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Dear Readers

If you want to generate customer value and achieve market leadership, you must continuously observe the changes taking place in the markets and create new solutions in response to them. That is exactly what we have been doing at Bühler for years, and with great commitment and passion. Due to population growth and new consumer habits, demand for all grain varieties has increased sharply over the past few years, especially in Asia. At the same time, we find that grain production is increasingly shifting away from the regions where it is processed and consumed. This calls for adjusted and professional logistics installations worldwide in order to distribute the grain in an environmentally friendly way to the places where it is needed. With our acquisition of Schmidt-Seeger, a plant supplier, and the related building of our Grain Logistics business unit, we are now supporting our customers also in the area of grain handling, storage, and transportation. This issue of Diagram will tell you more about the new business unit and its objectives.

We wish you much pleasure reading it!

Calvin Grieder, CEO
Bühler has decisively enhanced its capabilities in the fields of grain handling, cleaning, drying, and storage through the acquisition of the German plant supplier Schmidt-Seeger and integrated them in its new Grain Logistics business unit. With its new business unit, Bühler is now in a position to provide products and complete solutions ranging from grain collection points to food production plants – or in other words: along the entire value chain.

“We have concerned ourselves in depth with the expected development of the global grain markets up to the year 2050,” explains Marcel Scherrer, head of the new Grain Logistics business unit. “A look at the population growth forecast shows that in 40 years, some 9 billion people will have to be fed. Global demand for grain will rise massively. The additional requirements must be covered by higher yields achieved through improved growing methods, prevention of post-harvest losses and along the entire value chain – which today amount to as much as 20 percent – and the development of new growing regions and areas.”

Megatrends
In addition to global population growth, Marcel Scherrer’s team has identified some other megatrends which will greatly impact and change both global grain production and trading over the next 40 years. “On the one hand, we see the changes in the world’s climate,” says Marcel Scherrer. “Droughts, excessive rainfall, or decreasing water tables in today’s grain growing regions are reducing yields or even resulting in complete crop losses. The consequence: Additional new grain growing areas are being sought. At the same time, demand for grain will shift because populations...
will grow especially in Asia, Africa, and Latin America, while the number of people living in Europe and North America will stagnate.”

What is more, consumer habits are also changing. Scherrer: “The population in the growth economies will consume more meat as prosperity increases. But for producing one kilogram of meat, you need ten kilograms of grain.” The fourth megatrend that Marcel Scherrer mentions is the growing need for food safety. “As food production becomes increasingly industrialized, consumers want to know more exactly where the foods and ingredients come from that they eat every day. Accurate retraceability along the entire food chain is part of risk management in today’s industry.”

**Consequences**

On the basis of the megatrends in the future global grain markets, a number of important conclusions can be drawn. “Because the grain growing areas can only be increased to a limited extent due to climatic and geographical constraints, it is on the one hand necessary to improve crop
“Grain Logistics”

Marcel Scherrer
A 48-year-old native of Eastern Switzerland, Marcel Scherrer grew up in Uzwil in the direct vicinity of the Bühler headquarters. In 1979, he joined Bühler to serve an apprenticeship as an electrical fitter. He has stayed with Bühler to this day because Bühler is an extremely interesting company that operates in exciting markets and that offers many opportunities.” After completing his apprenticeship, Marcel Scherrer continued his education at night engineering school in St. Gallen to become an electrical engineer. He rounded off his education by obtaining an MBA degree in Nottingham.

Now Marcel Scherrer has already been with Bühler for over 30 years. He first worked in the Die Casting business unit and then in Feed, lived for a number of years in England, and finally landed in Grain Milling – Scherrer knows every facet of Bühler. Effective January 1, 2011, Marcel Scherrer was appointed head of the new Bühler Grain Logistics business unit.

Marcel Scherrer is married with two children. He balances his work in the great outdoors – skiing, hiking, and biking. (bos)

growing methods, and on the other hand to reduce losses during harvesting, intermediate storage, and transportation,” says Marcel Scherrer, enumerating the first conclusions. “The vulnerability of grain harvests will increase and have a direct impact on the grain trade.” Large food corporations as well as individual countries have already responded to this situation by boosting their storage capacities. They are accumulating grain stocks as long as grain is available at reasonable prices, storing the commodity in “strategic bulk storage facilities.”

More trade, more transportation
However, the most important conclusion concerns grain transportation and handling. Marcel Scherrer: “In the future, grain will be less and less grown in the regions where it will later on be processed and consumed. This means that global capital investments in grain storage and handling systems will rise sharply over the next few years.”

These conclusions are supported by a study conducted by the U.S. Wheat Associates (USW), the market development organization of the U.S. wheat industry. The study deals with the expected development of demand in North Africa, the Middle East, the sub-Saharan African countries, Indonesia, the Philippines, Brazil, Mexico, India, and China. The author of the study, Chad Weigand, concludes that wheat production in these areas will not increase by more than 23% by the year 2050, whereas consumption will grow 49%. In other words, the need for wheat imports into these countries will more than double to 153 million metric tons.

Food value chain
Increasingly, grain is no longer consumed or processed in the places where it grows. This is leading to a fine network of grain streams which in the future will ensure that grain is distributed across the world to where it is needed. Grain will be harvested, collected in regional stores, and undergo an initial cleaning stage. Then it will be moved to strategic inland storage elevators (silos). The next stations along the paths of the grain streams are the port terminals, where the grain is loaded into ocean-going ships. After traveling across the world’s seas, the ships will be unloaded in other port terminals. From there, the commodity will be finely distributed to the production facilities. Marcel Scherrer: “Along the value chain, different processes and challenges will be encountered – also in terms of retraceability. The new Bühler Grain Logistics business unit has set itself the

The port terminal of Grande Moinho Aratu in Brazil.
goal of developing and providing solutions for meeting all these challenges – complete solutions from a single source. The integration of Schmidt-Seeger was an important step in our effort to completely satisfy all the needs along this value chain. The winners of our work will be our customers and consumers.

**From collection point to malthouse**

Grain or oilseeds are delivered to the collection points just after being harvested and prepared for onward transportation. In addition to receiving (intake) systems and bulk storage facilities, especially equipment for drying, cooling, handling, cleaning, and grading will ensure that the quality of the grain or oilseeds is preserved. The terminals are part of the global grain trade, which means that they must offer vast storage volumes and handling capacities. At the terminals, giant ship loaders or unloaders handle far more than 1,000 metric tons of material an hour. The port terminals are capable of holding several 100,000 tons of commodities. The design and construction of large-scale storage and handling systems has been part of Bühler’s core business for decades. Across the world,
numerous port terminals testify to the market success of Bühler.
Finally, Grain Logistics is also a supplier to the world’s malting industry. The new Bühler business unit combines the profound and globally proven malting expertise of Bühler and Schmidt-Seeger, which is applied for designing and constructing customized malting facilities.

