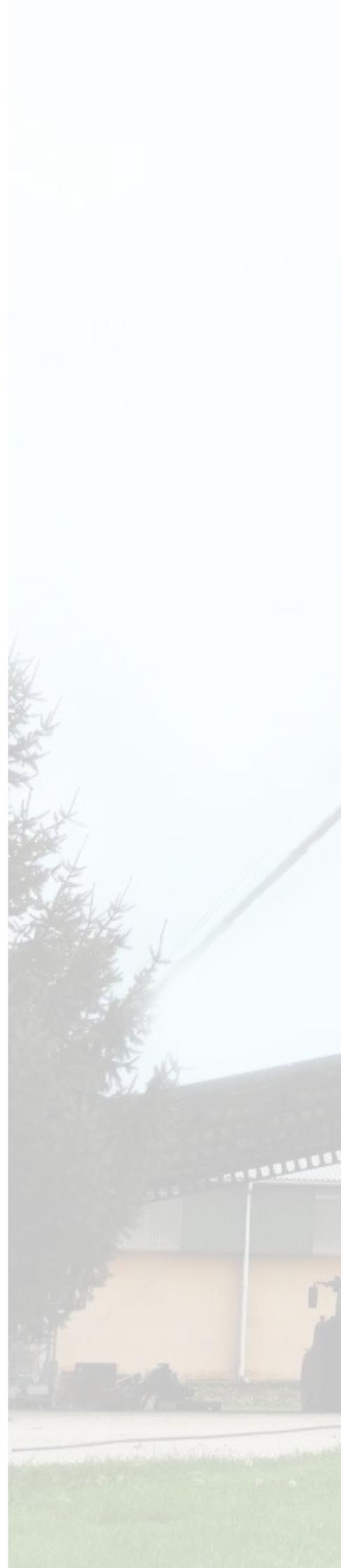




Elevators.  
**Simple vertical  
conveying.**

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# Powerful conveyance. **Innovative solutions.**

Powerful and reliable conveyor technology significantly contributes to your company's success. Which is why we offer solutions for efficient transport – fully customized and tailored to your needs.

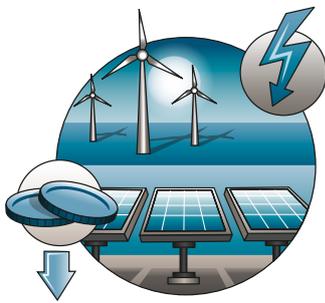
By combining our vast expertise and years of experience, we have created conveyor systems that meet the most varied process requirements across a diverse field of applications. Our entire product range is characterized by robust, maintenance-friendly components, unsurpassed material quality, and technology that is gentle on the product.

Our standardized modules ensure maximum flexibility. This not only opens up a broad range of applications, but also makes it possible to individually configure your conveyor system. To optimally meet your needs, we also set the highest standards in terms of operational reliability and energy efficiency. Every year we build more than 2,000 elevators worldwide – for an incredibly broad range of applications like handling terminals and mills to malting houses and coffee processing plants.

**We are the flexible and reliable partner at your side.**

# Sustainability. Our 50/50/50 goals.

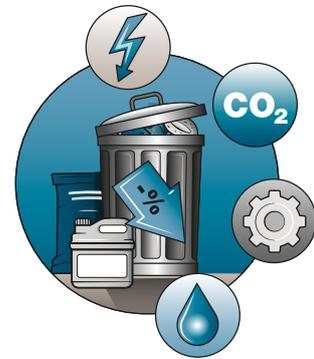
The next ten years will determine what legacy we pass on to our future generations. The time to act is now! We need to collaborate within our entire ecosystem and we need to radically change our behavior as an industry, company, and individuals.



**50%**  
less energy



**50%**  
less water



**50%**  
less waste

Bühler has therefore decided to set its sustainability targets higher and add the vital element of water. We aim to make our process solutions 50 percent more efficient. In other words, they will use 50 percent less energy as well as 50 percent less water and produce 50 percent less waste. To achieve these goals, Bühler is taking advantage of the opportunities offered by digitalization and working closely with customers, suppliers, and startups. We plan to develop solutions that meet or exceed these goals. We are convinced that good business models will emerge from this idea for a brighter and more sustainable future.

