FAM

Bulk Materials Handling
FAM - Flexibility And More

Competency in Modern Bulk Materials Handling

FAM is an international organization headquartered in Germany, with a proven history as a manufacturer of modern bulk material handling systems and a heritage dating back to the 19th century. We have broad expertise in open cast mining technology, stockyard systems, mineral processing, loading equipment, conveying facilities and port technology with more than half of FAM employees working in engineering.

With a complex assortment of sizable and individual machines, such as bucket wheel excavators, conveyor systems, spreaders, scrapers, blending beds, reclaimers, ship loaders, ship unloaders, as well as crushers and mills, FAM provides the core systems for open cast mines, power plants, metallurgical industry, cement industry, building material industry, chemical and fertilizer industry, as well as port handling.

As a manufacturer of machinery for continuous material handling activities, storage facilities and processing plants for bulk materials of all kinds, FAM designs, supplies and services complex turnkey systems for which the core parts are produced in-house. For the existing systems, we carry out comprehensive modernization and expansion projects facilitating significant improvement of the plant performances and resulting in higher productivity.

Contents

Stockyard Systems
Loading Systems
Conveyor Systems
Port Technology
Individual Machines and Components
Engineering and Consulting
Modernization
Fabrication, Installation and Service
Technological Competency

Scope of Services

Engineering and Fabrication Under One Roof

■ Consulting
■ Project Management
■ Scheduling
■ Schedule Monitoring
■ Development
■ Engineering
■ Designing
■ Fabrication
■ Assembly
■ Commissioning
■ Quality Management
■ Quality supervision
■ Maintenance
■ Modernization
■ Training
■ After Sales Service

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Turnkey Installations

- Processing plant: Oil sands, 37260 t/h, Canada
- Handling system: Storage capacity 22000 t, Hard coal 3000 t/h, Latvia

Stockyard Systems

- Processing plant: Continuous ship unloader, CSU1300.21S, Hard coal 2600 t/h, Germany
- Port technology: Stacker-reclaimer STR6000/8000.60, Hard coal 8000 t/h, Australia
- Hard coal 3000 t/h, Latvia
- Hard coal 8000 t/h, Australia
- Hard coal 2600 t/h, Germany
Blending Beds

Blending beds are stocks in which bulk materials of different properties are mixed by the way they are stacked and retrieved. For example, they can be used to premix different ores and additives, or to blend different types of coal. By means of targeted stacking methods, raw materials of different quality and grain sizes get homogenized.

Stackers

Stacking machines are used to fill bulk materials into stockpiles or blending beds for circular or longitudinal storage facilities. The most common are mobile stackers which have raising and lowering belt conveyor booms. Our stackers are used for a variety of different stockpiling methods, of which the basic ones are the Chevron large-layer fill and the Windrow small-layer fill.
Semi-Portal Scrapers

- **Semi-portal scraper KH4000/3200.36**
  - Track: 35.8 m
  - Potash: 4000 t/h
  - Canada

- **Semi-portal scraper KH1650.42**
  - Track: 42.4 m
  - Iron ore: 1650 t/h
  - Korea

- **Semi-portal scraper KH800.21**
  - Track: 21.5 m
  - Quartz sands: 800 t/h
  - Poland

Portal Scrapers

- **Portal scraper KF200/400.71**
  - Track: 55 m
  - Boom: 50 m
  - Hard coal: 1150 t/h
  - Germany

- **Portal scraper KP402.27**
  - Track: 42 m
  - Raw salt: 342 t/h
  - Bolivia

- **Portal scraper KP342.27**
  - Track: 27 m
  - Raw salt: 342 t/h
  - Bolivia
**Side Scrapers**

- **Side scraper KS150.5V**
  - Scraper boom length: 32.4 m
  - Limestone: 150 t/h
  - Bulgaria

- **Side scraper KS60.20**
  - Scraper boom length: 20 m
  - Salt: 61 t/h
  - Saudi Arabia

- **Side scraper KS250.4**
  - Scraper boom length: 22.8 m
  - Additives: 250 t/h
  - Vietnam

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**Slewing Scrapers**

- **Slewing scraper KS160.3V**
  - Circular stockyard diameter: 130 m
  - Stockyard capacity: 180,000 t
  - Coal: 300 t/h
  - Germany

- **Slewing scraper KT600.3**
  - Slewing scraper boom length: 13 m
  - Tracks: 2.5 m
  - Slewing angle: 310°
  - Fertilizers: CAN 500 t/h
  - Turkey