**Center of Competence in Beilngries**
The Grain Logistics business unit is based in Beilngries north of Munich. Marcel Scherrer: “Here we are establishing a Center of Competence for developing Grain Logistics solutions. It will be part of the new global business unit and operate additional sites in Döbeln near Dresden, Uzwil, Madrid, Delhi, and Changzhou in China. Out of Beilngries, we will develop the markets through the worldwide Bühler sales organization.” The new Bühler Grain Logistics business unit has some 700 employees. (bos)

**Schmidt-Seeger**
Schmidt-Seeger has been part of Bühler Group since September 2010. Gebrüder Schmidt AG was set up in 1929 by brothers Michael and Andreas Schmidt. In 2001, Schmidt AG acquired Seeger GmbH, which Carl Seeger had founded as far back as 1862. The merger of the two companies produced Schmidt-Seeger GmbH with headquarters in Beilngries north of Munich plus additional production sites in Döbeln near Dresden and in Delhi/India. Schmidt-Seeger GmbH with its approximately 500 employees is a global leader in the supply of professional technologies related to bulk materials management. The company is an acknowledged specialist in the supply of plant and equipment for drying, cooling, handling, storing, and grading grain and systems for seed treatment. In addition, Schmidt-Seeger is a global technology partner in the design and construction of malting facilities. (bos)
The Mexican food corporation Grupo La Moderna is planning to expand its export business with pasta and durum semolina. La Moderna therefore entrusted Bühler with the construction of a state-of-the-art durum mill with a capacity of 220 t/24h plus two pasta lines in Mexicali on the border with the United States.

The Fabrica de Pastas Alimenticias La Moderna can look back on an eventful history. The company was set up by Spanish immigrants in Toluca, 65 Kilometer southwest of Mexico City, in the year 1920. The former pasta factory has evolved into a major Mexican food corporation in the course of the 90 years of its existence. Today, the Grupo La Moderna is acknowledged to be the Number One in the Mexican pasta and semolina market.

Six production centers
In the six large production centers operated by La Moderna in Toluca, Guadalajara, Saltillo, and Guatemala, some 230,000 metric tons of pasta and 2,000 tons of instant soup are made every year. In addition, La Moderna also produces and distributes various types of wheat flour, flour blends for bread and bakery products, cookies (biscuits), and different products made from rice flour. In Toluca, Salamanca, Iraputo, Navojoa, Saltillo, and Sabinas, La Moderna operates modern distribution centers. In all, La Moderna employs over 5,000 persons and generates annual sales exceeding 500 million U.S. dollars.

Integrated production in Mexicali
To date, La Moderna’s activities were centered on Mexico. Though La Moderna pasta has been exported to neighboring countries since 1986, the share of exports had not grown to more than 15 percent by the year 2008. The main markets are the United States, the Central American countries, and some Caribbean Islands.

As the national leader in the field of pasta production and durum milling, the management of La Moderna decided in 2007 to forge ahead in the export business. The first step was to increase foreign business by building a new integrated production facility in Mexicali with a durum mill and including an attached pasta production plant. From this base, the export markets were to be supplied with high-quality pasta products and durum semolina.

Mexicali is the capital of the Federal State of Baja California. It has a population of about 650,000 and is located in the northern part of Mexico directly on the border with the United States, not far from San Diego. The name “Mexicali” is an artificial word made up of “México” and “California” and indicates the close ties of the city with California. The name of the sister city on the other side of the border is the reverse, being called Calexico.
In selecting the site for the new facility, another reason beside the proximity to the U.S. border was also the fact that Mexicali is located in the midst of a grain growing area of decisive significance and a railway siding from the main rail line into the U.S.A.

**One mill, two pasta lines**

La Moderna has relied for years on tried-and-tested Bühler technology. Convinced that Bühler is the best option, the management of La Moderna entrusted Bühler with the design of the integrated durum semolina and pasta factory. Work on the large-scale project started in October 2007. In January 2009, La Moderna signed the final contract and thus kicked off construction of the complete durum mill with a capacity of 220 t/24 h.

The new La Moderna factory in Mexicali also includes two pasta lines: one short-goods line with a capacity of 3,000 kg/h and one 1,700 kg/h long-goods line. The two pasta lines were built adjacent to the mill, which allows them to be directly supplied with durum semolina. The construction of this integrated production facility enabled the entire process from storage, cleaning, and grinding of the grain to dough preparation and drying of the finished pasta to be combined at one single site. The consistent technical and technological design and construction of the overall plant also contributes to high economy, top sanitation, and ultimately outstanding pasta quality.

**Earthquake during the construction phase**

The Bühler specialists started installing the production systems in the new factory as early as in November 2009. The work essentially
and stored on the basis of quality parameters as soon as it is received. The durum wheat, which is harvested exclusively in the region around Mexicali, is stored in a bulk storage system capable of holding 12,500 metric tons. The receiving (intake) capacity is 300 t/24 h. The raw grain bins are equipped with radar level probes in order to reliably detect the status of the bin levels. The capacity of the pre-cleaning section and the transfer system to the main cleaning section is 40 t/h. Here, an initial internal scale ensures retraceability and accurate weighing of the material.

On its way to the first cleaning stage, the product stream is accurately weighed and controlled by a Transflowtron MSDG differential feed scale. The feed scale ensures the production of uniform grain blends. In the first cleaning stage, coarse and fine impurities are removed from the raw wheat by screening in a Separator MTRB. Then the wheat passes through an optical sorter of type Sortex Z3. It separates foreign seeds and discolored grains with high reliability. Finally, an MTSC destoner removes pebbles, glass, and other high-density matter from the grain stream. In the second cleaning stage, a Peeler BSPB removes the outermost hull layers from the wheat grains. All the bins in the cleaning section are equipped with vibratory dischargers of type MFVH in order to ensure a steady en-masse flow of the material. It is precisely this very high degree of cleaning which allows the production of high-quality end products in the first place.

Receiving and cleaning sections
The new durum mill operated by La Moderna is currently the most advanced facility of its kind in North and South America. The grain is graded and stored on the basis of quality parameters as soon as it is received. The durum wheat, which is harvested exclusively in the region around Mexicali, is stored in a bulk storage system capable of holding 12,500 metric tons. The receiving (intake) capacity is 300 t/24 h. The raw grain bins are equipped with radar level probes in order to reliably detect the status of the bin levels. The capacity of the pre-cleaning section and the transfer system to the main cleaning section is 40 t/h. Here, an initial internal scale ensures retraceability and accurate weighing of the material.

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Top-class technology in action
In the heart of the new mill of La Moderna, the grinding section, the three main machines – Antares, Sirius, and Polaris – ensure top flour quality. The equipment in this part of the plant includes one Antares eight-roller and nine four-roller mills, two Sirius ten-compartment
plansifters, and ten Polaris purifiers. This produces excellent grinding results with a clear impact on the company’s bottom line. The semolina undergoes final checking on an NIR-DA online measurement and control unit of type MYRB. This infrared reflection technology allows continuous measurement of component substances such as ash (minerals), water, and protein as well as the speck number and speck size. These are core quality parameters in semolina.

From the grinding section, the semolina is transferred either directly to the two pasta lines or to a combined packing and loadout system for rail or road vehicles.

**Control and sanitation**

The new durum mill of La Moderna is fully automated, with its operations being controlled and monitored from A to Z by a Bühler WinCos.r2 automation system. Among other functions, the system allows complete retracing of all raw materials and finished products. In conjunction with the systematic use of stainless steel and the application of cutting-edge technology, this guarantees top food safety and satisfies the most stringent sanitation standards.

(bos)
Turning old into new

An extensive retrofit program instead of a new system proved to be the ideal solution for completely renewing the superstructure of the pneumatic ship unloader operated by the Jordan Silos & Supply General Company in the port of Aqaba. It also proved possible to continue to use the unloader of over 30 years without requiring any major modifications.

The Jordan Silos & Supply General Company (JSSGC) operates a total of four large bulk grain storage facilities in Jordan, with a total holding capacity of approximately 450,000 metric tons. One of the four facilities of JSSGC is located in the port of Aqaba on the Red Sea. Aqaba is the only sea port of the Hashemite Kingdom of Jordan.

