Diagram 149

Customer magazine of the Buhler Group

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Dear Readers

The hallmark of Buhler has always been its high innovation power. For almost 150 years now, the Buhler Group has repeatedly succeeded in maintaining an innovative edge in the marketplace. This innovation power is no coincidence. We entertain close ties with our customers and know their needs. This is the driving force that propels our Group forward with ever-new ideas and developments. With their innovative spirit, our employees at all levels keep this inner force alive. What this means for our customers is demonstrated by the Milling business unit at the Wolfsberg Milling Convention and by the Chocolate & Cocoa business unit at the Interpack 2008 in Düsseldorf. There, they will present the latest innovations from the Buhler Group – including the new Antares roller mill, the new WinCoS.r2 automation system version, and the new "FlexiShot" chocolate depositing concept – to the specialist public. The focus in this issue is on “Innovation” and how Buhler will continue to maintain its technological leadership.

I wish you much pleasure reading this issue!

Calvin Grieder, CEO
Innovation at Buhler means “renewal.” But the term renewal not only refers to the development of new production systems and processes. It also includes the generation of new ideas and the development of novel business models.

The Buhler Technology Group has always distinguished itself by its high innovation power. Since the company was set up in 1860, this global organization has time and again succeeded in maintaining an innovative edge in the marketplace and setting trends.

Interaction between different factors

“The hallmark of innovative companies is that they develop new services, products, and in-house processes just as fast as the market and competition change.” But for Dr. Diethelm Boese, the corporate-level “innovation driver” at Buhler since 2006 in his capacity as head of Corporate Research and Development, this is only half the truth. “A true innovative edge requires interaction between different factors. These include the courage to...
accept risks, the ability to identify and seize new opportunities, the potential for differentiation, leadership, and an open mind toward change and growth."

**Courage to accept risks**

Innovation is always associated with risk. “Innovations arise from a visionary way of thinking and unconventional views,” explains Boese. “Innovations are created wherever people get off the beaten track and venture into new terrain, where bold ideas are fostered and failure is accepted.” He says that with a “comprehensive insurance” mentality that allows neither uncertainty nor failure, no big leaps into new areas are possible. He adds: “But the courage to accept risk does not imply that you should run blindly into dangers and obstacles. The goal is rather to identify the dangers and obstacles and to overcome them.”

**Differentiation through innovation**

The degree to which the success of a company is sustainable depends greatly upon its ability to differentiate itself from its competitors. In an environment marked by ever-fiercer competition and globalization, a company’s innovative edge will ultimately determine the margin that an organization can generate. Diethelm Boese: “The ability to offer customers ever-new products that they need but cannot find yet in the marketplace has always enabled Buhler to achieve substantial competitive advantages.” But differentiation also benefits customers. “With our innovative products, we repeatedly assist our customers in setting themselves apart from their competitors in the markets they are engaged in.”

**Added value for customers**

The further development and maintenance of Buhler products and their adjustment to customer needs is a continuous process. At Buhler, this is an essential process in all the divisions – Grain Processing, Engineered Products, and Die Casting. “To maintain our leadership in the various markets, we generate true added value for our customers through our designs, processes, and production systems,” says Diethelm Boese. “We know that the supply of hardware alone is not enough. The advances made in the field of automation have given rise to sophisticated systems offering customers the information that they need to run their businesses and users the support they require in their jobs. Therefore, automation innovations have a

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**Dr. Diethelm Boese**

Diethelm Boese has headed the Buhler Corporate Research and Development division since 2006. He grew up in Mainz, Germany, where he graduated in chemical engineering. He then obtained his doctorate in the field of “Physics of Polymers” at the Max Planck Institute for Polymer Research in Mainz. Fresh out of university with his Dr. rer. nat. degree, he moved to the U.S. in 1990, where he worked at IBM in chip research in Silicon Valley. In 1992, he returned to Europe. Until mid-2006, Diethelm Boese worked with ABB and Alstom in various functions before moving to Buhler. Diethelm Boese is married with two children. In his leisure time, he concerns himself with interior architecture and actively as well as passively with music and the fine arts. (bos)
Innovation

NutriRice®
NutriRice® is a first example of a promising innovation developed by Buhler. NutriRice® is a product consisting of rice grains that have been enriched with micronutrients. In the NutriRice® production process, rice flour fortified with different vitamins and minerals is processed by extrusion into artificial “rice grains”. These man-made rice grains cannot be distinguished from natural ones. The shape of the rice grain can be selected to suit specific customer needs. NutriRice® enables rice millers to expand their product ranges by adding a high-grade and profitable product. (bos)

Developing new business models
True, technical inventions and product performance features are in many cases important elements of innovation. But Diethelm Boese also adds: “Transforming innovative potential continuously into marketable products and services is one thing, and developing new business models another.” Thus, in the Corporate Development division and in the various business units, people are busy finding out how freshly developed processes and Buhler know-how and know-why can be turned into market innovations. “Beside plant and equipment, we also want to sell licenses, consulting services, and even end products,” says Diethelm Boese. “This will enable Buhler to evolve from a plant supplier also to a service provider.”

“Open innovation”
In 2008, Buhler spent some 80 million Swiss francs on research and development. This is an obligation! As any other investment, the money invested in R&D must generate an adequate return. It is also expected to contribute to the corporate target defining that 50 percent of total sales must be generated by products younger than five years. This implies that a shift in emphasis must take place from product maintenance to basic research and the development of new products. “Our aim is to create a balanced innovation portfolio in which basic research, product development, product maintenance, and developments in customer service and business models are included in the right proportions,” explains Diethelm Boese. In basic research, Buhler uses the “Open Innovation” approach. Boese: “Whenever
the goal is to enter new terrain and unlock new business fields, we collaborate closely with universities and institutes as well as start-ups and industrial partners. We seek to supplement our capabilities by teaming up with selected partners so that innovations can evolve and a win-win situation is created for both parties.” The same applies wherever people at Buhler engage in research and development and generate “intellectual property”. Buhler research activities are business-driven. “Everything we do in the area of research and development is focused on one goal: To enable Buhler as a company to achieve steady progress and adjust continuously to the changes and requirements of the business world. We want to be a step ahead – always.”
(bos/boe)
“Get out of the ivory tower!”

The Food Process Engineering Laboratory of the Institute of Food and Nutrition Science at the Swiss Federal Institute of Technology in Zurich (ETHZ) enjoys an outstanding reputation as a scientific partner of the international food industry. Professor Dr. Erich J. Windhab has headed this institute since 1992.

Professor Dr. Erich Windhab, your laboratory has for years now supported the international food industry in its quest for innovative processes and products. What kind of support do you provide?

Erich Windhab: As part of our basic research, we primarily make efforts to gain a new insight into the inner workings of processes and the microstructures they create. These determine the properties and behavior of foods and their constituents. This fundamental knowledge allows us to develop innovative ideas for new production processes and products. We transform these ideas into practical applications, which we refine in close cooperation with companies so that they can be commercialized. Our goal is not only to turn our ideas into a reality in the laboratory, but also to demonstrate their viability in the marketplace together with our industry partners.

So, you and your staff only develop innovations that promise immediate success in the marketplace?

Erich Windhab: No, that is not so. The relevance of an idea to the market can normally not be assessed at the outset of a research project and is therefore not an issue during this stage. What is important for us is first of all the degree of scientific innovation. We therefore also research processes which cannot be commercialized immediately, to a point that will allow a proper assessment to be made. Ultimately, we must be prepared to accept certain risks in terms of commercial viability. An idea may turn out to be commercially unfeasible, or the opportunity to put it into practice may arise only a few years later on. Scientifically speaking, what counts for us is to gain knowledge. Such new knowledge by itself has a certain value on the road toward making new commercial products or as a building block for finding out how things work.

Where do you get your ideas? Are they all born in your mind?

Erich Windhab: Well, that would be unrealistic! New ideas are developed at different levels. Individual creative minds as well as joint mental efforts to combine individual building blocks in a team are required. What is particularly important in our research is to play the trial and error game with the basic knowledge we have. Then, as soon as we have found a nucleus, we compile these basic findings and refine them. We recombine the scientific building blocks over and over again until we find an innovative approach that we can put into practice. Needless to say that we do not proceed randomly. Beside following our visions, we also apply empirical rules. We have developed some of these principles ourselves over the years and gained others from publications in our scientific disciplines.

Are you saying in other words that innovative ideas must have a certain age before they bear fruit?