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Bridge-Type Reclaimers

Reclaimers and bucket wheel machines are used for continuous reclaiming operations and are well-suited even for the bulk materials that tend to stick or solidify. The material removal is carried out by side and portal reclaimers alongside the stockpile, or by bridge-type reclaimers and bucket wheel reclaimers positioned at the end face of the stockpile or blending bed.
Circular Stacker-Reclaimers

Circular stacker-reclaimer CST1210/1100.124
Diameter: 124 m
Stacker: ST1210.31
Stacking capacity: 1210 t/h
Reclaimer: KB1100.124
Reclaiming capacity: 1100 t/h
Iron ore
Korea

Circular stacker-reclaimer CST2200/660.90
Diameter: 90 m
Stacking capacity: 650 t/h
Reclaiming capacity: 660 t/h
Limestone
Oman

Circular stacker-reclaimer CST7700/1650.120
Diameter: 120 m
Iron ore
Korea

Circular stacker-reclaimer CST2000/1000.125
Diameter: 125 m
Stockyard capacity: 220000 t
Coal 2000 t/h
Germany

Circular stacker-reclaimer CST5000/1000.125
Diameter: 125 m
Stockyard capacity: 225000 t
Urea 180 t/h
Germany

Circular stacker-reclaimer CST1210/1100.124
Diameter: 120 m
Iron ore
Korea

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Stacker-Reclaimers

Stacker-reclaimer STR6000/8000.60
Boom length 60 m
Belt width 2000 mm
Bucket wheel diameter 10,5 m
Stacking capacity 6000 t/h
Reclaiming capacity 8000 t/h
Hard coal
Australia

Stacker-reclaimer STR4000/2700.59
Boom length 59 m
Belt width 1900 mm
Bucket wheel Ø 7,7 m
Coal 1000 t/h
Germany

Stacker-reclaimer STR1000/1000.60
Boom length 60 m
Belt width 1200 mm
Bucket wheel diameter 6 m
Coal 1000 t/h
Germany

Stacker-reclaimer STR6000/8000.80
Boom length 60 m
Belt width 2000 mm
Bucket wheel diameter 10,5 m
Stacking capacity 6000 t/h
Reclaiming capacity 8000 t/h
Hard coal
Australia

Stacker-reclaimer STR6000/6000.80
Boom length 60 m
Belt width 1900 mm
Bucket wheel diameter 8,5 m
Stacking capacity 6000 t/h
Reclaiming capacity 6000 t/h
Iron ore pellets, coal
USA
Loading Systems

- Truck and Wagon Loading
- Automatic Train Loading
- Wagon Unloading

Conveyor Systems

- Stationary
- Shiftable
- Mobile on Crawlers
- Mobile on Tracks
- Semi-Mobile on Skids
- Reversible
- Slewing
- Liftable and Lowerable
- Telescopic
- Curve Negotiable
- With Flat Belt
- With Troughed Belt
- With Closed Belt
Long Distance Conveyors

**Stationary**
- **LDC1200x3830**
  - Belt width: 1200 mm
  - Centre distance: 3830 m
  - Drive power: 1230 kW
  - Belt speed: 2.8 m/s
  - Chalk: 1700 t/h
  - Russia

**Shiftable**
- **LDC1500x2600**
  - Belt width: 1524 mm
  - Centre distance: 2600 m
  - Drive power: 2000 kW (4x500 kW)
  - Belt speed: 4 m/s
  - Copper oxide: 4200 t/h
  - Chile

Pipe-Conveyor

- **PC400x362/225**
  - Belt width: 2000 mm
  - Centre distance: 225 m
  - Hoisting height: 714 m
  - Coal: 1200 t/h
  - Germany

- **PC350x243**
  - Belt width: 1400 mm
  - Centre distance: 243 m
  - Hoisting height: 36 m
  - FGD gypsum: 400 t/h
  - Germany

- **PC400x640**
  - Belt width: 1200 mm
  - Diameter: 300 mm
  - Centre distance: 540 m
  - Hoisting height: 50 m
  - Gypsum, ash: 240 t/h
  - Netherlands

- **PC500x592/304/300/281/130/103**
  - Belt width: 1600 mm
  - Centre distance: 300/281/130/103 m
  - Drive power: 400/315/250/160 kW
  - Belt speed: 4 m/s
  - Hard coal: 3000 t/h
  - Latvia

