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**all over the world.**

Innovations for a **better** world.

**BÜHLER**





## This is who we are. Your reliable partner.

As a full solution provider, our aim has always been to engineer our customers' success. That's why we are committed to developing smart solutions that ensure the highest possible standards when it comes to keeping food safe.

It's one of our primary goals to make you feel good about grain, so we're always working on new solutions and individualized projects – every day, all over the world. This means you can have full confidence in our unrivalled standards of expertise – and it's expertise that we can tailor precisely to your requirements. At Bühler we care about grain, and we care for our customers too.

Take a closer look at our portfolio and discover some of our highly successful past projects world-wide to see the kinds of support we can offer. We are completely committed to ensuring our customers' success and we work towards it every

day, developing brand-new solutions to make grain storage the very best that it can be. And our presence in more than 140 countries across the globe means that we're always there whenever our customers need us.

Our unrivalled range of state-of-the-art machine options and cutting-edge digital solutions means we're able to meet our customers' every need, however big or small. Together we'll develop your plant into the ultimate state-of-the-art solution. And you'll always know that with Bühler your grain is in the best possible hands.

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customer stories  
online



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## Bakhresa Grain. Dar es Salaam, Tanzania.

The Bakhresa Group had long trusted Bühler as their technology partner in their growing milling business in Eastern Africa. Bühler supplied numerous wheat milling plants to Bakhresa, spanning Tanzania, Rwanda, Malawi and Mozambique.

A rapidly growing and urbanising population has led to an increased market for processed foods right across Africa. With Eastern Africa largely importing its wheat supplies, and some of the countries being geographically land-locked, ensuring an efficient, cost effective and reliable supply of quality raw wheat to its milling operations posed a welcome challenge to the Bakhresa Group.

The task at hand was clear: a high capacity grain intake to ensure on-time ship discharge, a huge storage capacity to enable sufficient grain supply

for the growing market in Eastern Africa and a high capacity yet flexible bulk and bag out loading to ensure a continuous and timely supply of raw materials to all the group's milling operations.

Efficient project management is critical to the long-term success of a business - it is important to meet the projected production goals while staying within the set budgets. With experienced project teams from both Bakhresa and Bühler, the plant was engineered, delivered, installed and commissioned in good time and to optimum quality.

With its new grain terminal operating at the rated capacity, the Bakhresa Group could then realise its grain handling in a faster, smoother and efficient manner, saving time and handling costs while at the same time ensuring a continuous supply of quality grain to its processing facilities.





*For this facility we wanted to ensure ship discharge as per agreed contracts. It was important to identify a supplier who could guarantee the plant performance in terms of rated capacity. We are now able to receive grain in time and can reduce storage and inventory holding, reliably supplying flour to our markets.*

Peter Muni, Projects Director, SSB



## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	5x Steel silo	60,000 t
<b>Intake</b>	2x Truck	each 600 t/h
<b>Processing technology</b>	2x Drum sieve	each 600 t/h
<b>Conveying technology</b>	4x Chain conveyor 7x Chain conveyor 2x Elevator 2x Elevator	each 300 t/h each 85 t/h each 600 t/h each 300 t/h
<b>Dedusting technology</b>	1x Round filter 1x Round filter 4x Hopper aspiration	706 m <sup>3</sup> /min 336 m <sup>3</sup> /min each 220 m <sup>3</sup> /min
<b>Loading</b>	4x Truck	each 600 t/h



## BayWa. Großmehring, Germany.

By expanding its existing facilities, BayWa can now handle 60,000 tons of grain per year at the Großmehring site. In addition to the general increase in capacity, the focus of the expansion was on upgrading the systems to the latest food and feed safety standards and on centralizing regional maize processing.

Anyone wanting to view the new BayWa steel silos in Großmehring from the top has to make quite an effort. A ladder runs 28 meters straight up the wall - naturally with a safety basket behind and an intermediate platform every eight meters. But the climb is worth it: The best way to get an idea of the size of the plant is from the ceiling bridge with the railings next to the conveyor system - it was not just the storage capacity that was increased during the expansion of the site.

The new conveyor system, chain conveyors and six elevators mean that grain can now be handled much more efficiently. In addition to the

120 tons per hour processed by the current plant, BayWa can now take another 150 tons of grain arriving by tractor or truck, and the same amount again brought in by train. The product is pre-cleaned and dedusted immediately after, with the installed machines able to process up to 150 tons per hour. The plant is also equipped with the latest standards for food and feed safety – an especially important consideration for BayWa.

For Josef Bittl, product manager at the plant, it was clear that after the installation of the first two construction phases in 1998 and 2008, Bühler

would once again be the partner for the plant expansion: “We were used to very good collaboration from the past. And the link between the old and the new plant was particularly important for us. It was appropriate that we contracted Bühler for the work because they had built the old plant.”

Since it was commissioned three years ago, business has been running smoothly – 150 tons of grain can be loaded onto trucks every hour and a further 150 tons into railway cars via the sidings







*We can solve two problems at once with the dryer. We have more than doubled our capacity and at the same time save energy.*

*And, very important in terms of quality assurance: The connected cooler cools the maize down after drying to below 20 degrees thus making it completely ready for storage.*



Josef Bittl, Product Manager Grain, BayWa Großmehring



## The project at a glance.

	Existing plant		Extension	
	Type	Capacity / performance	Type	Capacity / performance
<b>Storage</b>	10x Cells 20x Box	450 t 20,100 t	6x Flat storage silo	23,000 t
<b>Intake</b>	1x Truck	120 t/h	1x Truck	150 t/h
<b>Processing technology</b>	1x Universal cleaning machine	120 t/h	1x Air pre-cleaner	150 t/h
<b>Drying technology</b>	STKX6D-12/2 Wet corn from 35% to 15% moisture	24 t/h	STKX6-12/02, Eco Cool Wet corn from 35% to 15% moisture	30 t/h
<b>Conveying technology</b>	12x Chain conveyor 8x Elevator	each 120 t/h each 120 t/h	21x Chain conveyor 6x Elevator	each 150 t/h each 150 t/h
<b>Dedusting technology</b>	1x Round filter	400 m³/min	1x Round filter	165 m³/min
<b>Loading</b>	1x Truck 1x Rail	120 t/h 120 t/h	1x Truck 1x Rail	150 t/h 150 t/h



Explore the full story







## Biotech Farms. Koronadal, Philippines.

The Philippines, once a major self-sufficient rice producer, has become one of the world's largest rice importers, getting its milled rice from Thailand, Vietnam and India. Biotech Farms decided to invert that trend with an ambitious plan to reinvigorate local farming on the Mindanao island and invest in a state-of-the-art paddy-to-rice processing facility. Therefore, the best grain storage equipment was essential.

Connected to the silos through conveyors, Biotech operates a 20 tons per hour rice mill, equipped with Bühler technology at every stage: from intake to cleaning, polishing, whitening, grading and bagging. The rice mill has been built with a special focus on hygienic design and food safety, with its layout clearly zoned in order to separate process areas. Areas with high dust concentration (bran, bagging) are separated from areas with low dust concentration (production, packing), allowing passage through the floors without disrupting or contaminating production.

