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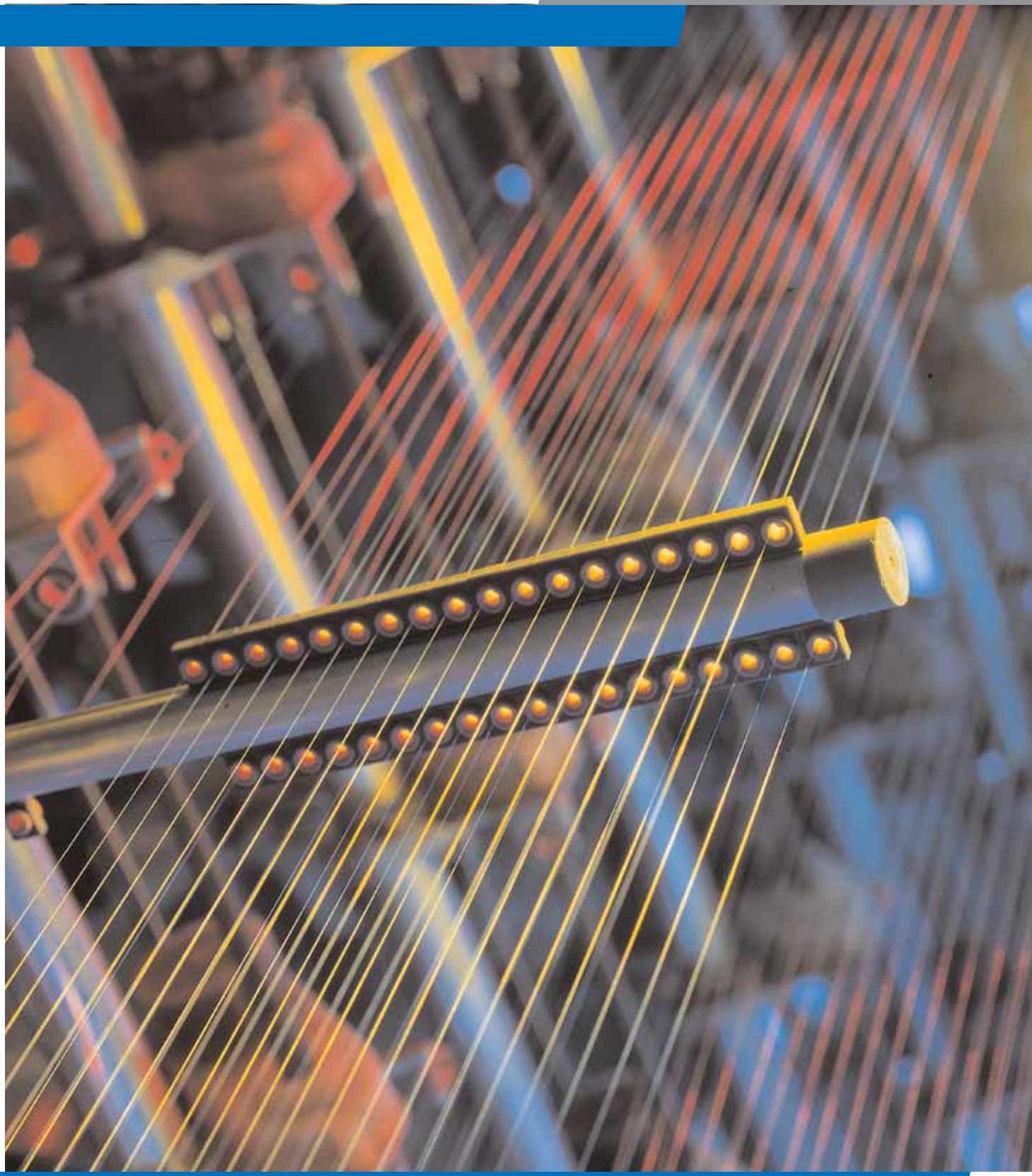
Communication by **Huyck.Wangner**

Issue 1 · 2007



Huyck.Wangner – a strong tandem team • CEPI – Value of wood rising steadily • Interview – Sappi Gratkorn

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Double the power – full speed ahead!

I am sure some of you were surprised when you received this issue of *h.w.com.* Instead of the w.com you had become used to, a redesigned customer magazine with a new name lands on your desk virtually without warning. Why? The two leading, long-established paper machine clothing companies Huyck and Wangner are now offering their entire product portfolio under the unified brand name Huyck.Wangner.

All sales and marketing activities at the four European manufacturing locations and the branch sales offices now operate under the new corporate logo. The territory covers the EMEA region (Europe/Middle East/Africa) and the company's headquarters is in Reutlingen.

The unmistakable brand equity in the two companies' unifying hallmarks – a drive to innovate, excellent value and sustainability – remain unchanged. Now that the formerly independent operating divisions have been integrated, Huyck.Wangner's experts will in future be able to cooperate even more closely. At the top of the list are customer support and service. You can read about further advantages of the company merger in the article titled "Huyck.Wangner – a strong tandem team", which begins on page 6.

A new, modern logo also shows the market that the two companies are now one. Along with the new company logo, we have given the former customer magazine, which is now called *h.w.com*, a new face. Both the editorial team and appearance of the newsletter have been revamped: the layout, typography, image and color scheme have been aligned with the new corporate design. Now that we have two divisions, there is more to report about. On the product side, the discussions about forming fabrics have been supplemented by information on how press felts are manufactured and applied. This is reflected both in employee profiles ("Huyck.Wangner at work" on page 10), as well as interviews with papermakers (Sappi's Gratkorn plant, page 18) and the product innovations and spotlights (pages 21, 22). The editorial team has also been expanded: Christian Küberl, Product Manager, and Andrea Glaser, Marketing Communications, are responsible for reports and information about Huyck.Wangner Austria in Gloggnitz.

But what has not changed about our customer magazine, is our mandate to provide multifaceted and varied reports, not only about happenings inside the company, but also with a view to current developments in the paper industry. An example is the increasingly heated discussions about wood as a raw material. Guest contributor Bernard de Galembert, head of the CEPI Forest Committee, gives a detailed insight into the issues and problems starting on page 12.

We hope you find our first issue of *h.w.com* entertaining as you leaf through its pages, and we look forward to your feedback. ●

Sincerely,

Heinz Mauser




New management

Xerium Technologies has merged the European clothing business (PMC Europe) under the Group subsidiary name Huyck. Wangner and has converted it from an organization with a regional mandate to one with functional role. A new management team was also appointed as part of the reorganization. John Badrinas was named President PMC Europe. He was previously with Trelleborg AB, where he served as president of Trelleborg Automotive Europe from 2000 onward. Göran Söderlund was appointed Vice President Sales & Marketing PMC Europe and Alexander Karnovsky Vice President of Finance & Administration PMC Europe. The management team's headquarters is at Huyck.Wangner in Reutlingen.

1000th Huyperm manufactured

Huyck.Wangner wrote another new page in the history of its successful press clothing with the introduction of HUYPERM dewatering felts. After the product was launched in early 2002, this advanced generation of felts quickly became a de facto standard among users when comparing machine performance and printability. HUYPERM was able to significantly improve sheet smoothness and reduce two-sidedness by up to 40 percent on numerous machines producing high-end graphic papers. Late last year, the 1000th HUYPERM dewatering felt was manufactured and shipped for the Optipress on PM 9 at BURGO Verzuolo.

Visitors from TU Darmstadt

In mid-January, twelve students from Technische Universität Darmstadt visited Huyck.Wangner's Gloggnitz location. The tour was organized by APV Darmstadt. The up-and-coming papermaking engineers and technicians were given a comprehensive insight into the manufacturing of paper machine clothing and industrial textiles used for pulp dewatering. The school trip to Austria included a visit to an Andritz factory and ended with a city tour of Vienna.

All forming fabrics now blue

Now that Huyck and Wangner have merged to form Huyck.Wangner and service the market as one company, the color of the forming fabrics will be changed

to match the standardized corporate design. The fabric color for the entire product portfolio will be successively changed to blue on the paper side and white on the running side. But neither the top performance and high output capability of the forming fabrics, with their unmistakable quality and application characteristics, nor the unique service concept will change. Technology leadership, efficiency and reliability will remain constant.

Second Girls' Day in Reutlingen

On April 26, and for the second year in a row, Huyck.Wangner invited 20 female students from grades 8 to 10 to sample various aspects of fabricmaking in conjunction with the federal Girls' Day initiative. After a brief introduction and company presentation, they were given a tour through the factory, where they got a firsthand look at the practical aspects of the entire manufacturing process. Warping, weaving, seaming and heat setting were on the agenda, as was gaining insight into the development and design of fabrics. Without exception, their impressions after visiting Huyck.Wangner for a day were positive. They were able to see with their own eyes that women too could have an interesting career in the field of forming fabric manufacturing.

Heat setting and compacting system AF17 at assembly stage

After completing the base for the heat setting and compacting system AF17 at Reutlingen headquarters in mid-February, work started on the assembly phase, which will last till the end of May. The transition to assembling the machine parts was particularly challenging, since the previously autonomous construction site of the new heat setting and compacting system had to be linked to the AF16 manufacturing area. Now that this part had been successfully completed, largely without interrupting ongoing manufacturing,



From left to right:

- *New Huyck Wangner management: John Badrinas (left), Göran Söderlund (2nd from left) and Alexander Karnovsky (3rd from left)*
- *Milestone: The 1000th HUYPERM dewatering felt was shipped to BURGO Verzuolo*
- *Papermaker recruits: TU Darmstadt students in front of the entrance to the company's Gloggnitz building*
- *Right on schedule: assembly phase of the new AF17 heatsetting and compacting system in Reutlingen*
- *Sales matters: Austrian-Swedish team meets in Gloggnitz*

the rails have to be installed on the base, followed by assembly of the individual system components. An entirely independent heating system, complete with new gas and cooling water line, is also being installed for the oil-heated roll. If everything goes according to plan, the new AF17 heat setting and compacting system will be handed over to manufacturing in mid-June.