Erich Windhab: No, certainly not. But in order to develop an eye for what might work – which is helpful or even indispensable for commercializing innovative ideas – you need a certain age in terms of experience, but not life. A suitable empirical background will make it easier to search for visionary building blocks. We gather our experiences in the team and by looking beyond our own field of research to other scientific and commercial disciplines. What is also very important is the exchange of experience with research and development colleagues from business. This is one of the reasons why I am a member of numerous international business and scientific bodies.

Rice fortified with vitamins.
You are therefore in constant contact with the business community?
Erich Windhab: Yes, certainly. I and my team stick to the philosophy: “Get out of the ivory tower!”

Does that mean your team's game instinct acts as an innovation driver?
Erich Windhab: Yes, that is true if you mean a healthy dose of scientific curiosity. Of course, other driving forces also produce innovations or at least prepare the ground for their emergence. For example, markets both regional and global exert a pressure on companies. The drive to innovate may have different causes – competitors’ innovations, new consumer needs, entrepreneurial far-sightedness, or commercial pressures.

To what extent does commercial success depend on innovation capabilities?
Erich Windhab: In the long term, the relationship is direct. Though a company may be successful for years even with a tried-and-true product, at some point it will find that purely cosmetic improvements will no longer do. Then, revolutionary innovations are required if the company does not want to lose its market position. Business administration teaches that a company striving for long-term success must generate a certain percentage of its EBIT by innovations rolled out in the past five years. This share depends on the specific industry, but I expect it to be around five percent.

Your institute is engaged in food research. But the food industry is generally not considered to be overly innovative.
Erich Windhab: That is true, at least to a certain extent. Until a few years ago, really “radical” innovations were rather rare in the food sector. One reason for this is that consumers tend to shy away from food characteristics they believe are “too new.” Another reason is that up to a few years ago, no adequate details were known of how processes, structures, and properties are interrelated in food systems. It was only after World War II that science started concerning itself with food research that focuses on the science of materials. Initially, experiments were conducted in large-scale kitchens on an artisanal, empirical basis. Since the seventies and eighties, food production processes have been researched in greater detail. Since the mid-nineties, organic produce and food materials have been examined down to the structural details and taking into account dynamic mechanisms. Before this, all developments and innovations were based on empirical knowledge. We – the scientific community – have actually only just started to compile the detailed knowledge that is needed to systematically develop breakthrough innovations in the food sector.
Do any such “breakthrough innovations” exist yet?

Erich Windhab: Yes. An initial trend that also consumers have felt for some years now concerns foods with a specific “nutritional functionality” – functional foods. These functions are designed to support people’s health and well-being and are obtained through specific ingredients with appropriate functional structures. A lot of what is being done in this area is still in an empirical “twilight zone,” but where the shades of gray are gradually becoming brighter.

So, we are now heading toward artificial foods?

Erich Windhab: “Artificial” is not a clear term that consumers will understand. What is “artificial,” anyway? Even the baking of bread might be considered artificial because the baker’s art is applied. I prefer the term “processed food” or better “food produced by new processes.” Even if the term “artificial” does not by itself mean anything negative, its implication in connection with food is that such products come from a chemical laboratory. Consumers should adopt new foods made by new production processes because they offer improved functionality, quality characteristics, convenience, and safety, perhaps thanks to new ingredients. One of the tasks of business is to generate acceptance of such new foods by honest and open communications.

What are the advantages of such new foods?

Erich Windhab: The foods of the future will offer additional functions in nutritive, medical, or even sensory terms. These would doubtlessly enhance the wholesomeness, healthiness, and taste of such new foods.

How do you think consumers will react to this?

Erich Windhab: If consumers can verify these additional functions, such foods will be accepted without requiring any additional explanations. As for new functions which cannot be perceived directly, science and business must communicate them credibly to ensure that such new foods are accepted in the marketplace. In the medium term, innovations will have to be carefully documented in statistical terms to convince consumers of their positive effects.

Does this imply that food researchers will take on additional responsibilities?

Erich Windhab: We are, of course, already challenged as scientists. Nothing will change in this respect in the future.

Prof. Dr. Erich J. Windhab

Erich Josef Windhab has been professor of food process engineering at the Institute of Food and Nutrition Science of the Swiss Federal Institute of Technology in Zurich (ETHZ) since April 1992. Born in Karlsruhe, Germany, on May 6, 1956, he graduated from the University of Karlsruhe in chemical engineering and process technology. He then obtained his PhD at the Institute of Mechanical Process Engineering and Mechanical Engineering at the same university. From 1984 through 1988, he set up his own process development and consulting company. In a public assignment from 1985 through 1992, he headed the scientific effort for setting up the German Research Institute of Food Engineering. From 1988 through 1992, he was the same time a guest lecturer in Fluid Dynamics and Rheology at the Technical University of Munich. (ethz)
Antares – perfect, powerful, rugged, precise

The New Art of Milling: With its novel Antares roller mill, Buhler is setting new standards in the flour milling industry in terms of product safety and operating reliability as well as ease of maintenance and user-friendliness.

The roller mill is a key piece of equipment in grain processing. The quality of the roller mill determines the efficiency of the entire milling plant, the flour extraction rate, and the product quality.

Latest roller mill technology
With its new Antares roller mill generation, Buhler has once again made a big stride forward in grain grinding technology. “With the Antares, we have launched a roller mill that excellently fulfills the requirements of the flour milling industry, which have continued to increase,” says Martin Schlauri, head of the Buhler Milling business unit. “The controlled and constant grinding of whole grain kernels into intermediate or finished products con-
continues to be one of the most important processes in flour milling. We have not simply refined the existing roller mill design, but created completely innovative solutions in the new Antares roller mill. Our new roller mill is distinguished especially by its uncompromising sanitation, its high operating reliability, its ruggedness, and its centralized data registration system. For flour millers, the new Antares roller mill offers a clear improvement of efficiency through reduced cleaning and maintenance requirements as well as low operating costs. The new Antares roller mill is available in two versions: as an MDDR four-roller mill and as an MDDT eight-roller mill.

Uncompromising sanitation
In developing the new Antares roller mill generation, sanitation was a very high priority. All components in contact with the product are made of stainless steel, with surfaces that do not have any additional coating and are colorless. The entire product chamber is stainless. In order to ensure top sanitation, the double-walled, excellently insulated paneling is easy to
At a glance

The new Antares roller mill is uncompromising when it comes to satisfying the most rigorous requirements of today’s flour milling industry:

- Ultimate sanitation: components in contact with the product are made of special stainless steel
- Perfect, constant grinding action thanks to roll packs with self-contained forces
- Constant and reliable product feed
- High degree of insulation
- Minimized maintenance and servicing
- Massively reduced noise level
- Easy operation
- Integrated control system
- Cockpit with centralized data processing
swing up, and the feeder module can be swung open for cleaning the feed chamber. To prevent contamination, no oil is used for lubrication: All power transmissions are oil-free.

**Constant feed rate and grinding action**
The new Antares roller mill guarantees maximum uptime and high operating reliability. The wide inlet without any internal components ensures constant, dependable product feed to the grinding rolls. This is an important requirement for achieving perfect grinding action. The patented, gravimetric product registration system ensures controlled product feed to the grinding rolls. Continuous product discharge, maintenance-free bearings, and the oil-free drive make the new Antares roller mill a “master of operating reliability.” The forces in the sturdy roll packs are self-contained. The roll packs are characterized by the very high accuracy with which the roll gap can be set, which is then maintained constant. An automatic grinding gap adjustment mechanism is available as an option.

**Low maintenance, high ruggedness**
A number of design innovations have yet again slashed the maintenance requirement of the new Antares roller mill. Thus, the bearings of the feed rolls are provided with for-life lubrication, which eliminates the need for lubrication checks and relubrication. The open design and the tried-and-true “Quick-Pack” roll packs allow fast roll changes, even with a minimum clearance between the individual machine rows. Oil-free, high-performance toothed belts transmit the power from the motor to the rolls. The belts driving the corrugated (fluted) and smooth rolls have the same length, reducing the spare parts inventory requirement.

