

When you plan big,  
the smallest details matter

**Drive solutions for the cement industry**



## Solutions for your cement application

Cement production places exacting requirements on drive solutions, with constant high loads, impact stresses and harsh environments the order of the day. What's more, drive solutions need to be exceptionally energy efficient, tailored to the various machines and able to contribute to a high overall level of production output.

All that sounds like a job for the application engineers at SEW-EURODRIVE! Thanks to our longstanding and successful partnerships with the cement industry, we have built up a fully comprehensive understanding of cement production processes. Furthermore, we have developed products and solutions that, on the one hand, can be seamlessly integrated into your existing processes and technologies and,

on the other, are exceptionally robust and durable. All this is made possible by our application-specific products.

As an internationally successful family-owned business, we work day-in, day-out to keep your world moving. Do not hesitate to contact us if you have any questions.

### SEW-EURODRIVE at a glance



**Products and solutions  
for the entire value creation chain**

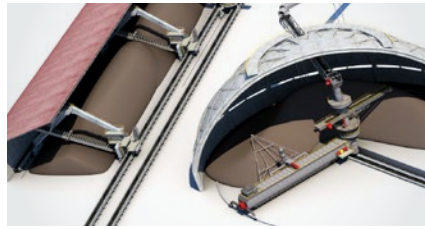
## An overview of cement production

### Drive solutions customized for your challenges



#### ① Extracting, crushing, grinding and transporting materials

Drive packages for crushers, horizontal and vertical conveying systems



#### ② Raw material preparation

Drive packages for blending beds (circular/linear)



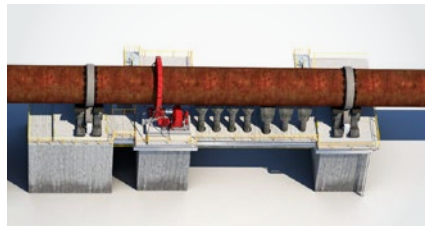
#### ③ Raw material grinding

Drive packages for vertical mills



#### ④ Fuel preparation

Drive packages for vertical and horizontal mills



#### ⑤ Clinker production

Drive packages for rotary kilns



#### ⑥ Clinker grinding

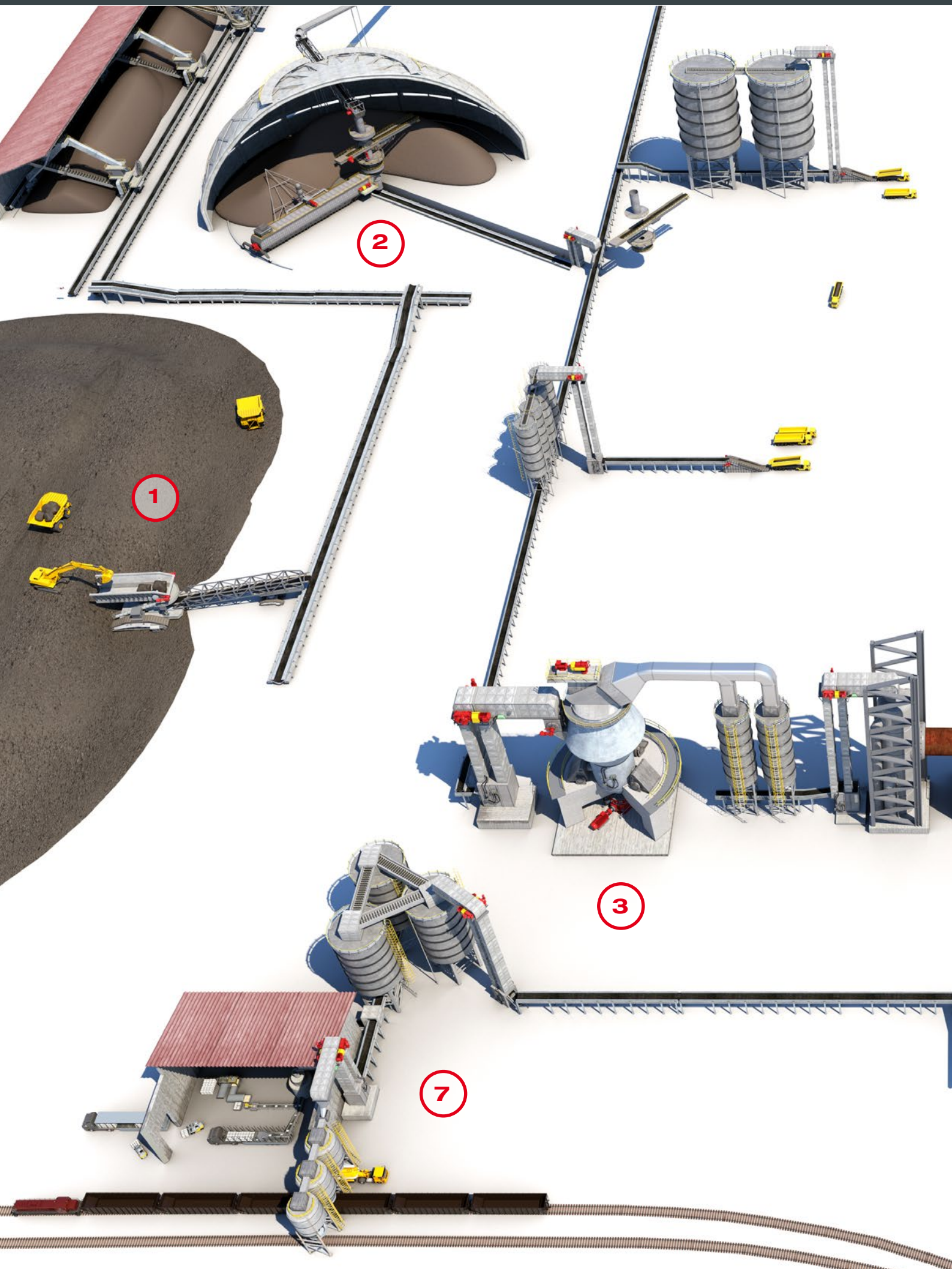
Drive packages for roller presses, vertical and ball mills



