EUROSILO
AUMUND GROUP

MOST COMPACT SILO STORAGE FOR LARGE VOLUMES

LEADING THE WAY IN FUTURE PROOF SILO STORAGE

PART OF THE AUMUND GROUP

As a part of the AUMUND Group and with over 200 units built around the world, Eurosilo is a global leader in fully automated, space saving and environmentally friendly storage silos for a range of bulk materials. Our drive is to deliver solutions that will help you meet your long term goals in the best possible way. Building on the worldwide network of the AUMUND Group, we work closely with contractors, engineering firms, suppliers and manufacturers. All to ensure that the enclosed and compact Eurosilo System offers a reliable and economic solution at sites around the world.

END-TO-END APPROACH

With decades of experience in basic industries, Eurosilo offers an end-to-end approach, from feasibility study and engineering to procurement, assembly, commissioning and takeover. In addition, we offer a range of after-sales services that will keep your (Euro)silo running safely, smoothly and at the lowest costs over the full lifespan. As a part of the AUMUND Group we are open and able to work with local parties and existing suppliers. This strengthens our mission to be the Best Partner for the Best Fit.

SPACE-SAVING, SUSTAINABLE & SAFE

For each bulk material, our engineers and project managers are committed to delivering the most suitable storage solution. The Eurosilo system combines maximum storage capacity with a minimal footprint, making it a highly space-efficient solution for bulk material storage.

The fully enclosed, dust-free design allows operation in locations with stringent environmental and emission regulations. The Eurosilo is specifically engineered for materials prone to self-heating or dust explosion risks. By complying with ATEX and NFPA standards and applying preventive safety measures such as nitrogen injection and controlled atmospheres, it provides a safe and reliable storage solution.

A WIDE RANGE OF APPLICATIONS

The Eurosilo system originated in the late 1960s with the development of the first potato starch silos for the food industry. From this foundation, we continuously developed and adapted the technology to serve a wide range of industries and bulk materials. Today, the Eurosilo system is successfully applied for coal and FGD gypsum in the power industry, fertilizers in the chemical industry, soybeans, sugar, and potato starch in the food industry, and cement and fly ash in the cement industry.

To reliably handle a wide range of bulk solids, we developed four fundamental storage and discharge concepts: mass flow, slotted column, hatched column, and window column systems.

MASS FLOW	SLOTTED COLUMN	HATCHED COLUMN	WINDOW COLUMN
Free-flowing material:	**Non-free-flowing material:**	**Fine material:**	**Fine material:**
■ Calcium Nitrate	■ FGD Gypsum	■ Potato Starch	■ Cement
■ Raw & refined Sugar	■ Ammonium sulphate	■ EAFD	■ Fly Ash
■ Biomass	■ Fertilizer	■ Fly Ash	
■ Petcoke		■ Raw & Refined Sugar	
■ Mining Ore			

MASS FLOW SYSTEM FOR FREE FLOWING BULK MATERIALS

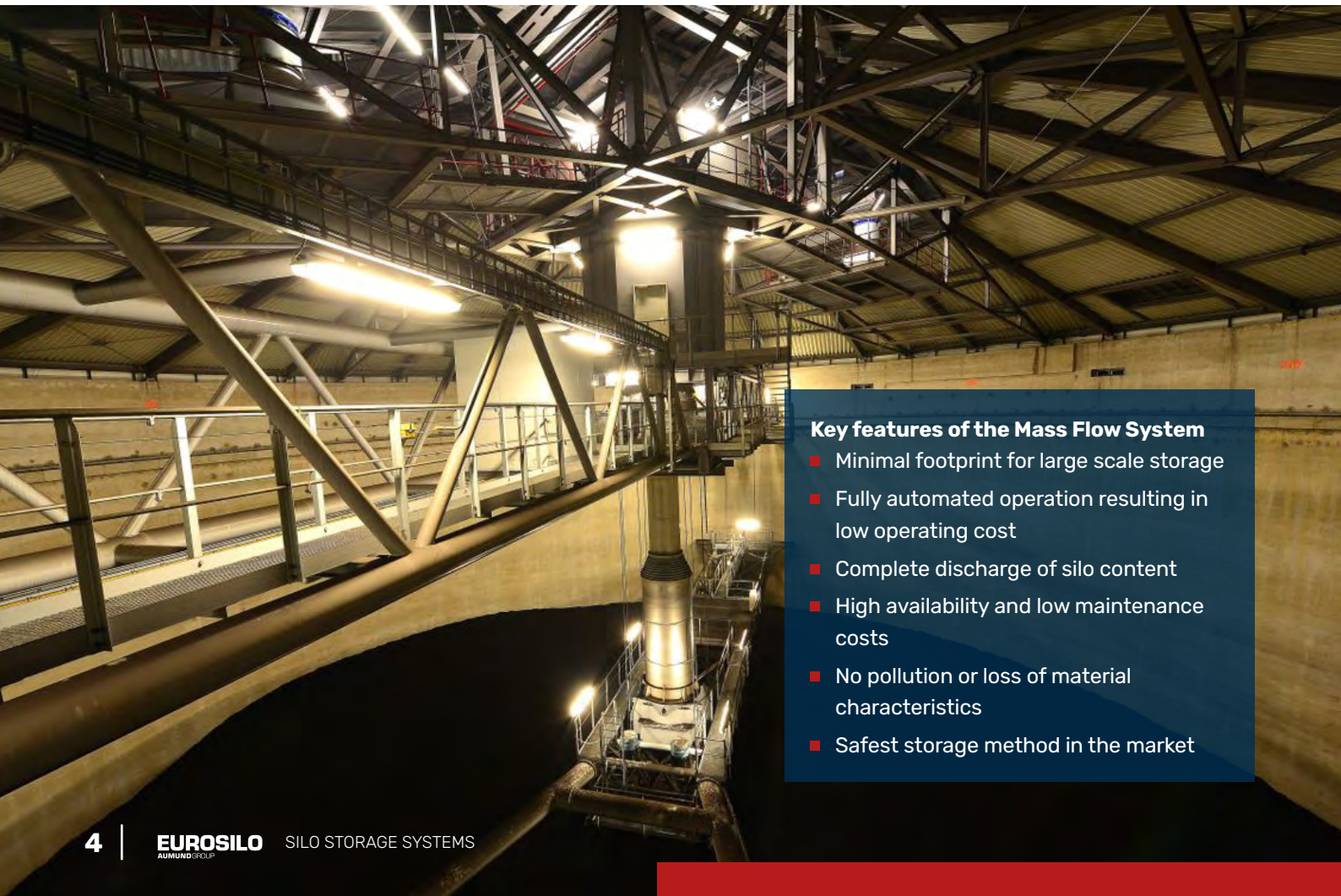
RELIABLE LARGE-SCALE STORAGE

The Eurosilo Mass Flow System is the ideal solution for products with sufficient flowability to be extracted by gravity, supported by vibration to induce a controlled core flow. With storage capacities of up to 100,000 m³ per unit, the mass flow Eurosilo keeps products such as mining ore, calcium nitrate, sugar, coal, and petcoke in good condition, while protecting the environment. The small footprint relative to the stored volume makes the Eurosilo Mass Flow System particularly suitable for expansions within limited space at existing plant sites.

WORKING PRINCIPLE

Bulk material is fed from the top of the silo through a telescopic chute and reaches the distributing frame on the surface of the stored material. The distributing frame, equipped with screw conveyors, spreads the bulk material evenly over the entire silo cross-section, building the stock layer by layer.

Reclaiming is performed by withdrawing the bulk material from the central hoppers in the silo bottom, thereby inducing a controlled core flow. The distribution frame feeds the material into the formed central flow channel, ensuring stable and reliable discharge.