The Koronadal Agro-Industrial Complex has been designed to recover as much waste as possible

for renewable energy production. Its close-loop design generates savings for Biotech Farms and ensure a more reliable and sustainable operation. The rice husk, waste from the milling process, is sent through pneumatic tubes to be incinerated in the biomass power plant.

The biomass plant features a Vyncke furnace, generating hot thermal oil for the production of electricity using an Organic Rankine Cycle (ORC) turbine-generator. Hot water is produced from the waste heat of the furnace. The 13.2 kV electrical installation across the full complex – engineered and commissioned by Bühler's sister company

Bühler+Scherler – draws all the electricity it needs from the biomass power plant with excess electricity exported to the local utility grid.

Hot water is circulated through the full complex to the corn processing plant and paddy drying lines. This generates the hot air needed to operate the dryers and means significant energy savings for Biotech Farms.

The remaining by-products of the rice mill (rice bran, rice tips, immature grains) are also recovered and sent back to the feed mill for further processing into pig and poultry feed.





*Bühler's equipment reliability combined with their attentive customer service help us maintain high-level yields and quality, resulting in rice that our customers will enjoy eating and buying again.*

Erwin Saballa, Chief Operating Officer,  
Biotech Farms Inc.



## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	14x Paddy bin	28,000 t
<b>Intake</b>	3x Truck	each 65 t/h
<b>Processing technology</b>	3x Pick-up cleaner 2x Agitator cleaner 1x Screening machine	each 25 t/h each 25 t/h 50 t/h
<b>Drying technology</b>	5x Batch dryer	each 21.5 t/h





## City Group. Dhaka, Bangladesh.

City Group and Bühler have been working together for decades. When City Group planned to build a new grain storage plant on the bank of Shitalakshya river, Bühler was the obvious choice. The modules of the plant have gradually been put into operation within a record three years.

City Group is one of Bangladesh's leading conglomerates and trusted consumer goods manufacturers. Founded in 1972, the group has a strong commitment to creating a positive social impact on Bangladesh.

City Group's first investment in Bühler dates back to 1995 with a wheat flour mill. This was the beginning of a long-term partnership as the company further expanded with Bühler technology – a feed mill in 2002, flour mills in 2007 and a soya crushing project in 2011.

In recent years, the company has invested in a triple project for paddy-to-rice processing, dal (red lentils) processing and flour milling. City Group's latest investment in Bühler technology

was for a soya crushing project with a new plant commissioned late 2019.

On an undeveloped plot the Shitalakshya river, running east of Dhaka, City Group founder and chairman Fazlur Rahman had the vision to build an industrial complex which will allow the company to diversify its business further while also strengthening its operations with a trans-shipment and grain storage site.

When City Group awarded the contract, the full project was one of the largest worldwide for Bühler at the time. A total of 54 Bühler supervisors, specialists and technologists were involved on the production site and worked together more than 45,000 hours to assemble the intake,

storage systems and commission the processing plants. The plant, located on the riverbank, receives its raw material from both ships and trucks from the region. It acts as a our mill, a dal production facility and a rice mill for both parboiled and chinigurarice, a high-value variety requiring high heat treatment.







*We repeatedly chose Bühler to supply our infrastructure as we believe only their technology can handle the scale of our projects while delivering on the quality expectations we set for our final products.*



Shampa Rahman, Director, City Group

## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	9x Corrugated metal silo	53,900 t wheat
	7x Corrugated metal silo	66,800 t paddy
<b>Intake</b>	2x Trucks	each 150 t/h
<b>Processing technology</b>	1x Pre-cleaning universal cleaning machine	150 t/h
	1x Air cleaner	150 t/h
<b>Drying technology</b>	STKL6-07/02 Wet corn from 35% to 15% moisture	6 t/h
<b>Conveying technology</b>	15x Chain conveyor	each 150 t/h
	5x Elevator	each 150 t/h
<b>Loading</b>	1x Truck	150 t/h



Explore the full story





## CJ Feed. Semarang, Indonesia.

CJ Cheil Jedang Feed Indonesia is part of CJ Cheil Jedang corporation group, a South Korean based company that owns many feed mill plants across Asia. In 2018, a new dedicated corn collection point was built in Grobogan, Semarang, central Java, to supply dry corn material to all CJ Feed mills in Indonesia. The facility has a drying capacity up to 400 tons per day.

CJ Cheil Jedang corporation group trust Bühler quality, based on worldwide collaboration the two going back many years. CJ Cheil Jedang Feed Indonesia has been operating in Indonesia since 1996, using Bühler equipment and solutions to produce poultry feed and aqua feed

in their plants, they have always been extremely satisfied with the quality, especially the main pellet mill equipment.

With a record of good quality and service, CJ Cheil Jedang feed group decided to nominate

Bühler as main supplier for their corn storage and dryer solutions in Indonesia. They are firm believers in Bühler's continuous drying technology, which has exceeded their expectations in term of capacity and quality.







*Bühler's continuous grain drying system is stable and easy to operate, we are satisfied with the product result, the corn is clean, dust-free, the color is not pale, and no odour.*

Hyun Heung Chun, Vice President,  
PT. CJ Cheil Jedang Feed Semarang



## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	3x Steel silo	1,350 t
<b>Intake</b>	4x Truck	each 15 t/h
<b>Processing technology</b>	1x Universal cleaning machine	60 t/h
<b>Drying technology</b>	STKX6D-12/02 Wet corn from 30% to 13%	17 t/h
<b>Conveying technology</b>	2x Chain conveyor 3x Chain conveyor 2x Chain conveyor 2x Elevator 2x Elevator	each 60 t/h each 40 t/h each 30 t/h each 60 t/h each 40 t/h
<b>Dedusting technology</b>	1x Round air filter	200 m <sup>3</sup> /min
<b>Loading</b>	4x Truck	each 15 t/h

## Cofco. Tianjin, China.

COFCO was searching for a reliable partner for its ship unloading. Highest capacities were as important as less pollution, in order to guarantee high food safety.

COFCO Jiayue was established and put into operation in July 2011. It currently has a 100,000-ton grain and oil berth with an annual handling capacity of 2.6 million tons and a comprehensive storage capacity of 600,000 tons. This ensures an annual processing capacity of 2 million tons of soybeans and grease, and 27 million cases of packing oil.