Sharing experiences with Huyck.Wangner Sweden

True to the motto "Win-win from positive experiences", Helga Bauregger and her Gloggnitz sales team welcomed their colleagues Marita McAllister and Kristina Hagman from Huyck.Wangner Sweden. The goal of the meeting was to improve sales efficiency by trading experiences and coordinating work processes. The "bilateral" meeting was supplemented by learning more about each other's personal backgrounds when the colleagues had dinner together.

Health and wellness program 2007

"Use it or lose it" goes the old saying. Because health is a valuable asset that must be maintained and improved, Huyck.Wangner Germany launched a program for employees this year that it will also financially support. In partnership with local companies, Peter Defranceski and Dorothea Schmid's team put together a program with courses in Kieser Training, Nordic walking and plain everyday walking. The training program is customized to match individuals' normal workday activities and stress. The fitness offensive is supplemented by stress management or non-smoker training together with various informational events. For example, at the end of March, AOK set up an information booth at the Reutlingen factory on the subject of "fat in foods" and offered body fat measurements.

Obituary

In November 2006, Wolfgang Zarl died in a glider accident in Argentina, about a year after he had retired. Gliding was his favorite hobby. He had worked for Huyck Austria for almost 36 years. From 1985 to 2002 he was the successful CEO of the company. From 2003 until his retirement in October 2005, he was also employed at the company headquarters of Huyck Austria in Gloggnitz, where he was Vice President Technology for the parent holding company Xerium. During his many years of service, his contribution to the success and growth of the company remained unmatched. He was equally admired by customers and employees, both professionally and personally. He carried out his profession with determination and passion, and was very committed to the company. Wolfgang Zarl and Huyck Austria will therefore forever remain as one in our memories.

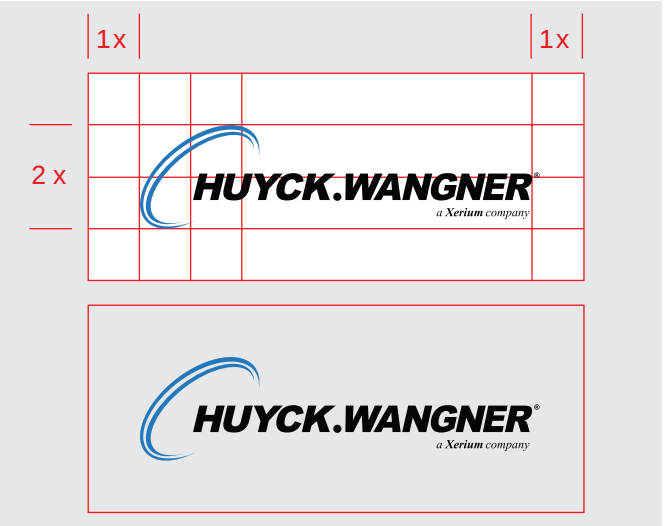
Two companies with a long-standing tradition join forces to serve the market

Huyck.Wangner – a strong tandem team

According to the encyclopedia, the tandem has a number of significant advantages over a single bicycle. With double the pedaling power, it takes less time to achieve the same end result because more power is being delivered. The common goal is reached more quickly. The concept is an excellent metaphor for the coordinated market activities of Huyck and Wangner. The two long-established companies now offer their complete product portfolios and services under the common brand Huyck.Wangner. The new brand presents the modern image of the merged entities to the outside world.

Six years have already passed since the two well known manufacturers of paper machine clothing drew closer together by integrating their operations under the Xerium Technologies Inc. umbrella. The strategy has been clear from the very start: Two strong partners to the paper industry bundle their declared core competencies and thereby optimize their respective core business in order to create a strong, customer- and future-oriented company. The companies were systematically merged according to the motto “evolution instead of revolution”, so that synergies could be maximized for the benefit of customers. In doing so, the partners were determined to actively shape the transition; i.e., they supported each other’s main businesses and even helped to expand them.

Since the beginning of this year, the merger has also manifested itself in a new corporate design and the combined name Huyck.Wangner. All sales and marketing activities at the four European manufacturing locations and the branch sales offices operate under the new corporate logo. The territory covers the EMEA region (Europe/Middle East/Africa) and the company’s headquarters is in Reutlingen.



The new company logo symbolizes the unified brand name.

Pooling strengths

The paper industry has been in a state of structural upheaval for years. The cost pressure that is continuously refueled by rising energy and raw material prices is causing papermakers to wring additional efficiency and productivity improvements from the processes. Paper machine technology and regional market characteristics are also shaping developments in paper manufacturing. In the face of these complex challenges, the two clothing specialists Huyck and Wangner are joining forces to develop total customer solutions that generate profits.

The combined market approach under the corporate brand Huyck.Wangner pools the core strengths of the two suppliers: stability, leading edge PMC technologies with high optimization and customer value potential based on solid expertise, innovative products and unique services. Like no other supplier, the long-established companies have been able to pool a breadth of expertise that is key to defining the quality of the end product, paper. Cost analyses demonstrate that PMC products such as forming fabrics, press felts and dryer fabrics only impact about three percent of the production costs per tonne of paper and cardboard, but influence around 70 percent of total paper manufacturing costs. And this significant cost factor is not the only reason papermakers more than ever expect expert advice from their PMC supplier, together with high-quality products and services, on-time delivery and reliable administration, availability of representatives and fast reaction times, and last but not least, a good price/performance ratio.

Huyck.Wangner does justice to these requirements over the entire product life cycle: continual development of innovative products, support and active assistance for optimization projects, highlighting process improvement potential supported by leading edge measuring methods and analyses, highly qualified and application-specific advisory services and efficiently networked sales representatives. Here, both Huyck nd Wangner rely on their sound knowledge of manufacturing paper machine clothing, which they have been building up for decades.

A strong culture of innovation, respectability and sustainability are unmistakable components of brand equity

With four production facilities for paper machine clothing in Europe, Huyck.Wangner is today one of the largest manufacturers. The first break-through in the evolutionary development came with the introduction of synthetic forming fabrics. This was later followed by structurally bound forming fabrics, which are nowadays standard on all paper machines and for producing all types of paper. The name of the game is to anticipate market developments and new machine demands. Today, the "360° Clothing" product portfolio strategy reflects the company's mission to systematically enhance forming fabric technology – a prerequisite to successful partnerships with papermakers. At its core, "360° Clothing" aims to address the needs of customers in all paper segments by delivering innovative, marketable product technologies; i.e., ensuring that the state-of-the-art forming fabrics have features that offer papermakers measurable benefits. New manufacturing processes and key technologies such as projectile weaving machines and gripper systems, as well as the in-house developed "SeamMaster" technology, guarantee the outstanding quality of the forming fabrics.

A steady innovation stream – applies not only to developing new products …

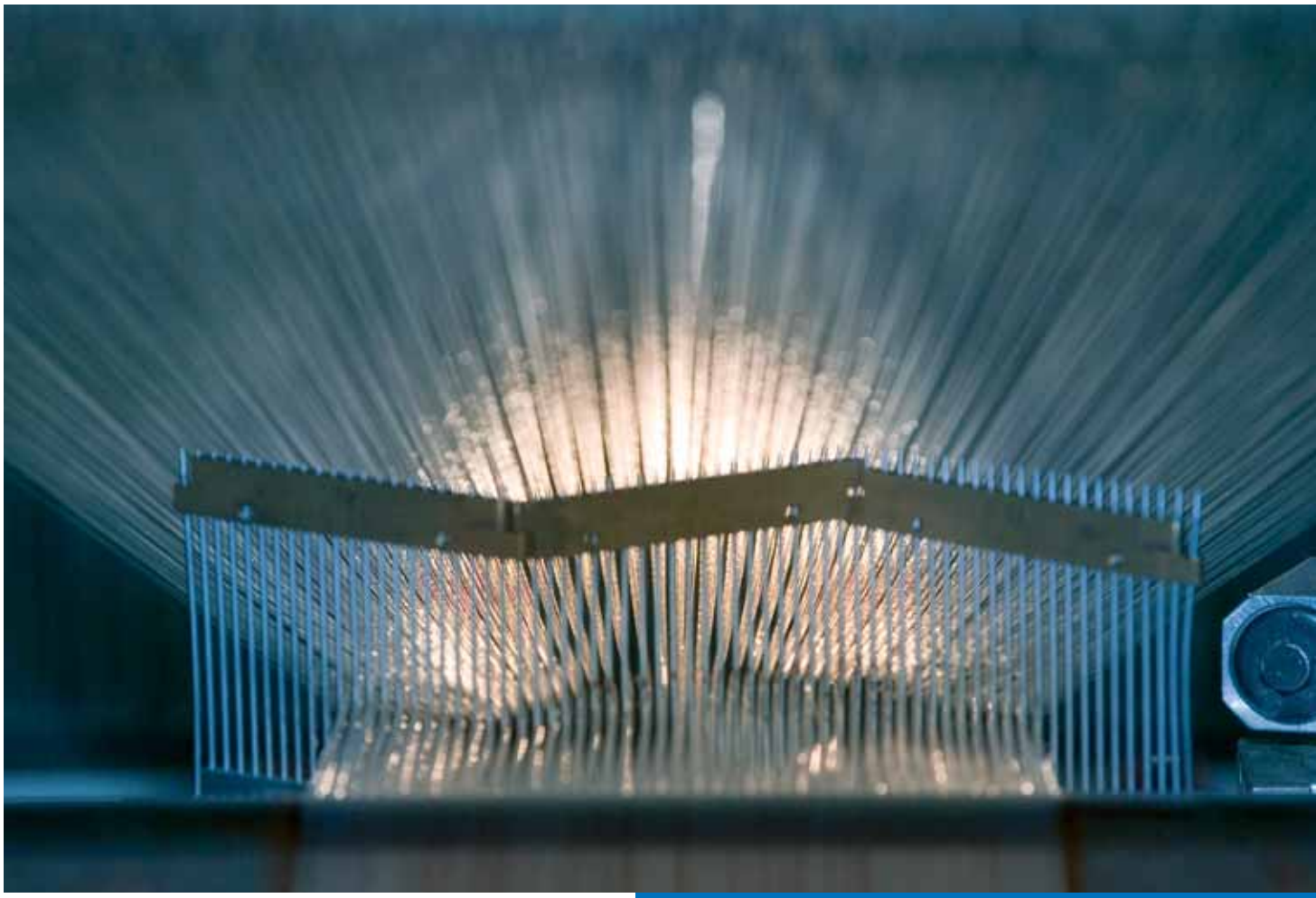
With respect to press felts, intensive research and development efforts have been applied to optimizing seamed felts and to invent new fabric concepts for the application on fast and highly performing paper machines.