**Centralized cockpit**
The Antares roller mill is equipped with an integrated and autonomous control system. It ensures easy operation of the roller mill and permits direct selection of the parameters. The new Antares cockpit allows centralized control, data registration, and data processing for all roller mills on a given roller floor. All the basic control functions of the roller mills on a roller floor can be performed from the centralized operator panel. The entire data from the roller mills is also collected in the cockpit for evaluation and archiving. This makes the parameters and settings as well as the data on maintenance and operating conditions available in real time. Moreover, it is possible to call up the operation manuals whenever needed. Martin Schlauri is pleased about the feedback he has received from flour millers throughout the world. He is convinced that the new Antares roller mill with all its innovative improvements will meet with highly positive responses. “We do not doubt for a moment that the Antares will satisfy all the current needs of modern flour millers.”
The pearl of Luxembourg

When the goal of a traditional flour milling family is to achieve top quality and sanitation and therefore entrusts Buhler with installing its latest equipment and control technology, this will inevitably produce Europe’s most up-to-date flour mill.

The Müller family from Luxembourg, who can look back on a rich tradition, have been active in the flour milling business since 1704. Over the centuries, they operated a number of small-scale mills in Luxembourg. The family’s modern flour milling history started in the year 1921, when the brothers Joseph and Edmond Müller acquired the Kleinbettingen flour mill built in 1894 from the Fribourg and Wagner families. Kleinbettingen is a small town on the border between Belgium and Luxembourg, some 30 kilometers west of the capital Luxembourg.

Consolidation in the flour milling industry
The time between the two world wars and the period of World War II were phases of restructuring and consolidation for Luxembourg’s flour milling industry. By making regular investments in their milling facilities, the Müller family continuously improved the quality of their products. Despite a blaze in 1966 that ravaged most of the mill, the facility in Kleinbettingen evolved into the leading flour mill in Luxembourg under the direction of the second family generation. Today, with Edmond Müller, the third generation is at the helm of the company, which is now the sole large-scale flour mill left in Luxembourg. The “Moulins de Kleinbettingen” produce a wide variety of flours and semolina grades from soft wheat and durum.

Top requirements
In order to maintain their dominating position in Luxembourg’s milling industry, the owners decided at the start of this century to build a new soft wheat mill by no later than 2008. Edmond Müller: “We wanted to build Europe’s most up-to-date flour mill that would meet top requirements in terms of grinding quality, sanitation, and visual appearance.” In order to achieve the sanitation targets, numerous plant components such as the entire pneumatic mill stock conveying system, the gravity spouting, the cyclones, and the plansifters were to be made of stainless steel. Says Director Edmond Müller: “Our intention was to incorporate as many stainless steel plant components as possible to ensure top hygiene.”
Newest-generation roller mills

The Müller family would not settle for less than the most advanced equipment from Buhler, selecting the newest-generation Buhler roller mills just recently rolled out. Called “Antares,” the new Buhler roller mill satisfies the most rigorous sanitation and performance requirements and offers extreme ease of maintenance. The components of the new Buhler Antares roller mill in contact with the product are made of special stainless steel, with surfaces that are not coated. In addition, the new grinding machine is equipped with a centralized control system for the entire roller floor. All the machines are controlled and monitored and all the collected data is processed at a centrally located cockpit. By choosing the Antares roller mill, it was clear to Edmond Müller that this also meant incorporating the new Buhler WinCoS.r2 process control system. The combination of Antares and WinCoS.r2 allows the new facility to be operated with a low staffing level while ensuring reliable monitoring and complete retracing of the production process.

The new flour mills of Kleinbettingen – “The New Art of Milling”.
Showcase facility for Buhler

All these ambitious targets challenged the plant designers and engineers at Buhler. But right from the outset, it was also clear that the new flour mill in Kleinbettingen with its numerous innovations and many stainless steel components would become a Buhler showcase facility. The plant engineering team headed by project manager Heiko Otte-Witte from Buhler Braunschweig accepted the challenge, and a completely new flour mill emerged from their effort – a state-of-the-art production plant housed in a windowless concrete structure. Without windows, no pests can enter the building. An adequate supply of filtered fresh air is provided by a modern ventilation system.

180 t/24 h soft wheat mill

The new mill building was to incorporate a complete soft wheat mill with a capacity of 180 metric tons in 24 hours and a new bulk flour loadout section. In addition, the existing grain bins were to be remodeled from scratch. The contract was signed at the end of April 2006. The new building was ready for moving in the equipment in March 2007, allowing Buhler to start installation work in April 2007. Start-up and hand-over to the Müller family took place in November and December 2007. This year, a durum cleaning system for the existing A mill (120 t/24 h) and a new hammer mill with a bran pelleting system will also be incorporated.

“Top-class performance by everyone”

Both the Müller family and Buhler are highly satisfied with the new facility. Project manager Otte-Witte: “Installation and start-up of the new roller mills went off without a glitch. The new control system of the roller mills is extremely easy to use. The roller mills run with high efficiency. The wheat is excellently ground, and the customer is overjoyed that the flour extraction rate exceeds 80 percent. The customer is also more than satisfied with the flour quality.” The new flour mill in Kleinbettingen has been running in three work shifts daily since it went into operation. The Müller family are happy about their new mill. Director Edmond Müller: “The plant fully meets our expectations in every respect. Buhler has supplied us a flour mill that produces outstanding flours, achieves high flour yields, and also satisfies the most stringent standards in terms of visual appearance. Top-class performance by everyone involved!” (bos)
“WinCoS.r2” is the new conductor’s name

The new, extremely user-friendly WinCoS.r2 automation system from Buhler ensures data transparency and an optimal utilization of available resources.

The success of the plant solutions developed by Buhler lies in the strength and durability of all the components used and in their perfectly harmonized interaction within the plant as a whole. The “Buhler” philosophy is to create a symphony composed of production technology, plant design and engineering, and process mastery. The harmony that all the individual instruments produce together is ensured by the conductor – the automation system.

From WinCoS to WinCoS.r2

In 2000, Buhler caused a splash worldwide when it rolled out its WinCoS automation concept. Ever since, this system has proven its worth in the day-to-day operation of hundreds of production plants. Marcel Scherrer, head of business development and automation in the Milling business unit,
says the secret of the success of WinCoS up to now has been its use of tried-and-true, commercially available hardware and software components; functions optimally tailored to the process; and high operating reliability.”

The basic system is then customized in close cooperation between the Buhler automation specialists and the customer. Various options are available for this in the form of modules. WinCoS has been further refined since it was launched in 2000. At the Wolfsberg Milling Convention, Buhler will now for the first time present its freshly developed WinCoS.r2.

Data transparency

In developing WinCoS.r2, the Buhler engineers and information technologists focused on meeting the challenges that the flour milling industry is currently facing. Marcel Scherrer: “Two changes in the business environment are bothering flour millers worldwide. On one hand, energy costs are soaring, and on the other hand an increasing amount of money has to be
spent on the raw materials.” To minimize the cost of energy and raw materials, accurate knowledge of the production data is crucial. “In developing our process automation system, we therefore set a focus on data transparency,” explains Marcel Scherrer, describing the philosophy underlying the completely redesigned WinCoS system. “Plant operators must know exactly where energy is consumed, how much is used, and how high process efficiency is. Moreover, WinCoS.r2 was to enable plant operators to configure the user interface to suit their individual needs.”

Universal application

The new WinCoS.r2 automation concept meets all the requirements. “Our new automation system provides full data transparency and can be used intuitively and interactively,” explains Marcel Scherrer. “The WinCoS.r2 system works like the conductor of an orchestra who merges numerous highly qualified players of different instruments into a team that achieves top efficiency and performance under his direction.”

Like WinCoS, WinCoS.r2 is based on the products of world market leaders Microsoft and Siemens. Like WinCoS, also WinCoS.r2 can be applied for all Buhler processes and by all Buhler automation specialists worldwide.

Modular system

Buhler applied the modular design principle also to the new WinCoS.r2 system. On the basis of eight main categories with a total of more than 80 different functions, the configuration can be tailored to the specific requirements of every individual plant. This makes WinCoS.r2 universally scalable. Mike Häfeli, sales manager in the Milling Automation department: “Our new automation system can be used for any plants, regardless of their size, design, and complexity. Its hardware and software can be cumulated and combined without restrictions. Now, all peripherals such as analytical devices, scales, or machine control systems can be integrated online.”

WinCoS.r2 has been systematically developed on the basis of the add-on principle. This means that an existing automation solution can be readily adjusted to changes in needs whenever required.