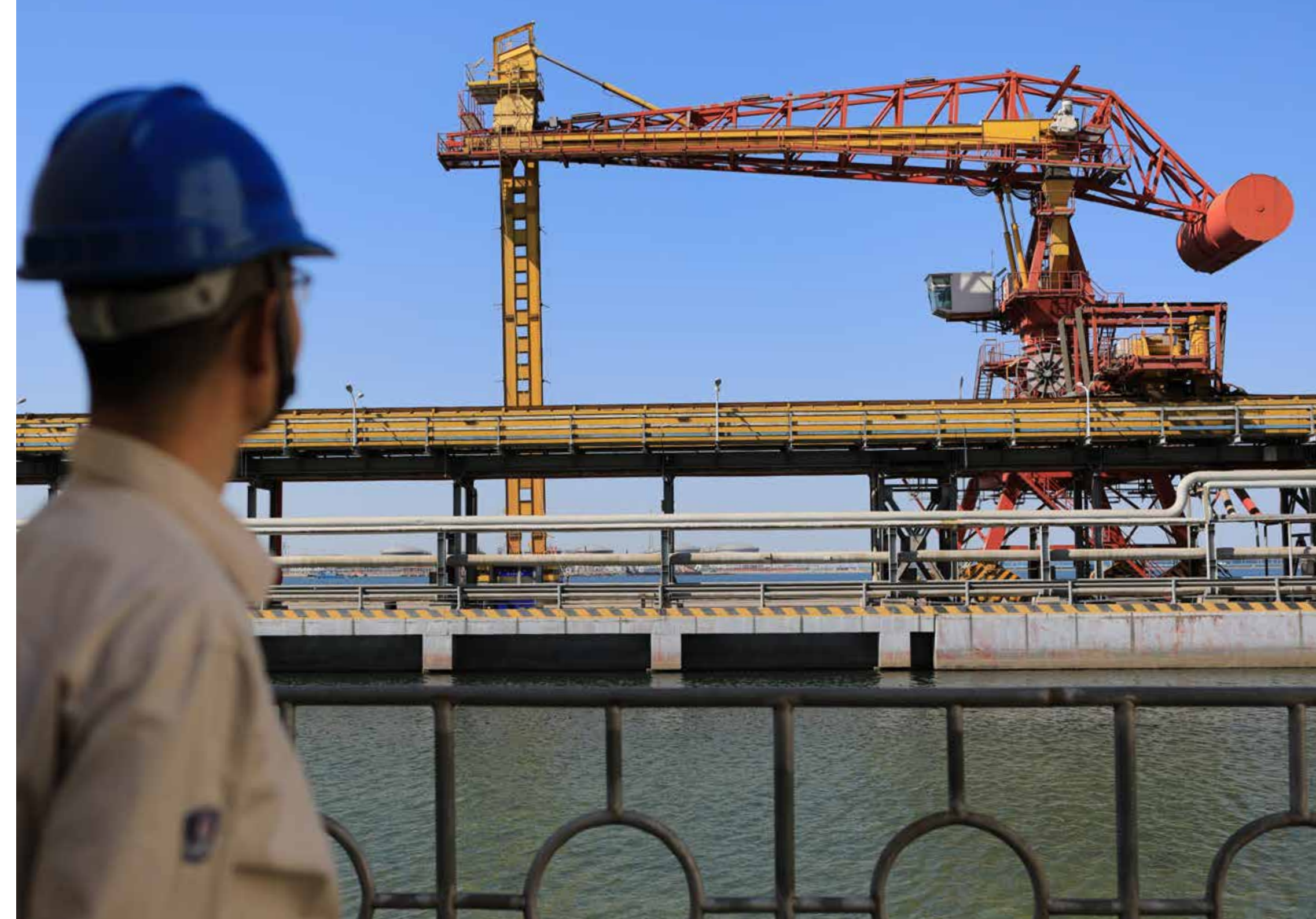
The company introduced internationally advanced production and logistics facilities to create an integrated operation mode of port

handling, warehousing and logistics, production and processing, and finished product delivery.

For the production and operation of the modern Lingang Industrial Park, the professional bulk grain ship handling system is the key to ensuring the efficient operation of the downstream processing factories. The ship unloader Porta-link's operating capacity reaches 1,100 tons per hour, while the annual unloading amount of imported soybeans is at 600,000 tons per year.

Humans are finally realising that economic development cannot be at the expense of the environment. The serious environmental pollution in China comes mainly from industrial emissions – our mission is to prevent environmental problems from the very beginning.

The environment is the basic guarantee of food safety, and food safety depends on the environment. On this basis, it is possible to produce great food.





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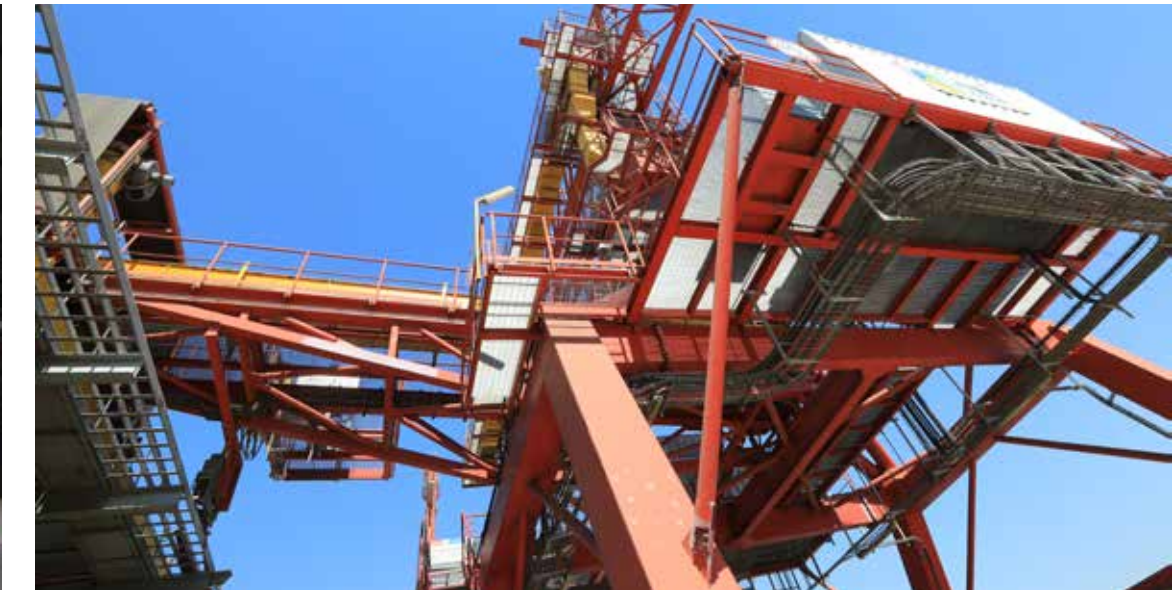
*Bühler's equipment has been running stably since we advocated the choice of buying it nine years ago, which was enough to show that this decision was correct.*

”

Wen, Deputy General Manager, Cofco Tianjin

## The project at a glance.

	Data / capacity
Ship unloader	Portalink 1100/90 RK
Ship unloading capacity	1,000 t/h (soya beans)
Ship capacity	80,000 DWT
Weight	460 t







## Coopers Malting. Adelaide, Australia.

What does malting have in common with grain storage? Only when the grain is processed accordingly is the end product of the highest quality. In order to supply the malting plant of Coopers Brewery in Australia with high-quality grain, the customer chose Bühler's grain storage solutions. The solutions have to cope with different needs, for example wet conveying of green malt coupled with the highest capacities and lowest downtimes.