The solid development and continuing optimization of the product portfolio and the ability to pinpoint optimization potential starts with modern measurement techniques and basic research. This includes, for instance, advanced measuring tools and processes, such as the Fabric Scanning Profiler (FSP) and Wangner Surface Analyser (WSA). FSP is the next generation of the already successfully launched FSD device. The great advantage of FSP is clearly its modular construction and improved controller. The special configuration facilitates modifications in the area of permeability measurements. The continuously optimized forming fabric adjustments thereby lead to top paper quality and productivity. WSA also generates quantifiable value for the customer. The surface measuring device uses a nano laser scanner and enables scrutinization of both fabric and paper surfaces at a micrometer resolution level. The data collected from the laser measurements were used as development inputs when creating subsequent generations of forming fabrics. Immense improvements were made possible, particularly with regard to drainage and surface smoothness and uniformity. The knowledge acquired resulted in the development of the new Vortexx/Selectra and Compressor/HOT products.

Always keeping an eye on efficiency

The company Huyck was established in 1812 as a spinning mill in Gloggnitz, Austria, where the founding fathers produced fez hats made of felt. In 1874, the first press felt made of wool and the first dryer fabric made of cotton were manufactured. After being integrated into the American Huyck Corporation in 1975, the R&D activities of the globally operating Group were concentrated in Gloggnitz, which was expanded to become an innovation incubator for the company (1989 to 1999). This did not happen by accident – the company had traditionally played a major role as an innovator and trendsetter in the development of paper machine clothing. In 1999, Huyck set a new standard in manufacturing pressfelts by developing and introducing Huycperpunch needle technology. This was the basis for significant improvements in paper quality and printability as well as increasing machine performance.

The next innovation breakthrough followed with the development of Seamexx seamed felts. Installation time can be substantially reduced when this new seamed felt generation is applied, which provides for a safe felt exchange and offers potential for increased productivity. For the first time, it is possible to combine the advantages of conventional seamed felts, like precise loop geometry and excellent resistance to compacting with the advantages of endless press felts. The latter distinguish themselves because of their excellent fiber interlocking capability and uniform pressure support for fast start-ups, high drainage performance and wear resistance. Added to that, they are easy to install on the machine, which greatly enhances work safety. All of these advantages will continue to further drive the demand for seamed felts in the coming years.



… but also to unique customer support concepts, where many individual services are combined to offer papermakers winning clothing solutions.

Full service for paper machine clothing

The integration of formerly separately operating divisions will in future enable experts at Huyck.Wangner to focus even more closely on their tasks, which will lead to additional customer benefits. At the top of the list are customer support and service. Whether it be design or application engineering, technical service, laboratory and logistics service – just as the product offerings have been combined, the pros at Huyck.Wangner can coordinate in greater depth and become more closely involved in various customer assignments. The findings based on experience in the wet, press and dry sections flow into a centralized data pool, from where they are always accessible as clear reference material to help solve problems.

Huyck.Wangner has several thousand worldwide reference installations comprising all types of paper machines that produce various sorts of paper.

Customers planning upgrades or modifications are supported directly at site by qualified service specialists. Equipped with a modern, partly self-developed and patented measuring tool, they thoroughly analyze the equipment and process, and after evaluating the results, make recommendations tailored to the specific customer. Huyck.Wangner's sales, applications and service pros are therefore the company's major competitive advantage. The highly skilled papermaking engineers and technicians are extremely familiar with all parts of paper manufacturing – reinforced by day-to-day real-world assignments and extensive experience – and always keep an eye on optimizing the total production process. They are and will remain the usual reliable customer representatives and guarantee total support far in excess of what is typically offered. For papermakers, this translates into twice the service commitment from Huyck.Wangner. It comprises not only clothing solutions specially tailored to their needs, but also the expert advice that contributes to measurably improving productivity and efficiency, thereby adding real value to the customers' bottom lines. Huyck.Wangner is a strong tandem team. ●

Siegfried Höfferer: Over one thousand presses analyzed



Siegfried Höfferer (62) can look back on a professional career filled with a wide variety of enriching experiences. Huyck-Wangner Austria's service manager has examined over 1,000 presses in almost 200 paper mills around the world since he took charge of this area. He applies his extensive knowledge to the meticulous measurement process, and ensures that presses and the press felts supplied by Huyck work in harmony, enabling customers to get the most from their purchases. He also values balance in his personal life. As the father of two grown children, he and his wife not only enjoy traveling around the world and going on leisurely bicycle tours throughout Austria, his home, but also continues to extend his horizons by reading and ongoing learning.

h.w.com: Mr. Höfferer, you have worked for Huyck Austria since 1988. What is your educational background and what have been the steps in your career?

Siegfried Höfferer: I studied commerce and completed my apprenticeship at my father's office supplies store, after which I worked for a number years in the wholesale industry. In addition to working, I studied as a nonresident student and received my AHS Matura (Austrian diploma), then completed a two-year course at the Institute of Polymer Science in Vienna. My first jobs were supervising manufacturing in Montana Sport's ski component development department and designing special machinery at Semperit AG. During this time, I was designated an "engineer" by the Bundesministerium für Bauten und Technik (federal ministry of buildings and technology). I then joined Huyck Austria as an operations and application engineer. After moving briefly to Scapa-Kern (now Voith) as applications engineering manager for rubber and polyurethane roll coating, I returned to Huyck at this location. Since 1990, I have been in charge of measuring systems for felts and presses, focusing primarily on vibration analyses. During my professional career, I have also taken numerous online courses in turning, milling, planing and electric welding. Since the 2005 winter semester, I have also been enrolled at TU Dresden as a distance-learning student in mechanical engineering design according to the Dresden model.

h.w.com: What specifically do you do and what are your responsibilities as Service Manager?

Höfferer: I mainly analyze machines to search and locate faults about felts, troubleshoot paper machines and provide technical service and

support to the sales team. Added to that there is employee training, maintenance of all measuring equipment in our European inventory, procurement of new measuring equipment after testing and evaluating the costs (pay back).

h.w.com: What is it about your job that would be attractive to new recruits?
Höfferer: Our customers are our most important partners. An exciting battle in the marketing arena is to correctly diagnose paper machine problems for them and optimize the performance of their machines so that productivity and quality are maintained and improved. Customers have considerable respect for a reputable troubleshooter. You can establish a good reputation in the industry doing this type of work.

h.w.com: What qualifications and skills are required in your profession?
Höfferer: It is a technical, physical and mathematical blend of paper, textile and mechanical engineering. Mechanical engineering knowledge is essential for vibration analyses, because to determine root causes, an understanding of mechanics, dynamics, pneumatics and hydraulics are required. Precise work is essential here. The FFT frequencies must also be correctly interpreted. While correcting mechanical problems, customers' downtime and production losses can be tremendous. To precisely track down the source of disturbance, analyses must be clear and clinical. This requires expert knowledge, since the measurements and the report are generated using a PC running specialized software.

h.w.com: You have visited countless paper factories all over the world and analyzed and conducted measurements on even more presses. To date, what have been your most exciting or most successful assignments?
Höfferer: There are many. I vividly remember the strong vibrations on the third press of SCA Laakirchen's PM 10, where we successfully ran our absorber for three or four weeks as sole supplier. After installing a spare tungsten carbide coated roll, the running life of the felt fell by a dramatic nine to 14 days. An analysis pointed to the third Sym roll as the source of the vibration. But the exact nature of the roll problem was not discovered until after a few months. It turned out to be a problem with the fit of the temporary cover, which caused the roll to run eccentrically and leave very noticeable imprints on the felt after installing the original cover. After finding and correcting the problem, the felts again ran flawlessly for four weeks.

h.w.com: Have your services become regionally specialized over the course of years? If yes, why and how?
Höfferer: In the 90s, Huyck wasn't that established as supplier for machine positions on which vibrations caused by felt embossing frequently occurred because of high specific nip pressures. But by continuing to take vibration measurements, we have slowly but surely become dominant in all of the important last press positions – particularly in Central Europe, and above all in the fine paper and newsprint sectors. In addition, we have also expanded our services for felts in all countries. Experience shows that customers value and reward professional service.