More than just a control system

The new Buhler WinCoS.r2 automation system is more than just a simple control system. It automatically fulfills the planning function for product lines and then also performs it. WinCoS.r2 records all production operations and individual data and generates the necessary reports for all devices and machines. The system also creates the production statistics and determines the key production indicators. One of the special features is the WinCoS.Intelligent Route Navigation function: At the user’s command, the

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**Eight main categories**

The modular system underlying WinCoS.r2 contains over 80 different functions. They are divided into the following eight main categories:

- WinCoS.r2 Product- and Production Security
- WinCoS.r2 Production Planning Assistance
- WinCoS.r2 Operation and Visualization
- WinCoS.r2 Production Traceability
- WinCoS.r2 Data Management
- WinCoS.r2 Management Information
- WinCoS.r2 Plant Service and Maintenance
- WinCoS.r2 Machine Integration
WinCoS.r2 will choose the best route from among the available elements, depending on whether the goal is to optimize energy consumption or the plant capacity. The reports and statistics created can be exported to the MS Office format, thanks to standardized interfaces. This allows offline data analysis. Continuous production logging enables users to pass on information to the next work shift – by a simple “post-it” function.

**Product safety and production reliability**
The new Buhler WinCoS.r2 automation system enhances product safety and increases production reliability. The WinCoS.Recipe management system contains all the versions and variants of the recipes selected. It also creates a separate report on all production lots showing all the related production data. This ensures the reproducibility of each single product unit made. In addition, in the AuditLog, each single operator intervention and also each automatic adjustment of parameters and values performed by WinCoS.r2 is saved and logged. This enables the production process of each batch to be retraced whenever required. It is almost needless to say that this information on product safety and production reliability can be graphically displayed on the WinCoS.r2 system at the push of a button.

**Individual selection of settings**
WinCoS.r2 offers individual plant operators even more Buhler innovations, since the design of WinCoS.r2 allows users to configure the user interface according to their own personal preferences. Two different font sizes are available. In addition, it is possible to modify and rearrange the sequence of the report columns at any time. Thus, the colored display of the individual product streams makes for clarity and convenience. Different colors of the different alarm states allow the plant manager to focus on the essentials.

Colors create clarity – the user interface of WinCoS.r2 can be individually configured as required.
Sights set on product safety

Three Buhler innovations support the grain milling industry in its efforts to improve product safety.

In the food processing industry, one notion clearly dominates the current discussion: product safety. Sensitized by news of food contamination, consumers worldwide have become more alert and demanding. The changes in customer needs are forcing the food industry to take action to improve product safety. With three innovations, Buhler is helping flour and semolina producers ensure the safety of their products.

C-frame for final sifting

“C” stands for “control.” The new C-frames from the Buhler NOVAPUR product family are applied in the final flour and semolina sifting stage before packing or bulk loadout. The developers at Buhler have redesigned the C-frame from scratch. A sophisticated frame geometry, paired with the PUR material now used and the special stainless steel frame inserts with glued-on sieve covers, satisfy the most rigorous food sanitation requirements. The larger channels and parallel product streams of the sifter allow final checking in a highly restricted space and with maximum throughput, even when using small mesh widths.
MYRB improves final checking
Together with the innovative MYRB unit, Buhler has substantially improved final quality control. The MYRB is a new-generation near-infrared (NIR) online device. Final checking by infrared reflection is now performed by spectrometer on the basis of diode array technology. With more than ten times the resolution of the predecessor model, flour and semolina are checked for their mineral, water, and protein contents as well as for the starch condition and water absorption capacity. The MYRB can be applied for monitoring the end product on the basis of a predefined tolerance band or within a closed control loop for automatic control of feeders. As an option, it is possible to add a camera to the MYRB, which checks the end products for color and specks.

The right blend every time
As a third innovation, Buhler has rolled out the new DFML-Sani mixer. Design adjustments were made to the standard mixer which make it easier to clean the new Sani mixer and therefore improve its versatility. The new DFML-Sani does not have any joints, cross-bars, or nooks and crannies. The screw heads are sealed, and the components in contact with the product are made of stainless steel. The new DFML-Sani mixer satisfies the stringent requirements for food-compliant machine design according to the EHEDG directive. The new mixer meets the same performance standards as the standard model. Its reduced cleaning requirement increases process versatility in applications involving different products. Undesirable cross-contamination is no longer possible. (bos)
Innovation

Understanding flour better

Buhler’s new and innovative range of “Milling Services” has been designed to satisfy new market needs.

By rolling out a number of new services, Buhler will help flour producers better satisfy the ever-increasing market requirements. At the heart of the new Milling Services is an in-depth understanding of wheat and flour, the analysis and characterization of these products in different applications, and a selective improvement of flour. Buhler will achieve this by using functional ingredients and fine-tuning processes in flour mills.

Another step forward

Buhler has concerned itself for years with so-called Nutrition Solutions. “We started by transforming byproducts obtained in the grinding process – which used to be widely considered as waste – into higher-grade products,” explains Peter C. Böhni, who heads the Buhler Nutrition Solutions business unit. “With Panatura, Leuron, and Fortified Rice, we launched a number of products which, as functional additives, enable our customers to differentiate themselves in the marketplace with their own products.” By creating its Milling Services, Buhler is making yet another innovative step forward. “Unsuitable wheat varieties, quality fluctuations from one delivery lot to another, or increased sanitation requirements are immense challenges for flour producers,” says Böhni, analyzing the current situation. “Our aim is to optimize the selection of the grains and to upgrade the flour with functional raw materials. On the one hand, this will guarantee a consistently high quality of the standard flours. On the other hand, it will enable specialty flours and premixes to be made which are tailored to modern production processes and consumer needs.”

Analysis as a basis

In order to lay the necessary foundations for these new services, Buhler is enhancing its flour analysis capabilities. This will allow fast and systematic evaluation of wheat and flour samples. In addition, a bakery institute will be set up where flour samples can be tested in their specific applications. On the basis of the analysis results, customers will then be offered application proposals and recommendations for fine-tuning their processes. Peter C. Böhni: “We advise our customers on which corrective agents to add in order to obtain a consistently high flour quality. We support the implementation of our recommendations either by delegating a process specialist to the customer’s flour mill and/or by supplying the suitable flour correctors.”

Peter C. Böhni

Peter Christoph Böhni joined Buhler in May 2006 to take charge of the Nutrition Solutions business unit. The 54-year-old specialist from Central Switzerland graduated in biochemistry from the Swiss Federal Institute of Technology in Zurich and then obtained his PhD from the Biocenter of the University of Basel. From 1983 through 1990, Böhni worked in the U.S. as an assistant and assistant professor at the University of California, Berkeley, and at the State University of New York, Stony Brook. In 1990, he returned to Switzerland, where he rose through the ranks at Hochdorf Nutritec AG in the areas of development and innovation. From 2003 until joining Buhler, Peter C. Böhni headed the company Hochdorf Nutrition AG. (bos)
The functional raw materials contained in the flour correctors help bakeries meet the requirements, for example by improving the gluten characteristics, baking volume, or shelf life.

“World champion of flour knowledge”
For Peter C. Bögni, there is no doubt that Buhler’s enhanced analytical activities and the support it provides to flour processors will enable the Group to become the “champion of flour knowledge” in the medium term. “We are gradually acquiring profound knowledge of the properties of various flour types and adding this know-how to our existing expertise in grain processing.” This specialist knowledge will form the basis for rolling out additional new services. Bögni: “It will not be long before our head millers will go to our customers not only to fine-tune their processes, but also to take charge of quality assurance and additive handling.” Bögni even imagines that some day Buhler might take over the responsibility for running entire mills for individual customers – from grain purchasing through to finished product bagging. Bögni: “This will enable customers to focus fully on marketing and sales. And we from Buhler will guarantee top flour quality.”
(bos/böh)

Peter C. Bögni has been in charge of the Buhler Nutrition Solutions business unit since May 2006.
The Buhler Chocolate & Cocoa business unit has experienced above-average growth for a number of years now. The acquisition of G. W. Barth AG provides an additional boost.

The global confectionery business is booming as never before. In particular demand for chocolate is growing year by year. Chocolate consumption is increasing mainly in East Europe and in Asia. As these economies expand, also per-capita consumption of chocolate and chocolate products is growing.

Completing the product portfolio
One of the beneficiaries of this growth in demand for chocolate products of all varieties is Buhler. “Since the year 2000, our sales have increased annually at an average clip of over 20 percent,” says Edwin Boller, who heads the Buhler Chocolate & Cocoa business unit. For the year 2007, sales revenues of the unit approached the mark of 300 million Swiss francs. In addition to the regular rollout of innovations, also the acquisition of a majority stake in G. W. Barth AG has contributed to this above-average growth. Edwin Boller: “Our acquisition of the Barth company has enabled us to
Innovation greatly expand our product portfolio. The cocoa and chocolate industry now has one single partner covering all the leading solutions for producing top-class cocoa powder and the finest of all varieties of chocolate.

