness amongst the employees. Additionally, the facility has ISO 9001 certification along with the company's German plants.

Harburg & Belišće - a strong Bond

Aside from the advantageous local conditions, it is evident to those familiar with HF that a decisive factor contributing to the success of the company's production site in Belišće is the tight network-

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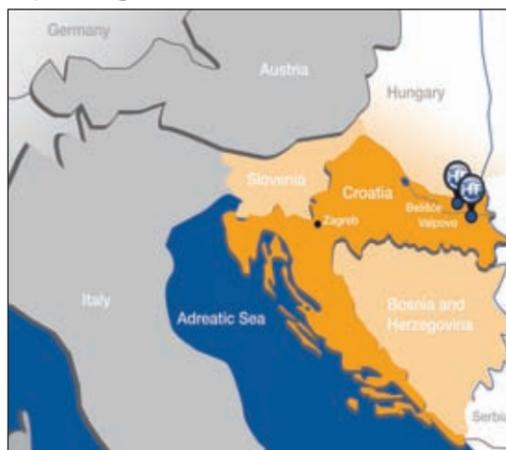
Belišće Management: Norbert Behrendt & Zoran Uranjek
interdisciplinary as well as cross-hierarchical which is part of the company culture. Constant knowledge transfer and a high level of identification are ensured by these tight structures and by personal exchange on a regular basis.



The 15th anniversary of the Belišće/Valpovo site was celebrated on 18 May, 2013. The anniversary celebration took place in a manner which reflected HF's social responsibility in the local environment. Employees were invited with their families and were able to show their workplace to their family members. Some families have a second generation working for HF Belišće. Norbert Behrendt, widely considered the main driving force behind the development of the site, recently received an award for HF's local engagement by the City of Belišće.

Croatia at a glance:

Total area: 56.542 sqkm
Population: 4.38 million
Part of EU since 1 July, 2013
GDP for 2011: €46 billion (\$61 billion)
Capital: Zagreb



HF's Curing Presses: Successful Integration of Engineering & Manufacturing

The **HF TireTech Group** has been one of the world's leading and most innovative curing press manufacturers for decades. It was the first company to develop a hydraulic curing press as early as 1972. HF machines are developed at the head office in Hamburg and manufactured at the company's production site in Croatia. This arrangement enables the company to guarantee the high standards of its curing presses. HF's flexible engineering set-up, as well as the advantages of its production site in Croatia means that the company is able to offer special designs and deadlines accordingly.

All parts used are subjected to a strict quality and material inspection. It supplies curing presses in common or individual operational modes. HF's presses are suitable either as new equipment or also for the replacement of existing mechanical presses. All machines are manufactured according to customized specifications which guarantee that each curing press dovetails smoothly into the customer's process flows, leading to reliable and effective production.

HF's sales engineers are able to give expert advice to their customers, and along with the company's Clients Process and Engineering team, they offer state-of-the-art solutions, integrating new curing presses into their client's current production flow. HF also provides a network of qualified regional representatives, agencies and project co-ordinators in key regions around the world and proudly announces that it offers global service 24 hours a day, 7 days of the week. Through close co-ordination between the company's sales engineers and representatives and its Technical Department, HF ensures compliance between customer and



HF Curing Press

manufacturer, resulting in a cost-effective method of production for the tire producer.

HF is justifiably proud of the fact that its customers do not regard it merely as a "supplier of machinery", but also as a "supplier of solutions".

It is noteworthy that the company's curing press concept is proven and "state-of-the-art", these curing presses are pre-assembled and dry-tested. HF offers dedicated engineering solutions, such as the Quick Mold Change Device, value added solutions for Host PC and Production Planning System (PPS). Every year, the company reliably delivers over 400 presses. It also offers sub-supplier integration for dedicated spare part solutions.

Stack-PCI



HF's developed and patented stack-PCI has been successfully used across the world. Its simple yet impressive design is characterized by the following features: hydraulic cylinder at high positioning accuracy; precisely controlled rim plates; no mechanical interlock and resulting wear and tear of the joint part; backlash free positioning without hysteresis and excellent reproducibility and no rotating elements, resulting in minimum space requirements.