h.w.com: What do you especially like about Huyck?
Höfferer: During my 20 years at Huyck, customers were always front and center. Professional and committed employees can flourish when they become part of the work process here. Over the past number of years, a new generation has come on board in application engineering, and young and committed engineers and employees have been introduced to this field of expertise. Some were able to participate in subsidized courses in the field of paper technology; i.e., we are increasingly conscious of succession planning. The teamwork between younger and older employees works like a charm. That's very important to me.

h.w.com: How do you switch off after doing your job?
Höfferer: I always do my best when I am on site, at the paper machine. When I leave the plant, I feel good about having done everything humanly possible for the customer. That helps me switch off. After leaving the paper mill, the only thing that will cause me stress is a traffic jam or the ever-increasing and time-consuming security control required at the airport.

h.w.com: Why is it that despite the extensive travel requirements of your job, you also like to explore foreign cities and countries during your leisure time? What are your favorite destinations?
Höfferer: It is in my genes. A Polish friend liked to call me a "Pritschka" [flatbed truck] and my father-in-law always refers to me as a globetrotter. I think they are right. When I am off work, I like to travel with my family most of all. My wife and I particularly like to visit cities. We have seen New York, London and Paris. There was always something new to discover. Over the past few years, we have regularly gone to Venice for a number of days in the fall. Venice is one of our favorite cultural destinations.

h.w.com: After such a full career, do you have any remaining professional ambitions? What is at the top of your personal wish list?
Höfferer: My greatest desire is to transfer the vibration measurement unit into good hands. It appears that Martin Leitgeb, the manager of the Process Engineering department is a good candidate. Personally, I am looking forward with excitement to my son Peter receiving his doctorate. I have no great wishes other than health for my family and myself. But the world has shrunk and I see that global problems are growing. Individual behavior must be such that it does not interfere with the rights and dignity of other human beings. I hope and wish that my children and grandchildren will find the basis for a full and humanly dignified life. ●

Burning wood or adding value?

The European policy for renewable energy put the paper industry at risk

Confronted to the challenge of climate change, the European Union has seen the switch to renewable sources of energy as one solution of fulfilling the commitment taken in Kyoto. More recently, tensions on the "traditional" energy markets, have provided an additional argument to develop alternative sources of energies. At the expenses of the forest products industries …

Today, Europe is facing the need to address three major challenges – climate change mitigation, security of energy supply, competitiveness of Europe – and is therefore opting for a set of measures that were made public on 10 January 2007. Renewable energy sources are at the core of this set of measures.

The policy background

Since the publication in 1997 of a White Paper considering a doubling of the share of energies from renewable sources by 2010, the European Institutions have further developed a range of measures to achieve this. The Directive of 2001 requiring that 21% of electricity consumption in Europe in 2010 should come from renewable energy sources, has pushed Member States to implement ambitious national policies. In December 2005, the release of the Communication on the Biomass Action Plan came as another step to reinforce the importance of energies from renewable sources.

On 10 January 2007, the Commission proposed "an integrated energy and climate change package to cut emissions for the 21st

EU Renewable Energy Targets

In % of the overall consumption	2010	2020
Overall	12	20
of which		
– electricity	21	34
– heating and cooling	ND	18
– biofuels for transport	5,75	10

Century." Besides the fact that the package includes a commitment to reduce greenhouse gases emissions by 20% by 2020, it also sets ambitious targets in the field of energy, including from renewable sources. Depending on the decision of the Council of Ministers, Member States could be jointly committed to increase the share of renewable energies up to a mandatory target of 20% of the overall energy mix. Whilst not giving more details about the way to achieve this, the European package nevertheless makes clear that the share of liquid biofuels for transport should increase up to 10% by 2020, and assumes that ideally electricity should reach a level of 34% and heating a level of 18%. All this should be the result of an increase in the use of wind, solar, hydro and biomass-based energies.

Concretely, Member States are expected to make use of a wide arsenal of instruments to achieve the target: green certificates, feed-in tariffs, premium systems, tax mechanisms, quotas, public procurement, etc.

The share of Forest biomass

In 2004, the European Commission reported that biomass-based energy – especially electricity – had shown the slowest take-off, compared to wind and solar, and that the indicative target set for the year 2010 would most probably not be reached. The largest proportion of biomass used to produce energy came at the same time from the forest (around 80%).

In Europe's forests, the net annual increment is currently around 600 million m^3. Of these, according to the statistics, about two thirds is harvested every year – a bit more than 400 million m^3. The reasons for not harvesting more are diverse and illustrate the possible challenges ahead. Europe's forests are mostly owned by 16 million private families, possessing in average 5 hectares. For many of them, the forest they own is not the main source of income, and some don't even manage it or know where their forest is located. Moreover, forests in Europe are managed according to the principles of sustainable forest management: harvesting is based on the number of trees that will grow back in the same time. Also, some forests in Europe are difficult or impossible to access, either because they are subject to some kind of protection status (e.g. for biological diversity, to protect water catchments, or along river banks, etc.), or because they are located in areas where physical access to the resource is difficult (e.g. absence of transport infrastructures, mountain forests, etc.). This being said, it is obvious that there is still some theoretical additional resource available in the forest that could be used to produce energy.

To calculate out of this theoretical potential the really useable share of woody biomass that is not harvested yet, one also has on the one hand to take out a probable very large share of wood consumption that is not recorded in any official statistics, mainly for domestic use as fuel by households. In countries like Germany and France, recent estimates have shown the big gap that exists between official statistics and more realistic best estimates. On the other hand, one should also add the potential biomass resulting from a more intensive collection of logging residues and of stumps.

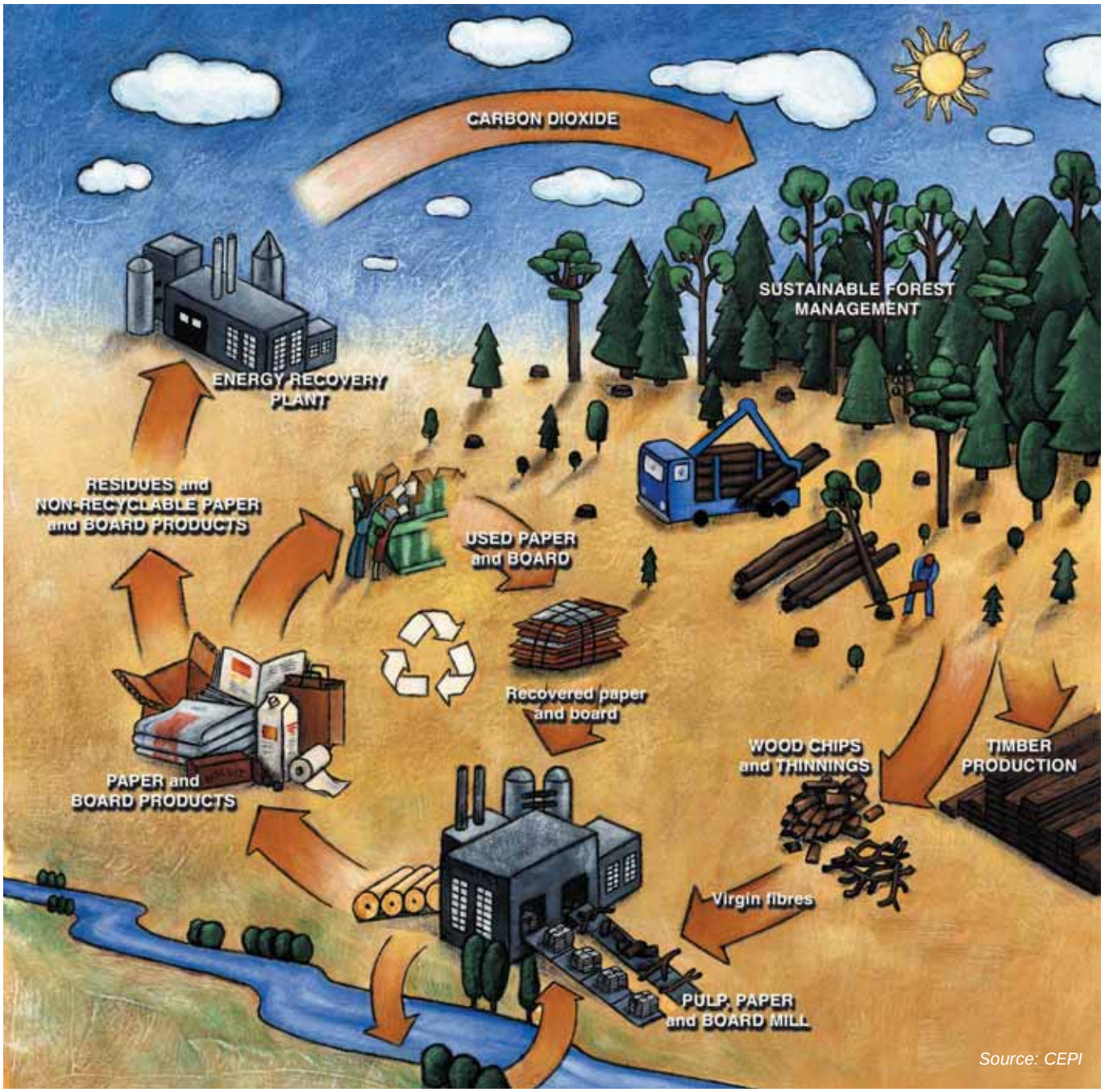
How much wood is needed for energy?