G. W. Barth AG in Freiberg
The acquisition of G. W. Barth AG in the German city of Freiberg was made in November 2007, retroactive to July 1, 2007. The Barth company supplies technologies, machinery, production systems, and turnkey factories for the confectionery industry, primarily for treating and processing cocoa and nuts. Set up in 1890 by Georg Wilhelm Barth, the company today has about 70 employees and generates annual sales of about 25 million euros. “Barth is the world market leader in the supply of thermal treatment systems for nuts and cocoa beans,” explains Edwin Boller. The strength of G. W. Barth AG lies “in its mastery of the required process technologies, the skills of its workforce, and the confidence of its customers.” Especially the introduction of the NARS process (Nibs-Alkalizing-Roasting-Sterilizing) in 1975 enabled Barth to achieve the crucial competitive edge in the marketplace. In this process, the cocoa beans are first ruptured and then roasted, which is mainly applied for the production of cocoa powder and cocoa butter. Buhler, on the other hand, is a leader particularly in the inverse process, in which the whole beans are roasted and then ruptured. This approach is especially suitable for the production of cocoa mass for making chocolate. Boller: “By acquiring Barth, we are now able to offer both processes. Customers today have the choice, depending on the product they wish to make.”

Positive responses
Customers around the world have responded very positively to Buhler’s acquisition of G. W. Barth AG. “We have received congratulations from many sides,” says business unit boss Edwin Boller. “But associated with the congratulations was also always the expectation that the flexibility that Barth has shown up to now will continue and that the global customer proximity of Buhler will be applied to Barth.” For Edwin Boller, it is clear that Buhler would never jeopardize the strengths of Barth. “As with the acquisition of Richard Frisse GmbH in 1986 and the purchase of Bindler GmbH in 2001, we are striving to achieve maximum continuity plus new growth also in the case of Barth.” Thus, Günter Daiss will continue to exercise supervisory and controlling functions on the supervisory board of the new company, called Bühler Barth AG. Also the executive directors Günter Ludwig and Jürgen Fischer will remain at the service of customers. Uwe Steiner will join the executive board as a new member from Buhler.

Interpack 2008
The Interpack in Düsseldorf is held every three years. This trade show for packaging equipment, packaging materials, and confectionery machines is by far the most important exhibition for the Buhler Chocolate & Cocoa business unit. Edwin Boller: “With its three-year intervals, the Interpack forms a natural milestone in our planning and defines our innovation rhythm.” The 200,000 visitors from over 100 countries that are expected to attend include the most important management staff and decision-makers from the international confectionery industry. On a surface area of about 1200 square meters, Buhler will present the entire production chain from April 24 to 30, 2008 – from the bean to the finished product. On show will also be the newest innovations from Buhler: The new “FlexiShot” depositing concept for chocolate and the new nut and almond sterilization system from Buhler Barth. (bos)
Three centers of competence

The acquisition of G. W. Barth AG enables the Buhler Chocolate & Cocoa business unit to enhance its performance. “We are merging our existing know-how in the treatment of cocoa beans with that of Barth,” explains Edwin Boller. At the site of G. W. Barth AG in Freiberg, a new Buhler Barth center of competence will be created for cocoa and nuts. Research and development, sales, engineering, and manufacturing will also be retained in Freiberg and further expanded. The “Chocolate Mass & Compound” center of competence of the “new” Buhler Chocolate & Cocoa business unit is located at the headquarters of Buhler in Uzwil, Switzerland, and at Buhler Frisse in Bad Salzuflen, Germany. The fine chocolate mass production capabilities are based at these two sites. The third center of competence – “Molding & Tablet Production” – is located at Buhler Bindler in Bergneustadt, Germany.

Close to customers

With its three centers of competence, the Buhler Chocolate & Cocoa business unit is in an enviable position. This applies not merely to all process operations from the bean to the finished chocolate, but also to the different quality grades. “Customers will find all the equipment, systems, and processes here, regardless of whether they wish to make brand or commodity products or goods of premium quality or as a lower-cost alternative.” But Buhler is not limiting itself to “producing the best instruments” – the Group is also supporting the “musicians and the conductors” who play them in finding solutions to specific challenges “from a source nearby.” Edwin Boller: “Not only do we supply the best plant and equipment, but we also provide specialist consulting services, customer personnel training, support in research and development, and a global customer service. Our goal is to ensure that Buhler staff will offer our customers around the globe world-class specialist competence in conjunction with local culture.” (bos)
Pasteurized under vacuum

The newest development from Bühler Barth AG is its CCP nut and almond sterilization system.

At the Interpack 2008, the youngest Bühler affiliate Bühler Barth AG will present the new CCP nut and almond sterilization system at the booth of the Chocolate & Cocoa business unit. This latest innovation was developed especially with the continuing salmonella problem in mind, which has particularly hit the almond industry in the U.S.

Gentle process sought

True – several almond pasteurizing processes have already been approved by the Almond Board of California (ABC). But they all have the drawback that the natural appearance of the almonds is degraded or even destroyed by pasteurization. The goal for the developers at Bühler Barth was therefore to find a gentle process which would allow the salmonella count to be slashed by a value “better than logarithm 4” without affecting the natural appearance of the almonds. In developing the new process and the required machine, Bühler Barth AG was supported by Dr. Rainer Perren from the company RPN Foodtechnology AG in Grosswangen, Switzerland. In addition, scientists from the Faculty of Microbiology of the Swiss Federal Institute of Technology Zurich were involved in the inoculation of the test specimens and their microbiological analysis.

Straightforward process

The result of this development effort is the new CCP nut and almond sterilization system. A batch of almonds or nuts is exposed in the product chamber of the new machine to a certain vacuum. Then saturated steam is injected. The negative pressure and the saturated steam atmosphere are maintained for a certain retention time. Once the steam treatment has been completed, the vacuum is maintained in order to reduce the moisture content of the product. Then, the product chamber is vented and the batch is discharged from the machine.

Moisture content determines appearance

The special innovation of the new process resides in the fact that pasteurization takes place in a vacuum. As a result, the product absorbs extremely little moisture during pasteurization. In conventional processes, up to 10 percent moisture are added to the product. In the CCP process, this value is less than one percent.
The low moisture addition rate ensures that the natural appearance of the almonds and nuts is retained. If almonds absorb too much moisture, this may in the worst case even cause the shells to be detached. In the CCP process, all the shells retain their natural color. This effect also applies to all other nuts or oil-containing seeds such as sunflower seeds, melon seeds, or similar produce.

**Laboratory version at the Interpack**

The special value of this innovation for customers lies in the reliable pasteurization of the raw products. The CCP process subjects the raw product to a much more intensive pasteurizing action than is even demanded by strict U.S. legislation. Since similar salmonella accidents have happened also in other areas such as the peanut industry, similar legislation must be expected also there. At the Interpack 2008 in Düsseldorf, Buhler Barth will display a laboratory version of the new CCP nut and almond sterilization system. Buhler Barth will later on make this system available to customers in its pilot plant for conducting tests. The test results can then be upscaled directly to any commercial production system.

(jf)
Innovation

Chocolate shot with a heart

Buhler Bindler will present its revolutionary new “FlexiShot” chocolate molding system at the Interpack in Düsseldorf.

The Buhler Chocolate & Cocoa business unit will once again surprise the international chocolate industry at the Interpack 2008. There, Buhler will present its “FlexiShot” – a new, trend-setting chocolate molding system that copies the working principle of the human heart.

Copying Nature

“Sometimes, you have to completely set aside everything that has ever existed so far in order to find an innovation,” explains Boris Ouriev. “And sometimes all you need to do is to observe Nature a bit closer to find ingeniously simple solutions,” he adds. Ouriev is a 37-year-old electrical engineer by training who moved from Moscow to Switzerland 14 years ago. He additionally graduated in physics from the Swiss Institute of Technology in Zurich, where the subject of his doctoral thesis was “Non-distractive Online Measurement Methods for Foods.”

