KNOW A RUBBER LEADER

In 10 Questions

Interview With

Prof. Dr.- Ing. Andreas Limper

Member of the Board Of Management

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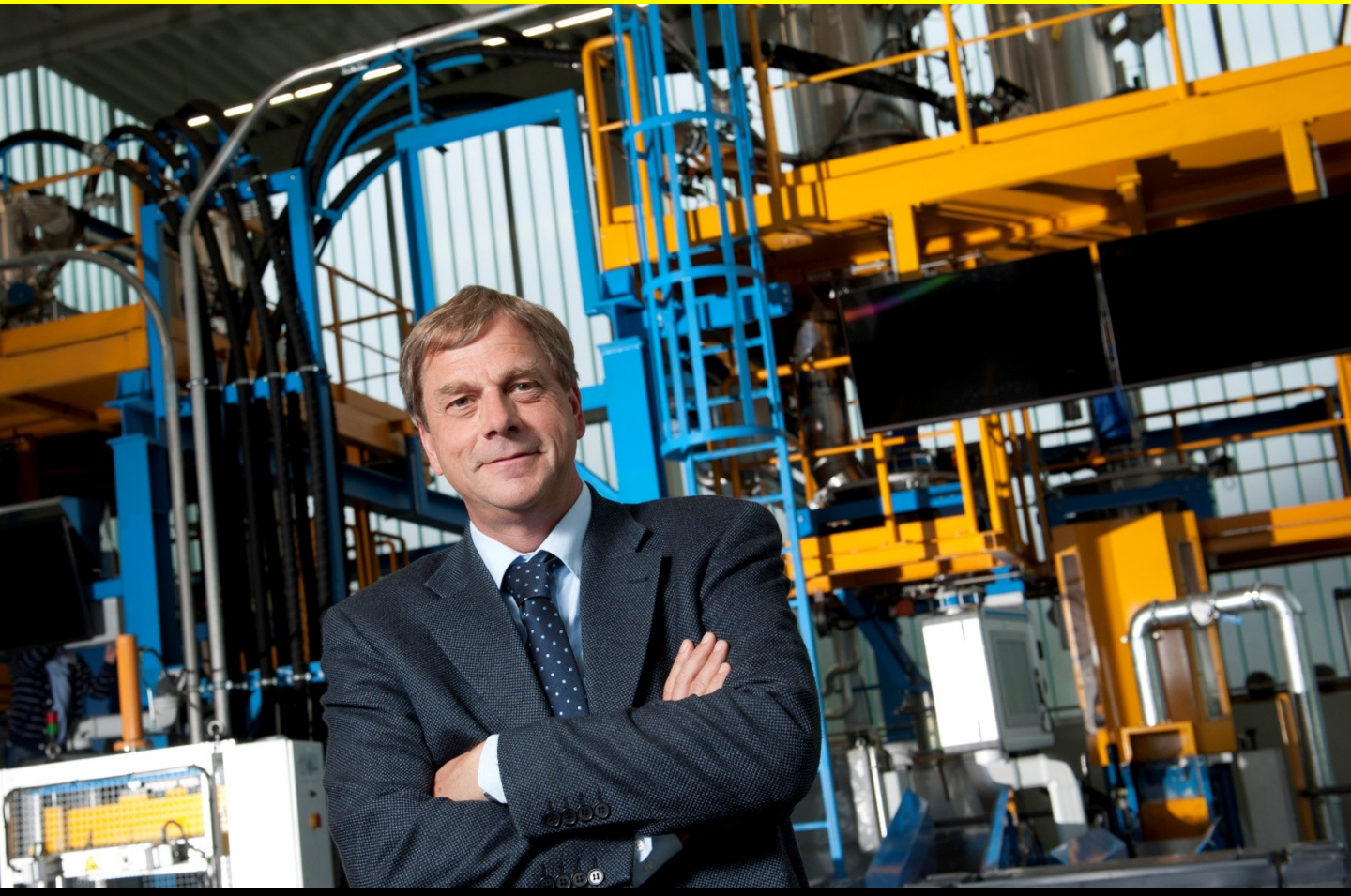

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Hello Dr. Limper. First of all thank you for accepting an interview with Rubber Machinery World and sharing your thoughts. The journey from a Mechanical Engineer, specializing in Polymer processing (1981) to Member of Board of Management (2004) of an Organization with 155+ years of legacy is a remarkable one. So let me start with a personal question - What would you say was a key to your success and how you reached the very top spot?

Everybody who has passion for his kind of job will be successful. When I started my career at the IKV (Aachen University), rubber processing was a focal point of activities. It has been very fascinating to transfer methods of engineering to the rubber industry. At that point of time (beginning of the 80's) the rubber industry was dominated by chemists and a lot of process understanding had to be developed. Being a part of this paradigm change had been very inspiring and motivating. To the new generation, my advice is whatever you do, stop doing it if you do not like it (or can't change it). The Rubber Industry is an attractive field of work, since it requires multi-disciplinary thinking (chemistry, physics, mechanical engineering, electrical engineering, product design etc.).