It is difficult to really assess how much wood is needed to achieve the targets set by the European authorities. According to the Directorate General for Enterprises and Industry of the European Commission, if only wood would be needed to fulfil the 2010 targets, another 440 million m^3 should be taken out of the forest compared to the year

Wood needed for energy

Mtoe/Mm^3	2003	2010	Difference
Green electricity	110 Mm^3	303 Mm^3	(35 Mtoe) +193 Mm^3
Heating & Cooling	264 Mm3	413 Mm^3	(27 Mtoe) +149 Mm^3
Transport biofuels	6 Mm^3	105 Mm^3	(18 Mtoe) +99 Mm^3
TOTAL	380 Mm^3	820 Mm^3	+440 Mm^3

Source: FBI Unit – DG ENT



2003. The European Environment Agency has also published in a 2006 Report that 28 million tons oil equivalent, i.e. an additional 140 million m^3 could be harvested out of European forests by 2010 and a further 23 million tons oil equivalent (115 million m^3) by 2030 without harming the environment. The European Renewable Energy Council (EREC) itself foresees the need for an additional 100 million tons oil equivalent of biomass (500 million m^3 if all wood) needed to fulfil only the need for heating from renewable sources by 2020.

Forest products industries at risk – an explosive situation

Considering the policy pressure set by the European authorities and translated by the Member States in a range of incentive mechanisms, taking into account the real potential of European forests and the estimated biomass needs to fulfil the targets, it seems obvious that the situation on the raw material markets is not sustainable! Naturally, when looking for biomass sources, the energy business is procuring from easily accessible sources of feedstock, hence directly competing with the wood-based industries. Moreover, thanks to the various support mechanisms to renewable energies, the biomass-based energy plants can afford paying higher prices for the fuel they need.

Today this situation is severely impacting the wood markets and is reflected in dramatic price increases, depending on the assortments and the local market conditions. Hardwood is harder hit than softwood and sawmill residue prices have been rocketing. Concretely, whilst there might be some but a limited unused potential in Europe's forests,

the policies promoting the use of biomass for energy production have fuelled tensions and unfair competition with regard to the easily accessible resource. This is even influencing the trade in wood in Europe, since member States have all adopted different support mechanisms for energy from renewable sources and are subject to sometimes demanding targets that force them to import wood, sometimes massively. Some countries are today importing significant amounts of wood pellets from Northern America.

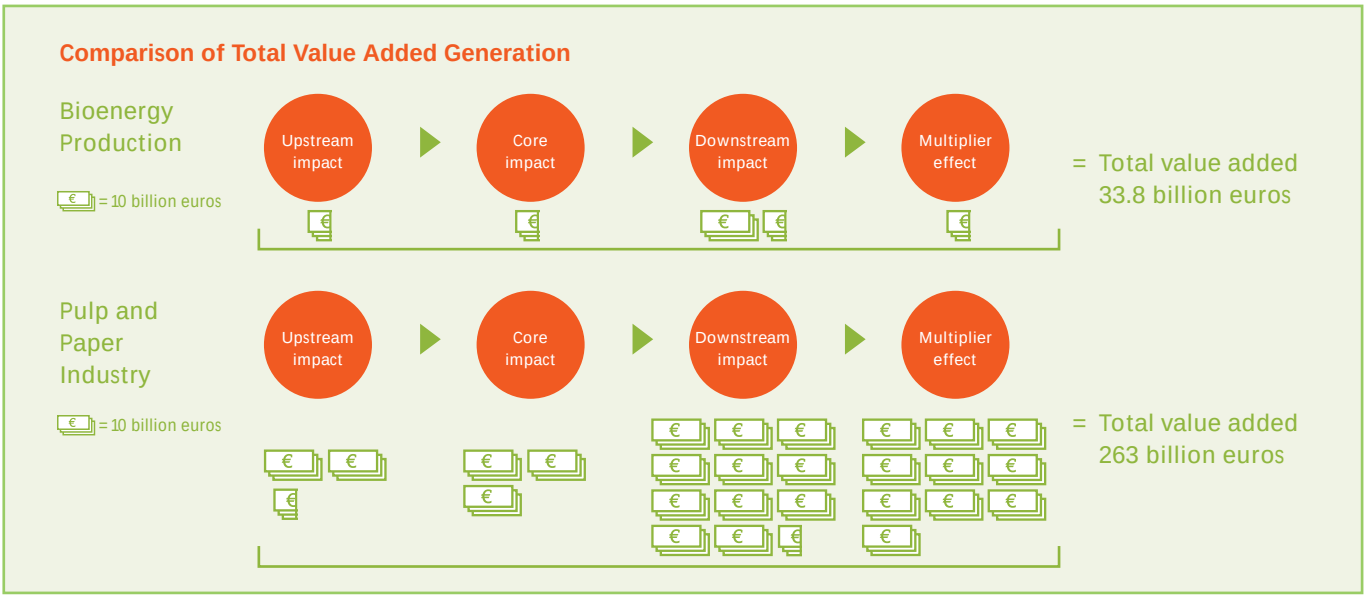
Demand-side support measures have been developed on blurred biomass availability assumptions, without any equivalent support to the supply of biomass and raw materials. It should be kept in mind that the difference between wood, sun and wind, is that wood is the result of management practices of millions of actors, needs special accessibility conditions and is not simply infinitely and freely available like wind and sun are.

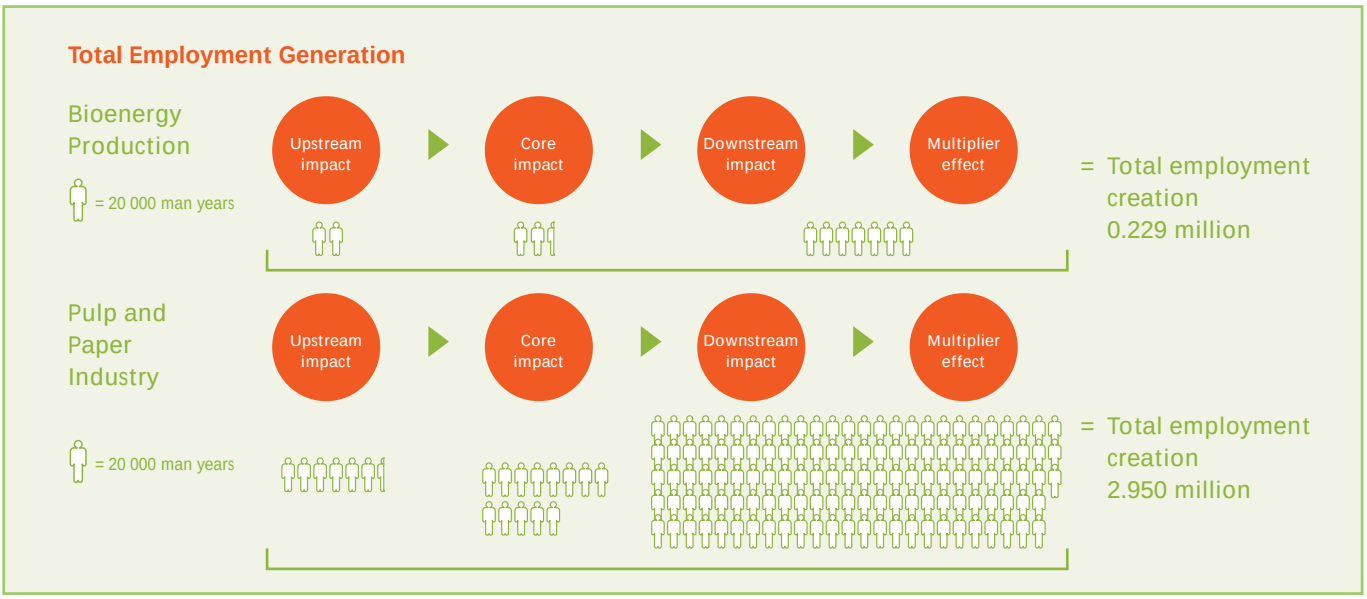
If new more demanding energy targets are to be met, it might even be soon that the market for recycled fibre will also be impacted, as the European definition of biomass also encompasses it.

The forest-based industries as part of the solution

Even if the situation might not look that rosy, the forest products industry itself holds some of the possible solutions, as well as it has very good arguments in favour of re-assessing current policy developments.

The European pulp and paper industry is by far the most experienced and most important industrial producer and consumer of energy from biomass. Today, 27% of the total energy produced from biomass is produced by the pulp and paper industry. 52% of the total primary energy consumption by the industry is based on biomass. This expertise builds on the proper understanding of the carbon cycle, using wood





Source: Pöyry Forest Industry Consulting Oy and Foreco Oy for CEPI

as raw material first and as a source of energy second. Therefore, the industry is well placed to become the future biorefinery of Europe, still producing in the same location pulp and paper, but also energy, liquid biofuels, chemicals and other goods, hence making the most efficient and sustainable use of the wood resource.

The forest-based industries in general, and the pulp and paper industry in particular, are contributing to the European objectives of sustainability, growth and jobs. Policies to promote the production and consumption of energy from renewable sources should recognise the cascade of uses of raw materials. Raw materials should first be used for products that add value and contribute to jobs creation. Still at the end of their life, and after several recycling processes, such products can be used as biomass for energy production. In the meantime, they will have stored carbon and replaced less environment-friendly materials, like steel, concrete or plastics, hence contributing to climate change mitigation.