# Elevators.

## Vertical conveying made easy.

Whether in silo plants or processing facilities – for process-related reasons it is almost always necessary to elevate products. Our elevators operate extremely economically and efficiently thanks to their low energy consumption.



### Basic Line

Our Basic Line covers a large proportion of the application areas in silo and storage operations thanks to an extensive accessory package. Easy maintenance and cleaning is ensured by the split head cover, inspection and cleaning openings in the base and shafts, and residual discharge gates.



### Ex-Protection Line

To meet explosion protection guidelines worldwide, the Ex-Protection Line is available in four versions. Breweries and mills with their floury, fine and coarse-grained products are typical users of these elevators.



### Heavy-Duty Line

The robust construction of the machine elements as well as the use of wear-resistant materials guarantee long running times and high reliability for our Heavy-Duty Line, which is characterized by both extreme performance and heights.

# Elevators. **LBEB – Basic Line.**



## The standard for versatility and performance.

Thanks to a comprehensive package of accessories, the Basic Line can be configured to suit almost any application in the food sector. The individual options, for example wear protection or hygiene modules, can be flexibly combined in accordance with your requirements and national regulations. The LBEB elevator achieves conveying capacities of up to 430 t/h.

	<b>Basic Line</b>
Typical areas of application	For universal applications: <ul style="list-style-type: none"><li>– Silo plants for bulk food products</li><li>– Silo and receiving systems for process plants</li><li>– Milling and feeding equipment</li></ul>
Throughput (0.75 t/m <sup>3</sup> )	Up to approx. 430 t/h
Height	Up to 70 m
Bucket material	Steel, stainless steel, PE, PU, PA
Belt material	Black or white rubber with FDA approval (pre-stressed)
Material designs	Standard steel
Surfaces	Powder-coated or galvanized

# Elevators. LBEB – Basic Line.

## Your advantages



### Self-supporting elevator

Thanks to 3 mm-thick shafts, self-supporting elevators up to 30 m in height can be built without the need to support the motor.



### High operational reliability

Safety features include an integrated backstop as well as electronic speed and belt skew monitoring.



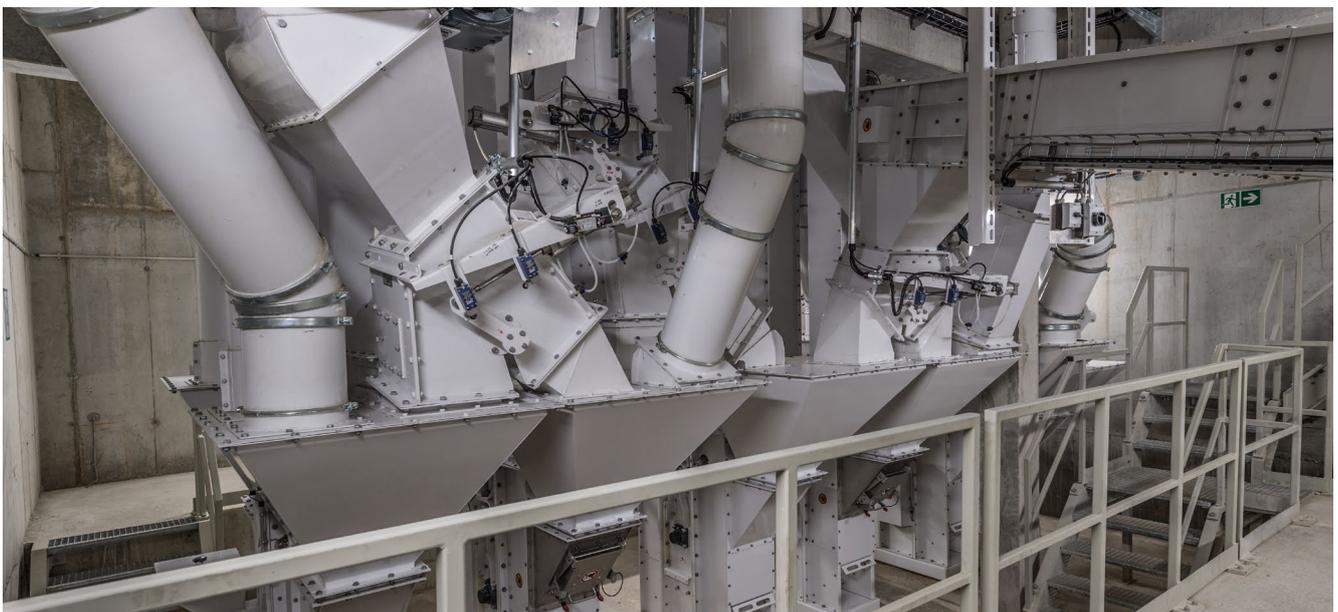
### Good standard of hygiene

The round base and shafts ensure that strict high hygiene requirements are met. In addition, further options such as baffle tubes are available in a special hygienic version.