Key features of the Mass Flow System

- Minimal footprint for large scale storage
- Fully automated operation resulting in low operating cost
- Complete discharge of silo content
- High availability and low maintenance costs
- No pollution or loss of material characteristics
- Safest storage method in the market

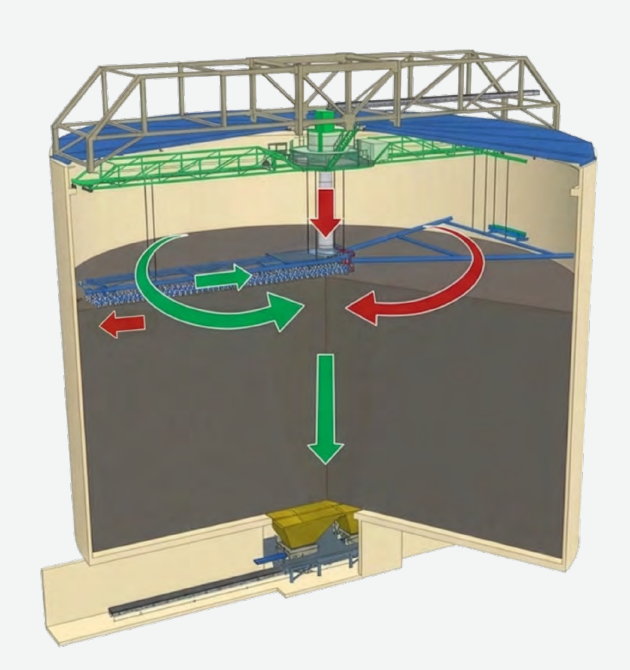
BUILT-IN SAFETY SYSTEMS

The Eurosilo Mass Flow System can be equipped with a range of advanced safety systems. For combustible products such as coal and petcoke, an air monitoring system continuously measures the concentration of carbon monoxide (CO), methane (CH_4), and oxygen (O_2). By monitoring changes in CO-concentration, potential hotspots within the stored mass can be detected at a very early stage. In addition, several measures are implemented to minimize air ingress into the bulk material. For hygroscopic materials, accurate moisture monitoring systems safeguard product quality and storage stability.

HIGH WEAR-RESISTANT OPTIONS

To ensure reliable operation with abrasive materials such as coal, petcoke, ores and mineral products, the reclaim screw conveyors can be equipped with high wear-resistant steel flights. Optionally, replaceable wear flights or internal linings can be applied. These design features significantly extend equipment lifetime and optimize operational expenditure (OPEX) over the full lifecycle of the installation.

SCAN TO WATCH VIDEO



INFEED | OUTFEED

LARGEST STORAGE FOR THE CLEANEST COAL-FIRED POWER PLANT

Due to the limited available space at the EMBA Hunutlu Power Plant and the high environmental standards, the Eurosilo system was selected, based on three 100,000 m³ coal silos. The Eurosilos were successfully commissioned in 2022. The project was developed to create one of the cleanest and most environmentally responsible coal-fired power plants ever built, delivering high capacity, maximum reliability, and superior efficiency. The enclosed storage concept guarantees environmental protection at the highest standards, fully safeguarding the sensitive surrounding area.

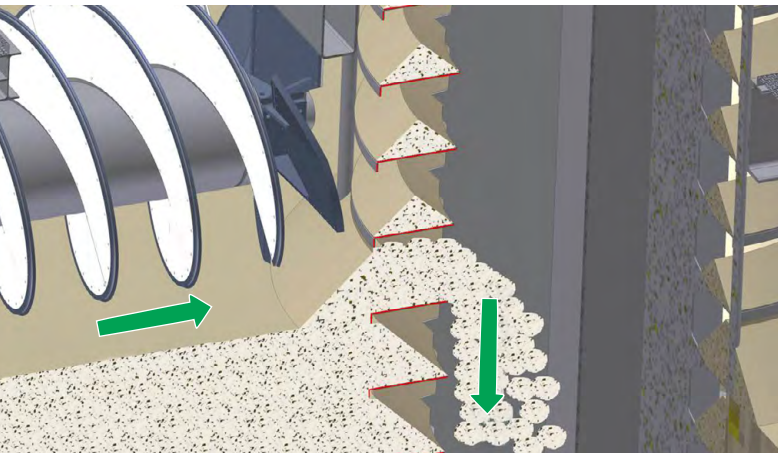
SLOTTED COLUMN FOR RELIABLE RECLAIM OF COHESIVE MATERIAL

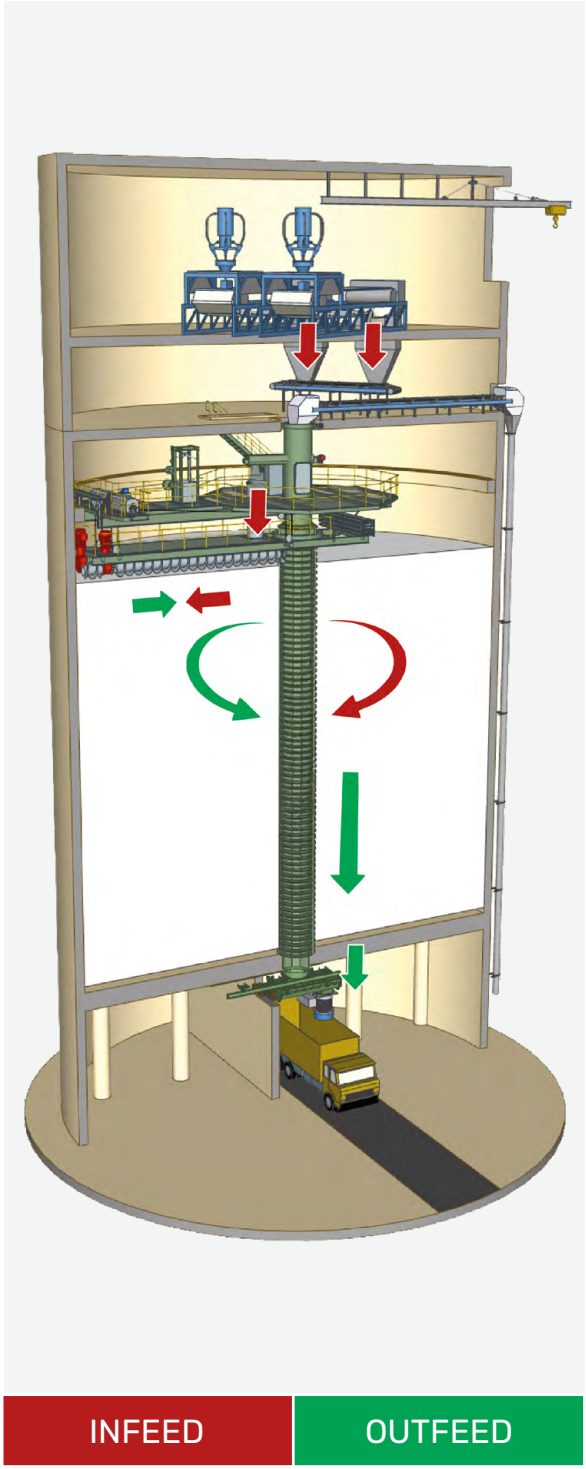
OPTIMIZED SOLUTION

The slotted column system offers a proven solution for cohesive or hygroscopic bulk materials such as FGD Gypsum or Ammonium Sulphate. In case of FGD Gypsum, the Eurosilo can combine three functions with dewatering on top, storage in the middle and load out underneath. Instead of separate dewatering and transport to a storage and load out facility, there is just one cost-saving, reliable solution. FGD gypsum Eurosilos can be equipped with a drainage system to prevent the formation of a sludge layer. Over 80 FGD gypsum silos, and counting, are supplied at plants around the world.

SMOOTH RECLAIMING

The material enters from the top, is fed into a telescopic chute, and spread in layers over the stored material by screw conveyors. For smooth reclaiming, layer by layer, the material is pushed through the slots of the slotted column by the screw conveyors. In this way, it can flow freely downwards via the open central column. Smooth reclaiming extends the storage period by up to several months without any issues.