In a recent study carried out by Pöyry Forest Industry Consulting Oy and Foreco Oy for CEPI, which compares the pulp and paper chain vis-à-vis the renewable energy one, it comes out clearly that the European pulp and paper industry creates 4 times more value and keeps 6 times more jobs than the core biomass-based energy sector. When broadening the analysis to the upstream and downstream sectors depending on both, the multiplier turns to be even more favourable to the pulp and paper chain (from the machine builders down to the graphic, publishing, packaging activities). The European pulp and paper industry creates 8 times more value and keeps 13 times more jobs. Quoting the Member of the European Parliament Dr. Werner Langen's Report on a Strategy for Biomass and Biofuels : "(…) the industrial use of wood and wood by-products as materials is a competitive sector that creates jobs and value, the existence of which should not be jeopardized".

Revise policies?

But industry cannot be the only solution. Policies to promote renewable energy sources – be it the European framework policies or their national implementation – should pay more attention to several key issues – sustainability, efficiency, additional feedstock.

Indeed, green energy would not be green if the biomass used were not sourced from legal and sustainable sources. Today the European pulp and paper industry purchases its raw material as much as possible from forests managed responsibly and therefore certified. The same should be required from the biomass used for energy production.

Green energy would not be green if the resource would be wasted. Governments should only support biomass-based energy projects that have proven to be using the natural resource efficiently. For example, the efficiency of co-generation is generally seen as better than production of electricity from biomass only.

Green energy would not be green in the long term if one does not secure long term feedstock for both the wood using industries and the bioenergy sector. Reconsidering the Common Agricultural Policy, promoting afforestation of unused land, supporting energy crops and short rotation forestry, are some of the ways to secure an increased availability of renewable raw materials and of biomass.

Then, somehow shifted European and national policies would certainly respond more sustainably to the three challenges that the European Union must address now – climate change mitigation, security of energy supply and competitiveness – including the competitiveness of its forest-based industries. ●

Worth more than ever: Fierce competition between the pulp and paper industry and bio-energy producers is increasingly the norm when it comes to utilizing the basic raw material wood. Yet a study clearly shows that the European pulp and paper industry adds four times more value and six time more jobs than the biomass energy sector – not least because of a responsible and sustainable forestry industry, which operates in accordance with the most stringent regulations.

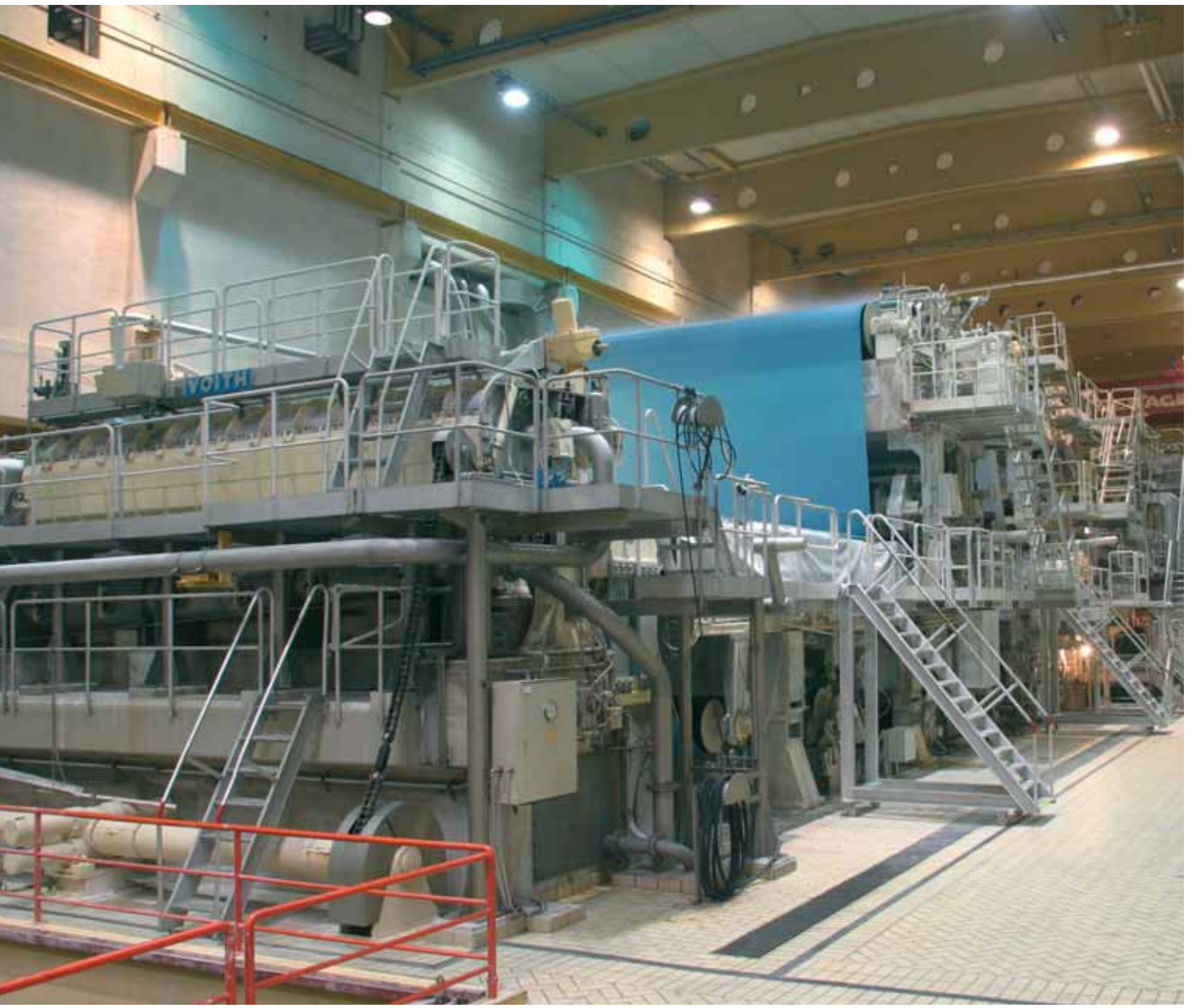
Bernard de Galembert

Bernard de Galembert (French, born in 1966) has 16 years experience in lobbying the European Institutions in Brussels. After a first position as economic advisor for the Sugar Manufacturing Industry, he joined the European Farmers' Union in 1994 where, amongst others, he was in charge of forest issues. He has then been policy advisor for the European Landowners' Organisation, before joining CEPI as Forest Director in 2002.

CEPI's Forest Committee

The Forest Committee of CEPI is composed of the best experts in the field of wood fibre procurement for the pulp and paper industry. They come from the 17 member countries of CEPI and address all policy developments at European level that might impact the wood markets and the availability of fibre for the industry. Amongst others, the Forest Committee of CEPI follows European initiatives in the field of biomass-based energy, biological diversity, illegal logging, sustainable forest management, etc. as well as more international processes, like the Helsinki Process on Sustainable Forest Management.

Sappi Gratkorn Mill



Sappi is the world's leading manufacturer of coated fine papers with customers in over 100 countries around the globe. The company's is headquartered in South Africa. Sappi has production facilities in Europe, North America and Africa, and has more than fifty branch sales offices around the world. At the Gratkorn plant in Austria, 1,400 employees produce about 880,000 tonnes of coated fine paper per year on paper machines 9 and 11. The product is used by printers all around the world for high-end book printing, brochures and catalogs, financial reports, magazines, calendars and signs.

Paper has been manufactured at the Gratkorn location for over 400 years. In 1793, Andreas Leykam bought the paper mill and made it into the most important paper factory of its time in Styria. Further operations were added one at a time and an important group of companies was soon formed. In 1870, they began to conduct business under the name "Leykam-Josefsthal Aktiengesellschaft für Papier- und Zellstoffindustrie".

Styria's paper tradition

In 1973, "Leykam Josefsthal" and "Mürztaler Holzstoff und Papierfabriks AG Bruck" merged to form "Leykam Mürztaler Papier und Zellstoff AG". For over 100 years, controlling interest in the company had been held by Bank Austria Creditanstalt. In 1988, it sold its shares to the Dutch company KNP. Six years later, Leykam Mürztaler merged with the Dutch Group's paper business, which led to the name KNP LEYKAM. KNP LEYKAM was taken over by Sappi at the beginning of 1998. h.w.com visited the Gratkorn company on the occasion of a milestone anniversary – PM 9 will be twenty years old – and spoke to Reinhold Hochegger, Dipl.-Ing., production manager for line 3. He started his professional career thirty years ago at the company's training center, where he entered an apprenticeship as a papermaker. This was followed by another milestone when he completed his degree at the Munich University of Applied Sciences. Reinhold Hochegger is well known in paper circles. He is considered a specialist and is a favorite speaker at paper industry conferences.

h.w.com: Mr. Hochegger, we are standing in front of paper machine 9. Can you tell our readers a little bit about the production line?

Reinhold Hochegger: Production line 3 was started up in 1987. It comprises paper machine 9 including stock preparation, coating machine 9 with a coating color preparation system, two Janus calendars and two slitters. We produce 250,000 tons of paper annually on this production line. And PM 9 was the world's first paper machine to produce double-sided, wood-free, double coated paper continuously. The basis weight is in the range of 80 g/m^2 to 150 g/m^2 .

h.w.com: Although it was started up twenty years ago, your machine does not look like a very old model.