### Quick installation

With pretensioned elevator belts, the tensioning time during startup can be reduced by 80%. All information can be found on the belt tensioning plate.



# Elevators. MGEL Ex-Protection Line.



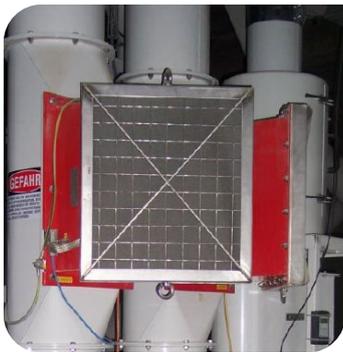
## High-quality module for constructive and passive explosion protection.

Many different protection modules are available to meet the most common explosion protection directives for both EU countries and non-EU countries. This means maximum safety for special applications. The MGEL belt elevator achieves conveying capacities of up to 280 t/h. Flours as well as fine and coarse-grained products can be elevated to a height of 60 meters.

	Hygiene Line
Typical areas of application	For universal explosion protection: <ul style="list-style-type: none"><li>— Milling and feeding equipment</li><li>— Breweries and malt houses</li></ul>
Throughput (0.75 t/m <sup>3</sup> )	Up to approx. 280 t/h
Height	Up to 60 m
Bucket material	Steel, stainless steel, PE, PU, PA
Belt material	Black or white rubber with FDA approval (pre-stressed)
Material designs	Standard steel
Surfaces	Powder coated or hot dip galvanized

# Elevators. MGEL Ex-Protection Line.

## Your advantages



### Passive explosion protection

Pressure-resistant elevator equipped with standardized bursting discs. Additional elements are also optionally available for a wide range of certified suppression concepts.



### Active explosion protection

Pressure-resistant elevator, available with explosion detection (sensor system) and explosion suppression (extinguishing system) for an active explosion system.



### Russian version

In Russia, country-specific regulations can be met by means of an elevator head with pressure-relief chimney.



### NFPA version

Non-EU standards such as NFPA can be certified using various calculated relief points.



# Elevators.

## AHEL Heavy-Duty Line.



### Vertical conveying for high throughput.

The AHEL belt and bucket elevator is ideal for the vertical transport of bulk materials at high throughput rates. It can lift up to 1,400 t/h of products up to 80 meters. Suitable products include grains, compound feeds, pellets, and oilseeds. This high-performance elevator is used at port terminals, storage facilities, and in processing industries.

	Heavy-Duty Line
Typical areas of application	For universal applications: <ul style="list-style-type: none"><li>— Port facilities</li><li>— Ship loading and unloading</li><li>— Larger silo plants</li></ul>
Throughput (0.75 t/m <sup>3</sup> )	Up to approx. 1,400 t/h
Height	Up to 80 m
Bucket material	Steel, stainless steel, PE, PU, PA
Belt material	Black or white rubber with FDA approval (pre-stressed)
Material designs	Standard steel
Surfaces	Powder coated or hot dip galvanized

# Elevators. AHEL Heavy-Duty Line.

## Your advantages



### Robust construction

Proven machine elements, extremely thick panels and wear-resistant materials guarantee a long service life and extreme reliability.



### Modular system

Thanks to the modular design, individual components can be replaced to expand the system or increase its power.

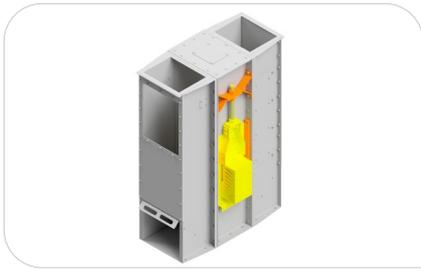


### Good wear protection

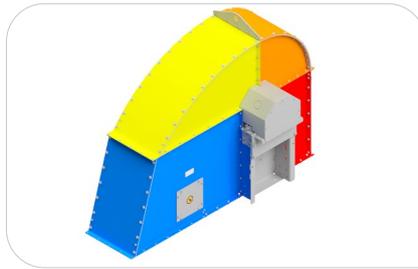
Wear-protection plates at critical points additionally increase the service life of the Heavy-Duty Line and can be replaced as necessary.