PCI's are offered in three different designs- as an accessory or additional assembly on new curing presses, as a retrofit package for all HF curing presses already in operation and as a stand-alone solution in combination with all curing presses available on the market.

Following the popular use of PCI's in the 1970's in the production of bias tires, to counteract against the shrinkage of nylon-ply, this method is currently experiencing an amazing renaissance – on the one hand in the production of run-on-flat tires, on the other hand in the production of the most advanced tire concepts with narrow side walls.

The use of HF stack-PCI's allows a form-stable and controlled cooling of the tire, subsequent to the heating process. Furthermore, studies have proved that uniformity of the tire increases by using the PCI. So many tire manufacturers have recently shifted their production in order to achieve a better assessment with the tire labeling.

Tire Building Machines - HF's engineering principles: Intelligent & Modular



HF's TBM-Team: (L-R) Lutz Herrmann, Head of Sales; Dr. Claus Oberbeck, Head of Technical Department; Ulrich Busch, Director TBM

Since 2012, HF's TBM-Team (pictured here: Lutz Herrmann, Head of Sales; Dr. Claus Oberbeck, Technical Director of TBM; Ulrich Busch, Director of TBM) has been reinforced by the arrival of Dr. Claus Oberbeck, who has had over ten years of professional experience in the tire industry.

HF's machines achieve an optimal balance of high quality requirements with increasing output demands. Along with its customers across the world, it has faced up to existing challenges and



HF Tire Building Machine – PLT2

has for decades been developing machines in a modular design, which are easy to operate and simple to maintain.

HF proclaims itself to be "The Tire Industry's best option". The company's strength lies in developing tailor made units with special features for the

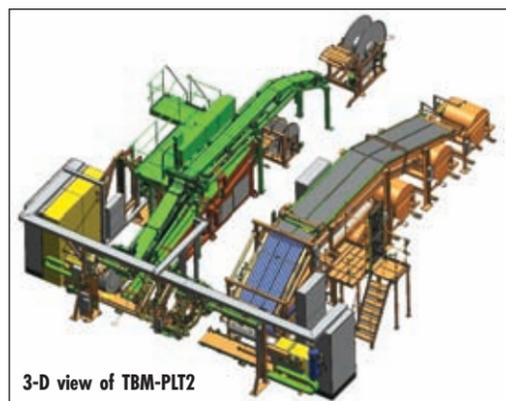
HF is justifiably proud that its customers regard it as a "supplier of solutions"

hf-group.com



HF - "The Tire Industry's best option"

hf-group.com



3-D view of TBM-PLT2

individual needs of its customers. It provides flexible, modular design, fully automated machines for standard tires up to the production of high and ultra-high-performance -assuming that standard tires are produced fully automatically- and with a production output of up to 1600 green tires per day.

The following features are part of the company's concept: short tooling change times; automatic height adjustment; quick dimension change; green tire unloading systems and optional robot for bead setting and green tire unloading.

Extrusion - Customised solutions for all components

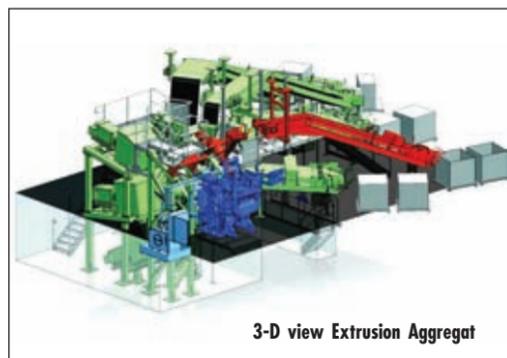
The extrusion aggregates and extrusion lines designed by the HF TireTech Group are well acknowledged in the international tire industry to be of outstanding quality. The company's machines and components have been able to earn this global recognition thanks to high technological standards, utmost reliability and extremely long-life cycles of



Extrusion Team: (L-R) Hauke Paul, Head of Technical Department; Dirk Wiegrefe, Director Extrusion; Karsten Küddelsmann, Head of Sales Extrusion

the equipment. HF develops and supplies extrusion machinery from simplex to quintuplex applications for extrusion lines and also for roller-head extrusion lines according to the customers' specific needs.