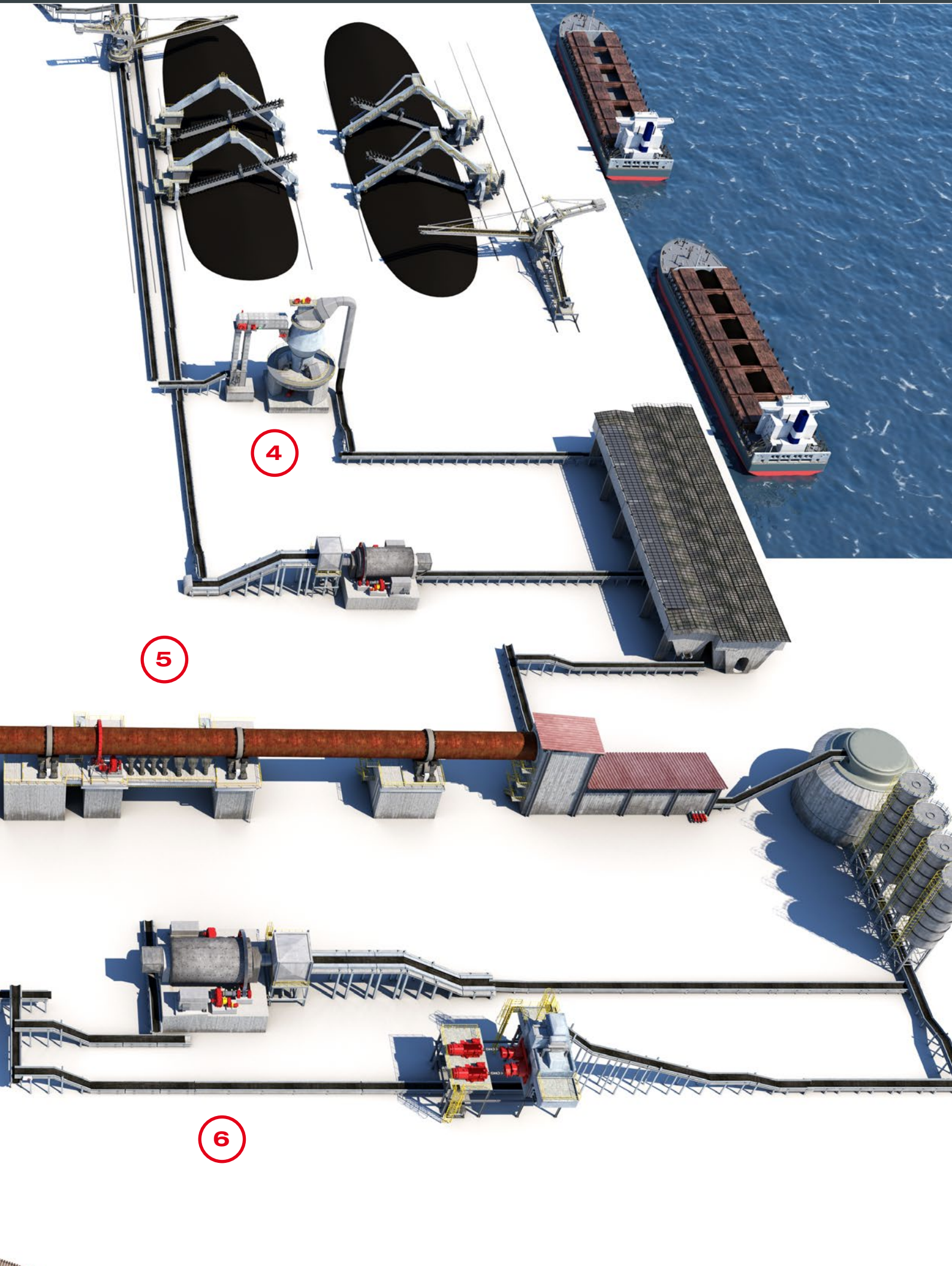
#### ⑦ Storage, packaging and dispatch

Drive packages for silo discharge, filling and palletizing











## Extracting, crushing, grinding and transporting materials

Cement is the result of a continuous manufacturing process in state-of-the-art cement plants. During the first step, the raw materials are extracted in quarries before being pre-crushed in crushers and transported to the cement plant.

### Apron feeders

Wherever very high torques are required, you can rely on planetary gear units from the P-X series. These standardized high-performance industrial gear units combine planetary gear units from the P series with primary gear units from the X series. Solutions like these are the next evolutionary step from our tried-and-tested combination of planetary gear units and primary gearmotors.

Besides quick delivery and straightforward installation, this industrial gear unit also boasts outstanding operational reliability. As a result, you can further reduce your maintenance and repair costs.

#### Our components

- Industrial gear units from the P-X series, including gearmotors as primary gear units

#### Your benefits

- High thermal rating thanks to shared oil chamber
- Maximum flexibility (even the heaviest motors can be directly flange-mounted using specially designed motor adapters)
- Reduced costs (for compound gear units: No need for replacement gear units thanks to flippable housing concept)

#### Additional options

- Diverse range of shaft-hub connections
- Premium sealing systems (e.g. Taconite)
- Innovative housing solutions
- Various cooling options
- Optimized for pivoted mounting position
- Backstops (including torque-limiting models)
- Swing bases, motor scoops, motor adapters
- Disk or drum brakes
- Mechanical or hydraulic centrifugal coupling
- Condition monitoring systems
- ATEX design





## Crushers

No matter what crusher technology you are using (impact, hammer, cone or roll crusher), our application engineers can tailor SEW-EURODRIVE products perfectly to suit your requirements.

Products from SEW-EURODRIVE are all designed for the very highest loads and exhibit the rigidity needed to ensure they can withstand even impact loads. As an option, the gear units can be fitted with Taconite seals, special air breathers and couplings. As a consequence, they are ideally equipped for the harsh operating conditions of the cement plant.

### Our components

- Bevel-helical gear units
- Helical gear units
- Planetary gear units

### Your benefits

- A complete, perfectly coordinated system
- Preassembled for straightforward startup
- Smallest possible roller distance

### Additional options

- Various cooling systems  
(radial and axial fans)
- Industry-specific shaft-hub connection  
(via keys, splining, shrink disks)
- Hydraulic centrifugal couplings,  
gear couplings or safety clutches
- Motors