Retrofit or new system?

The silo facility of the Jordan Silos & Supply General Company in Aqaba has a storage capacity of 150,000 metric tons. The cargo vessels supplying the grain are unloaded by three Bühler ship unloaders. Two of these units date back to the year 1978. For the JSSGC management, the question was as to whether this aging unloader was to be replaced by a new one or renewed in order to assure the required long-term unloading capacity in the port of Aqaba. In November 2009, JSSGC therefore entrusted one of their unloaders to Bühler. The substructure of the unloader was still in sound condition even after 30 years of service. It could easily be reused as a base without requiring any modifications to the gantry structure and the pier installations. The only item that Bühler recommended the customer to replace by state-of-the-art equipment was the pneumatic suction line and the control system. In view of the result of this investigation, JSSGC decided to entrust Bühler with the proposed retrofit of the operating section of the unloader.

The new section of the system

The plan for retrofitting the existing ship unloader was based on the PORTANOVA TM 3000/60T, a standard Bühler ship unloader with a throughput capacity as high as 300 metric tons per hour for discharging vessels up to 60,000 DWT. The partial dismantling of the unloader started in May 2010. From July onwards, the new unloader sections where then installed piece by piece. This installation work continued until October, allowing the completely renewed ship unloader to be started up and the operators to be intensively trained in early November 2010.

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The renewed ship unloader operated by the Jordan Silos & Supply General Company in the port of Aqaba.
The retrofit program comprised the complete conveying line with the telescopic suction pipe, the pneumatic suction line and a mechanical conveyor as a link to the chain conveyor installed on the pier; the pneumatic installations including the blower, airlock and air filter as well as the hydraulic system for moving the top section and the boom. The unit is controlled by a Bühler standard control system.

**Result for the customer**

The retrofit solution chosen for the ship unloader pays off in a number of respects. Overall, it is a cost-efficient, sustainable and environmentally friendly solution. In comparison with an entirely new unloader it allows all system components that are still intact to be reused. Moreover, the retrofit solution proposed and then implemented by Bühler reduced the system downtime to a minimum. JSSGC now boasts a pneumatic unloader based on cutting-edge pneumatic conveying technology. It proved possible to boost the efficiency of the system at very reasonable cost. Furthermore, the new/old PORTANOVA TM ship unloader consists of fewer individual parts, thus simplifying spare parts management and minimizing maintenance costs.
Light wings for the Phaeton

Volkswagen, the automobile producer, plans to increasingly use light-weight components in the future. As a test, VW is manufacturing doors for its flagship model Phaeton in its factory in Kassel. The result: Volkswagen is thrilled by the die casting process and the two-platen die casting system Carat 440.

The pressure resting on the carmaking industry to cut the carbon emissions of its vehicles is continuously increasing demand for highly integrated light-weight components. In this effort, structural components are playing an ever-more important part. In Volkswagen’s factory in Kassel, far-sighted minds proved that a Bühler die casting system is capable of casting complex structural components of top quality so to speak at the push of a button.

Today: Classical cast components

Volkswagen’s factory in Kassel has been manufacturing engines and gearboxes since 1958, processing over 100,000 metric tons of aluminium a year in Europe’s largest aluminium die casting foundry. With its 15,000 employees, the factory also supplies the 45 million cars it has manufactured and are still on the road with 372,700 different genuine spare parts. The light-alloy foundry specializes in manufacturing gearboxes, that is, “classical” die cast components of relatively large volume and respectable wall sections.

“Things worked the first time. From the fifth shot, the system was delivering perfect quality.”

Karsten Bätzing, Manager of the “Phaeton Door” project at Volkswagen

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Tomorrow: Light-weight design
Just like the time when the self-supporting car body was launched and thus a milestone was reached on the road to integration, another revolution is currently taking place. Called “light-weight design,” components are being developed which fulfill several functions at once and thus address one of the core challenges: weight reduction with the aim of enhancing energy efficiency. Such structural components have complex, rather large geometries and are increasingly being made of light alloys such as aluminium or magnesium. Bühler as a supplier of die casting systems is forging ahead with the development of this technology.

Casting structural components
In 2010, the factory management of Volkswagen Kassel inquired whether it might be possible to cast structural components in a standard casting cell designed for making gearboxes, which would at the same time allow the capabilities of the die casting process to be “fathomed.” Although basically the same systems are applied, the requirements that the cast parts are expected to meet in this application are very much higher than – say – in making a gearbox. Because a structural component integrated in a vehicle must absorb high energies in the event of a crash, high mechanical strength and elasticity values are required. In addition, its suitability for certain joining or assembly techniques must be taken into account, for example bonding or welding. Beside known process opera-
tions, this calls for adequate flexibility in selecting the settings for designing the shot profile. The long-term goal is to achieve low-cost casting of structural components that can be directly assembled without requiring any subsequent machining.

The test: The Phaeton door

“Which part in the current production portfolio is sufficiently large and complex to provide an answer to the questions asked?” The reply: The door frame of the largest VW model, the Phaeton, and that in the standard as well as in the long version. For the test, the Bühler two-platen die casting machine of type Carat 440 with a locking force of 44,000 kN was applied, which went into service in February 2011. Project manager Karsten Bätzing puts the result in a nutshell: “Things worked virtually right the first time. From the fifth shot onwards, the system was delivering perfect quality.” What was also perfect in view of all the requirements that must be satisfied in such a project was the surprise of everyone involved. Today, Karsten Bätzing would not hesitate to cast an even more sophisticated component, the door sill: “...but at present we do not have the required production capacity. We are casting gearboxes around the clock on the new Bühler Carat in order to meet the enormous demand.”

What steps come next?

“Everyone was so enthusiastic that we decided to cast the entire lot of 4,500 doors, and this with a far higher productivity than expected,” says Karsten Bätzing proudly of the performance achieved. Manufacturing manager Gerd Hahn agrees: “We would never have expected to achieve our goal in such a short time.” “This demonstrates that standard casting
cells are capable of casting both structural components and ‘classical parts’. To achieve the required flexibility, we are working on implementing a standardized casting cell,” explains Gerd Zahnwetzer, who heads the Planning and Technology Center. “Not least, the people from Bühler have persuaded us to drop the open machine control system applied up to now.” The short-term possibility of an open control system, which consists in “working around” errors on the basis of simple manual interventions, is offset by the long-term drawback that every machine may have undergone different, possibly non-documented adjustments. “When casting a component, we want to switch to other machines whenever we want to; we want to benchmark; and we want to know on the basis of which parameter an individual casting exhibits certain deviations. This requires total retraceability. The analysis options of the Bühler systems support us to a great extent in this effort.”

**What does VW expect of Bühler?**

“...small, light-weight, energy-efficient, and easy to operate...” To operate a die casting machine, you need space, energy, and operators. The space issue can typically only be solved in theory by building a large factory hall on a green-meadow site. But in everyday practice, the challenge is to increase productivity while production continues by replacing an old machine by a new one with a higher capacity but the same footprint. Furthermore, this higher-capacity machine is not allowed to consume more energy – on the one hand in the interest of sustainability, but not least also due to the electrical connection values. Gerd Zahnwetzer: “This is one area where the two-platen technology of Bühler helps us as much as it does in meeting our flexibility requirements in selecting the process parameters and ensuring ease of operation. We also expect our suppliers to provide know-how and service. Even before the supply, Bühler repeatedly asked us questions, which we occasionally found inconvenient, but which ultimately paid off. And not least, we expect fast responses in case of trouble. When a machine stops producing parts, every hour that we can reduce downtime is worth pure cash. And of course I am very pleased to see that employees back our decision and enjoy working on the Bühler machine.”