"To the new generation, my advice is whatever you do, stop doing it if you do not like it (or can't change it). "

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Through organic and inorganic growth (acquisitions), HF currently enjoys a enviable leadership status for its portfolio of products. What's a challenge you spend a lot of time thinking about these days?

Excellent solutions require holistic thinking in the mixing room. We could show that, for example, by the tandem technology it is possible to save considerable mixing time and even mixing stages in some cases. The integration of the abilities of modern control systems, drives, hydraulics and machine concepts is necessary to achieve lowest possible costs at highest quality. Many customers are still ignoring these facts and tend to keep buying mixing lines as in the old times. In those days, steel and iron, controls and peripheral aggregates have been sourced individually and there have not been a lot of synergistic interactions.

It is a challenge for us to convince customers to leave the archaic way of purchasing and to go for holistic "turnkey" offers. With our investment into a first class technical center, the building up of a big group of system engineers and control system specialists, we are today well prepared for widespread offers.

"It is a challenge for us to convince customers to leave the archaic way of purchasing and to go for holistic 'turnkey' offers."

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Recently, a reader wrote to me saying "Ever since the inventions of Banbury® and Intermix®, rubber mixing machinery have not witnessed any spectacular invention". Would you agree with this statement? Where do machinery stand today vis-a-vis the progress (or lack of progress) in rubber technology?

"Imagine, somebody saying: "Cars today still have four wheels, a motor , a brake and an autobody, I cannot see any new technical concept.." Would you agree??"

This reader was definitely wrong! Imagine, somebody saying: "Cars today still have four wheels, a motor , a brake and an autobody, I cannot see any new technical concept.." Would you agree?? Only out of a very big distance the mixers from 1920 and today look similar. We have

- **hydraulic instead of pneumatic rams**
- **a controlled ram pressure and a controlled ram position**
- **dust stops , which have far less leakages as in the past**
- **machines running at least with double speeds as 100 years ago**
- **have rotors being at least 250% more productive**
- **a tight process control, which uses to control the process parameters to achieve a very high batch-to-batch uniformity**
- **a wear protection, which has doubled the lifetime of the mixer components.**

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Apart from the common feature, many people addres- to the rubber industry, I see a lot of progress in the mixing room. Tangential mixers are offering new rotors with enhanced capabilities for cooling and a higher productivity. Tyre producers are using mixers as reaction vessels (silica compounding) and are introducing intermeshing mixers. The tandem technology is getting an increasing importance and a steep rising market share. Twin screws have conquered the downstream area in many mixing rooms. I have seen a mixing room for final mixing without any roll mill.

Summarizing these shows, there is a lot of innovation in the rubber machinery and its adaptation in the industry!

"Tyre producers are using mixers as reaction vessels (silica compounding) and are introducing intermeshing mixers."

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What is the biggest frustration today for buyers of tire machinery? How are HF Tire Products and Services addressing this?

As I already mentioned, a missing "holistic view" can be very frustrating. Customers seem to save money, when they purchase their mixing lines "in slices". This is only a short-term thinking. Normally their own engineering work is not taken into costing consideration or valued to be for free. Also the cheapest product can have the highest "costs of ownership", since in many times the availability of low-price solutions can be poor. Availability is not only reached by robust and well engineered products, it is also a function of service. This means customers should also value, what would be the reaction of a supplier, when it would come to problems. By installing a network of own service stations and service partners all around the world, we show a high commitment to achieve highest possible availability for our customers.

"Customers seem to save money, when they purchase their mixing lines 'in slices'. This is only a short-term thinking."

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To allow our customers the look to a complete line, we have installed two lines in our technical center, where customers can use all components of a mixing line (material feeding, mixer, peripheral aggregates, different downstream solutions, a complete automation system including material and recipe management, process control, lab data etc.) to analyse his personal advantages in practical tests. Such a detailed practical test had not been possible in the past. Often customers had to use industrial field installations for complete studies, which had a lot of limitations.

"..we have installed two lines in our technical center, where customers can use all components of a mixing line.."

How does HF propose to change the rubber and tire industry in the years to come?

I would be very happy, if a broader view on solutions would take place. In our case this would be an entire look at a mixing line – including controls, order and material management. It could be that the rubber industry will lose a part of its market to the TPE industry. In such cases, rubber processors could think about own compounding facilities for these materials.

In the tyre industry, we expect even new challenges from newer materials, as functionalized polymers or surface activated fillers. To develop solutions, which will assure the ability to compound these new recipes at acceptable costs, remains to be a real challenge.

"In the tyre industry, we expect even new challenges from newer materials, as functionalized polymers or surface activated fillers."