PROTECTIVE STORAGE

In order to deal with the hygroscopic characteristics of basic materials, the Eurosilo offers a controlled environment inside and a well-protected environment outside. Use of non-corrosive materials protects the storage facility from damage or leaking due to the corrosive content. Filling and reclaiming of materials like ammonium sulfate or common salt can be perfectly handled by the slotted column system. The system is a proven concept to reclaim materials that are too cohesive for a mass flow system.

RELIABLE LOGISTIC SOLUTION

The main application of the Eurosilo in the chemical or mineral industry is storage between production and transport and storage between material supply and the factory site. Because the Eurosilos are integrated in the production workflow, they are designed and built to be compact, robust and reliable. To ensure uninterrupted operation, we offer inspection and maintenance services as well as a worldwide 24-hour technical service.

RELIABLE STORAGE AND RECLAIM AT UNIPER BENELUX

The Maasvlakte Power Station in the Netherlands is a coal- and biomass-fired power station, owned by Uniper Benelux. The power plant is equipped with flue gas cleaning systems in order to meet the emission requirements. ESI was asked to replace the initial FGD Gypsum storage system because it continued to cause logistic problems and extra costs as a result of block ups and down time. Since the retrofit in 2016, the Eurosilo system handles the storage successfully at the power station.

Key features of the Slotted Column System

- Uninterrupted reclaim of cohesive material
- Smallest footprint for efficient storage
- Controlled atmosphere for hygroscopic material
- High automation minimizes operating costs
- Complying with severe environmental regulations
- Maximum logistic control and flexibility

SCAN TO WATCH VIDEO

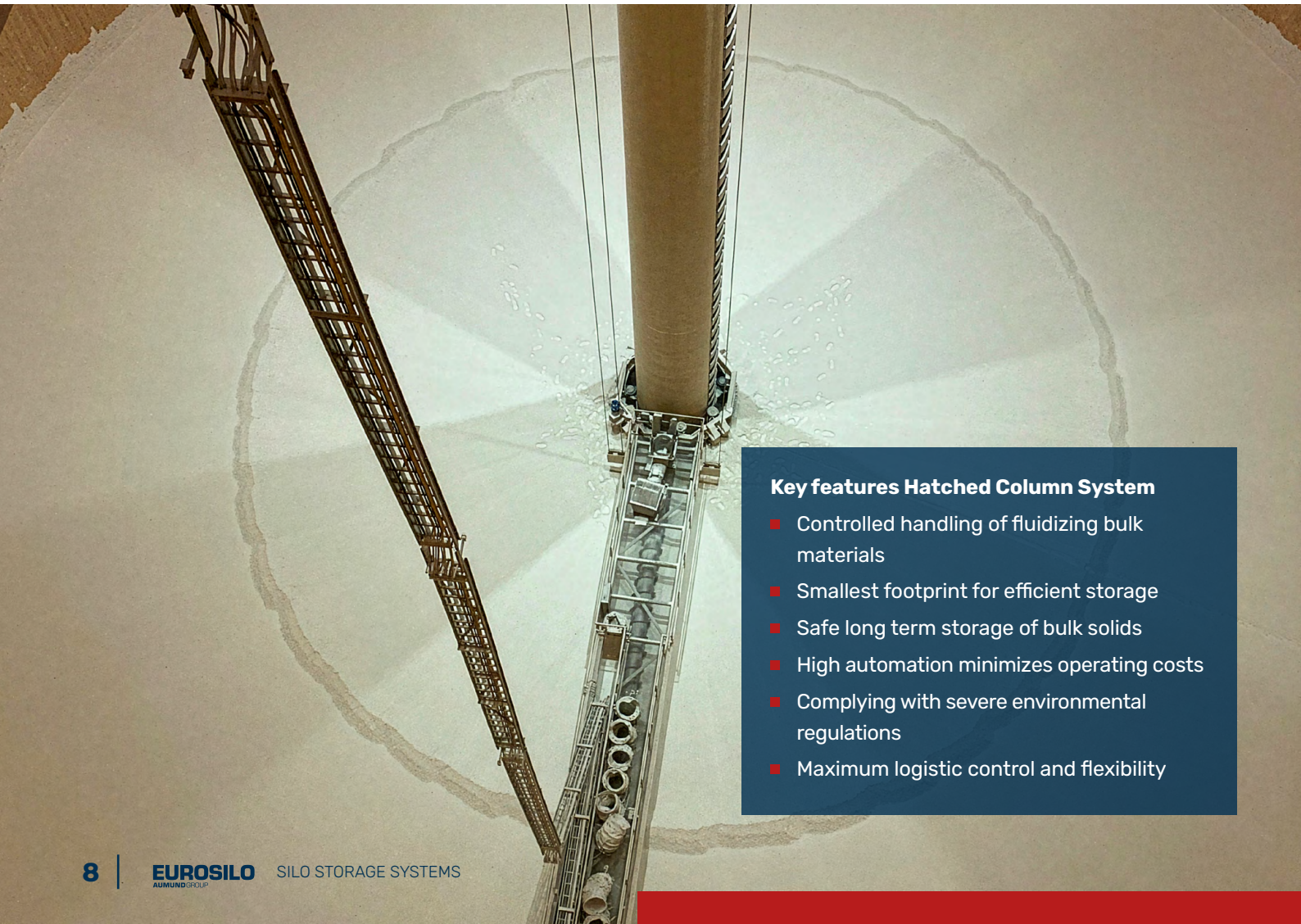
HATCHED COLUMN TO HANDLE POTATO STARCH AND EAFD

CONTROL OF VERY FINE PARTICLES

Bulk materials with a very small particle size, such as potato starch, fly ash or electric arc furnace dust (EAFD), tend to fluidize when put into motion. This is when the material changes into a liquid state, making effective bulk handling challenging. Enclosed storage combined with the specially designed hatched column enables you to handle fine particle bulk material in a controlled way. Since its introduction in the 1960s, the hatched column system performs successfully at starch or sugar factories in the food industry and at recycling companies in the metal industry.

WORKING PRINCIPLE

The bulk material is fed into the silo from the top via a filling screw conveyor and loading chute. During the filling process, the distribution frame evenly spreads the material across the silo surface, ensuring uniform filling. For reclaiming, the material is guided toward the centre by the distribution frame and ring conveyor. By opening the hatches at the surface of the stored bulk material, it can flow into the central reclaim column. The height position of the suspended distribution frame controls the opening and closing of the corresponding hatches, enabling precise and controlled discharge.

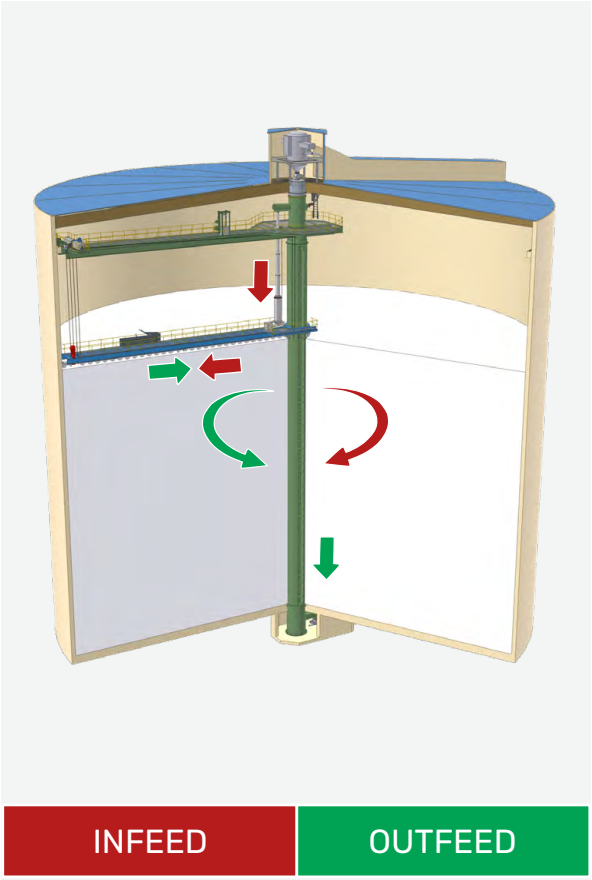


Key features Hatched Column System

- Controlled handling of fluidizing bulk materials
- Smallest footprint for efficient storage
- Safe long term storage of bulk solids
- High automation minimizes operating costs
- Complying with severe environmental regulations
- Maximum logistic control and flexibility