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**Phaeton**

The Phaeton is the upper-class model of carmaker Volkswagen. It is largely hand-assembled in the “Gläserne Manufaktur” in Dresden. Every day, no more than 48 customized and hand-crafted Phaeton cars leave the manufactory.

The Phaeton has an enclosed four-door notchback body. The characteristic features of the Phaeton include its luxurious interior, its permanent “4Motion” all-wheel drive, and numerous technical innovations.

The name Phaeton is from Greek mythology. Phaeton was the son of the sun god Helios. According to the myth, he brought about the end of the world with his father’s sun chariot.

**www.volkswagen.de/Phaeton**

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**Volkswagen**

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For some months now, Bühler has offered its customers two new services: the Customer Helpline for emergencies under the phone number +41 71 955 19 00, and the Bühler eTicket as a contact and service platform.

No matter when, no matter where: Bühler customers now have the possibility to call the Helpline number +41 71 955 19 00 in emergencies at any time of the day or night to contact Bühler. The new Customer Helpline is intended as an addition to the local contacts. The introduction of the additional central 24 h Helpline guarantees customers that they can contact Bühler in emergencies around the clock. The Helpline “talks” English, German, French, Spanish, and Italian. Depending on the description of the specific problem, automation experts, service technicians, or spare parts specialists will be involved for providing support.

This service is Bühler’s answer to customers’ requests for shorter response times in emergencies. The Bühler eTicket system makes a major contribution to this by offering customers an additional contact platform. Moreover, the eTicket enables documents or images that detail a problem to be attached. How does the eTicket work? Customers open an individual account in the Bühler eTicket system through the Bühler website (www.buhlergroup.com/services). Then they make a concrete inquiry in the eTicket system. It is systematically recorded and replied to by the Bühler team. The processing status of the eTicket can be viewed online at any time.

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A Bühler Service employee will support customers in emergencies.
European Coatings Show

At the end of March, all the important players along the value chain of the printing ink and coatings industry met at the European Coatings Show 2011 in Nuremberg/Germany. Under the slogan “Bühler grinds it all,” the Grinding & Dispersion business unit presented a broad portfolio of equipment and services for the dispersion and wet grinding industry. The presentation confirmed that almost any conceivable wet grinding task can be solved using Bühler technology. This applies both to high-viscosity pastes and to materials in the nanometer range. In order to cover this wide range of applications, Bühler also presented its Technology Centers in Europe, Japan, China, and the United States. In close collaboration with customers, they tackle new challenges in the field of wet grinding technology or analyze existing production solutions in order to further improve them.

The Nanotechnology business unit presented its new performance additive Oxylink™ for environmentally friendly water-based inks, paints, and vehicle systems at the Coatings Show. The additive contains tailor-made nanoparticles which, on the basis of their interaction with polymers, bring about a reinforcement effect. The application of Oxylink™ optimizes a large number of characteristics, for example resistance to blocking or attack by moisture and solvents. Moreover, Oxylink™ allows an appreciable increase in productivity to be achieved thanks to accelerated drying. (sw)

ValueCard

The Bühler ValueCard offers a simple and practical system for charging individual automation online support services. Customers who buy a ValueCard acquire 25 credits. One credit is equivalent to one hour of support during regular business hours (Monday through Friday from 7:30 a.m. through 5:30 p.m. CET). Outside these times and on legal holidays, two credits per hour are charged. As soon as 20 credits have been used up, the customer will automatically receive an offer for an additional 25 credits. (kl)

New factory in Wuxi

Bühler is building a new factory in Wuxi in China, which will manufacture die casting machines of the Ecoline series. A mere year after their launch, demand for Ecoline die casting systems is by far outstripping the existing production capacities. The new factory will produce up to 300 Ecoline die casting machines a year on the basis of the flow manufacturing principle. Construction of the new facility will start without delay. (ak)

New Managing Director at Sortex

Change in the management of the Sortex & Rice business unit: After heading Sortex for 18 years, Bruno Kilshaw has now retired. He was succeeded this spring by Hamid Kefayati (photo), who has held management positions at Bühler Sortex in London for several years. (ca)
Yihai Kerry, a leading Chinese agribusiness food group, is expanding its milling capacities and relying on Bühler as a partner. One important milestone of its expansion strategy was recently passed when the large-scale 3 x 600 t / 24 h plant in Kunshan went on stream. These three Yihai flour mills are one of Bühler’s largest mill construction projects ever implemented in a single step.

Yihai Kerry is one of China’s leading agribusiness and food groups. Set up over 20 years ago, Yihai Kerry operates more than 170 factories, it processes oilseeds, grain, and palm oil into a large number of high-quality foods, feed ingredients, and vegetable oil derivatives. The product portfolio of Yihai ranges from vegetable oils and protein meals, rice and flour, bran, and specialty fats to oil chemicals and soy protein concentrates. Yihai Kerry also operates distribution networks for marketing its finished products. Yihai Kerry is controlled by Wilmar International Limited. The Wilmar Group is the leading agribusiness corporation in Asia.

Letter of intent

The management of Yihai Kerry sees potential in demand for high quality specialized flour for China. In 2004, Yihai and Bühler signed a letter of intent to build a few new mills using Bühler technology and engineering. Yihai’s management said: “Top flour quality can only be achieved on the basis of leading-edge technology. Bühler offers advanced grain milling technology and a reliable customer service organization. In addition, a Bühler-supplied plant guarantees stable production, high flexibility, and premium product quality.”

Showcase facility in Kunshan

Among the new grain mills operated by Yihai, the facility in Kunshan is the absolute showcase project. Kunshan is located in Jiangsu Province, northwest of Shanghai on the highway and railroad axis between Shanghai and Nanjing. Along this traffic line, the past few years have seen the development of an immense industrial area with numerous production sites of domestic and international corporations.

In Zhangpu, the industrial area of Kunshan, Yihai Kerry is planning to build a large flour mill on a vast tract of land. The factory will also include a ship unloading facility with two receiving lines (2 x 200 t/h), a loading installation for trucks with four intake points (2 x 250 t/h each) as well as thirty storage elevators (silos) with a total holding capacity of 102,000 metric tons of raw grain.

In an initial phase, three grain mills have been installed in a single building – one each for hard wheat, semi-hard wheat, and soft wheat. The construction of the triple mill is one of the largest grain milling projects ever implemented by Bühler in a single stage.
Special procedure
Yihai Kerry ordered all the milling-specific machinery and plant components from Bühler. In addition, Yihai entrusted Bühler with the complete design of the large-scale plant as well as all the plant engineering work. Also, the civil engineering tasks were under Bühler’s responsibility—in cooperation with a local design institute. On the other hand, building construction, ancillary parts sourcing, electrical and mechanical installation work and supply of the process control system were the customer’s responsibility. “Such a procedure is common practice in China,” explains Simon Müller, senior project manager at Bühler China in Wuxi. “However, so many different customer supplies are a challenge to the engineering work and fulfillment performance guarantees.” In order to ensure the success of the project and reliable start-up, Bühler invested more time and capacities than would have been necessary in a less complex project. “With regular visits by a chief installation supervisor of Bühler China and a special care pack, we contributed to the smooth handling and overall success of the project,” says Simon Müller.