Core modules like “heart valves”

Inspired by the way the human heart works, Ouriev and his development team abandoned the principle of chocolate molding in the form that has existed up to now. The new “FlexiShot” molding system does not use any rigid distribution channels and fixed nozzles. Instead, the most important components of the new molding unit adjust automatically to the viscosity and flow rate of the chocolate processed. The core module of the new Buhler “FlexiShot” molding system consists of adjustable nozzles which are attached to the inlet of the metering piston and to the outlet. “The heart of our new design works just like a heart valve,” says Boris Ouriev. “The secret of this heart valve lies in the food-grade material that it is made of and in its sophisticated geometry.”

Numerous advantages

The new “FlexiShot” chocolate molding process eliminates numerous problems that have been vexing chocolate equipment manufacturers and chocolate producers for years. Thus, its new, adjustable nozzles allow absolutely drip-free molding of the chocolate, regardless of its consistency. Also so-called thread rupturing is a thing of the past. Moreover, the new molding concept allows the required pressure to be massively reduced, which has...
a direct impact on the design of the line. Last, not least, it will be possible with a given nozzle and a given setting to mold chocolates of different viscosities.

**Demonstration at the Interpack**

Buhler Bindler will demonstrate its new “FlexiShot” system at the Interpack, the exhibition for packaging equipment, packaging materials, and confectionery equipment that is held every three years. Boris Ouriev: “In Düsseldorf, we will show the details of the new operating principle using a working model.” It is yet not possible to present the new molding machine. But the “FlexiShot” team manager is convinced that it will only be a matter of months before the Buhler Bindler molding system is launched. “We have already made considerable headway, thanks to collaboration with innovative customers.” (bos)
Spain is one of Europe’s most important markets for Buhler. This fact is reflected by the Buhler affiliate in Madrid.

Buhler and Spain – that is a very old love story. The first business relationships with Spain were established as early as in the first decades after the Buhler company was set up by Adolf Bühler in 1860. Buhler opened a sales office in Barcelona as far back as in 1896, one of its first agencies abroad. In 1961, Buhler built its first factory in Madrid. However, its production area of 3000 square meters soon proved to be insufficient. Therefore, in 1975, a generously sized new manufacturing facility covering 10,000 square meters was constructed on the Calle del Río 8 in the industrial park of “Las Arenas” of Pinto, a southern suburb of Madrid. Ever since, the entire Buhler country organization for Spain with its sales, engineering, customer service, and administration departments plus manufacturing has been based there. Since 2005, BMAD – as the country organization for Spain is called in-house at Buhler – is also in charge of the market territory of Portugal.

Own factory
The Buhler Madrid team is one of Buhler’s largest abroad. A total of 210 employees work in the Spanish affiliate of Buhler. Of these, 86 are office staff: 14 in sales, 39 in plant engineering and project processing, 20 in customer service, and 13 in administration. Of these 86 persons, five work in Lisbon, where they operate the Portuguese branch office of Buhler Madrid. A total of 124 employees work in production. The factory in Madrid mainly manufactures chain conveyors, elevator legs, and screw conveyors for the entire Buhler Group. The Buhler factory in Pinto is equipped with a state-of-the-art production line for conveyors, equipped with bending and welding robots and a novel surface coating system.

A Spaniard as the boss
BMAD is headed by Flavio Diaz. The 43-year-old Spaniard is thoroughly familiar with both Switzerland and Buhler. He studied business administration in Switzerland and joined Buhler in 1991. His first function was that of commercial manager at Buhler in Malmö, Sweden. He then moved to Argentina. In the Buhler affiliate in Buenos Aires, he initially headed the commercial services department before taking charge for five years of the Buhler SAS organization in the Argentine capital. In 2001, Flavio Diaz left
the Buhler Group, only to return in 2006. Since the start of 2007, he has been head of the Buhler affiliate in Spain.

**Milling as the most important customer**

At Buhler Madrid, all Buhler business units are represented with the exception of Thermal Processes. Most of BMAD’s annual sales of almost 70 million Swiss francs are generated by the Milling and Feed business units, followed by Rice/Sortex, Chocolate, and Grain Handling with about 10 percent each. The most important customer segment of Buhler in Spain is the flour milling industry. The reference list includes the largest and most prestigious milling companies in Spain. Flavio Diaz: “We hold a market share of 60 percent in the flour milling industry. If we look only at the areas of wheat cleaning, grinding, and flour storage and handling systems, the Buhler share is even 90 percent.” The market share of Buhler is similarly impressive in the feed manufacturing industry, in rice milling, and in the field of chocolate production.

“**Maintain our position**”

The powerful position of Buhler in Spain is the result of years of carefully nurtured contacts with the leading companies in the food processing and feed manufacturing business and the excellent work accomplished by the
BMAD staff in the design and construction of small-scale and large-scale plants alike. It is on this sound foundation that Flavio Diaz plans to further expand the Buhler site. “We will consolidate our strong position and continue to build upon it on a selective basis,” says Diaz, defining the affiliate’s short-term and long-term goals. “For the individual industries, we have our own targets. Thus, in Milling, we will pay special attention to automation. In feed manufacturing, structural changes are opening up new additional opportunities. And in customer service, we are expanding our capacities for maintaining customer plants and for retrofitting old equipment.”

Markets are changing
The BMAD manager is very confident in his assessment of the future chances of Buhler in Spain. “We have identified various trends in the Spanish food industry,” explains Flavio Diaz. “On the one hand, we find a tendency toward consolidation and concentration. This is the consequence of the fact that EU subsidies are becoming increasingly difficult to obtain since the eastward expansion of the Union. Consolidation leads to the merging of companies and the modernization of existing large-scale plants. This offers us the opportunity to demonstrate our capabilities in this area.” On the other hand, Diaz finds that markets are becoming more and more differentiated. “We are receiving an increasing number of inquiries for health product plants, laboratory equipment, and process improvements to enhance quality.”

Empathy is important
How does Flavio Diaz explain the sustained success of Buhler on the Iberian Peninsula? “In the 112 years that Buhler has been present in Spain and Portugal, we have accumulated enormous knowledge of the customers here and the environments that they are operating in. This has created a tightly knit network of relationships,” says Diaz. “Because we are thoroughly familiar with the environments of our customers, we can develop a special empathy for their problems and concerns. By helping our customers achieve their specific goals, we can continuously deepen our customer relationships.” Together with the proven Buhler quality standard of services and products, this intimacy forms the basis for the success of the Buhler affiliate in Madrid. (bos)
Open house in Holland

One year after Buhler acquired IdraPrince in the U.S., the new company BuhlerPrince Inc. introduced itself to the customers from both companies.

Buhler acquired the IdraPrince company in August 2006. In the months that followed, the Die Casting division of Buhler Minneapolis was merged with IdraPrince, creating the new company BuhlerPrince Inc. with headquarters in Holland, Michigan.

Informing customers about the new company
The new team of Buhler Prince Inc. in Holland organized its first customer event at the end of last year, fifteen months after the merging process started. The motto of the event was “Open House”. The main purpose of this BuhlerPrince customer event was to inform the existing customers of the two companies – IdraPrince and Buhler Die Casting – about the very successful integration, the shared product portfolio, and the future development of Buhler in North America. The first BuhlerPrince customer event was attended by a total of 80 persons from 34 companies.

Varied program
In the course of the two-day event, customers were presented products, processes, services, and market developments. In addition, in-depth talks were held with customers to learn about their needs and visions. Tours through the factory in Holland and impressive demonstrations of the various machines and production systems completed the program. The guests’ interest focused on the available production facilities and the planned investments in additional machining centers, the reconditioning service for BuhlerPrince die casting machines, and the new Carat two-platen die casting machine. (mf)

Expert instructions by Beni Aschmann.
Dedication of new showcase factory in Changzhou for manufacturing feed production plants

By opening the new factory in Changzhou for manufacturing feed production plants, Buhler plans to strengthen its market position as a leading player in the animal feed industry in China and in Southeast Asia. The dedication ceremony was held on November 8, 2007. The 300 invited guests included Mr. Bai, president of the Chinese Feed Industry Association; Mr. Shi, mayor of Liyang City; the business management and board of directors of Buhler Changzhou; and numerous management staff from leading feed manufacturers in China and Southeast Asia. The new showcase factory of the Feed & Oil business unit is located in the Tianmu Lake industrial park of the regional metropolis Liyang some 250 kilometers west of Shanghai in Jiangsu Province. Buhler Changzhou currently employs about 320 persons. Plans already exist to further expand the factory’s activities by building an R&D center for aquafeed and a customer training center.