KEEPING POTATO STARCH AVAILABLE

The Eurosilo system is designed for the storage of large quantities of (potato) starch and sugar in order to keep it available during successive seasons. The use of stainless steel, the moisture free conditions and the elimination of residues in the silo prevent the organic matter from being affected. Potential hazardous conditions are minimized by designing according to ATEX regulations. Given the economic impact of bulk market price fluctuations, the investment and low operating costs make the Eurosilo an attractive solution.



LARGE SCALE POTATO STARCH STORAGE FOR KMC

Based on market developments, KMC decided to build the largest starch silo so far with a storage capacity of 88,500 m3. The new silo had to be built on the existing factory site in Karup. Due to its minimal footprint and logistical flexibility, the Eurosilo offered the most space saving storage solution. According to the tight schedule for this project, Eurosilo designed, produced and installed the internal machinery, including the 50 meter high central hatched column for the supply of the very fine starch. Within just nine months the large-scale potato starch silo went into operation.

WINDOW COLUMN FOR SMALL PARTICLE MATERIALS

LARGE CAPACITY LONG TERM STORAGE

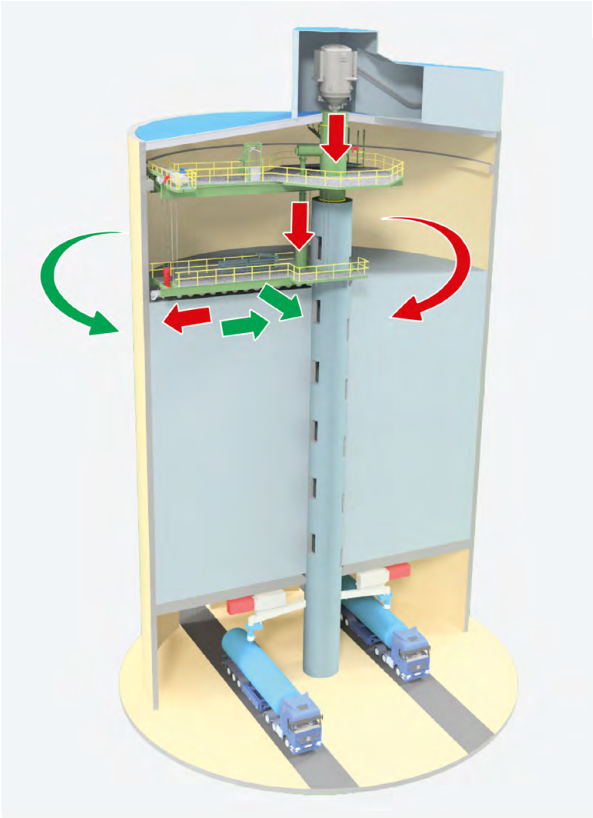
The Window Column System is specifically developed for the storage of large volumes—up to 100,000 tonnes—of fine bulk materials such as cement and fly ash. These materials exhibit complex behaviour: they fluidize when in motion, behave like powder when at rest, and can become solid under sustained pressure. The Window Column System is engineered to control these material characteristics while offering a significantly larger storage capacity than conventional silo systems. The open channel within the central column eliminates the need for full mass recirculation. As a result, cement and fly ash can be stored safely for extended periods—up to several months—without any operational or material quality issues.

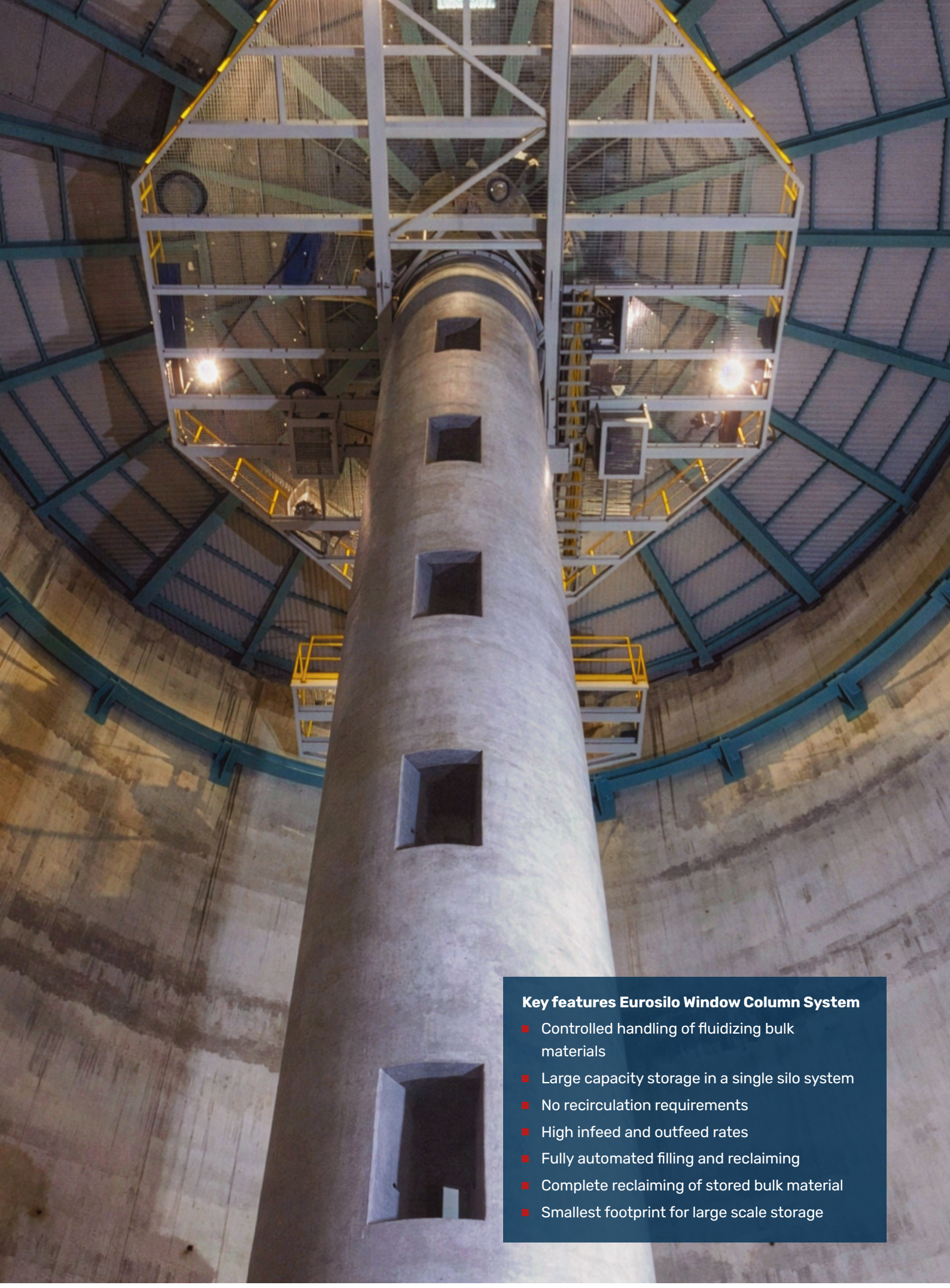
WORKING PRINCIPLE

The bulk material is fed into the silo via a filling screw conveyor and discharged through a telescopic chute onto the storage surface. The distribution frame spreads the material evenly in controlled layers across the surface of the bulk material. When reclaiming starts, the screw conveyor and ring conveyor transport the bulk material toward the centre column, where it enters through fixed openings. The bottom of the column is aerated, inducing a core flow pattern within the column. By reclaiming material from the bottom of the column, a continuous and stable flow of bulk material is achieved. The distribution frame is automatically lowered in a precise layer-by-layer sequence, ensuring controlled reclaiming and consistent material flow.