The ambitious schedule was observed. Installation of the three mills started in September 2010 and continued up to early March 2011. In May, all the plants had been prepared to the point where three Bühler head millers could start them up. When this Diagram issue appears, the facility will be operating at full capacity. The opening ceremony is scheduled for next autumn.

A-, B-, and C-Mills
The three new mills operated by Yihai Kunshan are in large part identical. The A-Mill has been specifically designed for processing hard wheat,
“The cooperation with the Bühler sales, engineering and installation teams was positive – I appreciated their professional attitude and orientation towards our needs. I believe we built a sound and high-performance flour mill according to our specifications. I fully count on Bühler technology.”

Wu Xuchu, General Manager Yihai Kerry (Kunshan) Foodstuffs Industries Co. Ltd.

The flow charts of each of the cleaning lines feature two separators, two destoners, four indent-ed cylinder units, and two scourers with air-recycling aspirators in the first cleaning stage. Another two scourers with air-recycling aspirators and two separators plus two destoners follow in the second cleaning stage. In the B-Line, the second cleaning stage is supplemented with a spiral separator (“toboggan”), in the C-Mill with a Light-Peeler.

Though the grinding systems of the three mills do not differ in terms of the individual machine types, they do in terms of the number of machines installed. The A-Mill is equipped with 33 four-roller mills of type MDDP to ensure careful grinding of the hard wheat. Six MPAP plansifters, nine MQRF purifiers, and 12 MKLA bran finishers follow for grading the millstream flours and the finished flours. In the B-Mill, the flow charts for grinding the semi-hard wheat make provision for 30 four-roller mills and three eight-roller mills of type MDDQ plus six plansifters, eleven purifiers, and twelve bran finishers. The C-Mill is equipped with 31 four-roller mills, six plansifters, eight purifiers, and 15 bran finishers for the production of soft wheat flour.

Ready for packing
After leaving the grinding process, the flours are transferred to the finished product storage bins. Each mill is featuring a flour storage and handling system (flour silo) capable of holding 1,080 tons and a storage silo for the flour blending section with a volume of 450 tons. This results in a total flour holding capacity of
3,240 tons and a blending silo volume of 1,350 tons. The throughput capacity of the blending line is 25 t/h. The flours are primarily supplied to small and large bakeries. For servicing large-scale customers, each line is equipped with a bulk loadout section for trucks. However, it is common practice in China to supply also large-scale customers with bagged flour. For this purpose, the flours are packed into 25-kilogram bags on six four-spout bagging carousels. For delivering flours to retailers, the B-Mill is additionally equipped with a single-spout packer and a packaging machine.

The coarse and fine bran is conveyed from the mills directly into 30-cubic-meter bagging bins. From there, it is packed into bags by six single-spout packers. Two large warehouses covering a surface area of 6,000 square meters each are available for storing the bagged flour and bran.
Since the Interpack was held for the first time in 1958, Bühler has always been one of its exhibitors, evolving over the years into a remarkable highlight of the trade show. This long and impressive success story was again continued this year with Bühler’s appearance.

At this most important trade show for the packaging business and related process industries, Bühler presented the more than 166,000 visitors a total of eleven innovations beside 14 proven systems. With its generously sized exhibition area, Bühler made a convincing appearance as a market leader. The focal spots of the impressive exhibition stand were the two information points – the “Future Center” and the “Presentation Area”. Here, the emphasis was on knowledge transfer and the exchange of experience with the visitors. In the Presentation Area, various papers were presented on the core subjects of sustainability, food safety, and energy efficiency. In the Future Center, visions and ideas were created together with the visitors, many of which will ultimately be incorporated in the further development of the Bühler product portfolio.

The bustle of business activity was balanced by the live presentations of the barista and the confectioner at the Bühler stand. Their audience could feast their eyes on what the pros were producing and then treat themselves to a sample of their artistic work. The positive feedback received both from the visitors and from the staff on site is a clear indication that the Interpack stands to remain a milestone in the trade show agenda of Bühler.
At the center of the vast exhibition area are the opposite information points “Future Center” and “Presentation Area”.

The live presentations and the papers met with great interest.
Unique plant for unique products

Tropical is a leading producer of feeds for ornamental fish. In its in-house laboratory, the company continuously refines its products and develops new ones. A new production system supplied by Bühler allows new product ideas to be upcaled to an industrial process, thanks to very fine grinding and twin-screw extrusion technology.

Tropical-Tadeusz Ogrodnik, a Polish manufacturer of feeds for ornamental fish, offers a very wide range of products. They include feed varieties tailored to the specific needs of a multitude of animals, ranging from aquarium and pond fish to reptiles and rodents. The “Natural” product line consists of dehydrated and freeze-dried invertebrates, a delicacy that fish love. The three other product lines – “Standard”, “Premium”, and “Professional” – include products in the form of flakes, pellets, tablets, and sticks.

Top-quality products

In the ornamental fish feed market, the products made by Tropical-Tadeusz Ogrodnik are acknowledged as unrivaled high-end products. For making them, only selected raw materials of premium quality are used. The formula of every feed is the result of longtime experience and expertise. “The products of our three lines Standard, Premium, and Professional are based on very different compositions,” says Tadeusz Ogrodnik, who as the managing director of Tropical represents the owner family. “They vary in terms of the type and quantity of vitamins, trace elements, and vitality-enhancing ingredients that are used in producing them. The Premium and Professional products are enriched with numerous valuable natural substances. They increase the animals’ resistance to diseases, enhance their vitality, improve their digestive processes, and promote the development of the splendid colors of ornamental fish.” Moreover, all Tropical feed varieties share an important characteristic: they do not cause any turbidity of the water.

New feed formulas...

The formulas on which the Tropical products are based are developed in the company’s in-house laboratory. For years now, this effort has repeatedly produced new formulas or quality features which help Tropical maintain its competitive edge and strengthen its market leadership. The latest development concerns the size reduction method applied and the size of the pellets produced. Tadeusz Ogrodnik: “Our developers have found a way to make it easier for the fish to absorb and assimilate our products. We...
call this micronization. Moreover, we have developed a process that prevents degradation of the ingredients and maintains their full nutritional value, thanks to the application of high temperatures and short-time sterilization.” What has also been improved is the texture of the pellets themselves. “The goal of our development effort was to obtain a regular and dense structure in each and every particle,” explains Tadeusz Ogrodnik.

… and the system for making them

Improving products in the laboratory is one thing. Transferring the improvement to industrial scale production is quite a different matter. The management of Tropical decided to invest in a new production line. They looked around in the marketplace for extrusion systems that would allow the production of very small pellets. “What we were looking for was a unique system for making our unique products,” says the managing director of Tropical, smiling. “We have found it at Bühler. The solution proposed by Bühler convinced us by its unsurpassed technological and technical standard. The quotation we received for a new, turnkey production line was complete, the engineering work done convinced us down to the last detail, and the support that we were offered by Area Sales Manager Andreas Moster was highly competent. Finally, a tour of a showcase facility fully convinced us of Bühler’s capabilities.”