Coopers, the largest family-owned brewery in Australia, opened a new malting plant at its Regency Park Brewery in Adelaide. "I always thought that it would be good if we built another malting facility right here on this site," says Tim Cooper, Managing Director of the Coopers Malting Facility. By doing so, Coopers is guaranteeing total control of its malt quality.

The grain storage equipment – which contains processing, conveying and dedusting technology as well as malting equipment – can handle an annual production capacity of 54,000 tons malt. This means that the equipment needs to handle wet product, which is always different from dry.

Even so the fully clad hoppers and silo bins have been designed to resemble fermentation tanks with a plant connection to the Coopers Brewery. All in all, the malting plant has proved highly individual solution designed exclusively for the customer's specific requirements.





*The sophistication of this plant in terms of all those design elements, the automation and the energy savings, the cleanability at the plant and the safety aspects mean it is a delight to have Bühler as a partner and we look forward to working with Bühler on a long-going basis.*

Tim Cooper, Managing Director, Coopers Brewery



## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	6x Steel silo 12x Steel silo	3,000 t barley 4,800 t malt
<b>Processing technology</b>	1x Air pre-cleaner 1x Universal cleaning machine 1x Universal cleaning machine 3x Ultratrieur 604/1	50 t/h 40 t/h 25 t/h each 8.5 t/h
<b>Conveying technology</b>	3x Elevator 2x Elevator 1x Elevator 2x Elevator 1x Elevator 1x Chain conveyor 6x Chain conveyor 10x Chain conveyor 1x Chain conveyor 4x Chain conveyor 1x Chain conveyor 3x Screw conveyor 3x Screw conveyor	each 90 t/h each 50 t/h 40 t/h each 25 t/h 10 t/h 105 t/h each 90 t/h each 50 t/h 40 t/h each 25 t/h 10 t/h each 10-15 t/h each 10-25 t/h
<b>Loading</b>	1x Truck	90 t/h



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## Dalian Depot.

Dalian, China.

Beiliang port is a professional grain wharf, integrating loading and unloading, storage and transportation, pioneering the “four dispersal” domestic grain transportation model, and serving as a pivotal port for “grain transportation from north to south” and grain import in North-East China.

With the integration of the world economy, international and regional trading are increasing, which means rapid increase of port through-put and makes loading and unloading efficiency a top priority for ports. The technical characteristics of ship handling machines are therefore developing rapidly towards large, efficient, environmentally friendly and automated technology.

In 1999, in order to build a world-class professional grain port, Beiliang selected Bühler, the leader in the ship handling machinery industry, as its strategic cooperative supplier to provide Portalink, a mechanical continuous unloader, and Portaload, a loader. So far this equipment has performed efficiently and reliably for nearly 20 years.

This meant that the customer then chose Bühler again. Thanks to its simple design, minimum operating personnel and low equipment maintenance, costs have been reduced, and the machinery’s two decades of stable operation enables Beiliang to obtain maximum value from each unloading operation.







*Bühler is not just about equipment, but more about delivering customer value.*

Yu Haoda, Assistant to the manager, COFCO Trading



## The project at a glance.

	Data / capacity
<b>Unloader</b>	2x Portalink 1100/80 RK
<b>Ship unloading capacity</b>	1,000 t/h (grain)
<b>Ship capacity</b>	80,000 DWT
<b>Weight</b>	480 t

	Data / capacity
<b>Loader</b>	2x Portaload 1000
<b>Ship loading capacity</b>	1,000 t/h (grain)
<b>Ship capacity</b>	30,000 DWT
<b>Weight</b>	208 t





## El Grano. Akkol, Kazakhstan.

Located in Kazakhstan in the heart of Eurasia, the milling company El Grano set out to overcome regional challenges and focus on quality in order to gain a competitive advantage in the global market – assisted by the expertise and dedication of Bühler's local Grain Management Division.

The company originally milled wheat with relatively small capacities, but its ambitious management team decided to step up activities in grain handling and processing and tap into the opportunities offered by its extraordinary location.

El Grano decided that in order to compete in the international market they needed to focus on quality as well as quantity. The customer wanted a state-of-the-art plant that would provide reliability and flexibility in operation, installed by a company with a local presence. Bühler met these requirements and more.

In 2018, El Grano commissioned Bühler's Grain Management Division in Kazakhstan to build a silo plant for wheat and sunflower seeds with a total storage capacity of 12,000 tons.

The order also included state-of-the-art solutions for intake and loading with access via train and truck, conveying, automation, cleaning and drying systems.

Knowledge transfer was a key element during implementation. The customer benefitted from visits to different reference projects in other countries, numerous discussions with experts,

training courses and learning programs.

The benefits of the new plant are already becoming clear. El Grano is now in a position to process even low-quality raw wheat into a high-quality product. The day-to-day operation of the plant requires fewer personnel and less energy, and the systems are intelligent and easy to run. The company now achieves significantly lower operational costs per ton than its competitors. Furthermore, the implementation of the new plant has resulted in the best sustainable and environmental solutions.







*If you want to be a leader,  
you have to work with the best:  
the best people, the best suppliers  
and business partners, the best solutions,  
and the best equipment and technologies.*

Andrey Yurchenko, Owner, El Grano



## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	4x Steel silo	12,000 t
<b>Intake</b>	2x Truck 1x Train	each 100 t/h 100 t/h
<b>Processing technology</b>	1x Drum sieve 1x Universal cleaning machine 2x Ultratrieur	100 t/h 100 t/h each 12 t/h
<b>Drying technology</b>	Eco Dry STKX6-15/02 Wheat from 19% to 15% moisture	50 t/h
<b>Conveying technology</b>	18x Trough chain conveyor 8x Elevator 2x Elevator	each 100 t/h each 100 t/h each 25 t/h





## Grain Bureau Storage. Wuxi, China.

Mainly used to store wheat and paddy, the Grain Bureau Storage in Wuxi has a total storage capacity of 116,000 tons. In order to make grain storable, the customer was searching for a customized solution of drying technology.

The Grain Bureau Storage is a crucial grain storage facility in China. In order to optimize the storage process, the Wuxi National Grain Reserve in Jiangsu Province decided to use the Bühler Continuous Grain Drying Tower for its paddy drying.

The Continuous Grain Drying Tower uses a special structural design and thermal energy recovery technology derived from Bühler's exclusive patented Eco Dry technology. The technology reuses unsaturated exhaust gases and unsaturated heated fresh air, thereby

reducing energy consumption and ensuring that the drying tower can dry grains gently and evenly, while minimizing damage to the grains throughout the drying process. Mr. Chen said, "Compared with other drying equipment, Bühler's Drying Tower generates lower noise, which brings higher environmental and social benefits for residents in the surrounding areas. Its low energy consumption helps save 10 yuan for each ton of grain dried, its environmental characteristics allow businesses to meet current and future environmental requirements."