Three-dimensional design ensures that working conditions for operator and maintenance staff will be optimized, while taking good accessibility and



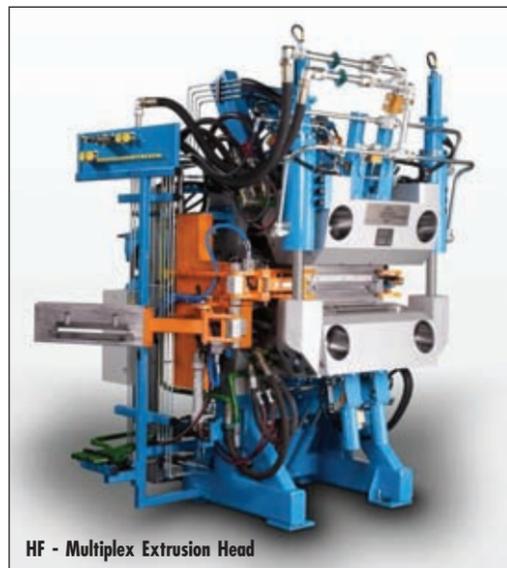
3-D view Extrusion Aggregat

ease of operation into account, considering the spatial conditions on site. The unique HF head concept allows excellent accessibility for operators and maintenance staff.

With HF upstream equipment and the proven co-extrusion heads, tire manufacturers get the best productivity and quality for profile production.

HF prides itself on its extruders with optimum throughput performance; high performance screws for every application; compact design of multiplex extrusion heads made from high-quality forged steel; optimized head weight and floor space usage; reduced pressure build-up through optimized and computer-designed flow channels; guaranteed leak-free extrusion heads through wear-resistant head concepts; patented hammerhead locking system; faster and safer profile change through modular tooling and ease of operation and maintenance.

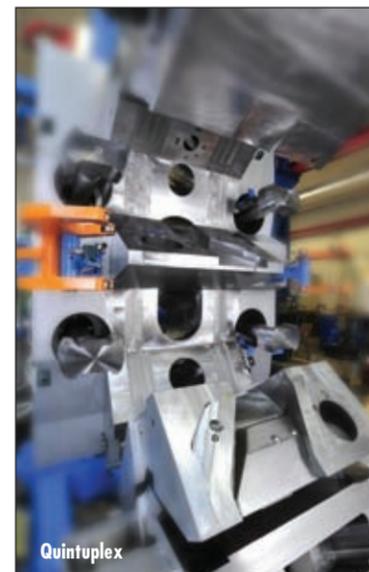
The downstream equipment for complete extrusion lines are tailor-made, designed and delivered in co-operation with experienced global partners and European suppliers. Essential features of this range include: highly efficient and easy to maintain cooling lines; various winding systems specifically tailored to the customers' requirements; precision cutting machines and skivers; high-precision measurement systems for different applications and complex systems for the online integration of additional tire components; auto booking systems and state-of-the-art control and automation concepts.



HF - Multiplex Extrusion Head

New generation of co-extrusion heads

The tire industry's highest demands for the extrusion of multiplex profiles for high performance tires in silica technology can be fulfilled with HF's Smart Quintuplex extrusion heads. These market-proven co-extrusion heads have been enhanced by integrating an additional micro extruder on top of the system. The Quintuplex extrusion heads allow up to five profile components from different



Quintuplex

compounds to be joined together in a single operation to one tread profile. During the process, the additional fifth extruder directs a conductive compound into the tread profile to prevent electrostatic charges in the tire.

The compact design of all key components can be maintained as well as the operator's easy accessibility when changing materials and tools. This smart integration of a fifth extruder into a quadruplex extrusion head can also be adapted for the integration of an additional micro extruder into a triplex or duplex co-extrusion head to realize the demand for a chimney channel.

HF is insistent that through its cutting edge extrusion technology, the increasing demands for sustainable tire technology can be successfully met and that the requirements regarding tire labeling regulations focused on roll resistance, wet grip and noise level can be reliably fulfilled in all markets.