KEEPING CEMENT AND FLY ASH MOVING

Applications of the Window Column System range from cement storage at the Rohrdorfer Zement production facility in Rohrdorf, to the handling of EAFD (Electric Arc Furnace Dust) at the recycling plant of the Zinc Oxide Corporation in Ho Chi Minh City. In the Netherlands, our specialist knowledge was applied to the maintenance of two fly ash silos at the Vattenfall power station in Amsterdam.

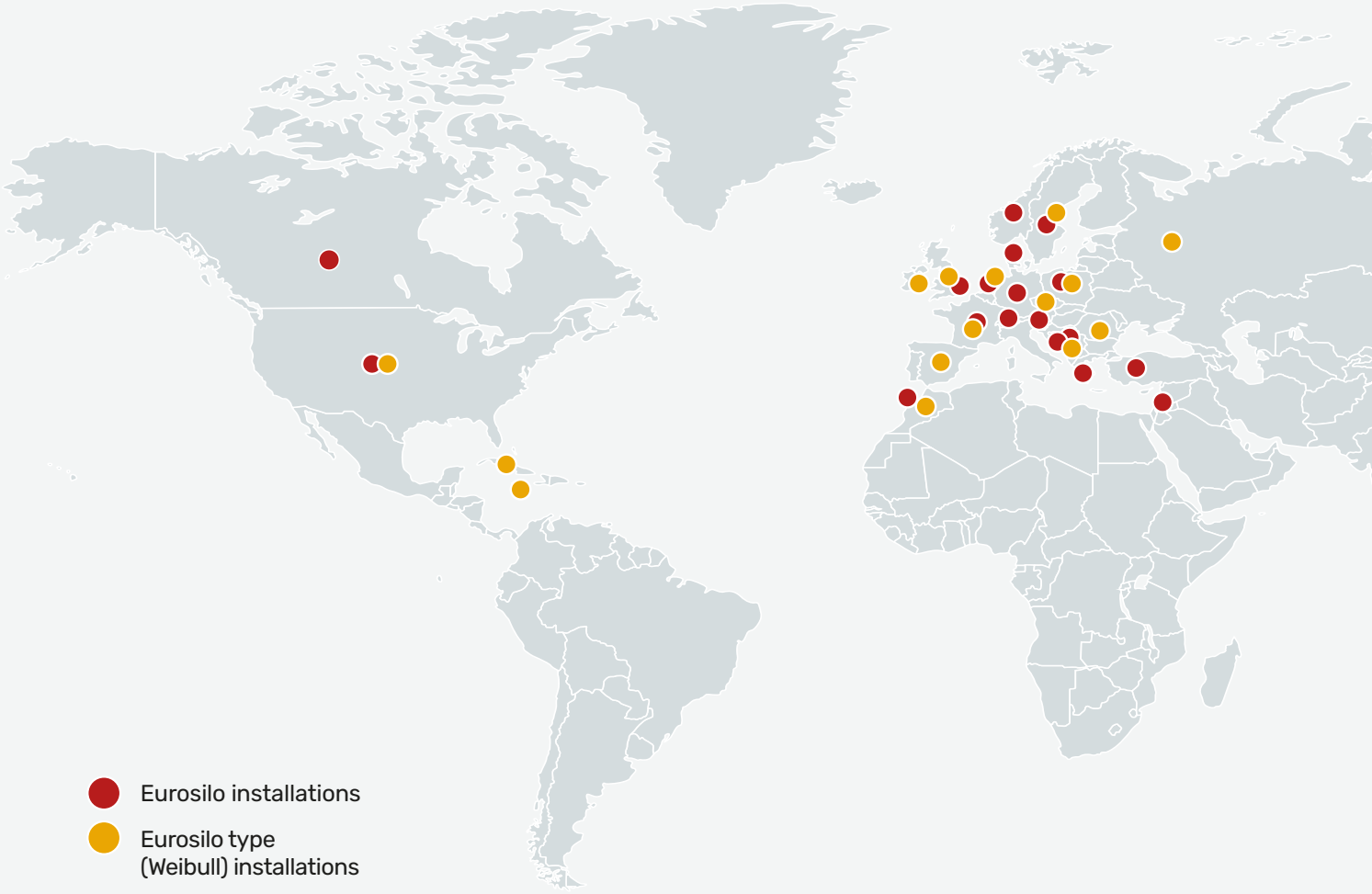




Key features Eurosilo Window Column System

- Controlled handling of fluidizing bulk materials
- Large capacity storage in a single silo system
- No recirculation requirements
- High infeed and outfeed rates
- Fully automated filling and reclaiming
- Complete reclaiming of stored bulk material
- Smallest footprint for large scale storage

EUROSILO REFERENCES WORLDWIDE



ZINC OXIDE CORPORATION

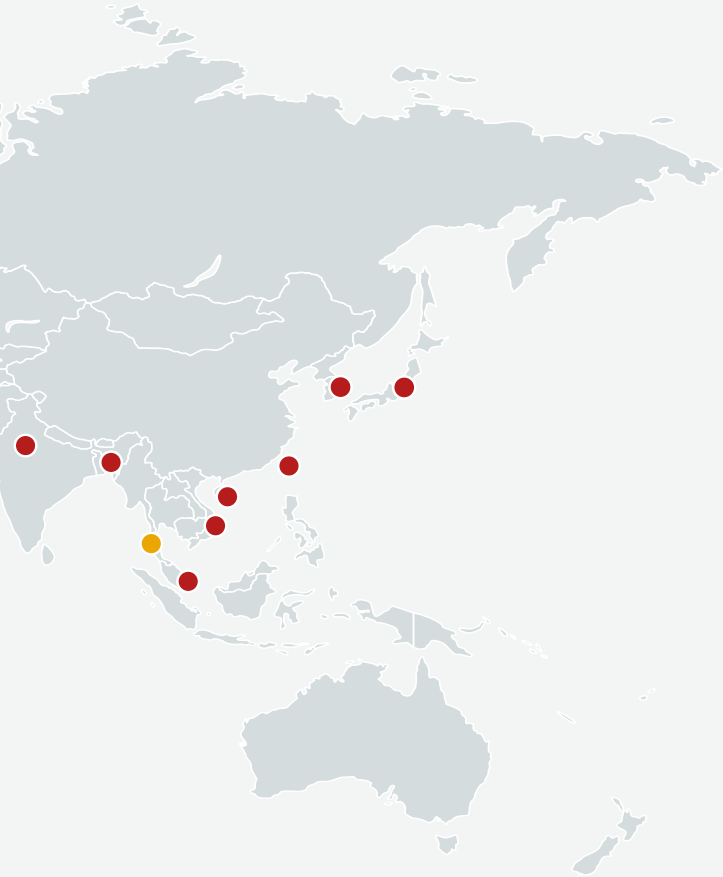
Due to error-free operation since 2012 at the pilot recycling plant of ZincOx in Korea, the Eurosilo was chosen for a complete new EAFD recycling plant in Vietnam in 2018.