Due to its high level of automation and easy operation, the Eco Dry makes it easy to cope with the technology. With constantly rising labor costs, this equipment could significantly reduce the need for manual operation. The entire drying system requires only one person with full automation, compared to three persons with other drying systems in China. In this way, the businesses has been made more flexible in terms of staffing.





## The project at a glance.

	Type	Capacity / performance
Drying technology	Eco Dry STKX6-12/2 Paddy from 19.5% to 15.5% moisture	12.5 t/h



*Bühler's Continuous Grain Drying Tower generates low noise and is economical and environmentally friendly. It's easy to use and effective.*



Chen Ruilong, Deputy Director, Wuxi National Grain Reserve





## IBTT. South Yangon, Myanmar.

Myanmar is undergoing rapid growth and modernization since reforms that began in 2010. The food industry is at the forefront of that transformation, bringing accessible and safe food to Myanmar's 53 million inhabitants. However this means that a lot of high quality raw material is needed.

IBTT is strategically located in the river mouth South of Yangon, Myanmar's economic capital, and close to the Thilawa Special Economic Zone. With bulk demand forecasted to increase rapidly, the IBTT team came to Bühler early in the process to discuss not only the initial project's plan, but also to receive strategic advice on potential expansion of the site, creating a future-proof project.

For grain storage, Bühler provided a full intake and pre-cleaning system with conveying to 13 grain bins for a total capacity of 40,000 tons of

wheat. The site also features a truck loading system with three dedicated smaller bins. The grain part of the project started to operate in May 2019.

For soy bean meal, used by animal feed mills in the region, Bühler provided a at storage of a capacity of 20,000 tons. IBTT foresees many potential growth opportunities for the company – the first of these is that grain and soy meal imports will continue increasing as the down-stream customers start building capacity.

Bühler therefore made sure that the project can be expanded according to a "4-folds" design, multiplying the storage capacity of the project by four by mirroring twice the existing set up. IBTT also anticipates that with the development of agriculture in the country, the project may soon start to export grain such as rice and corn by bulk vessel. Therefore it was important that the project remains versatile, and the team insisted on the creation of a simple design that could be re-purposed to support other products in the future.







*Bühler didn't compromise on quality for our installation in Myanmar. This is the same top global quality standard we enjoyed in Japan.*

Inaba Shogo, Port Operation Director, Thilawa Penta Ocean



## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	13x Steel silo 1x Flat storage	40,000 t 20,000 t
<b>Intake</b>	3x Truck 3x Truck	each 125 t/h each 100 t/h
<b>Processing technology</b>	1x Drum sieve	400 t/h
<b>Conveying technology</b>	4x Elevator 6x Chain conveyor 6x Chain conveyor 1x Roller trough belt conveyor	each 400 t/h each 400 t/h each 100 t/h 400 t/h
<b>Loading</b>	3x Trucks	each 50 t/h







## Hebei. Luanping, China.

Luanping Ruiqingfeng State Grain Reserves was searching for a drying technology to help them solve the problem of removing corn fluff. The Continuous Drying Tower ensured they were able to meet the challenge.

The Luanping Ruiqingfeng State Grain Reserves Co. Ltd was founded in 2002. The company is close to the Jingtong railway line to the west and the Luandong Highway to the east, which is an ideal place for the storage of national grain.

In order to remove corn fluff (also known as red skin) from corn – one of the biggest challenges in the corn drying industry – the customer was seeking a reliable solution.

The Continuous Drying Tower enabled them to solve the problem of dusty air vents that had been an issue for a long time.

The director Chen Zhuxin is also enthusiastic about the economic aspect of the dryer: “The drying plants provided by other suppliers would have cost 80–100 yuan (RMB) to dry one ton of corn, while the solution provided by Bühler actually only costs 35–45 yuan (RMB) for each

ton of corn. With this taken into account, the Bühler Continuous Drying Tower is really economical. It will not take long for the equipment investment to be recovered. Because of this, the purchase of Bühler equipment is very worthwhile.”



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*The Bühler Continuous Drying Tower is really economical.*

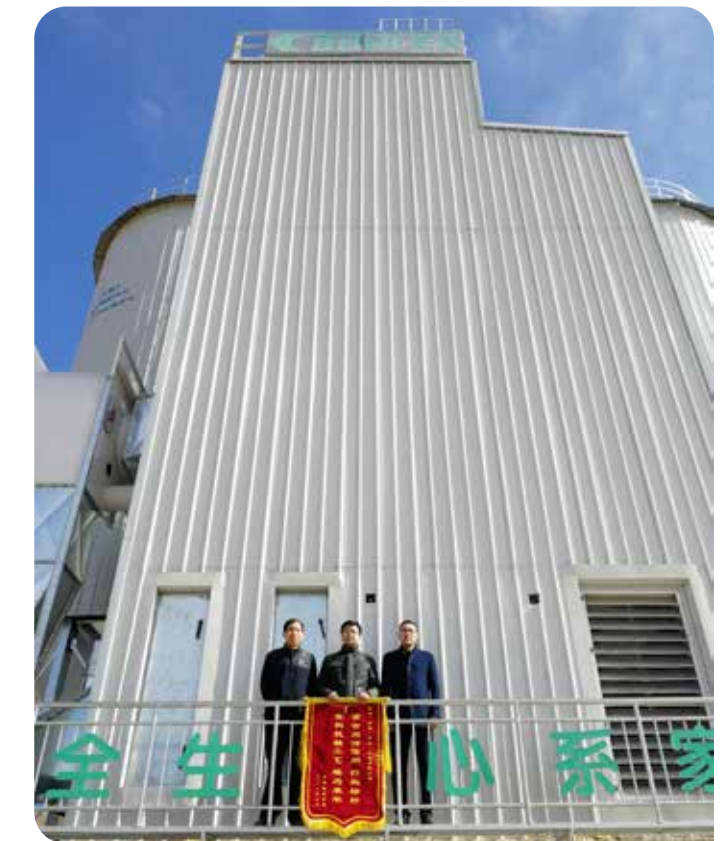
Chen Zhuxin, Director, Hebei Luanping Ruiqingfeng State Grain Reserve Depot

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## The project at a glance.

	Type	Capacity / performance
Storage	8x Flat storage	80,000 t
Intake	1x Truck	100 t/h
Drying technology	STKX6-07/02 Wet corn from 35% to 15% moisture	12.5 t/h
Loading	1x Truck	100 t/h





## Konan Futo.

Kobe City, Japan.

Konan Futo operates one of the largest and most strategic port terminals in the southern part of Japan, and has been doing so for 50 years. When its unloaders were nearing the end of their life, the company set out to find the most efficient replacement available on the market.

“Konan Futo wanted to have a state-of-the-art mechanical ship unloader,” says Senior Technology Manager at Bühler, Felix Hutter. “After an intensive evaluation phase, Konan Futo selected the Portalink ship unloader as the solution which best fits their needs, and so Bühler has been appointed as the preferred partner for this CAPEX project.”