Ray H. Witt Award for Urs Bühler

The Metal Processing Institute and the Worcester Polytechnic Institute in Worcester in the U.S. state of Massachusetts present the Ray H. Witt Award every year. The two organizations thereby honor persons who have distinguished themselves in the metal casting industry. The Ray H. Witt Award for the year 2007 was presented to Urs Bühler in a simple ceremony in Uzwil in the autumn of 2007. (bm)

Pasta-Symposium in Istanbul

With fireworks underneath the bridge linking Europe and Asia, Buhler sent out a clear signal at its 4th International Pasta Management Symposium in Istanbul. With the agenda including subjects such as “Global Market Trends,” “Future-oriented Production,” and “New Technology,” Buhler aroused the interest of some 50 guests from countries of the Near and Middle East. Speakers from Buhler, Ricciarelli, and Niccolai presented an extensive range of topics. They included local and global market trends, alternative options in the field of extrusion, and financing models that Buhler has developed specifically for this region. (ds)
Separate business unit for conveyors

In early 2008, the new Buhler Grain Handling Components profit center took charge of the mechanical conveyor portfolio.

Buhler is one of the world’s major suppliers of conveyors. Conveyors link the various processes in production plants supplied by Buhler and are thus a backbone without which such facilities would be unable to operate. By establishing the new Grain Handling Components business unit (GHC), Buhler is underscoring the significance of this field of activity.

Competitive component business

“The production and product portfolio of conveyors up to now focused too much on the needs of a few in-house business units. Also the various functions were scattered widely within the Buhler organization,” explains Norbert Schlatter, head of the new GHC business unit. “It is our goal, on the basis of a powerful new organization, to build a globally competitive business for mechanical conveyor components with a product portfolio and procurement channels tailored to the needs of the various markets.” The new GHC business unit will primarily be active for the different Buhler business units. But a certain share of sales will also be generated with third parties in new market segments that have as yet not been addressed.
A market analysis conducted over the past months points the direction in which the new business unit must head: Creation of a highly standardized, modular product range covering the largest number of applications possible in the different market segments; addition of new solutions in the areas of sourcing, supply management, shipping, installation, spare parts, and customer service. Norbert Schlatter: “With a suitable mix of products and services in conjunction with competitive prices, we plan to boost our conveyor sales. We will do this both as a pure component supplier for in-house and outside customers in the grain and food sectors plus the renewable energy market.”

Global production network
The headquarters of the new Buhler Grain Handling Components profit center is Madrid, Spain. Since the start of 2008, this has been the main conveyor manufacturing site, which reports directly to GHC and employs some 125 persons. The factory in Madrid is equipped with a state-of-the-art manufacturing line boasting bending and welding robots plus a surface coating installation. Norbert Schlatter: “In Madrid, we collaborate very closely with the local market organization, which is headed by Flavio Diaz.” Additional production and assembly sites for mechanical conveyors are located in China, India, Iran, South Africa, and South America. Specialist teams at Uzwil headquarters support the new GHC organization in applications consulting, marketing, and development.

“It is crucial to carefully match the conveyor component designs to the needs of each individual plant. This requires detailed knowledge of the process and product portfolio. With its specialist team in both the sales and the fulfillment process, GHC offers the support needed to find the optimal conveyor solution together with the customer,” explains Norbert Schlatter. In the plant engineering process, the final specification of the conveyors is only done in a late phase. “This means we must design and manufacture the products within a short time and ship them directly and at a competitive cost,” says the head of the new Buhler GHC business unit. “To be competitive under these conditions, we must rely on a global organization close to customers plus highly productive manufacturing, logistics, and procurement solutions.” (bos)

Norbert Schlatter
The new Buhler Grain Handling Components business unit (GHC) is headed by Norbert Schlatter, who is 40 years old and married. He has a training background in precision mechanics and later on graduated in production engineering. His professional career includes a position in sales in the electronics industry and employment in the textile machinery industry, where he was product manager for a number of years. In July 2005, Norbert Schlatter joined the Marketing department of the Buhler Grain Processing division, where he has concerned himself in depth with the conveyor business.
Three C–lines neatly arranged

A new pasta factory with one long-goods and two short-goods lines and one additional durum and soft wheat mill each in the midst of an earthquake region: A true challenge for Buhler.

The name “Piyale” is synonymous with high-quality pasta in Turkey. In 1922, Hasan Tahsin Piyale started producing pasta on an artisanal scale in the Turkish metropolis Izmir on the Aegean coast. With his ten employees, the company founder initially produced 750 kilograms of pasta a day. The original small-scale business was expanded in 1930 into Turkey’s first pasta factory. In the decades that followed, the Piyale family very successfully added more production facilities and expanded its line of pasta, typically relying on support from Buhler.

New owner – new plans

In 2005, the Piyale pasta factory was acquired by the GIDASA food group. GIDASA was set up in 2002 and is part of the Sabanci Holding company, a conglomerate of 70 companies with a total of 52,000 employees and annual sales of 12.1 billion U.S. dollars in 2006. In its factories, GIDASA produces – among other things – beverages, margarine, vegetable oil, flours, sauces, and pasta. The new owner had ambitious expansion plans for its pasta business. When ownership changed, the Piyale factory in Izmir incorporated a total of 13 Buhler pasta lines and Buhler grain grinding systems of varying age and condition. But the space conditions did not allow any increase or updating of production. The people in charge at GIDASA therefore decided to construct a new facility on a green-meadow site. The new site is located adjacent to the Istanbul-Ankara highway some 180 kilometers east of Istanbul near the small town of Hendek.

Three high-capacity C–line pasta lines and two grain grinding lines

GIDASA chose the Swiss Buhler Technology Group as its partner for constructing the new pasta factory. The project for the new facility included the design and construction of two short-goods C–lines with an output of 4000 kilograms per hour each. One of them was to be additionally equipped with four stamping machines. Moreover, in addition to the two short-goods lines, a long-goods C–lines with a capacity of 3500 kilograms per hour was to be installed. For housing the three pasta lines, GIDASA built a spacious production hall with an adjacent, generously sized warehouse for storing...
the finished products. In addition to an office wing, a separate section of the new factory building was to house two Buhler grinding systems for producing pasta semolina (380 metric tons of durum wheat per day) and flour (140 metric tons of soft wheat per day) plus the associated bulk storage systems for storing the wheat and the ground products.

**Challenge and opportunity**

One of the particular challenges that the Buhler engineers faced was the location of the new GIDASA pasta factory in an active earthquake region exposed to a top-category seismic risk. But for Peter Lehmann, in charge of the GIDASA project in the Buhler Pasta business unit, this high earthquake risk also offered a special opportunity: “We had to check all our machine designs and production lines for their ability to withstand earthquakes. In the case of some plant components, this offered us the chance to test and then apply new design ideas. We will be able to use these ideas also in the future.” GIDASA itself was responsible for ensuring the seismic safety of the hall structure. “It was an enormous pleasure for me and my team to install three C-lines at once in a single hall of adequate size yet not too large, and which also had the required headroom of ten meters,” he says of “his” GIDASA project. Peter Lehmann, 48, has a mechanical engineering training background and has been with Buhler as a project manager since 1993. He says that the application of 3D drawings proved to be
a great help in designing special-purpose components and optimizing the configuration of the three lines.

**Up and running within 14 months**
The schedule defined by GIDASA was another challenge for Peter Lehmann’s team. Once the contract had been signed in September 2005, he had exactly 14 months before the three lines were scheduled to be up and running. According to the schedule, the short-goods line with the stamping machines would be supplied eight months after receipt of the order and be completely installed another four months later. The second short-goods line and the long-goods line were supplied and installed at an interval of one month. “Ten months after signing of the contract, the last machines and components had arrived on site,” remembers Peter Lehmann. “From then onward, we worked concurrently on the three lines.”

“A perfect picture”
Thanks to the smooth collaboration with the GIDASA project management and the dedication of the installation team, the entire plant was commissioned and in service just before Christmas 2007. “It was really an uplifting experience for me and a feeling of personal satisfaction to see the three C–lines so neatly arranged in the large hall,” says Peter Lehmann proudly in his capacity as an engineer. “The three lines produced a perfect picture.” With its compact design and optimized processes, the new pasta factory of GIDASA will serve as a showcase facility for Buhler to demonstrate to customers from all corners of the world. What also contributed greatly to the smooth handling of the project was the excellent collaboration with the Buhler agency in Istanbul. Without its efficient support, project processing would never have been so easy. The project team could also at all times rely on synergies and support from Buhler Braunschweig, which supplied the grinding lines. Lehmann: “Cooperation with its project manager was exemplary and a real pleasure.”