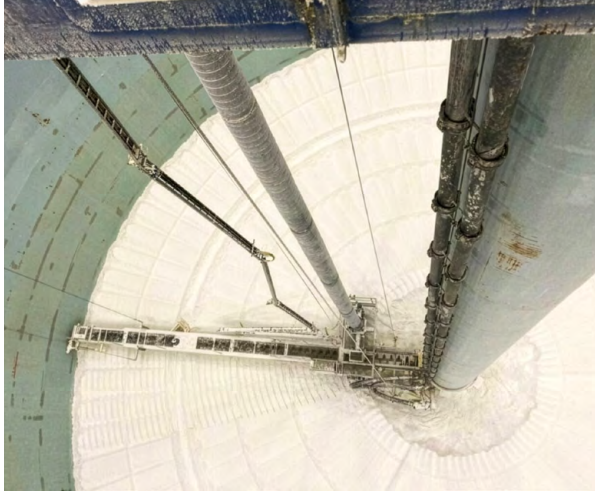
Country	Vietnam
Material	EAFD
Project	5,500 m^3 silo
System	Hatched Column

YARA PORSGRUNN

The fertilizer plant at Yara Porsgrunn needed to be upgraded in order to expand the production capacity. This required additional storage capacity of fertilizer or Calcium Nitrate.

Country	Norway
Material	Calcium Nitrate
Project	20,000 m^3 silo
System	Mass Flow





SUPPORT FOR WEIBULL SILOS

As a leading specialist in enclosed vertical storage systems, Eurosilo has acquired the intellectual property (IP) and full reference list of Weibull worldwide. Owners and plant operators can now rely on extensive experience and global support for inspections, maintenance and targeted upgrades to ensure reliable and compliant operation.

▲ SCAN TO VIEW OUR FULL REFERENCES LIST

WHAT OUR CUSTOMERS SAY

"When EUROSILO is handling the project, we know we don't have to worry about progress and accurate delivery."

"We're impressed by the dedicated development and execution of a fully documented 10 year renovation program for our silos."

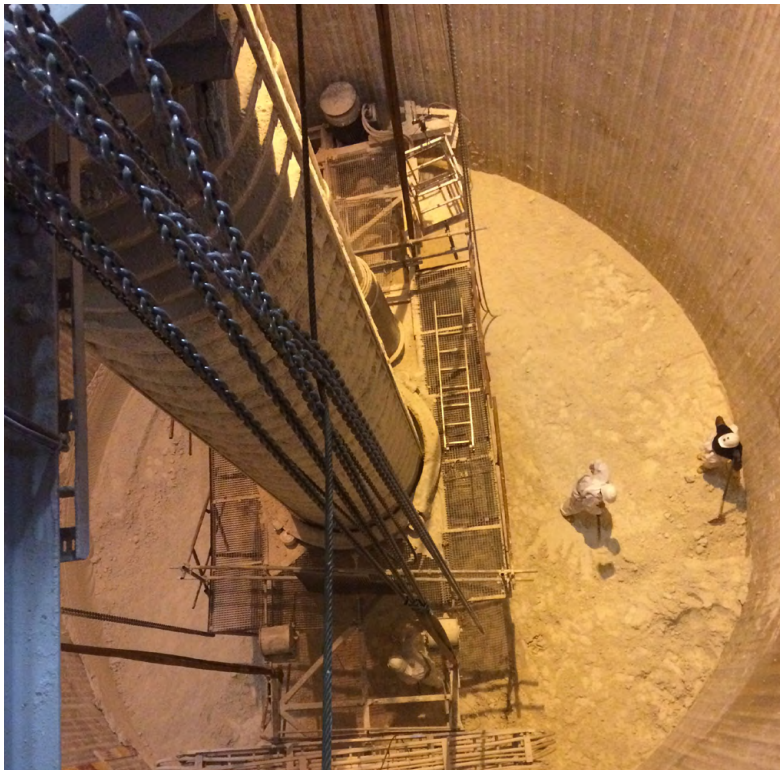
"Within the total development project, the Eurosilo is the only installation that actually works."

"Sometimes we need to think where the Eursilo is located at our site, because we hardly need to go there."

"We simply always have to be there for our customers, at any stage of their project, anywere around the world. This is how we maintain our mission to be the best partner for the best fit."

Henri de Boer, Managing Director Eurosilo

AFTER SALES SERVICES TO KEEP PERFORMANCE UP



MAINTENANCE & REPAIR

Preventive maintenance is the most cost-effective way to ensure reliable, long-term operation of your Eurosilo system. ESI Eurosilo offers a comprehensive range of maintenance services for both new and existing installations, ranging from annual inspections and targeted repairs to full-service maintenance contracts.

CUSTOMIZED SUPPORT

Maintenance activities can be fully outsourced to Eurosilo or carried out in cooperation with the plant's own maintenance staff. An annual inspection ensures that your complete silo system is thoroughly assessed. Based on the inspection report, maintenance activities can be planned within the available maintenance windows, and spare parts can be ordered in advance. This improves operational reliability, minimizes unplanned downtime, and reduces operational costs.

PREMAS® DIGITAL MONITORING

For further performance enhancement, the Eurosilo team is working on the integration of the AUMUND Premas ditigal monitoring system into the Eurosilo installation. With 24/7 digital condition monitoring and data logging of all critical components, operators gain full transparency of system performance. Early warning signals are automatically generated if deviations occur, enabling predictive maintenance and preventing unexpected failures before they impact operations.

PREMAS® 4.0
Predictive Maintenance Solution

CONVERSIONS

Eurosilo offers conversion solutions for existing Eurosilos as well as silos from other manufacturers. Whether it are silos originally supplied by Weibull or equivalent suppliers, we can maintain, modify, upgrade, and convert third-party silo systems, from partial modernizations to complete overhauls or full replacement of the bulk material handling system.

Through these conversions, we bring legacy silo installations up to current technical, safety, and environmental standards, ensuring long-term reliability, regulatory compliance, and operational continuity.

TESTING FACILITIES

In our testing facilities we can assess your bulk material to determine material characteristics. This allows us to advise clients and optimize the design of the system and critical components in the most efficient way.

SPARE PARTS

Through our global network, we provide worldwide delivery of wear and spare parts for Eurosilo systems. Spares for non-Eurosilo systems can be supplied after (reversed) engineering. Our Wear and Replacement Service offers clear insight into availability, lead times, and compatibility, supporting efficient maintenance planning.

OEM-quality spare parts are manufactured based on original design and production drawings, ensuring perfect fit and optimal performance. When original components are no longer available or designs have been changed, Eurosilo supplies replacement parts that meet or exceed the original specifications.

Spare part selection and design can be optimized through bulk material testing and operational experience to ensure reliability and a long service life.