The Portalink 1100/27RK not only combines continuous, high-efficiency unloading with sustainable, low energy consumption, it also significantly cuts running costs. Bühler’s Portalink has an unloading capacity of 1,100 tons per hour, ideal for Konan Futo’s main products of wheat, rapeseed, soybean and raw sugar. The

low-speed conveying of the products means that wear and tear and therefore product damage can be reduced significantly. Since the ship unloader is able to move along the jetty, ship hatches can be reached without any restrictions.

Konan Futo was looking for an unloader that could efficiently handle a variety of grains and raw sugar, but the decision process was based on more than just selecting new machinery. It was essential to find a partner capable of offering exceptional project management and customer service throughout the whole execution process. “The in-depth assessment process in respect of potential suppliers prior to any sales decision is unique and in line with Japanese

business culture,” says Sales Manager for Bühler Yokohama, Masakatsu Ohkawa. “Bühler has been able to convince the customer of best-in-class product and services in every aspect.”

It was crucial that the final installation time for the Portalink was kept as short as possible. Coordination of all the stakeholders involved was key during the entire execution process, and required dynamic engagement from all parties.





*We selected Bühler's Portalink because of its efficiency. Running cost are less than a quarter compared against the two unloaders that were removed.*

*Bühler proved highest flexibility and the close cooperation throughout the entire project led to success.*

Yutaka Fukuda, President Konan Futo (Grain Terminal) CO., LTD., Konan Futo



## The project at a glance.

	Data / capacity
Unloader	1x Portalink 1100/27 RK
Ship unloading capacity	1,100 t/h (grain)
Products	Wheat, maize, rapeseed, soybean and raw sugar
Weight	620 t
Travelling mechanism	On rails



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## Moser.

### Großmehring, Germany.

Agriculture has a long, valued tradition in Bavaria. The region surrounding Ingolstadt is especially known for grain farming and trade thanks to its fertile soil. Moser Agrar & Baufachzentrum has been an integral part of this business for 60 years. Together with Bühler, the company set up a new collection point in Großmehring near Ingolstadt.

When the harvest season is in full swing, tractors with trailers take turns with trucks every few minutes. Moser Agrar & Baufachzentrum can accept 350 tons of grains per hour at its collection point – by truck, but also by train thanks to the on-site rail connection.

“For farmers, it’s convenient since they never have to wait long. Plus, the new location is situated much better for them – they no longer have to worm their way through city traffic to deliver their grains,” says Thomas Goldbrunner, plant manager of the new location at Interpark industrial park in Großmehring.

Managing director Georg Moser is visibly proud of his new system: “In terms of food safety and occupational safety, we’ve made major progress,” says the owner. In the old plant, dust emissions caused problems for employees and neighbors alike and the decision to construct a new building had been in the pipeline for several years.

For Georg Moser, it was particularly important for the new system to be located near the old one, since he felt obligated to his suppliers as a long-standing partner to the regional farming industry. Today, the seven steel silos with a total storage capacity of 16,200 tons can be seen from miles

away, and the machine building offers space for 15 separate processing cells, a dedusting system, sieve cleaning system, a grader and a flow scale.

After pre-cleaning, the batches that are too wet go through the dryer, keeping pace with the fast throughput thanks to its capacity of 10 tons per hour. All Moser processing equipment is now state-of-the-art which means that they can offer their customers first-class quality goods.

“The more you pre-clean the grain, the easier it is to process it later on. In the end, everyone wants the most clean food possible,” states Thomas Goldbrunner.







*Thanks to the modern control, we can enter the desired moisture content and the dryer does all the work for us, meaning we barely have to monitor the drying process anymore.*

Thomas Goldbrunner, Plant manager,  
Moser Agrar & Baufachzentrum



## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	3x Flat bottom silo 4x Steel silo 15x Processing cell	9,450 t 5,000 t 1,770 t
<b>Intake</b>	1x Truck 1x Train	200 t/h 150 t/h
<b>Processing technology</b>	1x Universal cleaning machine	150 t/h
<b>Drying technology</b>	STKX6-10/02 Wet corn from 35% to 15% moisture	10 t/h
<b>Conveying technology</b>	5x Chain conveyor 12x Chain conveyor 1x Elevator 4x Elevator	each 200 t/h each 150 t/h 200 t/h each 150 t/h
<b>Dedusting technology</b>	1x Round filter	650 m <sup>3</sup> /min
<b>Loading</b>	1x Truck 1x Train	200 t/h 200 t/h



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full story







## Novi Trading. Zmajev, Serbia.

Novi Trading was founded in 1990. In 2012, Novi Trading commissioned Bühler with the design and installation of the new plant at its site in Zmajev, including two truck intake lines, conveying systems, grain processing, grain drying, twelve steel silos and truck loading.

Zmajev is situated amidst the most fertile lands of the region. It also benefits from close access to the railway connecting Belgrade with Budapest. These enviable circumstances demanded a plant with fast turnaround capability, fitted with machinery that is easy to use and reliable in operation. A further specific requirement was the flexible and simultaneous unloading, processing, storing and dispensing of different types of products. Naturally, the plant had to adhere to high food safety standards, environmental protection and energy saving requirements.

The new silo plant was built in close collaboration with Novi Trading. Excellent teamwork resulted in a very efficient project flow throughout, from the initial planning to the installation of the individual units. The target for completion was surpassed and the plant was commissioned ahead of schedule in 2012, just eleven months after the start of the project. After seven years of reliable operation the quality of the plant is evident.

The highly customized solution has proven to be very simple to use and very cost efficient in

operation – the simultaneous processing and energy saving drying process of different goods has delivered significant economic advantages, with cost savings passed on to the plant's clients. The plant has also delivered on all environmental requirements set out at the beginning of the project. "Our investment in the equipment from Bühler was justified. We made the right choice," says Hristic. "We have one of the best plants in the region."



“

*We learnt a lot from the Bühler team. The technical support was excellent straight from the beginning and we have been able to count on Bühler all along.*

Nikola Hristic, General Manager and Owner, Novi Trading

”

## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	18x Steel silos	48,000 t
<b>Intake</b>	2x Truck	each 120 t/h
<b>Processing technology</b>	2x Universal cleaning machine	each 120 t/h
<b>Drying technology</b>	2x STKX6-1572M-06 Corn from 35% to 15% moisture	each 15 t/h
<b>Conveying technology</b>	28x Trough belt conveyor 6x Elevator	each 120 t/h each 120 t/h



Explore the full story





## Raiffeisen. Hemau-Kallmünz, Germany.

Perfect timing is crucial during harvest season. Because this customer's previous plant was in the center of Kallmünz and had an hourly capacity of 60 tons maximum, the intake capacity was too low for peak harvest time. The new 2017 plant was built to solve this problem.

The high capacity is just one reason why the new plant is significantly more effective than its predecessor. The new, high-capacity machines, and especially the automation, also play a central role.