# Elevators. The details.

## Easy maintenance and assembly



Belt tensioning via spindle device.



An elevator head with a split hood and a backstop for the belt, as well as inspection and cleaning openings at the discharge facilitate inspection and maintenance.

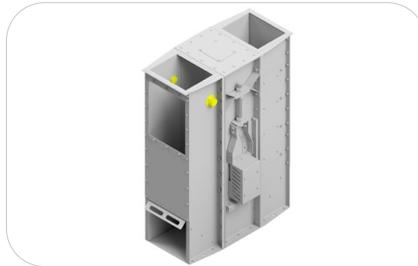


Clamping shaft for easy maintenance.

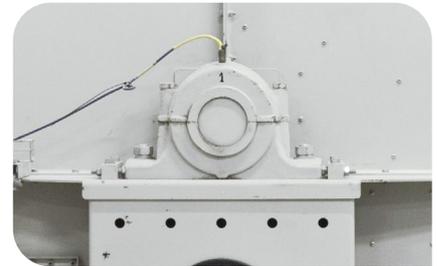
## Optimum safety in operation



The speed monitor alerts the operator in the event of belt slippage.



Misalignment sensors (yellow) monitor the belt position and issue an alarm in case of possible malfunctions.

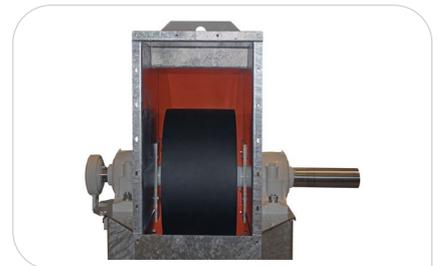
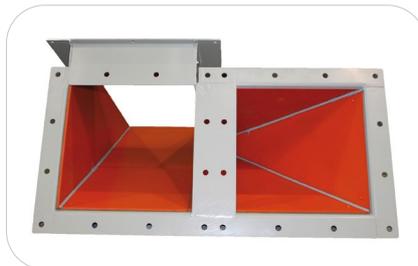


Bearing-temperature monitoring for the head and base.

## Wear protection



Optional wear plates for the heavily stressed parts and wear-resistant deflector plates for the product deflection in the head are available.



# Elevators. **Use energy efficiently.**

Simply put, being energy efficient means using less energy to perform the same task. Bühler bucket elevators are designed and customized to provide the best possible energy efficiency and safety. This means that the least possible amount of energy is consumed per ton of product transported.

In combination with perfectly coordinated system planning, elevator heights can be optimally utilized to avoid lifting products unnecessarily. In terms of control technology, the process times of the elevators can be optimally adjusted to reduce longer empty runs and unnecessary run-down times to a minimum.

Thanks to "Machine Condition Monitoring," a service for Bühler elevators, problems can also be detected at an early stage, thus avoiding wear or unnecessary energy expenditure. If all these points are considered, considerable energy savings can be achieved for each plant. Ask your Bühler contact for more information. Together we will find the ideal concept for your project.