A number of quintuplex extrusion heads have already been delivered and successfully installed at tire production plants across the world.

High performance screws



Key component HF-Screw

The high performance demands on extrusion technology require the continuous development of innovative extrusion screws for hot/cold feed applications, and especially for silica technology. While taking HF's extensive experience into account, screw development at the company has taken place through theoretical calculation

followed by extensive testing of the extrusion screws in the lab.

Screw design at HF has the following hallmarks: improvement in geometry of existing extrusion screws; higher output – higher cost effectiveness; combination screws for a broad range of applications; productivity increases for existing extrusion lines; the adaption of screws to the high requirements of modern silica compounds by PVD screw coating; improved output / temperature behavior

whilst ensuring high homogeneity of the extruded compound; special steels for unbeatable reliability and excellent wear properties for long lifetime.

The successful results and acknowledgment of various tire manufacturers using HF's high performance screws serve as confirmation of the high standards of the company's cutting edge screw technology.

HF machines and extrusion technology are well equipped to meet the current global technical requirements of the tire industry, and are prepared for further high demands that may be placed upon them in the future.

Development of the Asian market - changes & chances



Andreas Stöhrmann, Asian Expert & Sales Director Curing Presses & Uwe Meyer, Head of Sales Curing Presses (on right)

Over the past five years, the global tire industry has been able to ride out the financial and economic crisis that prevailed across the world and has been able to use the subsequent surge of growth in order to completely reposition itself.

This is true not just for the major global players, but also for local companies in markets such as Asia, which have seen dynamic growth. Old, unprofitable tire manufacturing plants with outdated equipment were closed and replaced with new plants by established, internationally active tire



major, who have utilized state-of-the-art equipment and optimized logistical processes. Even locally active tire manufacturers, who in the past have relied upon local equipment and machinery, have taken advantage of this development and – despite the higher investment costs – have started to implement state-of-the-art equipment for all processing steps, from mixing technology to extrusion technology, unistage tire building machinery and high performance curing presses, thus ensuring high quality tires. They have essentially been emulating the efforts of the global tire giants. The combination of excellent quality and low life-cycle costs is becoming increasingly popular. This development has also led to partnerships between the HF Group and young aspiring companies in Asia.

Multistrada evaluates the market and the position of local manufactures



Joko Mintono, GM, Multistrada, Indonesia in front of HF curing presses in his factory

An excellent example of such a partnership is Indonesia's Multistrada. PT Multistrada Arah Sarana Tbk. is one of the ambitious, newer tire companies in southeast Asia, which was established in 2004, when a new management team took over a tire factory, setting up PT Multistrada Arah Sarana Tbk. Along with the increase of production capacity and growth of its tire production output, the management team also devised a new corporate identity for their own brands, Achilles and Corsa radial. They also produce a private brand for selected customers. These measures have resulted in a significant gain in market share, as well as enabling Multistrada to become an OEM supplier for well established automotive brands in the southeast Asian market.

Multistrada's success was made possible due to the tire maker's investment in not only the latest and the best modern tire machinery, but also due to their use of state-of-the-art technology to achieve consistency in all their products.

Joko Mintono, the Senior General Manager of Technical Development and Process Technology at PT Multistrada Arah Sarana Tbk, explained the situation

and his evaluation of the development of the Asian market in a conversation with IRJ's Managing Editor M Noorani. He stated that for their expansion program, the company opted to buy machinery from the HF Mixing and Curing Presses. He said this decision was based on the fact that the company did not want to take any risks related to the safety and quality of its products and productivity, which would have been the case had they opted for unfamiliar suppliers. Also, the company has had extensive experience with the state-of-the-art machinery chosen, which has been proven and tested. He added that most of Multistrada's orders are repeat orders, primarily as the tire maker is not interested in operating a variety of different lines. This simplifies maintenance requirements and ensures reduced spare part procurement costs. Lastly, the company opted for a well-known machine supplier in order to demonstrate to its customers that it aims to provide the best service and quality possible.