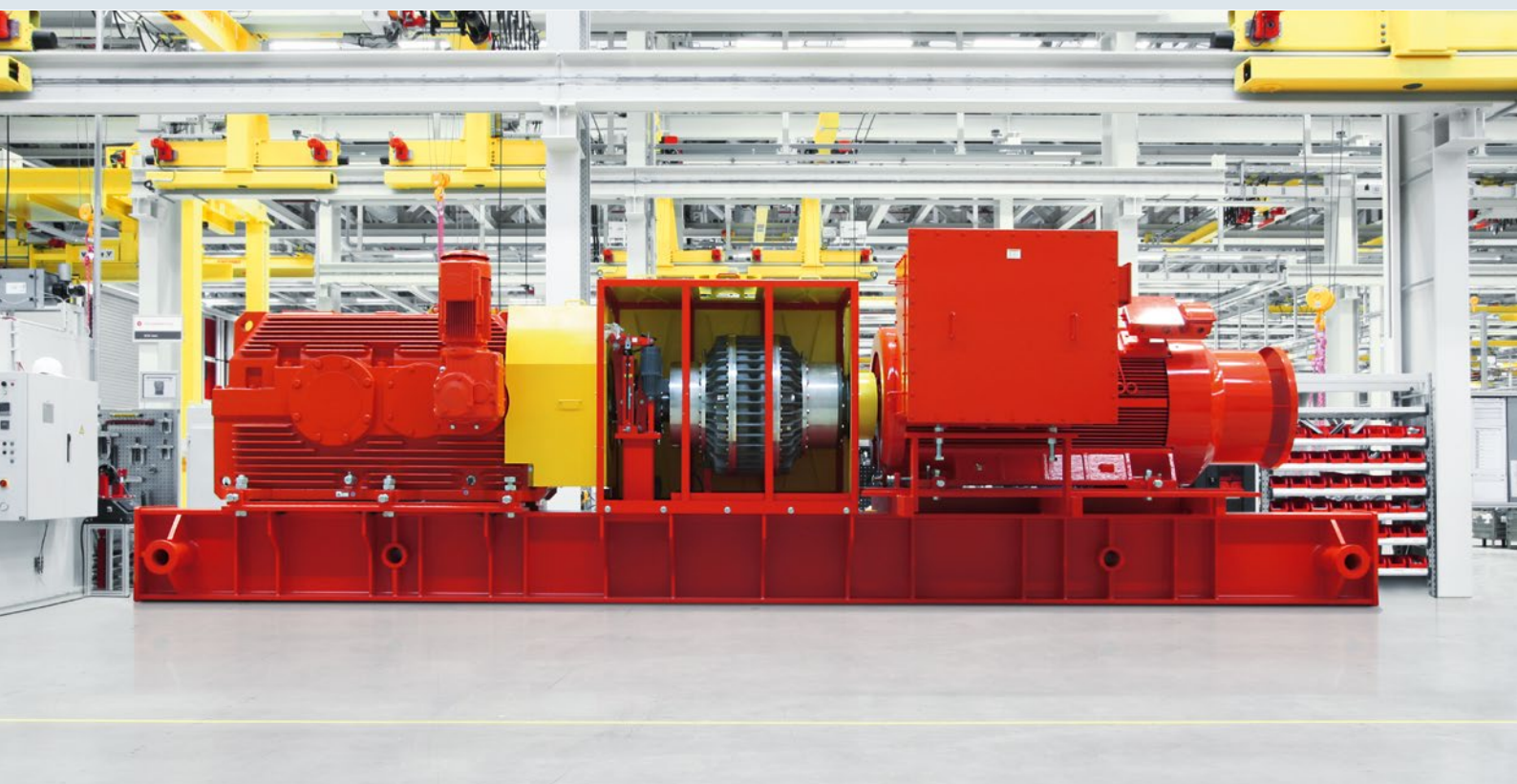


## Belt conveyors

Long distances, big height differences and extreme ambient temperatures. No matter how widely the requirements for the drive technology installed in belt conveyor systems vary, SEW-EURODRIVE can tackle them with a customized solution. Our drives are specially developed to deliver optimum mechanical performance and can often operate without the need for external cooling systems, even in very hot conditions.

### Your benefits

- Perfectly coordinated system components
- Exceptional dependability and operational reliability in harsh environments
- Customized solution concepts
- Comprehensive optional equipment available (ATEX)





## Bucket elevators

Our drive solutions for bucket elevators combine separate tried-and-tested products. Thanks to our national branches and local partners, we have a fast and efficient means of providing our services whenever they are required.

### Our components

- Bevel-helical gear units with solid or hollow shafts
- Auxiliary drives with free-running clutch and speed sensor

### Your benefits

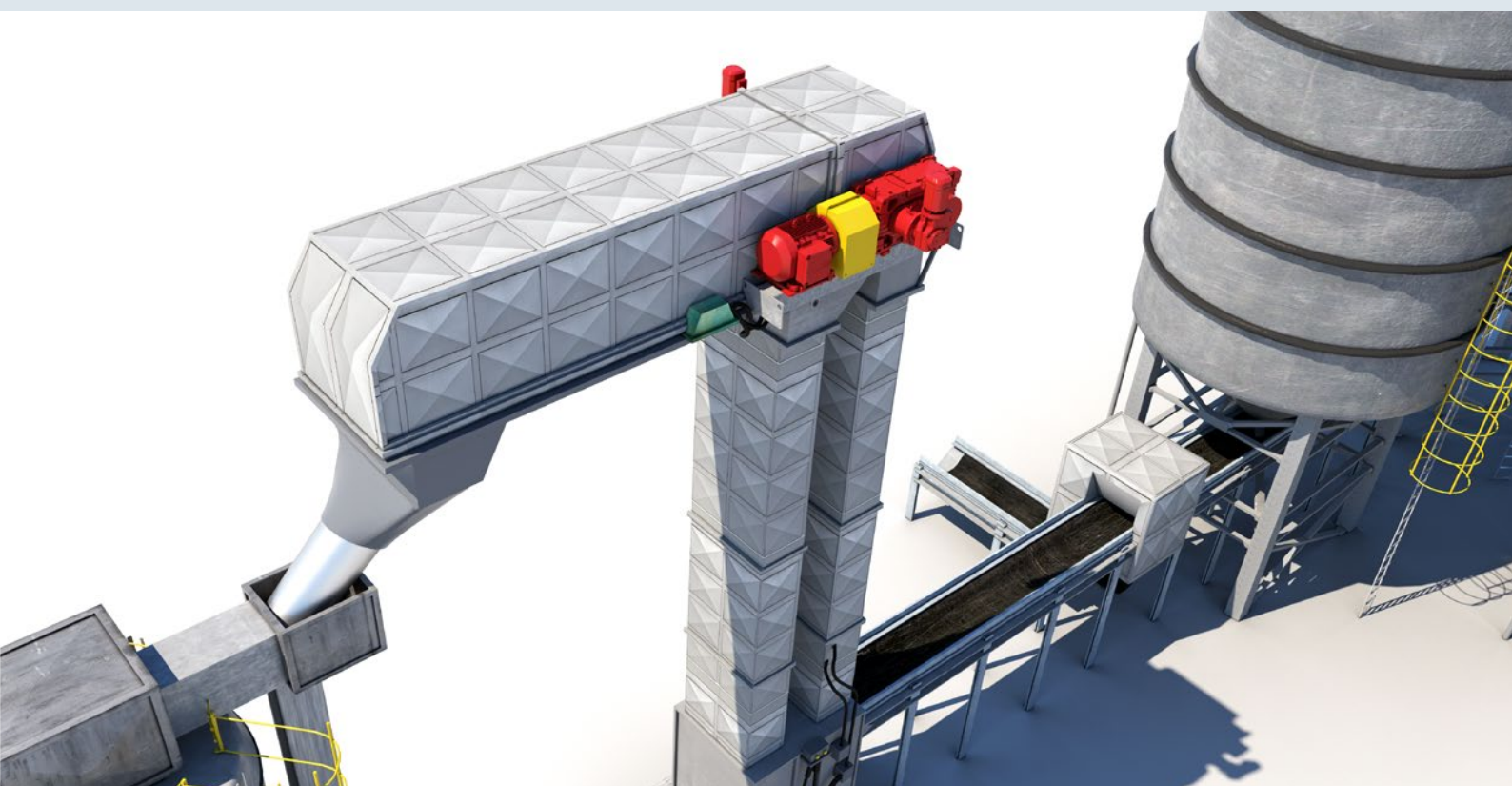
- All drive components are perfectly matched
- Short delivery time thanks to modular concept
- Rapid startup