Pellets with a size of 0.5 millimeters

For housing its new production system, Tropical built a new factory hall. Within record time, Bühler installed a complete production line in this generously sized new building for making fish feed pellets and sticks. In a first section, it includes an intake system for receiving the various ingredients plus a batch mixer. In the downstream grinding unit, the ingredients undergo not only fine grinding, but even micro-milling or micronizing. “This very fine grinding of the ingredients is one of the secrets of the new production process of Tropical,” says Andreas Moster, who managed the project from A to Z. The second ‘secret’ resides in the purpose-designed twin-screw extruder. Here, the blended and ground ingredients are processed into colored micropellets with a size of 0.5 millimeters. In the final section of the plant, the products are dried, coated in a coating drum with – say – fish oil, cooled, and finally packed into Big Bags or small-size packages. The entire feed manufacturing process of Tropical is fully automatically controlled and monitored by a centralized WinCos.r2 control system.

Excellent track record

The new production line operated by Tropical has been in service for almost two years now. Its track record is excellent throughout. The design
of the plant is so flexible that the system can be used for small- as well as large-volume production. This special design allows fast product changes. Thus, Tropical can manufacture all of its feed varieties on the new line – from floating products to sinking ones for so-called ground fish. Tadeusz Ogrodnik is thrilled by his new production system: “Up to now, it has exceeded all our expectations. To date, it was only possible to obtain micropellets by reducing larger pellets. The new technology offered by Bühler today enables us to make them directly by extrusion. This results in products which are assimilated by the fish with extreme ease. In addition, they will not dissolve in water. This ensures that the parameters of the feed remain unchanged. Our new facility allows the shape, form, and size of the feeds to be tailored to the anatomy and the nutritional habits of the animals so that their eating habits are equivalent to those in their natural habitats.” And Tadeusz Ogrodnik adds: “We very carefully observe what is going on in the marketplace and are prepared to make additional investments – partnering of course with Bühler.” (bos)
Availability and value maintenance

Regular and professional maintenance will ensure the best possible plant capacity utilization and thereby maximize a company’s profitability. Lantmännen Cerealia in the Danish town of Vejle – one of Europe’s largest and most advanced grain milling operations – has drawn the logical conclusion from this fact: Since 2009, the company has completely relied on the Bühler Customer Service organization for its maintenance. This allows it to benefit from maximum uptime and minimum tie-up of resources.

A comprehensive service program – is that possible at all? Lantmännen Cerealia is the best example proving that the outsourcing of services is not only possible, but even highly lucrative. Johannes Kappich, a head miller at Bühler, is permanently stationed on site in Vejle in order to coordinate all the maintenance activities of the company. Together with four service employees of Lantmännen, he makes sure that the production processes run smoothly so as to produce a maximum yield.

Preventive maintenance

An important part of his job is preventive maintenance. With the aid of the Bühler WinCos.C@re maintenance software, the tasks are correctly carried out by the Lantmännen personnel at the right time according to Johannes Kappich’s instructions. At the same time, they are documented for comprehensive retraceability. If components have to be replaced by spare parts, Johannes Kappich can rely on the local consignment stocks. The warehousing facilities are provided by the customer, and the stocked parts are not invoiced by Bühler before they are retrieved. Head miller Kappich can handle any required subsequent orders conveniently via BEPOS, the Bühler Online Shop especially tailored to the needs of this specific plant.

Careful inspections

Another element in the comprehensive service program includes regular inspection tours of the facility, which covers a surface area of more than 20,000 square meters spread across no less than twelve buildings. On these tours, Johannes Kappich checks – among other things – kilometers of piping for leaks, which otherwise often tends to be overlooked. The replacement of damaged pipes perceptibly enhances the energy efficiency of operations and minimizes the plant cleaning requirements. Moreover, this contributes to an attractive image for the many visitors that come and see the plant from all over the world.

Regular block maintenance

Two or three times a year, so-called block maintenance routines are scheduled, which are supported by additional Bühler personnel. During these assignments, rolls are changed and scales are serviced, beside many other things. All the activities are based on a meticulously calculated procedure plan so that plant operation is maintained at the maximum possible level.
“We are fully satisfied with the service that Bühler offers us. Our machinery and production systems are always in top shape. This has made unforeseen repair jobs the absolute exception, which is of course reflected in our operating result at the end of the day,” says a happy Torben Bodin, the production manager of Lantmännen Cerealia. “And should nevertheless an unexpected incident occur, we can always count on receiving an immediate solution to the problem at any time of the day or night, thanks to the 7/24 service of Bühler.”

**Further intensification of services**

At present, a further intensification of the collaboration between Lantmännen and Bühler is under discussion with regard to both the scope of supply and the time. The main reason for this is the access that the customer can thus gain to Bühler employees’ extensive knowledge of every detail of the machines and processing systems, as well as the rapidity and reliability of the jobs performed. This slashes its operating expenses in many respects.

“Head Miller Johannes Kappich is on site in Vejle throughout the year.

Torben Bodin,
Production Manager,
Lantmännen Cerealia

“We have found that the uptime of our plants has reached an optimal level thanks to professional preventive maintenance. This, in turn, has maximized our yield and operating result on a sustainable basis. The coordination of all jobs by Johannes Kappich has enhanced our efficiency and enables us to further sharpen our focus on our core business. The exchange of information between Bühler and Lantmännen during regular meetings bolsters our mutual trust and ensures short communication paths.”
Remote control

A new module designed for the Bühler WinCos.r2 process control system enables an entire flour mill to be controlled and monitored via handheld computer (PDA) or all the required process data to be retrieved via Smartphone.

New modules are being continuously added to the Bühler WinCos.r2 process control system. A newly developed Web application now makes it possible to control and run a Bühler mill from anywhere. The newest WinCos.r2 module enables the plant to be controlled from any point inside the mill. Through Hot Spots spread across the entire plant premises, personnel have a direct link with the process control system via PDA (tablet or iPad). Operators can thus control and monitor the plant also from outside the control room and carry out other activities while keeping track of plant operation. This enables the personnel to be employed with greater flexibility while still ensuring fast responses.

But the new WinCos.r2 WebApplication module also offers another possibility in the form of making all the process data available worldwide via the Internet and Web Access. Inquiries are made by Smartphone or PDA. This gives mill operators all the information they need, for example production statistics, material inventories, or product yield, regardless of where they are at any particular moment. They can check their operations whenever they wish, which makes them independent of regular reports and enables them to respond proactively and thus gain crucial time.  (bos)

For more information on the remote control module, please contact:
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Bulk Grain Seminar

In March, Bühler China held a “China Ports Bulk Grain Transportation Technology” seminar in Guilin/China for the national Port Silo Technology Committee. All the major port operators in China are members of this committee. The one-day seminar was designed as a training event. Bühler specialists presented the latest technology trends along the path of the grain from field to processing site. In view of the highly positive feedback received from the attendees, the team of the new Bühler Grain Logistics business unit will hold the event also in other regions. (js)

Change at Bühler Braunschweig

Uwe Wehrmann has left Bühler at the end of June 2011 to take up a new challenge outside the organization. Wehrmann was with Bühler since 1985 and headed the Bühler site in Braunschweig since 2006. His successor as Managing Director of the Bühler affiliate in Braunschweig is Stephan Lange (photo), a graduate industrial engineer who comes from Probat, where he held a senior position since 2002. (ca)