- **PC500x362**
  - Belt width: 2000 mm
  - Centre distance: 362 m
  - Hoisting height: 10 m
  - Coal: 1200 t/h
  - Latvia

- **PC500x592/304/300/281/130/103**
  - Belt width: 1600 mm
  - Centre distance: 300/281/130/103 m
  - Drive power: 400/315/250/160 kW
  - Belt speed: 4 m/s
  - Hard coal: 3000 t/h
  - Latvia

- **PC500x362**
  - Belt width: 2000 mm
  - Centre distance: 362 m
  - Hoisting height: 10 m
  - Coal: 1200 t/h
  - Latvia

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  - Belt width: 1600 mm
  - Centre distance: 300/281/130/103 m
  - Drive power: 400/315/250/160 kW
  - Belt speed: 4 m/s
  - Hard coal: 3000 t/h
  - Latvia

- **PC500x362**
  - Belt width: 2000 mm
  - Centre distance: 362 m
  - Hoisting height: 10 m
  - Coal: 1200 t/h
  - Latvia
Belt Conveyors

**Stationary belt conveyor**
- GF1200x11
- Belt width 1200 mm
- Centre distance 11 m
- Drive power 30 kW
- Belt speed 3.2 m/s
- Iron ore 3200 t/h
- Croatia

**Shiftable belt conveyor**
- GF1200x360-1100
- Shiftable, extendible
- 5 m elevation
- Belt width 1200 mm
- Centre distance 360-1100 m
- Drive power 2x90 kW
- Belt speed 2.69 m/s
- Coal 1000 t/h
- Bosnia-Herzegovina

**Vertical conveyor VC800.80**
- Belt width 800 mm
- Side wall height 80 mm
- Centre distance 7 m
- Drive power 1.1 kW
- Belt speed 0.8 m/s
- EBS 1 t/h
- Germany

Belt Conveyors

**Stationary belt conveyor**
- GF1000.37
- Belt width 1000 mm
- Centre distance 37 m
- Drive power 7.5 kW
- Belt speed 1.3 m/s
- Copper ore 50 t/h
- Chile

**Stationary belt conveyor**
- GF1200x371/368/97/94/47/28
- Belt width 1200 mm
- Centre distance 371/368/97/94/47/28 m
- Drive power 15-37/90/45 kW
- Belt speed 2.0/1.6/2.61 m/s
- Sylvinite ore 1500 t/h
- Turkmenistan

**Vertical conveyor VC650.150-S**
- S-conveyor
- Belt width 650 mm
- Side wall height 150 mm
- Centre distance 58.3 m
- Drive power 7.5 kW
- Belt speed 0.46 m/s
- Copper ore 50 t/h
- Chile

**Belt conveyor**
- GF1000.37
- Belt width 1000 mm
- Centre distance 37 m
- Drive power 7.5 kW
- Belt speed 0.8 m/s
- Copper ore 50 t/h
- Chile

**Vertical conveyor VC250.250**
- Belt width 250 mm
- Bucket size 250 mm
- Centre distance 34 m
- Drive power 11 kW
- Limestone 32 t/h
- Romania

**Belt conveyor**
- GF1000.37
- Belt width 1000 mm
- Centre distance 37 m
- Drive power 7.5 kW
- Belt speed 1.3 m/s
- Urea 180 t/h
- Germany

**Vertical conveyor VC880.150-S**
- S-conveyor
- Belt width 880 mm
- Side wall height 150 mm
- Centre distance 55.3 m
- Drive power 7.5 kW
- Belt speed 0.46 m/s
- Copper ore 50 t/h
- Chile

Vertical Conveyors
**Port Technology**

**Ship Loaders**

**Ship loader SL1200.17/23.5 OL**
- Stationary, slewable
- Loading: tubular chute
- Ship size 60000 DWT
- Outreach 17,6 m / 23,5 m
- Boom angle +4° / -2°
- Slewing angle ±40°
- Limestone 1200 t/h
- Philippines

**Shiploader SL1000.20/39 OX**
- Stationary, slewable
- Telescopic boom
- Loading: telescopic chute
- Ship size 45000 DWT
- Outreach 20 / 39 m
- Boom angle +20°
- Slewing angle ±90°
- Copper concentrate 1000 t/h
- Chile