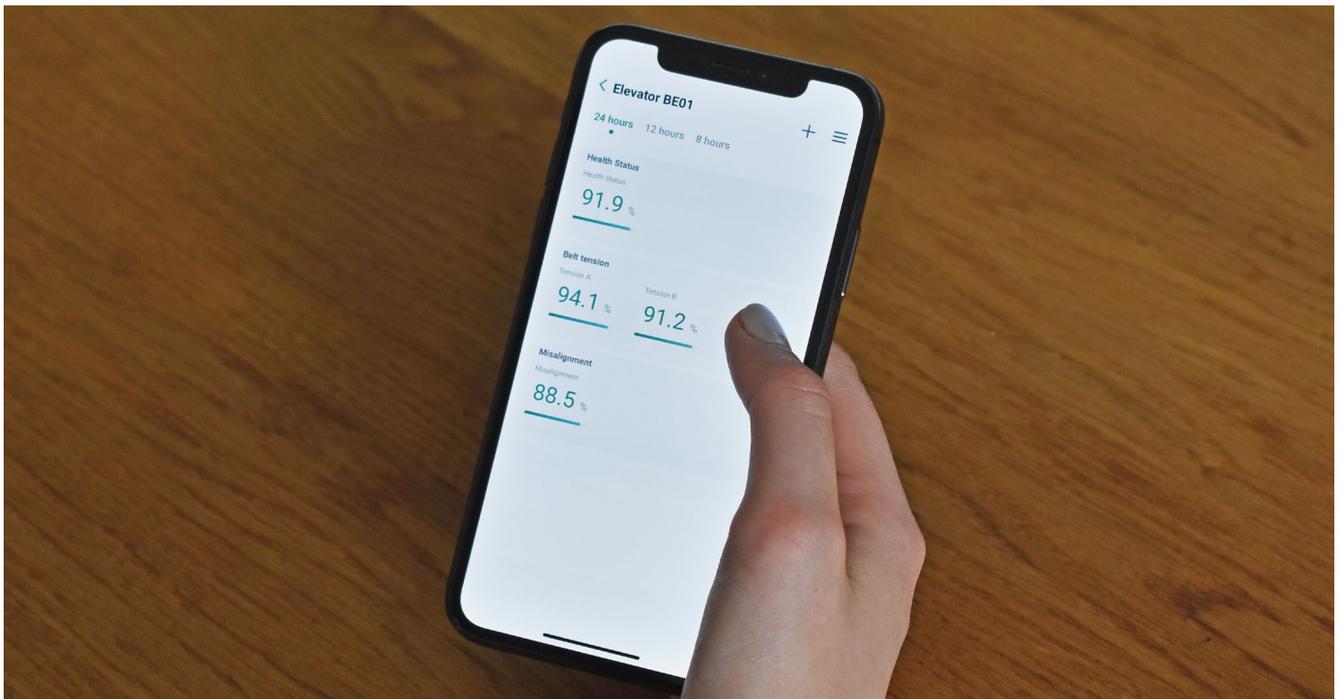
# Machine Condition Monitoring. Intelligent maintenance.

The intelligent solution for efficient and sustainable operation, which also helps to make your system digital and fail-safe.

The Machine Condition Monitoring service is the latest digital innovation from Bühler. It was developed to monitor the condition of machines from anywhere and at any time. Process data from the elevators in a plant is measured and recorded to provide an overview of the condition of the individual machines.

Alarms and warning displays give you the opportunity to determine the machine's maintenance requirements and optimize the maintenance processes accordingly. Data-based analyses make it possible to draw quick conclusions and respond immediately. This lowers maintenance costs, extends the service life of the machine, and increases the availability of the plant. Make optimal use of Machine Condition Monitoring and use your elevator's KPI's to your advantage.

For this purpose, we have developed an app that lets you monitor the condition of your machines from anywhere and at any time. This makes it possible to leave the control room to monitor entire plants from anywhere in the world. In addition, you can view the history of the machine's status over time and accurately estimate the timing of the next maintenance cycle. Set machine-specific alarms that send instant push notifications to your mobile device when problems occur. Ensure optimal use of your elevator.



# Elevators.

## Minimize product residues.

In process plants and storage facilities, waste refers to products that cannot be resold. This not only includes residue that remains in the machines, but also products that have not been carefully transported or stored. With this in mind, we have specially designed certain elevator components to reduce these product residues to a minimum.

The edgeless transitions as well as the rounded elevator tubs show their strengths here compared to conventional elevators. These features allow product contamination to be avoided and grade purity to be ensured. Product residues that are left behind as waste also have a major impact on food safety.

To ensure that minimum effort is required to clean the machines, easy accessibility is essential. We also carefully coordinate the design of our elevators – as well as the choice of materials – to ensure that they can be certified in accordance with food safety regulations (e.g., FDA). Bühler elevators are also the right choice when it comes to sustainability. Furthermore, we manufacture our spare parts, such as elevator belt and buckets, using recyclable materials.



# El Grano. Kazakhstan.

Astana, the capital of Kazakhstan, is located on the historic Silk Road in the center of the Eurasian continent. This is where East meets West. In 2018, El Grano, a company based there, commissioned Bühler to build a new silo facility for wheat and sunflower seeds.