### Additional options

- Backstops
- Speed monitors
- Swing bases / base frames
- Torque brackets
- Mechanical or hydraulic centrifugal couplings
- Motors (IE1 – IE4)
- Frequency inverters

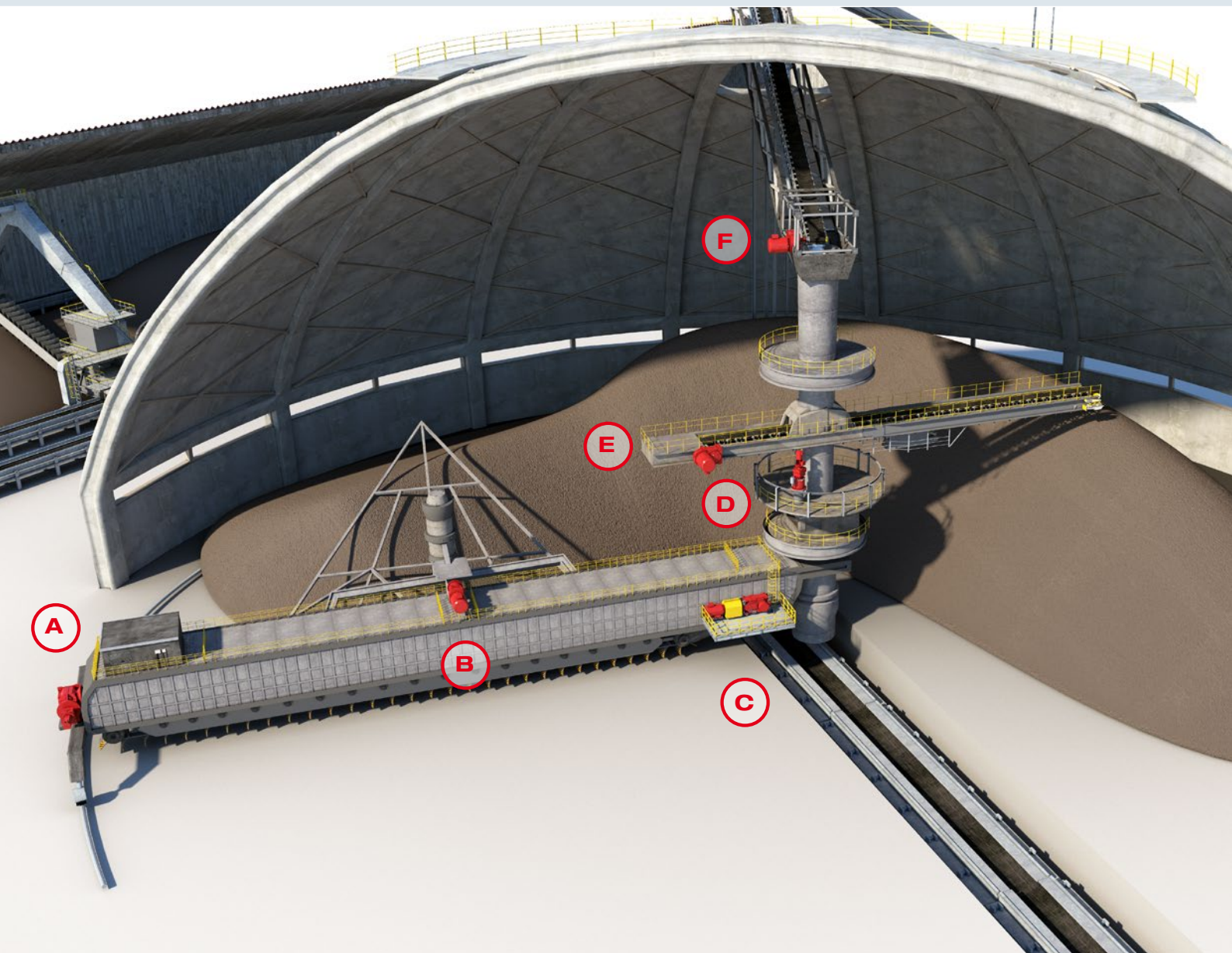
### Product advantages

- Standardized solutions in 19 sizes
- High nominal torques from 6.8 to 270 kNm
- Gear ratio range 28 – 80
- Reliability thanks to speed monitoring



## 2 Raw material preparation

Regardless of whether a circular or linear stockpile is used for the extraction and preparation of the raw material, the products from SEW-EURODRIVE help you supply the correct uniformity and quality for the combustion process. Our drive solutions are compatible with both areas.