**Handling system**
- Shiploader SL3000.45SX
  - Mobile, slewable
  - Loading: telescopic chute
  - Ship size 120000 DWT
  - Outreach 30 m
  - Boom angle -45° / +15°
  - Slewing angle 360°
  - Hard coal 3000 t/h
  - Latvia

**Ship loader SL1200.31.D.H**
- Mobile
- Loading: telescopic chute
- Ship size 120000 DWT
- Outreach 27,9 m
- Slewing angle ±150°
- Urea 1200 t/h
- Turkmenistan

**Handling system**
- 2 x Shiploader SL3000.45
  - Stationary, loading: telescopic chute
  - Ship size 140000 / 40000 DWT
  - Outreach 45 / 32 m
  - Slewing angle ±75°
  - Conveyor bridge 1600 mm
  - Centre distance 42 m
  - Hard coal 3000 t/h
  - Chile

**Shiploader SL1000.20/39 OX**
- Stationary, slewable
- Loading: telescopic boom
- Ship size 100000 DWT
- Outreach 30 m
- Boom angle +20°
- Slewing angle ±90°
- Hard coal 3000 t/h
- Chile

**Ship loader SL1200.17/23.5 OL**
- Stationary, likeable
- Loading: tubular chute
- Ship size 120000 DWT
- Outreach 17,6 m / 23,6 m
- Boom angle +4° / -2°
- Slewing angle ±60° / ±86°
- Limestone 1200 t/h
- Philippines
Ship Unloaders

**Ship unloader GUL1000.13KG**
- Mobile on rails
- For river vessels
- Ship size 1000 DWT
- Outreach 13 m
- Unloading: grab 14.5 m³
- Hoisting height 16 m
- Hard coal 1000 t/h
- Germany

**Continuous ship unloader CSU1100.14S**
- Unloading: bucket elevator
- Ship size 1100 DWT
- Outreach 14 m
- Hoisting height 17 m
- Slewing angle +/-90°
- Coal 1100 t/h
- Germany

**Continuous ship unloader CSU1300.21S**
- Unloading: bucket elevator
- Ship size 1300 DWT
- Outreach 25 m
- Hoisting height 27 m
- Slewing angle 270°
- Hard coal 1300 t/h
- Germany

**Ship unloader GUL750.19HG**
- Mobile on rails, Engineering
- Outreach 19 m
- Unloading: grab 6.1 m³
- Hoisting height 17 m
- Iron ore 750 t/h
- India

**Continuous ship unloader CSU3000.46S**
- Unloading: bucket elevator
- Ship size 3000 DWT
- Outreach 46.5 m
- Hoisting height 36 m
- Slewing angle 270°
- Hard coal 3000 t/h
- Netherlands

**Continuous ship unloader CSU1000.13KG**
- Unloading: grab 20 m³ or crane hook
- Hoisting height 19 m
- Slewing angle 360°
- Scrap metal, pallets, big bags, 40’ container 15 t/h
- France

**Continuous ship unloader CSU4000.42SDW**
- Unloading: grab 20 m³ or crane hook
- Hoisting height 30 m
- Slewing angle 360°
- Hard coal 4200 t/h
- Germany

**Continuous ship unloader CSU1500.21S**
- Unloading: bucket elevator
- Ship size 1500 DWT
- Outreach 21 m
- Hoisting height 25 m
- Slewing angle +/-110°
- Coal 1500 t/h
- Germany

**Continuous ship unloader CSU2500.30S**
- Unloading: bucket elevator
- Ship size 2500 DWT
- Outreach 30 m
- Hoisting height 27 m
- Slewing angle 270°
- Hard coal 2500 t/h
- Germany

**Continuous ship unloader CSU3500.35S**
- Unloading: bucket elevator
- Ship size 3500 DWT
- Outreach 35 m
- Hoisting height 30 m
- Slewing angle 270°
- Hard coal 3500 t/h
- Germany

**Continuous ship unloader CSU5000.50S**
- Unloading: bucket elevator
- Ship size 5000 DWT
- Outreach 50 m
- Hoisting height 40 m
- Slewing angle 270°
- Hard coal 5000 t/h
- Germany

**Continuous ship unloader CSU6000.60S**
- Unloading: bucket elevator
- Ship size 6000 DWT
- Outreach 60 m
- Hoisting height 50 m
- Slewing angle 270°
- Hard coal 6000 t/h
- Germany
Individual Machines