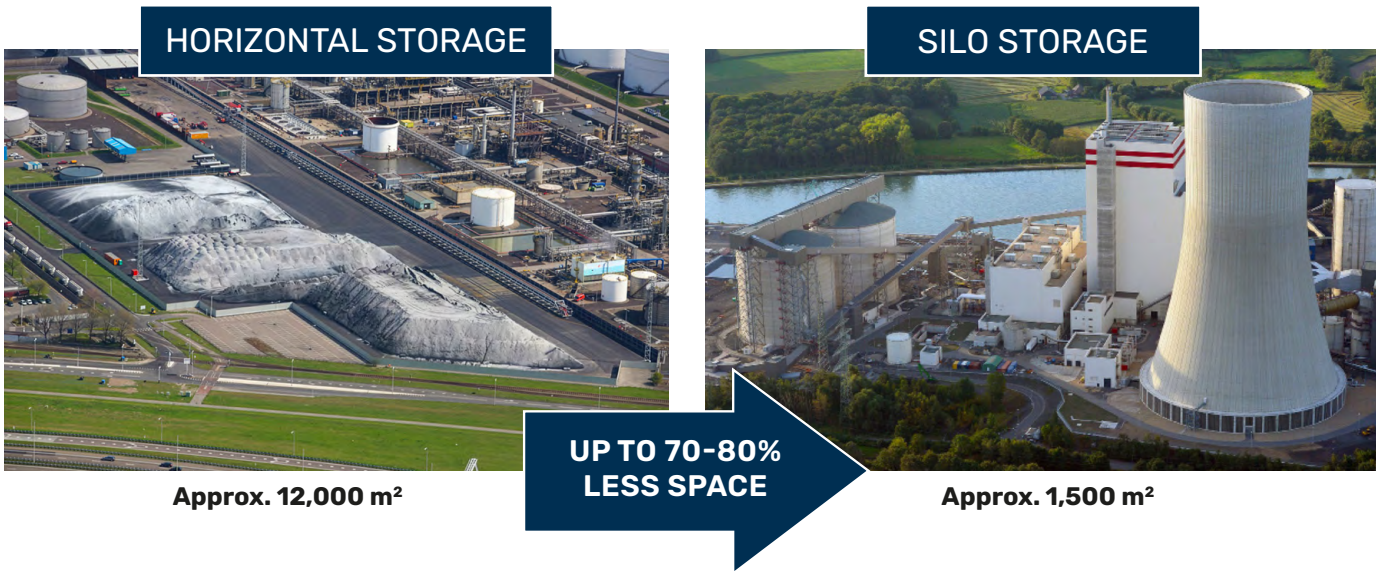
„Leveraging the global coverage of AUMUND to be closer to our customers will certainly help us to 'move forward', as the vision of the AUMUND Group states."

Maarten Appelman, After Sales Manager Eurosilo

"We aim for a win-win-win situation. More value for our customers with improved performance and local presence, added value for AUMUND with our solutions and expertise, and a solid foundation for growth at EUROSILO."

Richard Spaargaren, Sales Director Eurosilo

SPACE SAVING AND SUSTAINABLE ALTERNATIVE



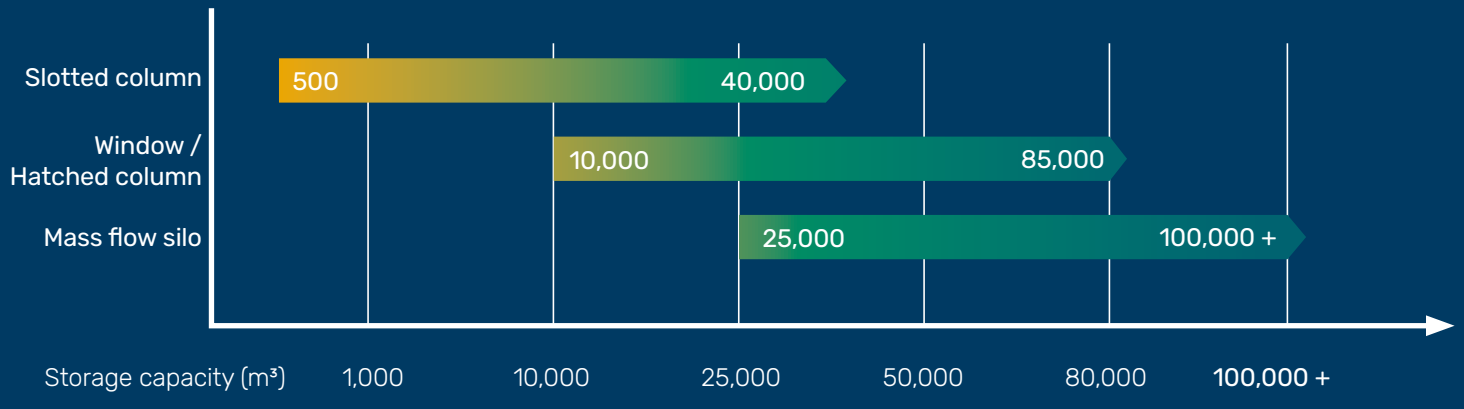
LIMITED SURFACE AREA

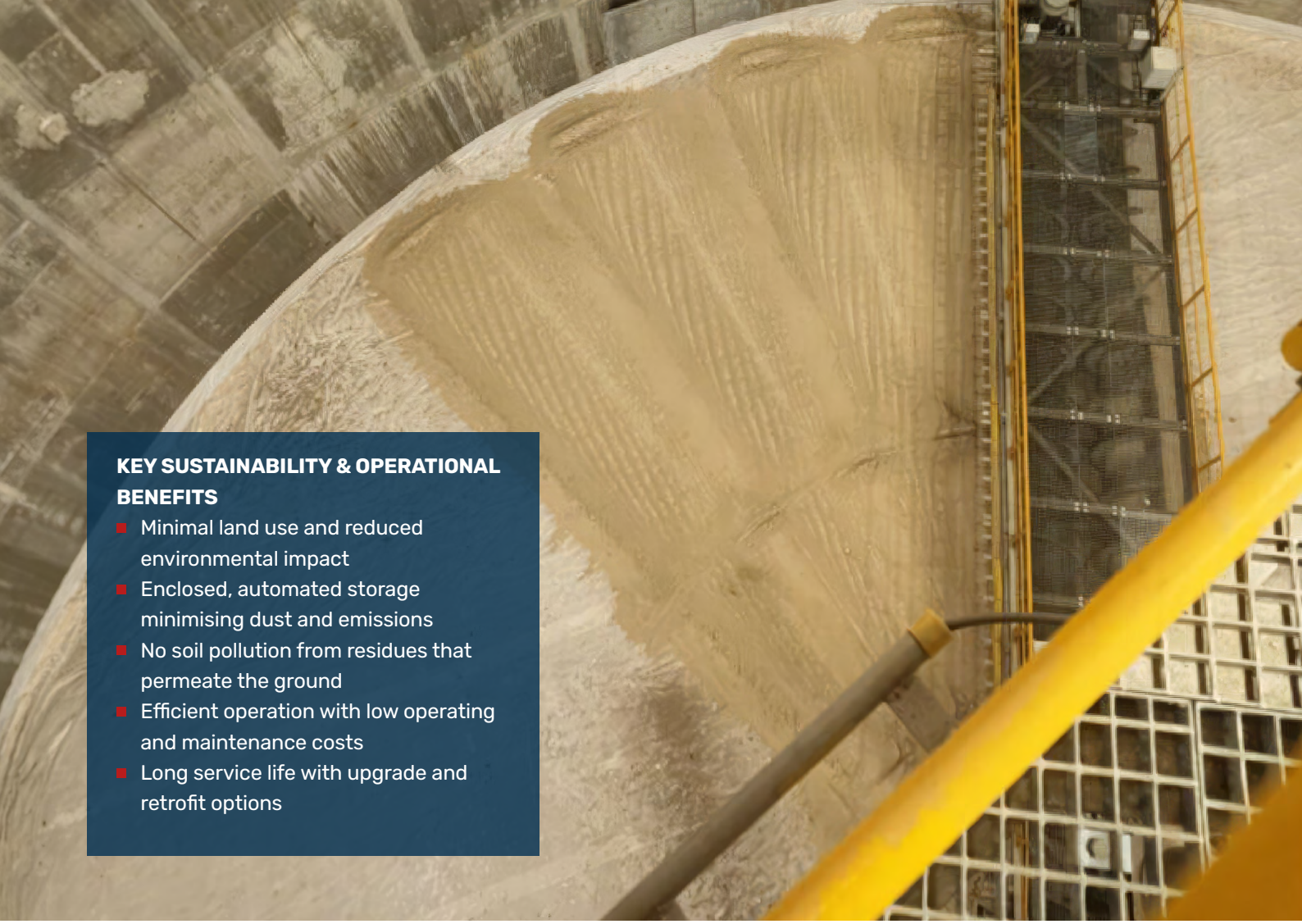
Clearly, the most important driver for the successful implementation of the Eurosilo is limited availability of ground space. Plant sites and terminals built decades ago are often fully utilised, leaving minimal space for new facilities or installations. With a reduction of nearly 80% of the required footprint, the space-saving design has been a critical factor in many cases. The compact solution also reduces the need for costly infrastructure investments.