**Easy operation**
Once the entire plant had been commissioned, it was important to train its personnel and familiarize the operators with a state-of-the-art pasta production plant. In this effort, the very easy operation of the C–line proved to be an enormous benefit, thanks to its advanced technology and integrated control system. Peter Lehmann: “We had to train a large number of novices on our equipment. Because GIDASA had built the new factory far away from the old one, only few of the former employees were prepared to move,” explains Peter Lehmann. Moreover, technically qualified personnel was not at all or not easy to recruit in this rather remote region. “We there-
New ownership

During construction of the new pasta factory of GIDASA, the Buhler team faced a special situation. In August 2007 – a little less than six months before the entire plant was scheduled for completion – Sabanci Holding sold the complete GIDASA food processing company to MGS Marmara Food Industry and Trading Inc., a company in which the Turkish businessman Mustafa Latif Topas holds a majority stake. MGS Marmara Gida San. ve Tic. A.S., as the new owner is called in Turkish, is a holding company which also owns BIM, a large and rapidly expanding Turkish supermarket chain which currently operates some 1800 stores. With its new GIDASA pasta factory, BIM now has its own corporate supplier of top-quality pasta. (bos)
Mission possible!

For customers, it may be an emergency, but for the specialists working in the Buhler Customer Service department, it is daily routine. Making spare parts available and correcting operating trouble and defects as fast as possible is part of the day-to-day jobs.

The time is 12:15 just after noon on Friday: The phone rings in the open-plan office occupied by the Customer Service department of the Engineered Products division (EPCS) on the sixth floor of office building C at the Buhler headquarters in Uzwil. The call comes from Greece. The technical director of the Ion S.A. chocolate factory in Neo Faliro near the port of Piraeus reports an emergency. The cocoa pre-grinder for producing cocoa liquor has broken down. This cripples the entire new Buhler cocoa pulverizing line and directly affects the whole production chain at Ion S.A.

Emergency organization
The Buhler Customer Service department is excellently equipped to deal with such emergency calls. Krunoslav Ljubetic, in charge of sales and marketing at EPCS: “Such urgent cases are part of our daily routine. We have therefore organized ourselves accordingly.” The emergency organization provides a detailed description of the necessary procedures with a checklist and a stand-by organization for emergencies occurring outside regular office hours or over weekends. “We are prepared to deal with any case. Every member of our 30-person team knows exactly what to do in case of an emergency. The stand-by team also includes persons outside EPCS – in the warehouse and in the shipping department. We are all highly motivated to offer our customers the best possible service – fully in line with our philosophy that any mission is possible.”

Accurate defect analysis
It does not take much time to pinpoint the cause of the defect in the cocoa pre-grinder. The customer’s description and a look into the detailed project documentation lead to the conclusion that a rotor must be replaced. This is a job that the customer can carry out. But for this, the necessary spare parts must be supplied as fast as possible: the rotor, wear ring, corrugated plate, countersunk screws, and O-rings. A check in the inventory management system shows that all the necessary components are in stock and can be retrieved immediately. The parts are sent without delay to the shipping department, where no time is lost to pack them.

Ion S.A.
Ion S.A., Cocoa & Chocolate Manufacturers, is Greece’s major producer of chocolate and confectionery products. Founded in 1927, Ion S.A. today operates two of its own Buhler-equipped factories and various sales stores. Ion has a total of over 1000 employees and, with annual sales exceeding 100 million U.S. dollars, is one of the 50 largest industrial companies in Greece. The products of Ion are exported to numerous countries in East Europe, Arabia, and North America. (bos)
Planning shipping

In the meantime, the shipping specialists have started planning transportation. Air freight is out of the question because the capacity of the only aircraft available has already been overbooked. The only option left is therefore direct transportation by road. An express courier is notified. Swiss Express will collect the 330-kilogram crate in Uzwil and ship it by truck to Greece. For the additional scheduling, the country-specific times must be taken into account for clearing customs. It is now early Friday afternoon, and EPCS can report to the customer that the required spare parts will arrive in Neo Faliro no later than next Monday at 3 in the afternoon.

Via Brindisi

It is 4:30 in the afternoon on Friday: A mere four hours or so after receiving the order, the driver takes over the heavy crate from the Buhler shipping department in Uzwil. He does not hesitate to embark on his 1800-kilometer journey through Italy to Greece. He makes good headway. As the ferry from Ancona to Patras is fully booked, he continues on the highway past Ancona to Brindisi at the heel of Italy. There, the truck is loaded onto the ferry to Patras. In Patras, customs are cleared on Monday morning, and the trip continues toward Athens. It is now Monday morning at 11: The truck rolls onto the premises of the Ion S.A. chocolate factory – four hours ahead of the promised delivery time. Since the call was received by the Customer Service department in Uzwil, a mere 70 hours and 45 minutes have passed, despite the long route over land and across the sea and the delays at customs due to the weekend. Repairs of the cocoa pre-grinder can now start.
News

Hyundai Award for smooth cooperation

Buhler customers are typically satisfied with the performance of their business partner. But that a customer is satisfied with the performance of Buhler employees to such an extent that he distinguishes them with a special award is more of an exception. Between 2005 and 2007, the Hyundai Motor Company in Ulsan, Korea, entrusted the Buhler Die Casting division with the supply of two large-scale systems for manufacturing auto engine blocks. The two projects comprised a total of eleven die casting cells with locking forces ranging from 2700 to 3700 metric tons. After commissioning of the eleventh system, the Hyundai management presented the Buhler project team made up of Dan Lloyd (sales), Urban Ehret (project manager), and Michael Dönni (installation and start-up) a special commemorative plaque (photo). They awarded it for outstanding capabilities and distinguished technology and for the extremely smooth cooperation in handling the projects. (bos)

Staff change in Central America

Thomas Künzli (left) will take charge of the Buhler Central America organization effective mid-May 2008. He succeeds Stefan Birrer (right), who will return to Uzwil to act as sales manager for the Milling business unit. Thomas Künzli started an apprenticeship as a machine draftsman with Buhler in 1986. He then continued his education to graduate in mechanical engineering. In 1995 he returned to Buhler and was active as sales engineer for the Milling business unit. From September 2000 onward, he headed sales in Buhler Madrid for the Milling, Brewing, and Pasta business units. After completing his studies at the Swiss Milling School St.Gallen, Stefan Birrer joined Buhler as a project manager in 1991. In 1995, he moved to Mexico before taking charge as manager of the Buhler affiliate in Melbourne in 1999. In 2004, he returned to Mexico to head the local Sales and Service site. The Cuban and Central American markets were redeveloped during his management term. (gg)

Brau Beviale 2007

The Brau Beviale brewery trade show in Nuremberg, Germany, is the globally acknowledged major meeting platform for the brewing and malting industries. Despite the railroad strike and lots of snow, attendance of the Brau Beviale 2007 was once again good. Some 35,000 visitors – mainly from Germany – gathered information on the newest trends in the production of malts and beers. At the booth of the Buhler Brewing & Malting business unit, beer experts had the opportunity to establish ties and to meet colleagues in an informal atmosphere. (mst)
Diagram No. 13/14

The Diagram double issue 13/14 appeared in March 1955, this time again with 20 pages. And once again, its character is slightly different. It appears that something has changed in the still anonymous team of editors. In terms of contents, the “new” Diagram shows initial signs of the current concept. The mill projects are presented down to minor details, as well as innovations and processes. The focus of the Diagram 13/14 is on a kind of country synopsis. On eight richly illustrated pages, new flour mill projects in Egypt and the rest of North Africa are described. The new Buhler mills presented range from the El Sawa mill (30 t/24 h) in Cairo to the 80 t/24 h Cohen-Scali mill in the Algerian port of Mostaganem. Most space is reserved for the 100 t/24 h Mohamed Rachad Moustafa & Co. mill in Cairo. The plant, located near the main railroad station of Cairo, was designed as a so-called “five-floor mill.” Underneath the five mill floors are flour storage bins and bagging magazines as well as the repair workshops. In addition, the new Rachad mill was provided with a modern mill laboratory with exemplary equipment. Quite in line with this, the Diagram 13/14 reports in a separate article on the “laboratory units for production checking” that a modern lab needs and their working principles. The magazine presents the new “suction bag filter with intensive tapping for bag cleanup” as an innovation. And it is with particular pride that the Diagram editors tell their readers about a spare parts inquiry from France for Buhler roller mill No. 13420, which is over half a century old (model 1887). (bos)