- Silos
- Sampling Devices
- Feeding Hoppers
- Tripper Cars

**Silos**
- Feeding hopper AT30x3
  - Belt width 2600 mm
  - Input opening 3100 mm
  - Feeding capacity 30 m³
  - Ash 330 t/h
  - Netherlands
- Feeding hopper AT75x5.3
  - Belt width 1000 mm
  - Input opening 5300x4500 mm
  - Feeding capacity 75 m³
  - Coal, silicate 150 t/h
  - Vietnam

**Tripper Cars**
- Tripper car TC2000
  - Discharge: portal scraper
  - Belt width 2500 mm
  - Total length 78 m
  - Belt speed 2.54 m/s
  - Granulated sulphur 720 t/h
  - United Arab Emirates

**Silo SI2150**
- Diameter 10 m
- Total height 33.9 m
- Silo capacity 2150 m³
- Dry ash
- Germany

**Unloading Station**
- Wagon unloading WU 16 1600
  - Length 16 m
  - Number of wagons per hour: 3.5 wagons
  - Feeding hopper 30 m³
  - Dedusting system
  - Silo capacity: 3000 m³
  - Chalk 2x150 t/h
  - Germany
Our specialized engineering team gladly accept the challenges for the most ambitious projects and technical issues in designing modern solutions considering your unique requirements.

### Consulting
- Plant Designing
- Material Procurement Planning
- Detail Engineering
- Electrical Designing
- Drive Systems Engineering
- Software Development
- Visualization
- Process Control
- Tele-Service

### Modernization Engineering
- Function Tests
- Test Runs
- Factory Tests

### Performance Improvement
- Conducting of analyses and measurements
- Development and implementation of new drive concepts
- Increase of efficiency by adapting to the changed operating conditions

### Repair
- Long-term, condition-based planning and preparation of scheduled and preventive measures as well as specific repair programs regardless of the equipment origin
- Completion of repair work to restore the target condition
- Function testing and commissioning
- Analyzing of parts and assemblies' reusability
- Production of documents for repairs

### Refurbishment
- Retrofitting and modification of machines
- Reconstruction of machines in order to ensure the operational safety and to minimize operating and maintenance costs
- Full mechanical and electrical reconstruction
- Prolonging the life expectancy of machines and systems by upgrading their components
- Replacing of conventional drive systems of the bucket chain excavator’s grabs by three-phase synchronous motors

We offer custom tailored designs, solutions, adjustments and modification for any situation.
Fabrication and Installation

FAM designs, fabricates, delivers and installs ready to use systems whose core parts are manufactured in our own facility.

- Detailed planning of assembly and reconstruction measures for steel structures and machines based on proven technologies, or implementation of new technologies
- In-house production and assembly resources
- Supervision of assembly preparation and execution with qualified, knowledgeable and experienced employees
- Guarantee of meeting the international safety and quality standards, as well as delivery dates
- Availability of qualified personnel

Tele-Service

- Specific machine and process data transfer
- Cost savings in reduction of on-site service
- Quicker response time in case of faults which reduces downtime
- Preventive and condition-dependent maintenance
- Early malfunction recognition and prevention of damages
- Substantial reduction of repair costs

Spare Parts Service

- Customer-friendly, optimized spare parts management concepts
- Recommendations for strategic spare parts storage
- Generation of spare and wear parts catalogs
- Manufacturing and delivery of spare and wear parts
- Vendor-independent spare parts service
- Provision of spare and wear parts based on special agreements

Maintenance

- Performance of scheduled maintenance field support by FAM technicians
- Creation of maintenance documentation
- Recording of maintenance measures completed
- Preparation and realization of equipment shutdowns
- Minimizing of downtimes which in turn lowers maintenance costs
- Full time maintenance

Training

- Preparation of specific training programs in compliance with client needs
- Skilled training and instructing of operators and maintenance personnel
- Training courses on site or at selected venues
- Virtual interactive training for selected equipment
- Training by highly qualified instructors

Automation

- Development of concepts for automatic operation of materials handling systems
- Programming of customized control software
- Installation of advanced control systems for automatic operation
- Remote access to control software
Technological Competency

Primary Treatment
- Manual steel shot blast-cleaning for element sizes of up to 25 x 8 x 5 m
- Continuous automatic steel shot blast-cleaning for lengths of up to 14 m
  - Sheet width of up to 2,500 mm
  - Profiles up to 1,000 mm
  - Pipes up to Ø 500 mm
- Ensuring the standard degree of cleanliness Sa2.5 acc. to DIN EN ISO 12944-4