CHOOSING THE RIGHT SYSTEM

Besides available space, there are more parameters to determine the right storage system. The required capacity, the need for enclosed storage or not, logistic throughput, economic value and more. As a part of the AUMUND Group, we can seamlessly translate the requirements to an even wider range of storage solutions. From enclosed Eurosilos to circular dome systems or open stockyards. Each system has its own technical and operational characteristics.

INDICATIVE STORAGE CAPACITY RANGES AND SUITABLE SILO SYSTEMS





KEY SUSTAINABILITY & OPERATIONAL BENEFITS

- Minimal land use and reduced environmental impact
- Enclosed, automated storage minimising dust and emissions
- No soil pollution from residues that permeate the ground
- Efficient operation with low operating and maintenance costs
- Long service life with upgrade and retrofit options

FUTURE-PROOF SOLUTION

With a service life of multiple decades, the Eurosilo systems fully comply with today's requirements and are designed to meet future needs. They concentrate large bulk volumes within a minimal footprint while addressing logistical and environmental challenges. In addition, state-of-the-art after sales services ensure that each Eurosilo system can be maintained and updated in accordance with the latest standards.

LONG-TERM PROFITABILITY

The fully automated operation of the Eurosilo eliminates manual labour and additional equipment to handle stored material. As a result, the operational costs savings lead to a short payback period of five years or sometimes even less. Given the average service life of 30 years or more, this ensures a highly attractive Total Cost of Ownership (TCO). Producers also use the large-scale storage as a strategic financial asset to benefit from market fluctuations.

SUSTAINABLE BY DESIGN

The Eurosilo storage concept is inherently more sustainable than horizontal storage solutions. By combining vertical storage with an enclosed and fully automated design, Eurosilo systems significantly reduce land use, prevent soil contamination, and minimise dust emission. At the same time, the automated systems inside the silo eliminate health hazardous labour as well as the use of CO2 emitting equipment to handle the bulk material.

BULK MATERIAL PROTECTION

Many bulk materials stored in Eurosilo systems—such as starch, petcoke, minerals or powders—require controlled conditions to maintain product quality. Fully enclosed storage protects materials from weather influences, contamination and segregation. Controlled filling and reclaim ensure consistent material properties and reliable supply chain logistics.

EUROSILO – PART OF THE AUMUND GROUP

INTEGRATED TECHNOLOGICAL AND MARKET SYNERGY

The integration of Eurosilo into the AUMUND Group combines vertical silo storage with AUMUND's conveying, discharge and loading systems. This enables fully coordinated material handling concepts along the entire process chain, from material intake to storage and downstream handling.

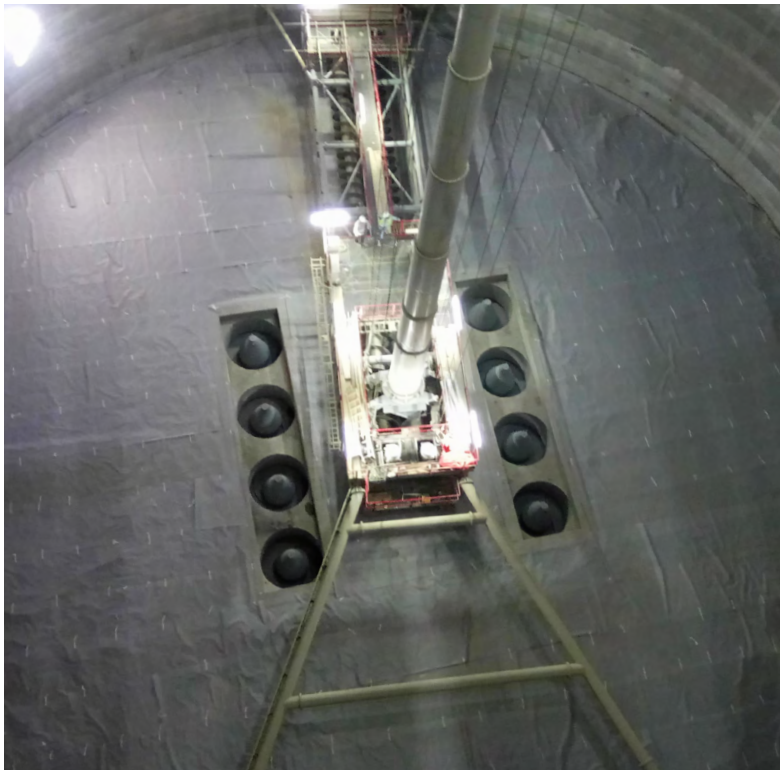
For customers, this means fewer interfaces, aligned engineering and a consistent system design throughout all project phases.

GLOBAL EXECUTION AND LIFECYCLE SUPPORT

Thanks to the expertise of AUMUND's international organisation and Eurosilo specialists, material handling installations are supported through-out their entire lifecycle, from engineering and commissioning to servicing, upgrading and long-term operation.

This integrated approach ensures reliable execution and operational continuity, as well as future flexibility, particularly for large-scale and space-constrained installations.

PETCOKE SILOS FOR ORPIC IN OMAN



Project facts

- Customer: ORPIC (Larsen & Toubro)
- Location: Sohar, Oman
- Material: Petcoke
- Storage: 2 × 42,000 m³ Eurosilos
- System: Mass flow / core flow discharge

PROJECT CONTEXT

At the ORPIC refinery in Sohar, Oman, the AUMUND Group and Eurosilo jointly delivered an integrated petcoke storage and handling solution, seamlessly linking continuous production with periodic ship loading at the nearby port.

Key benefits – ORPIC

- Minimal footprint for large scale storage
- Fully automated operation resulting in low operating cost
- Complete discharge of silo content
- High availability and low maintenance costs
- No pollution or loss of material characteristics
- Safest storage method in the market

PROJECT RESULT

The project was successfully executed under challenging climatic conditions and delivered on schedule within the EPC framework. The installation was recognised with the Best EPC Project Award, highlighting the reliability, performance and coordination and performance of the integrated AUMUND–Eurosilo solution.

AUMUND GROUP SPANNING THE GLOBE

GLOBAL PRESENCE

The AUMUND Group delivers reliable and efficient solutions for conveying, storage and handling of bulk materials worldwide. With a strong international presence, local expertise and proven technologies, we support industrial customers across the entire lifecycle of their plants.

LIFECYCLE SUPPORT

The AUMUND Group operates service centres and warehouses in strategic industrial regions worldwide. Dedicated service teams support inspections, maintenance, upgrades and modernisation – including PREMAS® predictive maintenance and on-site consulting.

EUROPE

AUMUND Holding B.V. | The Netherlands
AUMUND Fördertechnik GmbH | Germany
Branch Office Dubai | U.A.E.
Branch Office Istanbul | Turkey
AUMUND S.A.R.L. | France
ESI Eurosilo B.V. | The Netherlands
SCHADE Lagertechnik GmbH | Germany
SAMSON Materials Handling Ltd. | Great Britain
Branch Office Bristol | Great Britain
TILEMANN GmbH | Germany
AUMUND Group Field Service GmbH | Germany
AUMUND Logistic GmbH | Germany

AMERICAS

AUMUND Corporation | USA
AUMUND Ltda | Brazil

ASIA & MIDDLE EAST

AUMUND Asia (H.K.) Ltd. | China (Hong Kong)
Branch Office Jakarta | Indonesia
AUMUND Machinery Technology Co. Ltd. | China (Beijing)
AUMUND Engineering Private Ltd. | India

CONTACT: **ESI Eurosilo BV**
Newtonstraat 26-28
1446 VR Purmerend, The Netherlands

T +31(0) 299 - 630 730
E sales@eurosilo.com
W www.eurosilo.com

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