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Energy Efficiency will be a big theme in mixing. The relative costs might be only a few cents per Kg, but the absolute costs are approaching very high values in practice. We have developed new drive solutions with considerable higher efficiencies. Besides this we have a quite big research work in which we have analysed the complete energy flow in the mill room. The first results are very promising! By the optimisation of processes, the more intelligent process control (for example the ram-position control possible by iRam), a better use of hydraulics, we see specific energy saving potential of up to 40%.

All in all, these examples show again, that we should be prepared to look in the bigger scope to the mixing line – then a lot of substantial optimisations are possible.

"By the optimisation of processes, the more intelligent process control (for example the ram-position control possible by iRam), a better use of hydraulics, we see specific energy saving potential of up to 40%."

Can "superior-technology" and "low-cost" ever go hand-in-hand in rubber and tire machinery/equipment?

If we are speaking about high quality demands, it is a must!! Look at the major tyre producers. They have analysed the total costs of ownership and keep buying high quality machinery. For low-quality products, which have to fulfil low requirements, perhaps a cheap solution also works. But for me, even this way is questionable. A rubber mixing line has a high investment and a very long lifetime. Customers, serving today a low-requirement market, might see the demand for higher sophisticated solutions in a few years. With a line of sight at a low-standard, they are limiting their ability to follow market trends.

"Look at the major tyre producers. They have analysed the total costs of ownership and keep buying high quality machinery. "

Most analysts opine that the production has shifted from west to east in case of rubber goods production. However the customer awareness levels on advances in machinery and its availability, superior technology and its adoption is seen to be better in the west. So, on a scale of 1 to 10 (low to high), where do you rate the practices of manufacturers of the east? What do you think of this disparity and how is HF working to expand your market on newer technologies in the East?

We are actively supporting our customers wherever they go. We have own service activities at our new facility in Slovakia and an own service station in Qingdao/China.

The higher personal costs are producing a higher pressure for modernization on western facilities. So in general terms, there is a certain routine for optimisations and process improvements. In eastern facilities, which in many cases are much younger, these skills must first be developed.

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"We are actively supporting our customers wherever they go."

However, I see eastern European facilities learning very fast. If the western companies in best cases are at a scale of 10 ,eastern facilities today are achieving results of at least 7.

If I look at Asia - which means predominantly India, China and Southeast Asia, conditions are comparable. These countries have been used by OEM's, for example car manufacturers as source for easy and inexpensive parts. Companies being active in such business fields are working with very simple and inexpensive solutions. I am deeply convinced, with increasing quality demands there will be a strong requirement for modernisations and upgrades. New technologies, a wide use of automation concepts and new mixing procedures create the necessity to qualify as well the operators and people responsible for the mixing room.

By installing our own training center, we are preparing our customer operators for the use of new technology. We see that this is as important as the technology itself.

"If the western companies in best cases are at a scale of 10, eastern facilities today are achieving results of at least 7."

One of the greatest threats to any business is copying of design and features from original manufacturer and offer at a fraction of price. Some politely call it "re-engineering" but any imitation can be quite intimidating. As a respected industry pioneer, I am sure you too would have your share of concerns and challenges. How does HF face this and protect your revenue or profitability?

I like the general thoughts of John Ruskin, who said, *"There is hardly anything in the world that some man cannot make a little worse and sell a little cheaper, and the people who consider price only are this man's lawful prey".*

"A lot of secrets are in the production methods!"

A mixer is - with a superficial view - not a complicated machine. Its geometry can be copied simply. What "pirates" ignore? A lot of secrets are in the production methods! Think about hard coating, high precision machining of hardened surfaces, sophisticated controls for ram hydraulics, etc. Also, the correct assembly involves a lot of manual skills which need a lot of experience. If we apply our quality demands, a production of a key component is usually not decisively cheaper in a low-cost country. This means the production of this key components in own premises is the best know how protection.

What do you envision for HF Group in the next 10 years?

I am convinced the market will ask more and more for "solutions" instead of "machines". This means our group has to be able to deeply understand our customers' requirements. Our understanding has to include not only the mill room but as well the general product specifications and the value chain of its production.

The HF Mixing Group is preparing itself by building up more engineering power and more engineering competence. Our production of key components will be further developed to achieve lowest costs at highest quality. We will as well develop and use our world-wide purchasing network to accomplish the best costs for our customers.

"The HF Mixing Group is preparing itself by building up more engineering power and more engineering competence. "

HF MIXING GROUP

Great! And one last question, what would you advice on machinery selection to buyers and users of rubber and tire equipment?

Let me again answer with a worldly wisdom of John Ruskin.

"It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money – that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot – it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run, and if you do that you will have enough to pay for something better".

"It's unwise to pay too much, but it's worse to pay too little."

RUBBER Rubber Machinery World

Who We Are

Rubber Machinery World *provides authentic information on various aspects of m*achinery and equips buyers in the global rubber and tire industry to wisely source the right machinery (from the right supplier).

This site is promoted by **Prasanth Warrier**, who stepped down as CEO of a leading rubber machinery manufacturer, and now a marketing communications and branding consultant to industry.
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