Bühler acquires Tijdhof

As of the end of April 2011, Bühler acquired Tijdhof Persmatrijzen, a Dutch company with headquarters in Oldenzaal. The company, which was established 30 years ago, specializes in the manufacture of high-grade pelleting dies and rolls, which it supplies to the global animal feed and biomass industries. The family-owned business, which operates state-of-the-art production systems and its own vacuum hardening shop, will be integrated in the Feed & Biomass business unit of Bühler (Grain Processing division). The management and the roughly 20 employees will be retained. This acquisition enables Bühler to supply its customers with all the wear and spare parts of a pellet mill, including consulting services, from one single in-house source. This moves Bühler another step closer to its customers while unlocking additional new markets. In the production of feed or wood pellets, the raw material is forced with high pressure through the holes of a die. The quality of the die has a decisive impact on the service life of the pelleting system so that operators attach the utmost attention to mechanical strength, hardness, and precision of the die holes. (ca)

IAOM: Bühler presents three innovations

The annual meeting of the International Association of Operative Millers (IAOM) is a key event for the North American grain milling industry. This year’s venue was San Antonio/Texas. Just a short time after the official opening, the Bühler exhibition booth was already at the center of attention. With its Vega High Capacity Classifier, its new flake huller, and the Sortex A5 Optical Color Sorter, Bühler presented three innovations, which met with keen interest. The visitors to the Bühler booth also welcomed the opportunity to engage in technical discussions with the specialists present. (ca)
Customers as development partners

The Bühler Feed & Biomass business unit has taken a new approach in developing its new Kubex™ T pellet mill: It partnered with four selected customers throughout the development phase. The result is an entirely new, compact, highly functional, and easy-to-operate machine equipped with a drive system that is revolutionary for the industry.

“Open Innovation” is what Andrea Hermsmeyer calls the process which she and the project team chose in developing the new Kubex T pellet mill. “We wanted to involve our customers in our development effort so as to ensure that their specific needs were taken into account,” says the mechanical engineer, stating the reason for the procedure chosen. In retrospect, she does not doubt for a moment that the experience was “highly positive.” “Our close contacts with customers helped us broaden our minds. In the course of the development process, we received many valuable inputs from our four partners, which we incorporated in the new product. It was all very productive and a lot of fun to collaborate in this way with customers.”

A call from the field

At the start of development of the new KubexT feed pellet mill was the analysis of the market needs. “On the one hand, we talked with our sales colleagues in the field in order to identify the needs and requirements of the marketplace. On the other hand, we asked our start-up engineers, service technicians, and installation supervisors where they saw a potential for improvement on the basis of their day-to-day activities with pellet mills,” says Andrea Hermsmeyer of the first phase of the project in May 2009. “We identified three core needs: In comparison to the pellet mill that existed up to now, the new machine was to be easier to operate and maintain, to take up less space, and especially to consume less energy.”

On the basis of these defined targets, the project team headed by Walter Signer tackled the job. It was not long before the four customers selected as development partners were presented an initial concept for the new pellet mill. Their responses were positive throughout. Valuable inputs from this group helped further refine the first concept.

Design is functionality

When the prototype of the new pellet mill was presented in-house for the first time December 2009, the defined targets had already been exceeded. “We succeeded in building a pellet mill equipped with a direct drive – a world first,” says development manager Hermsmeyer, mentioning a first plus of the new Kubex T. Thanks to the machine’s direct drive, neither a V-belt transmission nor a gear train are needed. On the one hand, this slashes the maintenance requirement, and on the other hand the direct drive uses about 20 percent less energy. A second benefit of this new
What appeared to be impossible up to now is a reality today: The new Kubex T pellet mill of Bühler is equipped with a direct drive. Without any gear train or V-belts required for transmitting the power, the direct drive cuts the maintenance requirements and boosts the uptime of the pellet mill. This powerful drive slashes the energy consumption of the Kubex T by as much as 20% per metric ton of pellets produced. In addition, the new Bühler pellet mill allows the circumferential speed of the die to be varied during operation. The resulting high flexibility enables the production process and the pellet quality to be continuously fine-tuned. In addition, this increases the life cycle of the die.

The new pellet mill comes in two versions: The Kubex T12 is the model with the highest capacity. Its drive power is up to 585 kW and its die diameter up to 1200 mm, which allows a high pelleting throughput of up to 80 metric tons per hour to be achieved (poultry feed, 4 mm). The smaller version Kubex T9 has a drive power of up to 410 kW and a die with a diameter of 900 mm and is suitable for production capacities of up to 50 t/h. With its very compact design, the new Kubex T pellet mill fits into almost any feed manufacturing plant. It is particularly suited for increasing the capacity of an existing feed mill without requiring any major modifications to the building.

With its unique design, the new Kubex T pellet mill satisfies the most rigorous requirements in terms of sanitation, ergonomics, and ruggedness. Smoothly running sliding doors that open widely on both sides offer complete access to the machine and thus allow quick and easy maintenance. Moreover, the slight negative pressure inside the machine housing prevents dust from settling at critical spots. An improved concept for changing the die plus access to the screw fasteners from the motor chamber considerably reduce the time required for changing dies. In conjunction with the low-maintenance direct drive, this maximizes the uptime of the machine. Another innovation is the anti-blocking system of the rolls, which prevents uncontrolled roll slippage and thereby protects the machine against jamming and damage. (sh)
development is its compact design. Thus, the large version of the machine with a die diameter measuring 1200 millimeters fits easily into the space that a conventional pellet mill fills with a die diameter of 900 millimeters. And this with a more than 50 % higher throughput capacity.

Design is functionality – this claim was a constant companion throughout the development of the Kubex T. “Supported by an experienced industrial designer, we developed a machine that satisfies our customers’ requirements for best possible access and maximum simplicity,” explains Andrea Hermsmeyer. “The smoothly running, curved sliding doors provide very easy access to the working area for changing dies, and their geometry reduces product dust settlements on the machine surface.” In all, the variety of components was slashed by 50 %, which is reflected in markedly easier operation and maintenance of the machine.

Valuable suggestions
The in-house presentation was but the first step. Very soon afterward, the first prototype had been installed and put into operation at one of the four development partner’s sites. This allowed the new pellet mill to be subjected to the “acid test” under the real-life operating conditions encountered in the field. In July 2010, the representatives of the other three pilot customers were offered the opportunity to see the new pellet mill in operation for the first time. A short time later, a second machine went into service at another customer’s site. This was another occasion to jointly inspect the machine. “Both meetings with our customers were very constructive and productive,” concludes Andrea Hermsmeyer. “Walter Signer and his project team were praised for the ideas that they had transformed into a reality and were also offered additional suggestions for optimizing the design.” For example, the possibility of varying the circumferential speed of the die allowed by the direct drive was welcomed by everyone as genuine added value.

Growing together
For Andrea Hermsmeyer, teaming up directly with customers was a very valuable experience. “In the course of the development process, we learned very much about our customers’ day-to-day operations and got to know the challenges that they face. It is nice to see how the many different perspectives and views that went into this project contributed to the development of this product. Collaboration was always very positive and constructive. The Bühler project team and the pilot customers grew to become one single team in the course of the project, sharing one common goal – to develop the best of all pellet mills.”

The new Kubex T pellet mill was presented to the specialist community at the Victam trade show in Cologne. Andrea Hermsmeyer: “Visitors’ responses were overwhelming. Our new pellet mill made an immense splash among the market players. Especially its direct drive caused very much excitement.” That did not go unnoticed by the organizers of the event, for the Kubex T pellet mill of Bühler was distinguished by the Silver Victam Innovation Award. (bos)
Granulex™ – reduces operating costs “blow by blow”

Granulex is the name of the new high-performance hammer mill developed by Bühler. Trimmed for ultimate performance, the Granulex delivers a high grinding capacity of up to 75 t/h. Swiss reliability and very easy maintenance reduce downtimes to the absolute minimum, enabling customers to take full advantage of this productivity. The Granulex hammer mill has been designed with supreme ease of maintenance in mind, from its smoothly running sliding doors on both sides to its screen and hammer changes within 30 minutes by a single person. This cuts operating expenses with every hammer blow.