The scales for loading and unloading the trailers are located directly behind the entrance of the large-area facility. Samples are taken automatically from each delivery and tested for moisture and protein content in the laboratory within minutes. This enables the silo master to evaluate the data within a very short time and thus determine the ideal storage location.

But that is not enough. In order to also prevent the grain from losing quality during storage, the temperature of the silo is regularly measured. This allows areas that are heating up to be detected immediately and effective counter-measures to be taken.

With a total of eleven silos, a capacity of 10,000 tons and modern machinery, the grain plant is state-of-the-art and can cope with steadily increasing utilization. The planning work for the new agricultural site at Pfraundorf was correspondingly extensive. The choice fell to Bühler, which operates a center of excellence

in Beilngries, just half an hour away by car. Since the commissioning there has been a lot of encouragement and praise for the efficiency of the new agricultural site, especially the very short waiting times during intake.







*It was important for us to have a company that could handle the entire project from beginning to end. Bühler has already been a partner for us in previous buildings and has always assisted us, in service as well, and was our first point of contact.*



Gottfried Glaab, Head manager of commodities,  
Raiffeisen Hemau-Kallmünz



## The project at a glance.

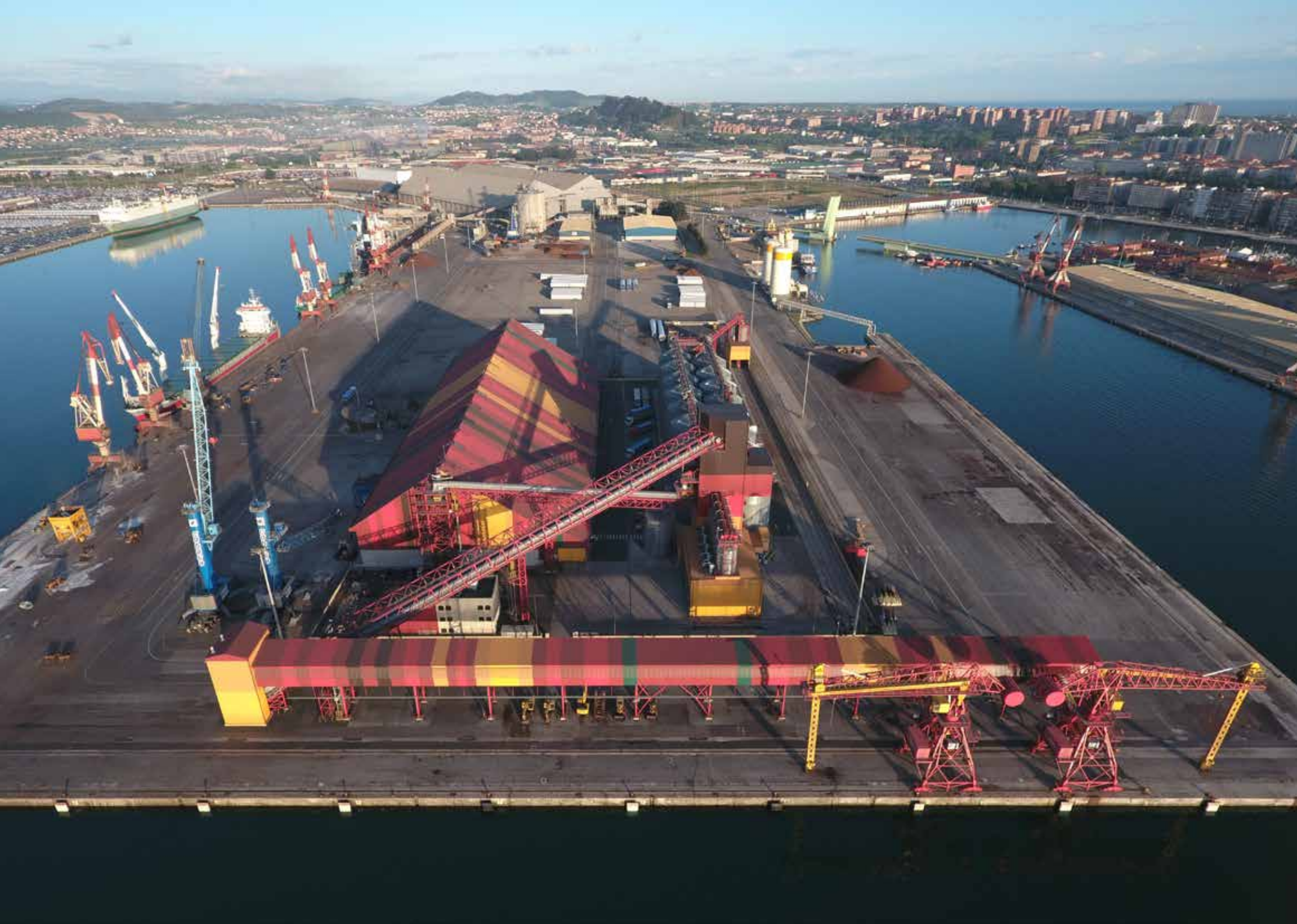
	Type	Capacity / performance
<b>Storage</b>	11x Corrugated metal silo	9,500 t
<b>Intake</b>	2x Truck	each 150 t/h
<b>Processing technology</b>	1x Universal cleaning machine 1x Air pre-cleaner	150 t/h 150 t/h
<b>Drying technology</b>	STKL6-07/02 From 35% to 15% moisture	6 t/h
<b>Conveying technology</b>	15x Chain conveyor 5x Elevator	each 150 t/h each 150 t/h
<b>Dedusting technology</b>	1x Round filter	400 m³/min
<b>Loading</b>	1x Truck	150 t/h



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## TASA. Santander, Spain.

When it comes to delivering a plant, time is crucial. TASA in Santander (Spain) decided to renew its grain transshipment port in order to stay ahead of the competition. Within a record time of two years, Bühler engineered and delivered the process side of the equipment.

Crucial for the regional supply of staple food to millions of people in Spain, TASA at the port of Santander stands as one of the most modern, efficient, and flexible transshipment ports – not just in Spain but worldwide. TASA invested heavily in the new terminal. Where before many process steps needed to be done manually, the challenge was to have the highest standards of food safety and to improve efficiency – in a project where time was critical.

TASA's requirements for the new terminal were very high. With the citizens of Santander living so close to the port, the low dust emission technology of the Portalink ship unloader was key for the environmental protection. To speed up the transport process, TASA wanted to make sure the terminal was as automated as possible. And above all, the terminal needed to be improved to be an excellent example of food safety and sustainability in practice.

Within a record time of two years, Bühler engineered and delivered the whole process technology to the port of Santander. Now, the quality and traceability TASA's customers ask for is guaranteed at all times. In this highly competitive business, the new terminal guarantee's TASA's success - now and in the future.