Hochegger: Absolutely not! During its first year of operation, about 67,000 tonnes of paper were produced on PM 9. During its second decade of operation, the figure was 250,000 tonnes, which shows that PM 9 is still one of the most modern and best performing paper machines in existence anywhere, not only at Sappi. Last fall, my employees on PL 3 set the bar even higher and broke the existing production record. It was an impressive performance by a paper machine whose start-up phase has been history for a long time.

h.w.com: How were you able to achieve this higher performance?

Hochegger: A number of factors contributed. Technical improvements were one reason, but a large part was also due to the many suggestions made by the employees in regards to quality improvement, cost reduction and higher productivity. Almost every employee provided input to a CoQ project (Cost of Quality). These teams work on improvement and solution suggestions that are made by all shifts. We have used CoQ since 2000 as an important tool for continuously improving our processes and sustainably cutting our costs. And since effective cost management demands both a structured process plus the best possible integration of expertise and knowledge, participation by many employees from as wide a range of different disciplines and job functions as possible is the open secret to its success.

h.w.com: Thank you very much for this summary. Now, what was the nature of the technical improvements that you spoke about?

Hochegger: In August 2005, we upgraded this production line's quality, process and drive technologies. Of course, we did this as part of the continuing enhancement all of PL3's productivity and quality attributes, but also because the existing systems had reached the end of their life cycle and the line's performance was slow. The project was called RACE (Renewing Automation and Control Equipment) and was approved at the beginning of 2004. The goal of the project was not only to ensure that PL3 performance was up to date, but also to ensure that the following objectives were fulfilled: zero accidents during project execution, process continuity, maximum availability, and finally, to ensure that that the design would permit further improvements to process and quality in the future. The most recent generations of printing machines demand not only high quality paper, but also that the quality level remain stable and reliable. We want to meet this need.

A-shift, 2007 group photo : Souvenir photo of PM 9 anniversary – A-shift staff members.

One of Sappi's keys to success is the strong identification of the employees with the company and the in-house training programs that produce highly qualified and committed specialists.

h.w.com: Can you tell our readers about the scope of the assembly work?
Hochegger: We did the assembly work on production line 3 in August 2005. Many people have dreadful memories of this time because of the sensational flooding that was occurring in Steiermark. It was the crucial period for the RACE project. The entire process control system was upgraded, and countless control cubicles, motors and old computers were removed and replaced by new equipment during a two-week plant shut down. We installed many kilometers of cable and generated new software programs that we subsequently rolled out. The documentation filled many binders. As you can see, the expenditure of about €8 million was well worthwhile.

h.w.com: PL 3 started operation on April 28, 1987. What will you do that day to celebrate this anniversary?
Hochegger: Our key task is to produce paper that meets our customers' quality specifications. We do this 365 days a year, and April 28, 2007 will be no different. But it goes without saying that this day also gives me reason to thank my employees for their dedication. The management team at Gratkorn, the works committee and I will personally thank our staff, and we will also publish a letter of thanks in the Sappi Gratkorn factory newsletter.

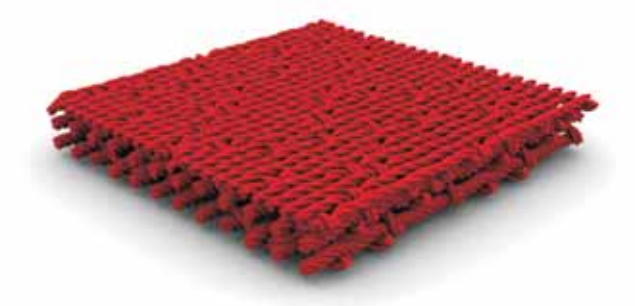
h.w.com: Sappi is the world's leading manufacturer of coated fine papers. One of its partners, Huyck.Wangner, has been supplying the paper machine clothing for decades. What is your opinion of this business partnership?
Hochegger: We have been working successfully with Huyck.Wangner since commissioning PM 9. For us, the company is a reliable partner and we base our design on the products offered. The collaboration has and continues to be a guarantee that we will continue to enhance our performance at a high quality level. This mutual success is strengthened by the company's customer orientation and the services it offers.

h.w.com: At the present time, about 880,000 tonnes of coated fine paper are produced on paper machines 9 and 11 annually. How do you see the ongoing collaboration with Huyck.Wangner and what are your requirements for machine clothing products?
Hochegger: We see new challenges ahead in the area of efficiency and consistent quality. We will also have to take advantage of and implement technical and process enhancements. These challenges can be successfully managed with the help of reliable business partners. Huyck/Wangner will remain one of our strong, competent partners.

h.w.com: Mr. Hochegger, thank you for the interview and the interesting tour of your production line. We wish you, your employees and your celebrated PL 3 continued success.
Hochegger: I thank you and would like to end with the old papermaker's saying "Mit Gunst von wegen's Handwerk". (craftsmanship generates goodwill). ●

Reinhold Hochegger, Dipl.-Ing., production manager for line 3 at Sappi Gratkorn

Axxelerator and Seamexx TX – Innovative Press felt concepts for demanding paper machines



The performance improvement potential of the new SEAMEXX 3TX and AXXELERATOR press felt designs (l.) for challenging press positions is substantial.

The latest developments done at the Int. R&D center at Huyck.Wangner Austria in Gloggnitz focused on fast machines producing graphical grades (AXXELERATOR) and on seam felts for marking prone publication and packaging paper grades. (SEAMEXX 3TX).

The AXXELERATOR product family set new benchmarks regarding start up, performance and runnability on key paper machines in Europe. The AXXELERATOR consists of a fine, pressure uniform top base layer (see picture "Axxelerator – base fabric"), which is stitched to a compaction resistant bottom base, forming tailor-made drainage channels for optimum sheet quality and high drainage performance. The woven construction with unique paper side smoothness and perfect elasticity meets the demands of today's fastest graphical grade machines regarding uniform profiles and excellent printability. On a 1670 m/min newsprint machine, using AXXELERATOR in the 3rd and 4th press position, the start up period to obtain target production speed was reduced from 10 hours to less than 2 hours. Additionally the average machine speed could be increased by 10m/min due to reduced draw after the 3rd and 4th press. For the customer the higher speed results in an additional output of 1,580 tons of paper per year.

Using AXXELERATOR – high performance felt technology with tailor-made drainage channels at a high speed 3rd shoe press on a copy grade machine, the drainage performance increased from 320 to 380 l/min. The advantage of higher drainage performance was used for unloading the shoe press by 100 kN/m, resulting in higher bulk and stiffness but maintaining full production speed. This shows how paper quality can measurably be influenced by unique AXXELERATOR-press felt technology.

The desire to reduce paper machine down-times and to improve the security standards in the paper mill are the driving factors for the growing share of seamed felts in the paper industry. There are nearly no limits for seam felts anymore! Huyck.Wangner 's unique SEAMEXX and SEAMEXX TX designs already succeeded on demanding Tissue applications, like Crescent former Tissue machines as well as on shoe presses on Graphical paper grades.

With the development of SEAMEXX 3TX for high bulk, marking prone publication and packaging paper grades, the seamed felt product family was completed.

3TX consists of a unique triple layer seamed felt fabric with a top layer for perfect pressure support, optimum fibre anchorage and a bottom layer including the protected seam. The advantages of the SEAMEXX 3 TX concept show up in better drainage performance, improved sheet quality and better flap and seam stability.

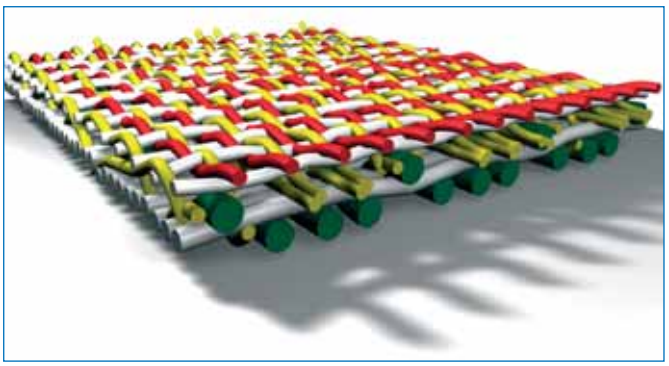
Typical applications for SEAMEXX 3TX are high bulk, graphical and packaging grades, where drainage performance and perfect pressure support is required in order to cope with the increased amount of water and sensibility to marking.

But SEAMEXX 3TX is also used on highly loaded last press applications, where perfect pressure support and excellent compaction resistance are key objectives. With SEAMEXX 3TX the installation time at the 4th press of a newsprint paper machine could be improved from 4 to 1,5h with optimized security standards. The vibration-free run over 40 days on 130 kN/m steel ventanip press at speed of 1,400 m/min shows the high potential of SEAMEXX 3TX also on demanding last press positions. The consecutive run of 21 felts on this demanding position confirms the high quality standard and the potential for highly loaded press applications. ●

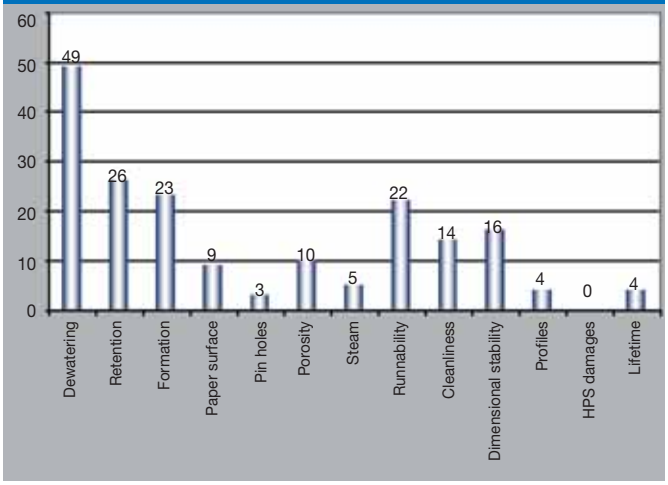
Excellent results for Selectra / Vortexx real-world installations

Huyck.Wangner's main goal in developing the new Selectra/Vortexx generation of forming fabrics was to improve the existing Huytexx and Optiply designs so as to achieve better sheet formation without any limitations on drainage whatsoever.

