



## OPEN CAST MINING EQUIPMENT

Optimal technologies and solutions

*Innovation out of tradition – It pays to talk to a specialist!*

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## PRODUCTS AND SERVICES

### Mining Systems and Equipment

- Complete Mining Systems
- Bucket Wheel Excavators
- Bucket Chain Excavators
- Crushing Plants
- Apron Feeders
- Belt Conveyors
- Belt Feeders
- Belt Wagons
- Mobile Conveyor Bridges
- Spreaders
- Transport Crawlers
- Cable Reel Cars
- Shifting Heads

### Minerals Processing Equipment

- Roll Crushers
- Sizers
- High Pressure Grinding Rolls (HPGR)
- DELKOR Thickeners
- DELKOR Horizontal Vacuum Belt Filters
- DELKOR F.A.S.T. Filter Press
- DELKOR BQR Flotation Cells
- DELKOR Belt Linear Screens
- DELKOR Apic Jigs

### Bulk Material Handling Systems and Equipment

- Stockyard and Disposal Facilities
- Reclaimers
- Scrapers
- Stackers
- Combined Stacker/Reclaimers
- Wagon unloading
- Wagon/truck loading
- Belt Conveyors
- Tube/Pipe Conveyors
- Ship Loaders
- Ship Unloaders

### Services and Components

- Project Development Services
- Fabrication and Components
- Construction and Commissioning
- Technical Services and Spare Parts



TAKRAF Group, through its established and well-known brands, TAKRAF and DELKOR, provides innovative technological solutions to the mining and associated industries. We leverage our experience, acquired over more than a century, to provide equipment, systems and services that best satisfy our clients' mining, comminution, material handling, liquid/solid separation and beneficiation requirements. Owners and operators around the world trust our engineered solutions to lower the total cost of ownership and reduce environmental impact by improving efficiency with safe and reliable equipment. For sustainable solutions backed by expert service you can rely on TAKRAF Group. Visit us at [www.takraf.com](http://www.takraf.com).

**We at TAKRAF Group are committed to environmental and social sustainability in all our business interactions and have adopted a Zero Harm approach under our global safety promise.**

Owners and operators around the world are confident that TAKRAF Group provides the most suitable solution to their unique project requirements. We assist our clients in overcoming the most complicated challenges in transforming the resource industry towards a sustainable future. We focus on specific areas that are critical for reliable and sustainable operations, as it is here where we best support our clients with innovative solutions that save energy, lower environmental impact and meet or exceed operational requirements.

We are recognized as the world's leading technology provider when it comes to run-of-mine and bulk material handling. Our TAKRAF brand portfolio ranges from overburden removal, to raw material extraction, comminution, conveying, loading/unloading, processing, homogenizing, blending, storage and final loading for onward shipment.

We leverage our global organization and aggregate our extensive expertise by offering a unique combination of both application experience and product based knowledge. Clients therefore benefit from direct technical discussions with our local specialists, who are able to draw upon this expertise and provide the most suitable local solution and service that enhances safety, improves sustainability, decreases costs and increases efficiency.

Our commitment is summarized by:

S a f e t y | R e l i a b i l i t y | I n n o v a t i o n | S u s t a i n a b i l i t y



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## OPEN CAST MINING EQUIPMENT

TAKRAF is one of the world's leading suppliers in the fields of mining and handling of coal, ore and other minerals, as well as removal, transport and dumping of overburden.

Our machines and systems have proved to be reliable in mining hard minerals, even under extreme operating conditions.

The extensive know-how of our highly qualified engineers creates a solid foundation for the engineering and construction of such machinery.

Rapid delivery and constant high quality are guaranteed by TAKRAF's policy of close cooperation with the clients and decades of experience, engineering, design and fabrication of surface mining equipment and systems.







It was back in 1924 that TAKRAF supplied the first overburden conveyor bridge to the surface mine at Plessa in Germany.

The first bucket-wheel excavators developed and produced by TAKRAF were delivered to the Consolidated Diamond Mines in Namibia in 1926.

Nowadays, more than 50% of the world's lignite production is mined with TAKRAF equipment.

The combination of know-how and the large number of completed machines and systems coupled with constant orientation to state-of-the-art design assure that optimum technology and equipment can be offered for the different geological situations.