## Blending beds



### A Travel drive

#### Our components

- Innovative travel drive solutions using servomotors from SEW-EURODRIVE

#### Your benefits

- High gear ratios
- Lowest output speeds at 0.012/min – 0.03/min and highest torques
- Powerful drive inverter for dynamic applications
- Great diversity of applications due to extensive expansion options with MOVIDRIVE® technology and communication options



### B Rake drive

#### Our components

- Planetary gear units and gearmotors
- Frequency inverters

#### Your benefits

- Perfectly coordinated units (gear unit and motor), wide range of options thanks to the modular system used by SEW-EURODRIVE
- Short, compact design as there is no need for couplings and adapter flanges
- Standardized units for ideal cost/benefit ratio and short delivery times
- High gear ratios possible



### C Chain scraper drive

#### Our components

- Complete gear unit packages
- Modular bevel-helical gear units from the X series
- Fluid couplings
- Motors
- Swing bases / base frames
- Torque brackets

#### Your benefits

- All drive components are perfectly matched
- Reliability thanks to speed monitoring
- High availability due to modular concept
- Comprehensive optional equipment is available on request



### D Slewing drive

#### Our components

- Planetary gear units
- Primary gear units (coaxial or right-angle gear units)
- Customer-specific adapter solutions

#### Your benefits

- Common oil chamber
- Pinions
- Motor scoops
- Drum or disk brakes
- Motors with brakes
- Safety clutches



### E F Conveyor drive

#### Our components

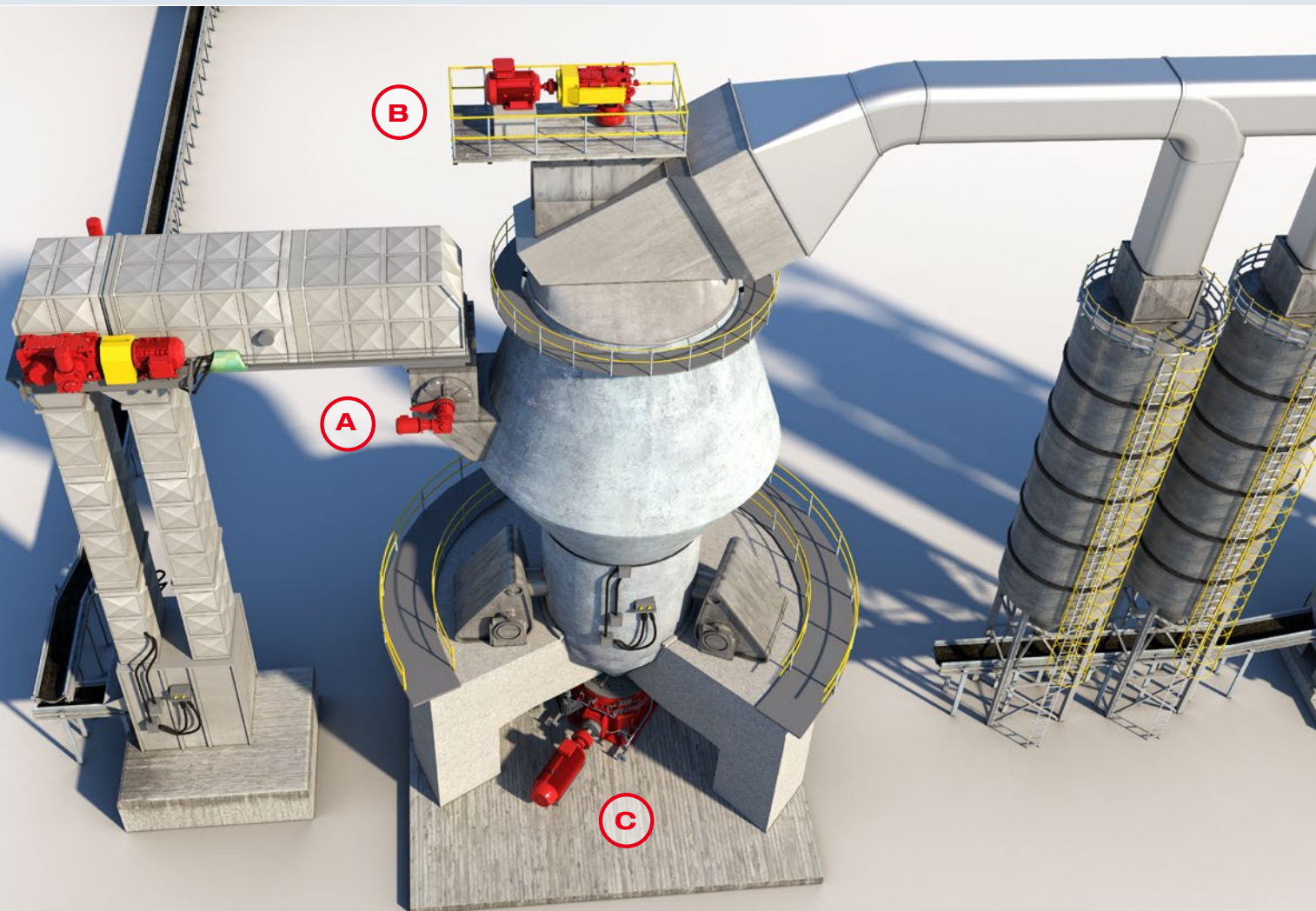
- Gear units in helical or bevel-helical gear design

#### Your benefits

- Highly efficient helical gear units
- High output speeds
- Long, maintenance-free operating life
- Reduced-backlash design also possible

### 3 Raw material grinding

During the grinding process, vertical mills reduce the raw material to the correct particle size. Throughout this process, our drive solutions ensure fault-free, high-performance processing and also further optimize and minimize your energy costs.





## Vertical roller mills



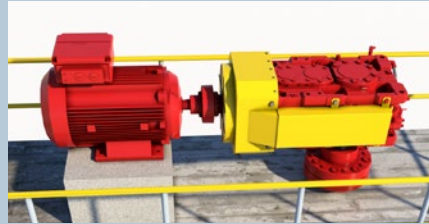
### **A** Course feed valve drives

#### **Our components**

- Planetary gear units
- Gearmotors

#### **Additional options**

- Shrink disks
- Safety clutches
- Torque brackets
- Electronic motors in energy efficiency class IE4



### **B** Separator drives

Rapidly rotating separator shafts with stepless regulation systems require gear units with the smallest possible gear ratios

#### **Our components**

- Bevel-helical gear units, in vertical mounting positions
- Elastic and highly elastic couplings for HSS
- Elastic couplings for LSS
- Cardan shafts
- Electric motors
- Cooling systems
- Frequency inverters
- Condition monitoring systems

#### **Your benefits**

- Low oil bath temperatures
- Long lubricant service life
- High availability
- Support with project planning from application experts
- Short delivery times
- Fully pre-assembled drive units
- Quick startup

#### **Product advantages**

- Robust design, vibration-optimized variants
- Specially designed cooling options
- Various lubrication concepts
- High thermal limit ratings
- Taconite seals on the input and output shafts
- ATEX design



### **C** Turntable drive

#### **Our components**

- Planetary gear units with bevel-helical gear stages

#### **Product advantages**

- Power range 75 – 850 kW
- Torque range 10 – 250 kNm
- Gear ratio range 20 – 35
- Integrated tilting-pad bearings for high axial loads
- Oil cooling system
- Hydrodynamic or hydrostatic lubrication systems
- Replacement gear units for existing plants
- Customized solutions



## Fuel preparation

SEW-EURODRIVE offers you a complete drive unit for your ball mill – whether for direct drive, pinion or girth gear drive solutions. Depending on requirements, our application engineers put together your own personal drive package comprising planetary gear units from the P and XP series or helical gear units from the X, M, ML or MD series. In addition to our standard gearmotors, our tried-and-tested industrial gear units can also be used as auxiliary drives. The products can be seamlessly integrated into your existing system.