Mintono added that the machines purchased from HF are reliable in that they produce good quality tires with less variation, less downtime, good after sales service and long durability. The machines are also very cost effective. HF and Multistrada share information and their experiences with the supplier, thus providing a basis for improvements from which they will ultimately benefit. Also, the machine itself is very flexible and can handle a large range of products, for example curing presses, which have an independent cavity and can be controlled independently.

From a mid-term (5 years) and long-term (10 years) perspective, Mintono said that regarding changes in process machinery based on future tire development, the machine must satisfy the market's demand for quality products such as euro tire labeling, ultra high performance tires, stud-less winter tires, all of which require high-performance machinery. The level of local competition will increase so that the cost effectiveness of the machinery purchased will be more important than ever. He said that Multistrada needs state-of-the-art machinery which offers more automation and fewer process steps in order to reduce the overall dependency on manpower. On a long-term basis the Indonesian truck tire consumers will change from Bias TB to TB Radial. To follow this trend, he explained that they were in the process of developing an Achilles radial truck tire product line. Consequently, the tire maker is aiming to retread its TBR product lines and is in the process of planning the production of giant tires for mining and logging purposes.

Considering the continuous growth of Multistrada's production volume over the last five years, Mintono said the most important factor influencing the company's decision in favor of process machinery was its goal of producing quality tires, while at the same time optimizing manufacturing costs. He said Multistrada's customers were aware of the tremendous efforts that the tire maker has made to provide high quality products. Their willingness to invest in state-of-the-art equipment to ensure that the end product satisfies quality expectations helps them retain their customers loyalty, as well as in attracting new customers.

A strong team in India

In India, HF has a formidable team in Nicole Hess- HF Group Representative, Hauke Paul- Engineering & Sales Extrusion and Samir Saha -Customer Relations & Service India. The company believes its customers desire modern and flexible production, which is exactly what the company is able to deliver and the reason its individual and modular systems make them so successful in the Indian market.

Impressive partners for downstream equipment in Asia

The strong growth of the auto industry, and thus high demand for tires in India and in the Asian market have led to a need for investment in the region's tire industry, which is characterized by local tire majors as well as multinational tire giants.

The HF TireTech Group has ensured itself a strong market presence in the region, with high-quality and technologically advanced components for complete extrusion lines, through the successful co-operation it maintains with two competent and experienced partners in Asia, Tekfab/India and Mytech/China. These companies supplement the European HF upstream equipment with reliable high-quality downstream equipment, such as feeders, conveyor systems and in particular spray-cooling lines in the respective markets. Through the close collaboration between HF and its two partners, the high-tech engineering "Made in Germany" can be adapted to specific local market needs and can be implemented cost-effectively in production.

It is apparent that one of the benefits of this co-operation is the proximity HF enjoys with its customers in various markets. This also allows installation services by local staff and fast and competent maintenance service support for existing lines.

The pictures clearly underline the high technical standard of some downstream components recently installed and successfully put into operation at a global tire manufacturer's plant in China.



Locally manufactured feeding systems



Nicole Hess - HF Group Representative & Hauke Paul - Head of Technical Department Extrusion

Samir Saha Customer Relation & Service India



Locally manufactured Extrusion cooling line



Quintuplex Extrusion Head embedded into locally manufactured downstream





Tekfab Engineers/Intek Engineers: Indian collaboration

Tekfab Engineers is an engineering firm which has been manufacturing conveying systems and special purpose machines since 1974. Based in Thane, near Bombay, they are exclusively focused on tire industry machinery and equipment. Though HF (formerly Krupp) and Tekfab started their relationship in the late 1990s. A strong working



Tekfab - Winding Station

arrangement was established from 2005. The concept of supplying extruder upstream and downstream equipments from Tekfab, along with extruders from HF, was well received by the major Indian tire manufacturers, as they were able to get a European quality product at Indian prices. The HF - Tekfab team has successfully executed orders to almost all the tire majors in India. Aside from extruder lines, Tekfab is also a leading manufacturer of other tire equipment, such as bias cutters, fabric calender line and two wheeler tire building machines, amongst others. Tekfab's sister company, Chennai-based Intek Engineers, is the largest manufacturers of Batch-offs in India. All the equipment made by Tekfab and Intek Engineers comes complete with electrical control panels and software integration.