*It's very important to have a good concept and layout. But more important and probably more complex is to construct a terminal that really fulfills the specifications and the original layout. And here I think Bühler has done an excellent job. Without any doubt.*

Andrés Gómes Bueno, General Director, TASA



## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	1x Flat storage 16x Steel silo	50,000 t 40,000 t
<b>Intake</b>	5x Truck 3x Train	each 300 t/h each 300 t/h
<b>Processing technology</b>	1x Drum sieve	500 t/h
<b>Conveying technology</b>	2x Belt conveyor 1x Chain conveyor 1x Elevator	each 600 t/h 600 t/h 600 t/h
<b>Dedusting technology</b>	1x Round filter	650 m <sup>3</sup> /min
<b>Ship unloading</b>	Portalink 600/70 RK	500 t/h wheat or 400 t/h soya
<b>Loading</b>	1x Truck	150 t/h



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## Vivescia. Sommesous, France.

France's leading player in the farming industry, VIVESCIA Group, commissioned Bühler to design and build a new cereal reception and storage center with a total capacity of 43,500 tons.

The plant design included ten steel silos, intake, conveying, cleaning and filter facilities to receive and process wheat, barley, rapeseed and corn. It was installed and commissioned for the 2015 harvest.

VIVESCIA recognized Bühler's exceptional expertise and rigorous precision engineering qualities. As requirements were fixed and very detailed this demanded a high level of flexibility on Bühler's part, and the Bühler team was fully committed to meeting these requirements and implementing the best solution within the very tight deadline.

The project's ambitious goals, objectives, detailed specifications and deadlines posed a substantial challenge for all teams involved. Working closely in cooperation with VIVESCIA, Bühler developed a single pass concept, meaning that grain can be received, cleaned, upgraded and put in silos in a single process step, at a rate of 250 tons per hour. In order to keep maintenance time as low as possible, most ducts are lined with anti-wear and food-grade material.

Four years on, in the third harvest since commission, the plant has proven its

outstanding quality and delivered on the defined goals. As VIVESCIA decided to keep maintenance in-house, tools such as myBühler, the online portal for spares, help the cooperative's technicians to operate the plant at highest performance levels.





“

*With Bühler we found a true partner who really took into account our opinion and constraints and does everything possible to ensure customer satisfaction and success.*

”

Denis Kesy, Project Manager, VIVESCIA

## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	10x Steel silo	43,500 t
<b>Intake</b>	2x Truck	each 250 t/h
<b>Processing technology</b>	2x Universal cleaning machine 1x Universal cleaning machine	each 250 t/h 40 t/h
<b>Conveying technology</b>	12x Trough chain conveyor 12x Trough chain conveyor 3x Elevator 2x Screw conveyor	each 250 t/h each 200 t/h each 250 t/h each 5 t/h
<b>Dedusting technology</b>	2x Round filter	each 629 m³/min
<b>Loading</b>	1x Truck	200 t/h



Explore the full story



## Vysočina. Želiv, Czech Republic.

Not far from the Zelvka River, lies the “Vysočina” agricultural cooperative in Želiv. Since 2012, a grain collection point from Bühler has proven its worth there, with trucks and tractors delivering around 60 tons of grain per hour during harvest season.

Prior to the start of construction in 2011, the cooperative did not have a central grain storage. Although several warehouses were available at different locations, they lacked modern conveying equipment or processing systems. This meant that consistently high product quality could not be guaranteed.

In Želiv, great importance was placed on easy operation of the most reliable machines,

according to Mr. Vlastimil Karafiát: “We had a shortlist of various companies and ultimately made quality our top priority. We chose Bühler from among six bids because of the high quality of its machines. The solutions put forward by Bühler and their on-site consultation were what convinced us.”

Today, the plant’s cleaners, dryers and dedusting systems all run smoothly, and the five hillside si-

los serve as shiny metallic landmarks for the region’s farmers. In the TAS 152 cleaner, up to 60 tons of wheat and oilseed rape are processed every hour. During the harvest season, the dryer processes up to 20 tons per hour while the dedusting system removes 150 m<sup>3</sup> per min.

For the “Vysočina” agricultural cooperative in Želiv, the modern plant means a significant increase in productivity and quality.





“

*Our Bühler system has been running smoothly for seven years and is in very good condition. We are very satisfied with our partnership with Bühler.*

Vlastimil Karafiát, Manager, Vysočina

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## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	7x Steel silo	6,800 t
<b>Intake</b>	1x Truck	60 t/h
<b>Processing technology</b>	1x Universal cleaning machine	60 t/h
<b>Drying technology</b>	STKL6-07/02 Wet wheat from 19% to 15% moisture	20 t/h
<b>Conveying technology</b>	1x Chain conveyor 4x Chain conveyor 1x Chain conveyor 1x Elevator 2x Elevator 1x Elevator	80 t/h each 60 t/h 40 t/h 80 t/h each 60 t/h 20 t/h
<b>Dedusting technology</b>	1x Cyclone	150 m³/min
<b>Loading</b>	1x Truck	60 t/h





## Wheata Industrial. Khartoum, Sudan.

Wheata Industrial has a long-standing relationship with Bühler. Since the first silo system was delivered in 2001, Bühler has helped the company to fulfil its role in supplying the region with high quality wheat products. The strong relationship continues: In the latest project Bühler installed a new silo system in Port Sudan including a larger ship unloader doubling unloading capacity.

Convinced by Bühler's performance over the years and, in particular, its proven energy-saving chain conveyor technology, Wheata has recently ordered a new high capacity silo facility for its operations in Port Sudan. It was not only Bühler's ability to provide every part of the solution from a single source that convinced Wheata, but also the training Bühler provides its staff in conjunction with plant installation and the ongoing service.

Meeting Wheata's current demands required the installation of a larger mechanical ship unloader. With 600 tons per hour the new unloader Portalink doubled the capacity of the facility. In addition, a completely new greenfield silo plant with a vast storage capacity of 61,500 tons was built.

The new high capacity system, which has recently been put into operation, provides maximum reliability and efficiency, reliable automation, and high standards of food hygiene and health and safety.

Bühler's project management ability was a major factor in the success of the project. The project demonstrated the benefits gained from working in close cooperation with the customer at every stage, from initial planning to execution. This, along with staff training and ongoing support, was the decisive factor in delivering the plant in time and within budget, while maintaining operations.





## The project at a glance.

	Type	Capacity / performance
<b>Storage</b>	10x Corrugated metal silo	61,500 t
<b>Intake</b>	1x Truck	600 t/h
<b>Processing technology</b>	1x Drum sieve	600 t/h
<b>Conveying technology</b>	4x Belt conveyor 6x Belt conveyor 5x Chain conveyor 2x Chain conveyor 2x Elevator 1x Elevator	each 600 t/h each 300 t/h each 600 t/h each 300 t/h each 600 t/h 300 t/h
<b>Dedusting technology</b>	1x Round filter 1x Round filter 1x Round filter	189 m <sup>3</sup> /min 173 m <sup>3</sup> /min 94 m <sup>3</sup> /min
<b>Ship unloading</b>	1x Portalink 600/70TK	600 t/h
<b>Loading</b>	2x Truck	each 300 t/h





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