### Direct drives for ball mills

#### Our components

- Helical gear units
- Planetary gear units with primary gear units, rated output torques up to 5 200 kNm
- Auxiliary drives with clutch
- Cooling systems
- Various couplings
- Brakes
- Base frames
- Coupling safety covers (input and output side)
- Condition monitoring systems

#### Your benefits

- Complete design of the mechanical drive train
- Drive solution from one source
- High power density
- Compact design
- Straightforward delivery processing





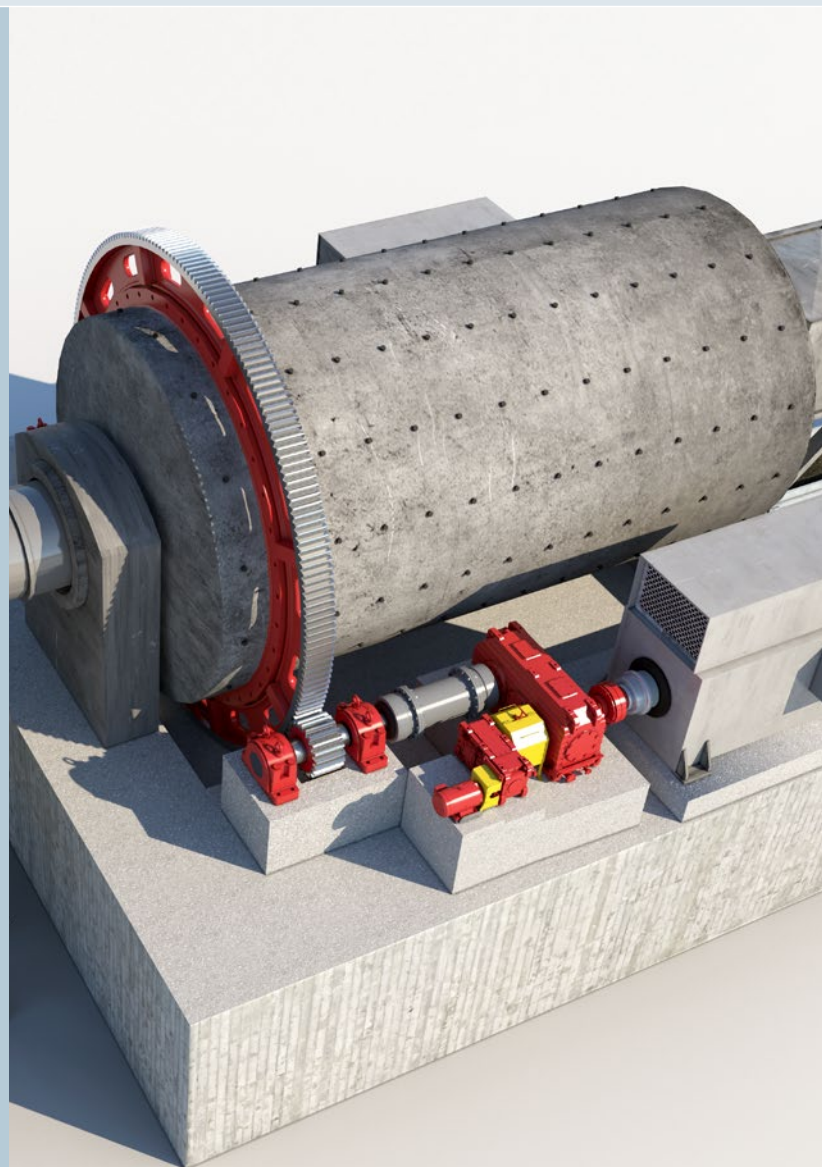
## Girth gear drives for ball mills

### Our components

- Multi-stage helical gear units up to 2 500 kNm
- Girth gears in segmented design
- Oil cooling systems
- Heating systems
- Motors
- Various couplings (input and output side)
- Base frames
- Auxiliary drives
- Pinions and pillow blocks

### Your benefits

- Maximum reliability
- Weight-optimized solution in segmented design
- Simplified handling thanks to segmented design, simplified logistics and installation
- ADI material ensures a longer service life and significantly more compact dimensions
- Comprehensive package documentation
- Startup
- Service and maintenance





## Clinker production

### Rotary kilns

#### Our components

- Main gear units up to 2 500 kNm
- Auxiliary drives
- Various couplings
- Girth gears (with leaf spring coupling)
- Pinions
- Covers and seals
- Rolling bearing systems
- Lubrication systems  
(for girth gear and gear unit)
- Motors
- Submountings and casings
- Condition monitoring systems
- Emergency power drives

#### Your benefits

- Cost-optimized design
- Short delivery times
- Suitable for the replacement of existing systems
- Simplified handling
- Startup support
- Preventive service concepts
- Condition monitoring systems





## Clinker grinding

### Roller presses, vertical and ball mills

No matter what Blaine value you want your final product to achieve, SEW-EURODRIVE offers in-depth support and can supply the right drive package for your application.