High-capacity grinding
The Granulex achieves a high grinding capacity of up to 75 t/h with a motor power of 400 kW and a hammer tip speed of up to 118 m/s. This ensures an outstanding particle size distribution in fine-grinding applications. What deserves special mention is the fact that the Granulex has the largest screen area of all hammer mills commonly available in the market with a motor power of 400 kW, which reduces the wear and tear on the screen and hammers.

Minimized product change times
Fast and easy maintenance minimizes the downtimes of the Granulex. The smoothly running sliding doors on both sides provide fast access to the grinding chamber. Inside the grinding chamber, the split rotor and the user-friendly hammer bar locking mechanism allow quick and easy hammer changes. A special screen clamping mechanism also allows fast and convenient screen changes. Thus, it is possible for a single person to change the screen and hammers within a mere 30 minutes. The enclosed machine housing and the rounded design of the new Granulex hammer mill minimize dust settlement zones, and the smooth surfaces make cleaning significantly easier.

As with the new pellet mill, the Granulex hammer mill was developed in close cooperation with longtime customers. (sh)
25 percent higher capacity

Officially not even launched, the improved SORTEX A rice sorter of Bühler is already a sales hit.

The optical sorters of Bühler have been setting new standards for years. These SORTEX sorters are being continuously refined. The latest insights gained have been applied in the SORTEX A for creating a highly flexible, reliable, and cost-effective rice sorting solution. The machine achieves a 25 percent higher throughput capacity than was previously possible.

25 machines sold to date

When revolutionary design improvements are incorporated within an established market-leading product, this is normally a cue for a large-scale launch program. But the introduction of the improved five-chute SORTEX A has been more muted. It will be officially launched later on this year. Nevertheless, within a few months of its release, 25 units of this improved rice sorter have already been bought by some of the world’s most efficiency-conscious, high-capacity rice processors.

New feed technology

When you consider the benefits of this machine, it is easy to see why there has been such a positive response: The SORTEX A’s pioneering feed technology delivers product more evenly and consistently than before. At the same time, its capacity has been boosted by 25 percent with no decrease in yield. Product breakage has been greatly reduced because the accept receptacle slows down rice grains before they exit the sorter. Overall, this adds increased value the longer the machine is running.

Reverse sort capability

The SORTEX A optical sorter offers another vital benefit in the form of its reverse sort capability. This means that reject can be resorted with greater precision, yet again reducing the proportion of grains removed. Operating costs are minimized because air consumption is reduced and the significant reduction in the loss of good grains leads to a higher-quality end result. Quality and yield are also improved by new camera sensors, lenses, and lighting. The high-resolution monochromatic cameras that operate in the visible range and camera lenses tailored to the specific requirements detect even minor color defects and foreign matter. This means that the new SORTEX A sorter is capable of detecting more subtle yellow color defects without sacrificing good grains.
Technical factors
Doug Hodgkiss, project manager at Bühler Sortex in London, highlights the technical factors that contribute to rice processors’ efficiency and profitability. “Consistent throughput is achieved by monitoring signals from a strain gauge above the feed hopper. This enables the automatic adjustment of the SORTEX A vibrator setting to match capacity in the process line. Moreover, heat management within the control box and state-of-the-art lamp and vibrator control circuits increase uptime and thus maximize productivity.”

Easier cleaning
With its improved SORTEX A optical sorter, Bühler Sortex is honoring its promise to make foods safer and cleaner. Its open design prevents dust from settling and greatly simplifies cleaning of the machine. The initial 25 sales therefore promise to be the first of many.
Victam & Grapas

Victam & Grapas is an international trade show for customers from the animal feed and grain processing industries. It is held annually, alternately in Europe and in Asia. At this year’s Victam & Grapas in Cologne, Bühler occupied a booth covering more than 800 square meters. Bühler presented the specialist public the new Sortex A for the first time in Europe. This top-of-the-line optical sorter sets completely new standards in terms of efficiency and throughput capacity. The focus of the Bühler exhibition concept was on live presentations of the machines on display. In addition, the numerous visitors from the grain processing industry were shown how quick and easy it is to change the rolls of the Antares roller mill. They could also satisfy themselves of the reproducibility of the readings of various products taken by the NIR DA Online Measuring Unit MYRB. Much interest was also aroused by the Graviscrew MSDR on display and the solutions for volumetric or gravimetric proportioning of micro-ingredients.  (tz)

Dieter Neuschütz succeeds Lorenz Bühler

After serving Bühler for 36 years, Lorenz Bühler retired this spring from his active professional life. His successor as Head of Sales of the Grain Processing Division is Dieter Neuschütz. Dieter Neuschütz has been with Bühler since 2003 and headed the Grain Handling business unit during the past few years.  (ca)

Queen’s Award for Bühler Sortex

For the sixth time now, Bühler Sortex has been presented the “Queen’s Award for Enterprise” for its international successes. Bühler Sortex has won the award in the “International Trade” category before – in the years 1968, 1972, 1987, and 2005. In 2001, Bühler Sortex also won the “Queen’s Award for Innovation.” The Queen’s Award for Enterprise is presented to businesses that deliver outstanding performance in international trade, innovation, or sustainable development. It is the highest official recognition of the achievements of British businesses. Companies are proposed on the advice of the Prime Minister, guided by an expert committee of leading figures. Hamid Kefayati, the new Managing Director of Bühler Sortex: “Everyone at Bühler Sortex is proud that, for the sixth time, we have met the extremely demanding standards that have led to this moment. These require a substantial and sustained increase in export earnings over three consecutive twelve-month periods to a level that is exceptional for the products and services involved. We have achieved these objectives thanks to the commitment of a dedicated team who have given us a commanding presence in the 140 overseas markets in which we operate. Our massive research and development investment enables us to provide food producers with the most advanced optical sorting technologies to deliver the safest, cleanest food to every global market.”  (ti)
The 23rd issue of the Bühler customer magazine Diagram appeared in May 1959. It deals with two focal subjects. In the first part, an introduction is given to the significance of treating wheat before storing it. Of the two main factors for ensuring sound and quality-maintaining storage – the moisture content and the degree of purity of the wheat – Diagram No. 23 primarily discusses moisture. Taking the vacuum drying system that Bühler installed in the GEG Mill in Mannheim, Germany, as an example, the vacuum principle as the best drying method is explained down to the last detail. This example of a processing system is followed by an article on the “Significance of the Vacuum Dryer”. The benefits mentioned include the “greatest uniformity of the material dried,” the “low-temperature drying of the material,” the “independence of the temperature and humidity of the ambient air,” and the “possibility of making fast changes to the drying action.” The focal section on vacuum drying ends with a customer statement by Rhenania Allgemeine Speditionsgeellschaft Duisburg, which praises its “grain vacuum drying system with a capacity of 10 t/h” to the skies. The second part of Diagram No. 23 features a detailed description of two flour mill construction projects in Venezuela. The projects of the 220 ton five-floor Monaca mill in Puerto Cabello and the 160 ton two-floor Mocama mill in Catia la Mar were separately handled, but concurrently in 1958. Although both mills are located in the vicinity of the Venezuelan capital Caracas, they are not competitors, but collaborate closely.  

(bos)