Mytech Engineering: Collaboration in China and Malaysia



Mytech

Sum Hing Engineering, Malaysia and Mytech Engineering, China. Established in 1969, Sum Hing Engineering specializes in rubber tire mould and rubber machinery manufacturing. The company manufactures a full range of segmented and two piece moulds. It obtained ISO 9001:2000 certification in 2003 and ISO 9001:2008 in 2009 and continues to maintain stringent quality control procedures. In 2010, Sum Hing Engineering established a rubber machinery manufacturing and tire mould servicing factory in China, called Mytech Engineering. The company manufactures extrusion down stream equipment for HF.

Life Cycle Cost / Total Cost of Ownership

It is becoming increasingly important for manufacturers in the tire building industry to evaluate the total costs associated with a machine's life cycle. HF says its customers have recently begun expressing an interest in life cycle analysis of machinery equipment. Consequently, HF has developed an Excel-based tool derived from VDMA Guideline 34160, to take into consideration the typical cost influences for hydraulic curing presses over a life cycle of 25 years. The VDMA is the German Engineering Federation- the trade association of the German mechanical engineering industry.

First of all, it is essential to identify and determine the cost elements. The tool allows to fill in any data which might occur "from the cradle to the grave". However, some customers prefer just to focus on initial investment, operation expenses and maintenance costs.

As a second step, HF offers joint workshops (operator together with machine supplier) a unique occasion to fill this tool with reliable data. One of the most significant cost influences are related to energy consumption (media like steam, nitrogen, air, electricity).

Last but not least, the evaluation and interpretation of collected information offers valuable clues to potential future developments. Analyzing the costs involved in the life-cycle of a machine allows a machine supplier to follow "design-to-TCO" principle to increase market success, whereas the machine operator will significantly reduce life cycle cost.

The Assessment of Life Cycle Cost is a reasonable approach for the economic evaluation of highly complex technical systems and to support the decision making process for new equipment.

The leverage to reduce Life Cycle Cost is closely associated with reduction of energy consumption. The sample diagram shows the proportion for energy consumption approx. 60% whereas the initial investment for the machine represents only 2.5%.



HF's position in the global market

The world's biggest rubber machinery company looks to the future: In order to consolidate its position in the market and to underline what it stands for, HF TireTech focuses on the main attributes of the HF Group that were valid in the past, and still remain essential for its future.

These attributes are now united in the HF claim: Performance. Passion. Partnership. Innovative engineering since 1855.

HF's Performance is clearly reflected in the excellent quality of its machines, and the company strives to maintain this high standard. Passion stands for the company's enthusiasm, which seems to drive the whole team at HF. Their commitment to their work results in high performance levels. Partnership refers to the company's customer orientation and customer care. The company considers its customers and suppliers to be its partners.

HF TireTech's expertise and experience makes it a powerful and reliable partner for the future. The strategic importance that the company is giving to the Asian market is certain to pay off against the backdrop of a changing global economy. Sound partnerships in the region can only strengthen HF TireTech's position in the market and enhance its global reputation, but ultimately its stellar product portfolio will continue to be the only calling card the company needs.

Presence at major international events



HF Group Management: Günter Simon, Prof. Dr. Andreas Limper, Mark Meulbroek, Jens Beutelspacher



HF Group at Tire Technology Expo 2013



HF Group Team at Tire Technology Intl. Expo 2013

There is an underlying feeling at HF that to understand the market and find individual solutions, it is essential to be close to customers and to strengthen existing partnerships. It is this business philosophy that prompts the company to participate in major rubber and tire events and conferences across the world.

HF will be present at this years' RubberTech China 2013 Fair in Shanghai at **booth 3B261** and will have a dedicated exhibition stand. The 2012 edition of the Rubber Tech fair in Shanghai was a great success, attracting important customers and decision makers and offering the opportunity to establish personal contacts and to intensify existing business relations.