#### Our components

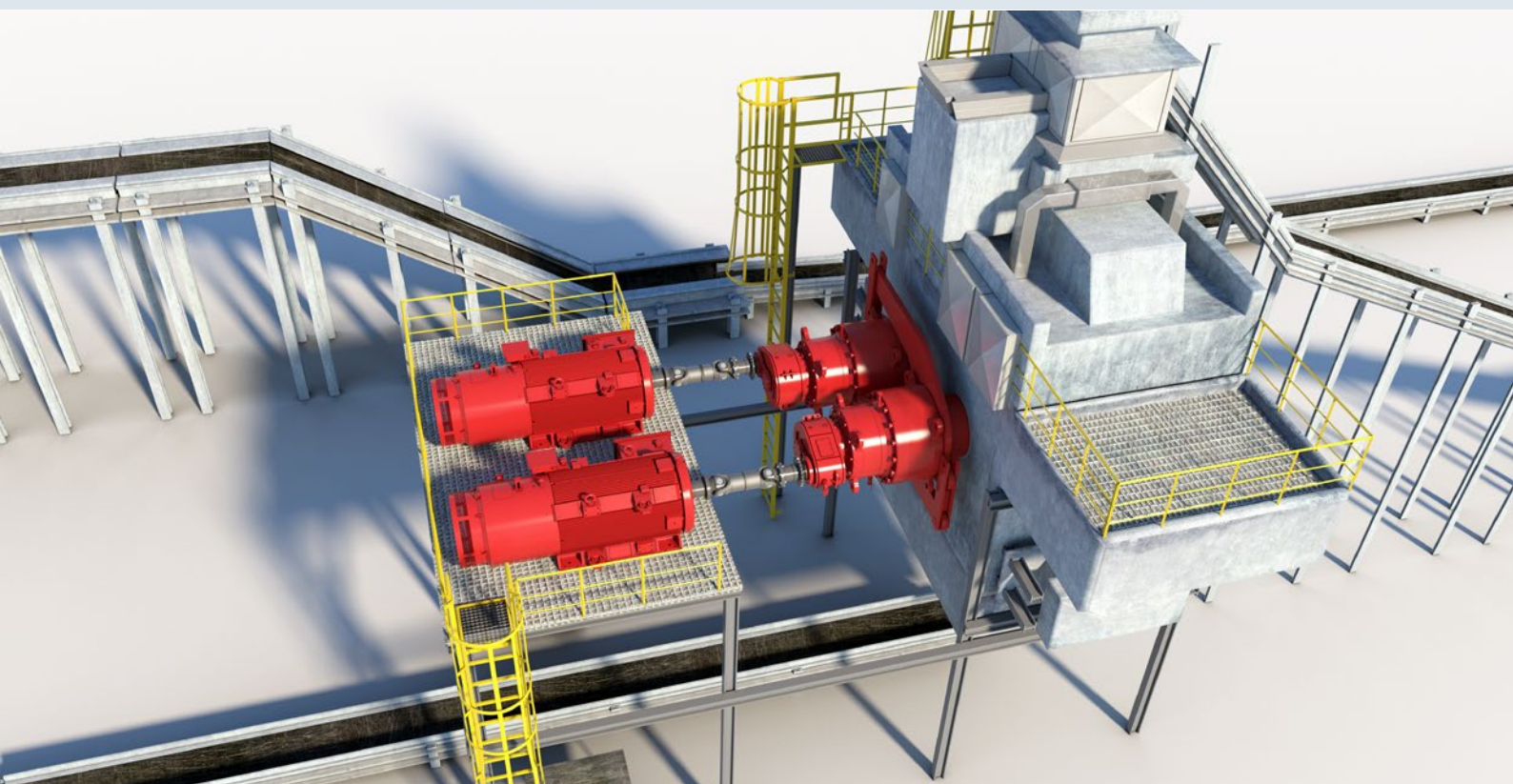
- Drive systems with planetary/helical gear unit combinations

#### Your benefits

- High nominal output torque up to 5 200 kNm
- Small roller distance possible
- Intelligent torque arm design ensures an unlimited roller travel distance
- Straightforward maintenance thanks to auxiliary drives

#### Additional options

- Gear unit design with hollow shafts and mechanical or hydraulic shrink disks
- Cooling lubricant systems
- Condition monitoring systems
- Safety clutches
- Cardan shafts
- Auxiliary drives via sprocket
- Customized torque arms







## Storage, packaging and dispatch

### Silo discharge

#### Our components

- Complete drive solution via planetary gear unit with primary gearmotor

#### Your benefits

- High gear ratio
- Robust solid output shaft
- No separate rolling bearing support required – radial and axial (tensile) loads are deflected via the gear unit bearing concept

#### Additional options

- Robust expansion tanks with electronic oil level monitoring for remote maintenance
- Wide range of shaft-hub connections (with and without keys)