Cutting
- Laser cutting
- Cutting area: width x length of up to 3,000 x 8,000 mm
- Autogenous cutting
- Cutting area: width x length of up to 5,600 x 15,000 mm
- Cutting with mitre saw
  - Profile width of up to 420 mm
  - Profile height of up to 400 mm
  - Length of material of up to 12,000 mm

Machining
- CNC turning of small and large dimension parts of up to 80 t using steady rests
  - Over base Ø of up to 2,800 mm
  - Over slide with Ø 1,800 x 10,600 mm
  - Over slide with Ø 2,600 x 8,000 mm
- CNC vertical turning and milling for single weights of up to 20 t
  - Component dimensions 10 x 2 x 2 m
  - Machining height 1,100 mm
- CNC 5-axis machining centres
  - X / Y / Z-axis up to 1,300 / 600 / 800 mm
  - Load capacity of up to 1 t
- Boring conventional / CNC, lifting capacity of crane 50 t
  - Spindle diameter 130 / 180 mm
  - X / Y / Z-axis up to 12,000 / 6,000 / 1,500 mm
  - W-axis up to 1,000 mm
  - Turntable 4 x 4 m
  - Load capacity of up to 75 t, as CNC-axis

Corrosion Protection
- Surface pre-treatment
  - Ensuring the standard degree of cleanliness of Sa2.5 to Sa3 acc. to DIN ISO 12944-4
- Wet-coating systems
  - Airless wet coating (atomization of the paint without compressed air, only via material pressure)
  - Air mix (atomization of the paint with compressed air)
  - Electrostatic coating of spray-paint particles, magnetic attraction to the work piece
  - Component dimensions of up to 25 x 7,8 x 5,4 m
- Powder pre-coating
  - Components of up to 700 kg with forced drying, degreasing, zinc phosphatizing, passivation for (serial) parts
  - Powder coating machine for (serial) parts in automatic and manual mode, with continuous iron / zinc phosphatizing
- Powder coating
  - Continuous flow system for iron and zinc phosphatizing
  - Component dimensions of up to 6 x 0,9 x 1,9 m
  - Item weight of up to 800 kg

Steel construction
- Solid steel structures or framework structures of up to 100 t piece weight
  - Assembly on levelled plate areas
  - Flame straightening after welding process
  - 2D / 3D linear measurements
- Welding procedures MAG-, UP-, WIG-, MIG-, Bolt-, Resistance-, E-, and Innershield-welding
  - Certificate class E
  - Welding supervision by certified engineers
  - Welding effort performed by qualified welders

Assembly
- Machine assembly
  - Single components weights of up to 100 t on levelled plate areas
  - Complete and module-wise assembly of steel structures and machine components with following completion by lubrication and hydraulic systems and test runs
  - 2D / 3D linear measurements
  - Alignment and direction measurements by laser
  - Engine speed, rotation and temperature measurements
  - Static balancing

Logistics
- Single components and sub-assemblies packing acc. to HPE-standard
  - Shipping by truck, rail or inland water vessels, as ocean or air freight
  - Heavy-load and special transport
Flexibility And More

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The Global Bulk Materials Expert

Turnkey facilities and systems by FAM for

- Mining
- Port Handling
- Fertilizer Industry
- Metallurgy
- Power Plants
- Building Materials Industry
- Chemical Industry
- Cement Industry

Machines and handling systems for mining, conveying, storing, crushing, grinding, blending, loading and unloading of minerals and of materials

- Bucket Wheel Excavators
- Bucket Ladder Excavators
- Crawler-Mounted Transfer Conveyors
- Large-Size Belt Conveyors
- Head and Tail Drive Stations
- Stackers and Spreaders
- Tripper Cars
- Hopper Cars
- Cable Reel Cars
- Transport Crawlers
- Conveyor Bridges
- Reclaimers
- Blending Beds
- Bucket Wheel Reclaimers
- Stacker-Reclaimers
- Belt Conveyors
- Pipe Conveyors
- Drag Bar Feeders
- Apron Feeders
- Roller Screens
- Roller Crushers and Mills
- Impact Crushers and Mills
- Hammer Crushers and Mills
- Ball and Rod Mills
- Truck Loading Stations
- Train Loading Stations
- Wagon Unloading Stations
- Shiploaders
- Ship Unloaders

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