Since the fabrics were introduced in 2005, more than 100 Selectra/Vortexx fabrics have been installed around the world. Reason enough to take a closer look at the performance of the new fabric technology. A summary of the analyses and evaluations of the installations shows quite clearly that above all, the new forming fabrics improve drainage and retention, just as had been specified in the development goals. The controlled initial drainage process and the high dry content result in equally optimized formation and runnability.



Positive impact: The high-tech Huyck.Wangner Selectra/Vortexx forming fabric offers many advantages – particularly when it comes to dewatering, retention and formation.



The increased drainage capacity of the Selectra/Vortexx design also broadens the production window – particularly when it is used for waste paper. Since 65 percent of all forming fabrics used in Europe are already structurally bound fabrics, it was possible to compare them to the latest fabric designs. The results (see graph) show that significant improvements were achieved for all paper machine types producing graphic papers or newsprint.

A few examples:

Speedformer HHS, fine paper 60 –115g/m², 1,100m/min

In direct comparison to standard SSB designs, the machine could be run faster, particularly for higher grammages. This is due to the improved dry content (+ 1.5%) and the higher drainage capacity of the Selectra/Vortexx forming fabric.

Symformer, tag paper 37–70g/m², 1,100m/min

Selectra/Vortexx was installed on the bottom position and over a period of one month, the machine set a speed record, production record and efficiency record. The dry content is 1 to 1.5 percent higher than comparable standard SSB fabrics.

OptiFormer LB, SC-A, 1,250m/min

In this example, Selectra/Vortexx was installed on the bottom position and compared to the standard Synergie/OptiSpeed fabric normally used in the same position. The result: 1 percent higher dry content, improved retention and less fiber bleeding.

Duoformer TQv, SC-A, 1,500m/min

Selectra/Vortexx and Compressor are installed on the top position and have a very good moisture cross direction profile. It was possible to produce a denser sheet because of the controlled drainage into the top fabric. ●

press digest

h.w.com Reader Service: *The items printed on this page are very brief summaries of articles in international trade and business journals which h.w.com feels may be of interest. The articles can be accessed in full via PDF download at http://www.xerium.com/huyckwangner*

High temperature Yankee hoods

Yankee hoods have been limited to an air temperature of 510° C since the late 70s and the tissue industry has had to rely on higher air velocities to increase the drying rate. A technological breakthrough involving design changes and new metallurgy has enabled a new Ultra (high temperature) Hood to be produced that can operate at over 650° C. This new hood offers higher drying and production rates, reduced supply fan horsepower and improved sheet bulk and softness.

Paper Making & Distribution
March 2007 *Code 1/07 – 1*

Bedeutung elementarer Papiereigenschaften

für die Abschätzung der Bedruckbarkeit von Naturpapieren im Tiefdruck

Zur Minimierung papierbedingter Druck- bzw. Qualitätsprobleme ist die Abschätzung von Verdruckbarkeit und Bedruckbarkeit, auf der Grundlage von elementaren Papiereigenschaften, im Vorfeld des Druckprozesses schon lange die Zielstellung der Papiertechniker und Drucker. Obwohl heute eine Vielzahl von Kennwerten messtechnisch ermittelt wird, gelingt die gesicherte, umfassende Vorhersage der beiden Komplexeigenschaften Ver- und Bedruckbarkeit bisher noch nicht. Daraus resultiert die Forderung nach möglichst einfachen und schnellen, gleichzeitig aber auch zuverlässigen und präzisen Messmethoden. Der Fachbeitrag stellt eine vergleichende Betrachtung an.

Wochenblatt für Papierfabrikation
Nr. 3–4, Februar 2007 *Code 1/07 – 2*

Schlüssel zur Erfolgswahrnehmung

Die Tatsache, dass ein Unternehmenschef umfangreiche Kommunikationsaufgaben erfüllt, ist keineswegs neu. Nur tut er das bislang hauptsächlich in Richtung Kapitalmarkt. Die Argumentationsmuster sind betriebswirtschaftlich bestimmt, Aktionäre, Investoren, Analysten, Banker, Rating-Agenturen „sprechen die gleiche Sprache“ wie der Chef. Solange die wirtschaftlichen Faktoren stimmen, gibt es also keine Probleme. Mancher Chef lebt angesichts dieser Erfahrungen in der Meinung, dass die betriebswirtschaftliche Logik die gesamte Öffentlichkeit überzeugt – eine irrige Annahme, denn das Topmanagement muss über den Kapitalmarkt hinaus heute mehr denn je auf mehreren Bühnen kommunizieren: Gesellschaft, Politik und unterschiedliche Interessensgruppen.

FAZ – Frankfurter Allgemeine Zeitung
vom 19. März 2007 *Code 1/07 – 3*

Branchenenergiekonzept für die Papierindustrie

Die deutsche Papierindustrie gilt als die umsatz- und produktionsstärkste in Europa, und sie ist zugleich einer der größten Energieverbraucher. Zur Unterstützung der Papierindustrie in ihrem Bemühen um einen effizienteren Energieeinsatz und die Reduzierung der spezifischen CO^2–Emissionen startete im August 2005 das Projekt „Branchenenergiekonzept für die Papierindustrie“. Ziel ist die Erstellung von Konzepten zur rationellen Energienutzung in der Papierindustrie.

apr – Allgemeine Papier-Rundschau
Nr. 3/2007 vom 9.03.07 *Code 1/07 – 4*

Neue Helden

Selbst die simpelsten Produkte können einiges über weltumspannende Lieferketten erzählen. Zum Beispiel jene Baumwollsocken, die Fluggesellschaften auf Langstrecken an ihre Passagiere verteilen: Bevor sie die Strümpfe anziehen, haben diese bereits eine Reise von 48.000 Kilometer hinter sich. Der Rohstoff Baumwolle wird in Amerika eingekauft, die Fäden in Indien gesponnen, in China werden diese zu Socken verarbeitet, in Marokko gefärbt, in Italien verpackt und in alle Welt geschickt. Um in Zeiten einer globalisierten Wirtschaft wettbewerbsfähig zu bleiben, muss der Einkauf den Sprung vom reinen Sparkommissar zum Innovator schaffen und dabei eine eng verzahnte Einkaufsstrategie in Wettbewerbsvorteile ummünzen.

Wirtschaftswoche
Nr. 12 vom 19.03.2007 *Code 1/07 – 5*

Wood for energy or for paper – a burning issue

In the context of climate change, wars or unstable political conditions and delicate contracts with suppliers that may not be reliable energy just recently climed to the top of the agenda of the European Union. With biomass being highlighted as one of the main potential green sources, so far, no one really knows what the latest developments actually mean for the paper industry. Whereas one thing is crystal clear: If energy from biomass would be subsidized, this would represent a major threat as prices for the raw material would certainly rise.

ipw/Das Papier
Nr. 1–2/2007 *Code 1/07 – 6*

Eine neue Formertechnologie

zur Verbesserung von Blattqualität und Bedruckbarkeit

Hybridformer bzw. Langsiebformer mit einer Obersiebeinheit sind seit den 1960er Jahren auf zahlreichen Papier- und Kartonmaschinen im Einsatz. Diverse Entwicklungsschritte wurden unternommen, um den Betrieb der Hybridformer und die Papierqualität zu optimieren. Das neueste Formierkonzept beruht auf der Vakuumschuh-Technologie. Es eröffnet neue Möglichkeiten zur Verbesserung von Blattqualität und Bedruckbarkeit sowie zur Erhöhung der Siebpartiekapazität durch eine sehr kosteneffiziente Investition. Dieser Artikel beschreibt Technologie und Entwässerungsart verschiedener Obersiebformer und diskutiert Ergebnisse von Pilotversuchen.

Wochenblatt für Papierfabrikation
Nr. 8, Ende April 2007 *Code 1/07 – 7*

Unternehmen Verantwortung

Das Thema Corporate Social Responsibility, kurz CSR, ist seit einiger Zeit – vor allem in Wirtschaftskreisen – in aller Munde. Durch die Diskussionen rund um Klimawandel, Energie- und Ressourceneffizienz oder gesellschaftliche Wohlstandsverteilung ist vieles in Bewegung gekommen. Und wie immer ist der Weg vom Reden zum Tun ein schwerer. Der Beitrag zeigt, wie Unternehmen verantwortungsbewusst mit den wirtschaftlichen und ökologischen Folgen ihres Handelns umgehen können.

Papier aus Österreich
Nr. 4/2007 *Code 1/07 – 8*

Plains, brains and automobiles

Today the “question of transportation” has also become caught up in worries about the quantities of carbon dioxide being generated by an increasingly mobile food supply. The further our food travels, so the theory goes, the more damage it does to the climate through transport-related carbon dioxide emissions. In short, globetrotting food stands accused of helping destroy the planet ...

Financial Times Magazine
April 28/29, 2007 *Code 1/07 – 9*

Huyck.Wangner Germany GmbH
Reutlingen

Huyck.Wangner Austria GmbH
Gloggnitz

Huyck.Wangner Spain, S.A.
Villabona

Huyck.Wangner Italia S.p.A.
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