The order included a state-of-the-art grain facility with 12,000 tons of storage capacity, which was designed from the outset to optimally accommodate future growth. Modern cleaning, sorting, and drying systems play a decisive role here.

The advantages of the new plant are already becoming clear. El Grano is now able to process even low-grade raw wheat into a high-quality product. Daily operation of the plant requires fewer personnel and less energy than the facility it replaced. The respective systems are intelligent and easy to use. The company now achieves significantly lower operating costs per ton than its competitors. In addition, the new plant makes a valuable contribution to protecting the environment thanks to its reduced energy requirements and increased efficiency. These benefits have helped El Grano to attract employees and win new business and customers.



## Technical data

	Type	Capacity / performance
<b>Storage</b>	4x round silos	3,000 t each
<b>Processing</b>	1x drum sieve MZKM 9510/90 1x universal cleaning machine TAS 204A-4 2x Ultratrieur LADB UN404/8	100 t/h 100 t/h 12 t/h each
<b>Drying system</b>	Eco Dry STKX6-15/02 dryer	50 t/h
<b>Conveyor technology</b>	18x trough chain conveyor 8x elevator 2x elevator	100 t/h each 100 t/h each 25 t/h each
<b>Intake</b>	2x truck 1x train	100 t/h each 100 t/h
<b>Commissioning</b>	2018	



# Vysočina., Czech Republic.

## Czech Republic.

In the rural area of the Czech Republic, about 100 km southeast of Prague in Želiv, agriculture has traditionally played a central role. The sparsely populated region of the Bohemian-Moravian Highlands has a cool climate, ideal conditions for growing cereals and oil crops. Here, not far from the Zelivka River, lies the "Vysočina" agricultural cooperative in Želiv. Since 2012, a grain harvesting system from Bühler has proven its worth.

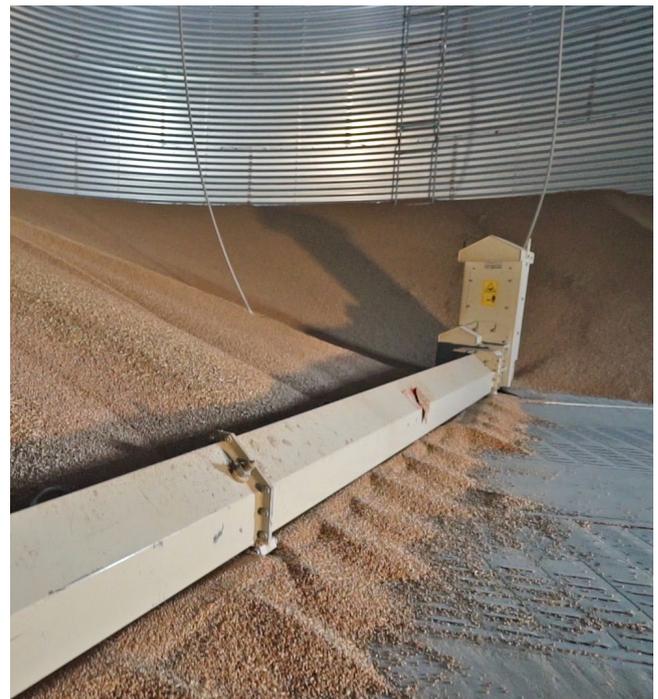
Prior to the start of construction in 2011, the cooperative did not have a central grain depository. Although several warehouses were available at different locations, they lacked modern conveyor technology or processing plants. This meant that consistent high quality could not be guaranteed. It was therefore a big decision for the customer as well as a major step forward to have a new silo plant built on a green field at the site. The focus was on reliability and cost-effectiveness.

Vlastimil Karafiat, manager of the plant, says: "We had shortlisted several 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."



## The project at a glance

	Type	Capacity
<b>Storage</b>	7x silos	6,800 t
<b>Intake</b>	1x truck	Up to 120 t/h
<b>Processing technology</b>	1x TAS 152	60 t/h
<b>Drying system</b>	STKL6-07/02 wet wheat from 19% to 15% moisture	20 t/h
<b>Conveyor technology</b>	Chain conveyors, elevators	60 t/h
<b>Dedusting technology</b>	Cyclone No. 140	150 m <sup>3</sup> /min
<b>Loading</b>	1x truck	Up to 120 t/h
<b>Commissioning</b>	2012	



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