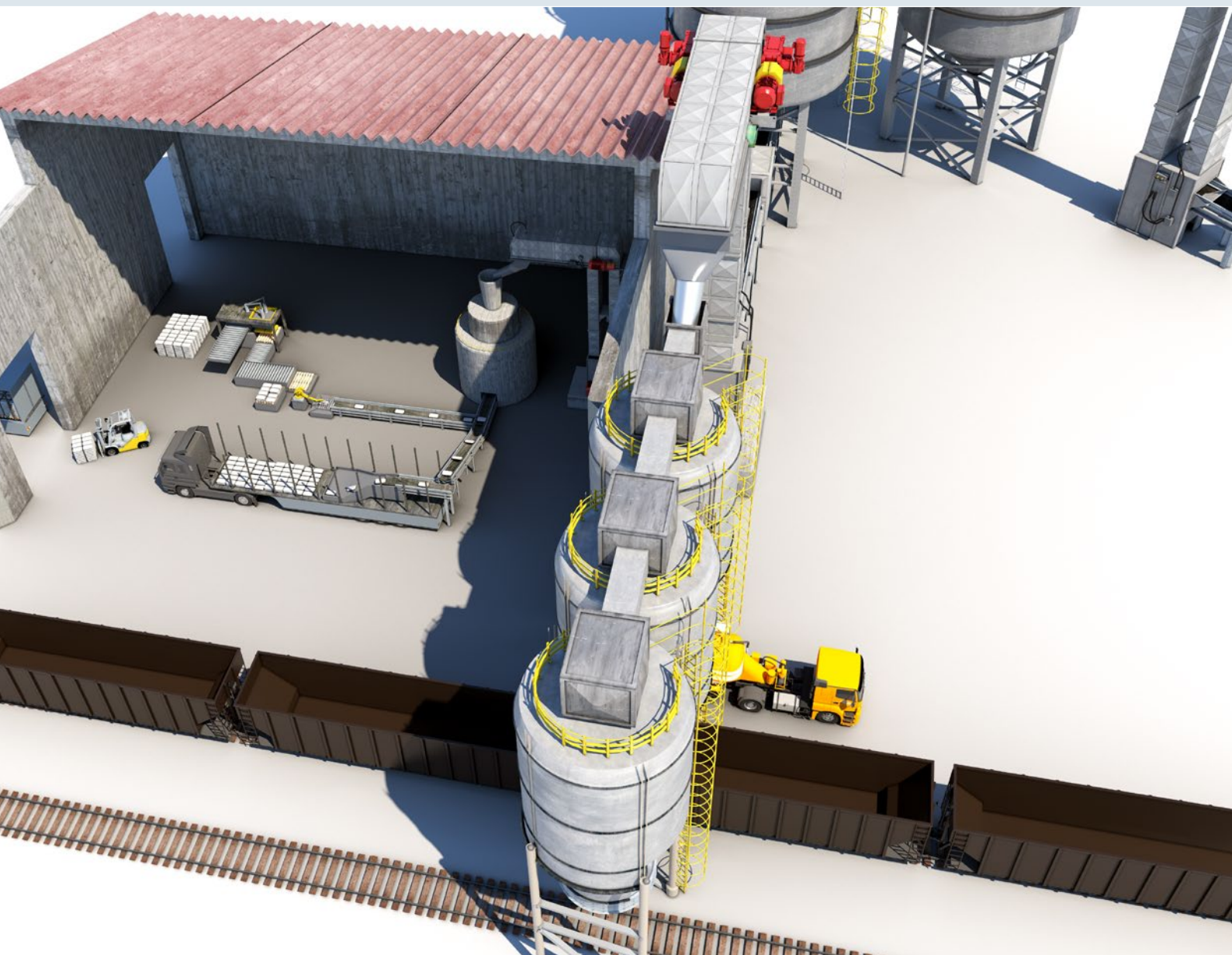
## Filling and palletizing

### Our components

- Gearmotors and decentralized drive engineering

### Your benefits

- Gearmotors with integrated frequency inverter (MOVIMOT®).
- Various mounting positions
- With and without brakes
- Efficiency class up to IE4

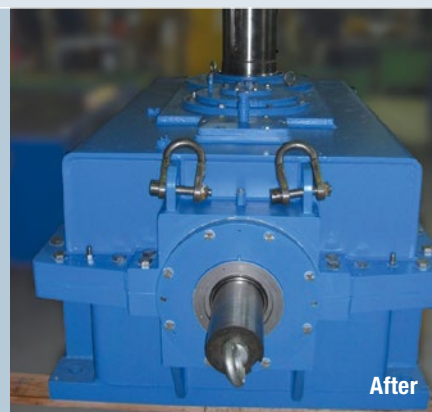




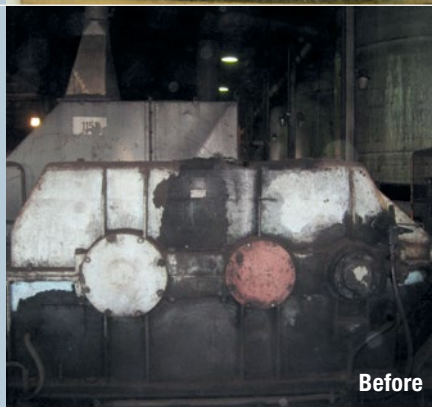
## SEW-EURODRIVE: Reliable, highly skilled and fast

When it comes to maintenance and servicing activities, capital-intensive cement plants require a carefully conceived concept. Indeed, that is the only way to avoid costly down-times, reduce disruption to a minimum and proactively maintain the performance of your cement plant. Thanks to our comprehensive CDS® – Complete Drive Service modular service portfolio, we can safeguard your operation and process reliability around the world. You can always access precisely the service you need, no matter when or where you need it, and always from one and the same source.

**Example of  
Repair Service**



**Example of  
Retrofit Service**





## Extract from our service portfolio

### Startup Service

- Installation and laser adjustment
- Checking the installation of drive components
- Initial oil filling
- Production monitoring

### Inspection and Maintenance Service

- Endoscopy for gear unit diagnostics
- Analysis of oil quality
- Oil change and disposal of waste oil
- Noise check to detect early signs of damage
- Preparation of an inspection and maintenance plan

### Repair Service

- Central and decentralized repair work
- Short repair times due to very high availability of SEW-EURODRIVE parts
- Complete overhaul, as-new repair work

- Maintenance by replacing defective and affected parts, functional repair
- Reworking housings and shafts
- Coating preparation and modification to suit customer requirements

### Retrofit Service

- Replacement of your drive components with SEW-EURODRIVE products, including adaptation constructions and customization
- Consideration of energy efficiency
- To-scale replicas of your components from design, construction and production to installation, ensuring 100% compatibility in your plant.



You can find out more about the CDS® – Complete Drive Service system here:  
[www.sew-eurodrive.de/cds](http://www.sew-eurodrive.de/cds)



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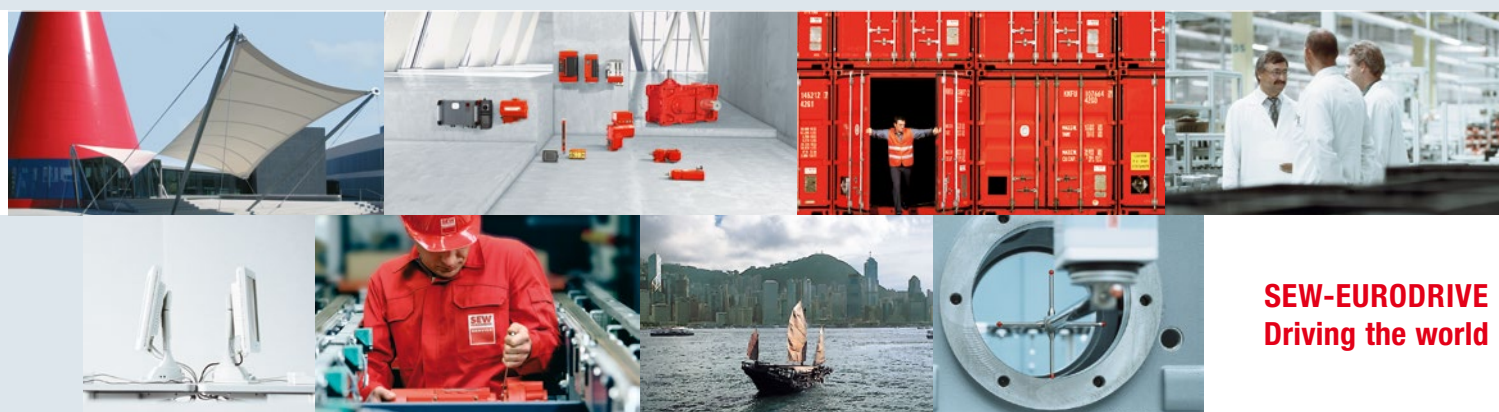
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## How we're driving the world



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Driving the world

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