## OPEN CAST MINING EQUIPMENT - PRODUCT RANGE

TAKRAF supplies complete open cast mining systems:

- Bucket wheel excavators
- Bucket chain excavators
- Mobile transfer conveyors
- Belt conveyors (curved, shiftable, inclined, etc.)
- Tripper cars
- Spreaders/Cross-pit spreaders
- Mobile Conveyor bridges
- Mobile and semi-mobile crushing stations
- Transport crawlers
- Heap-Leach Systems
- Auxiliary surface mining and reclamation equipment





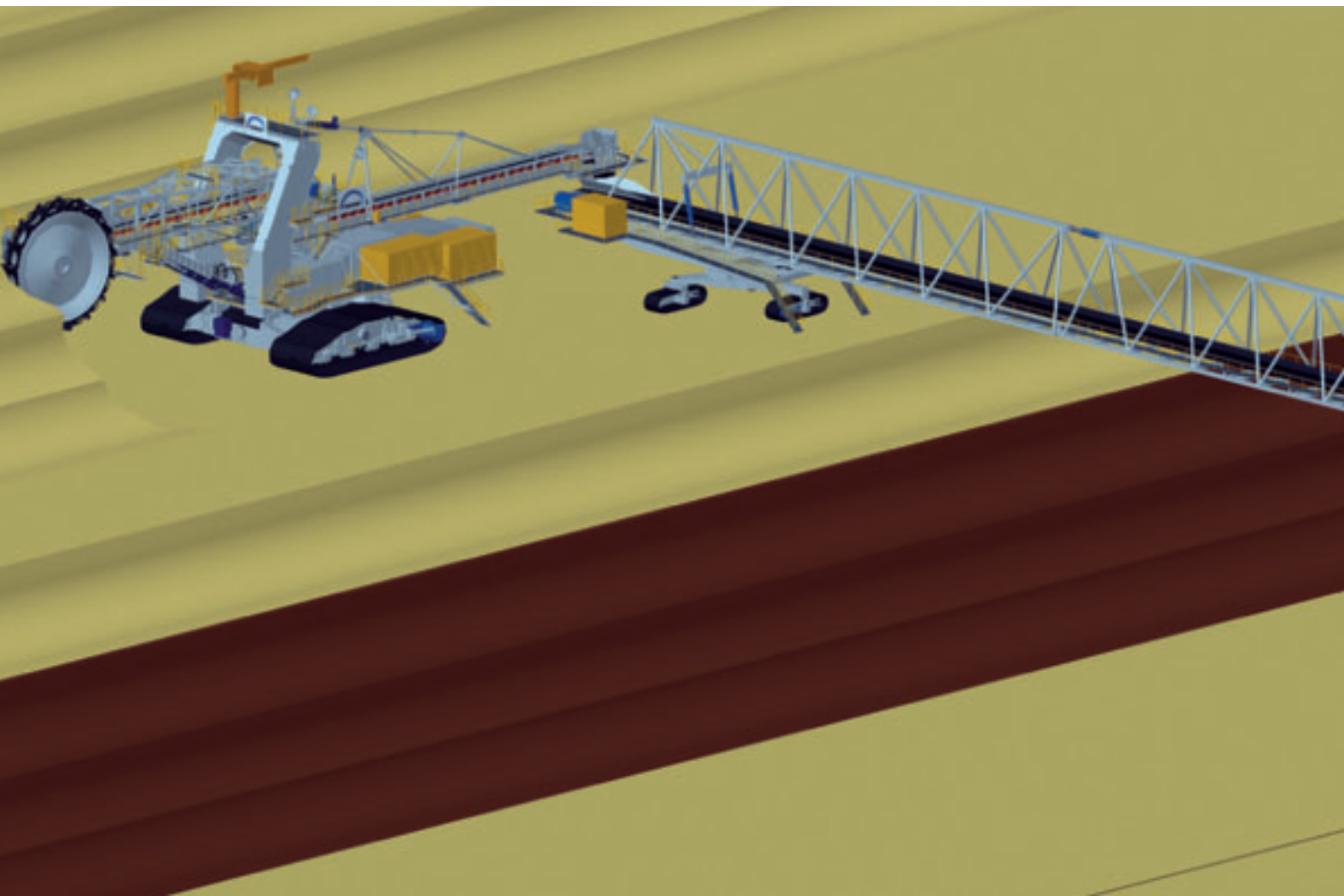


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## OPEN CAST MINING EQUIPMENT

Depending on their size, TAKRAF's newly developed compact bucket wheel excavators (BWEs) can achieve capacities of up to 75,000 m<sup>3</sup> per day.

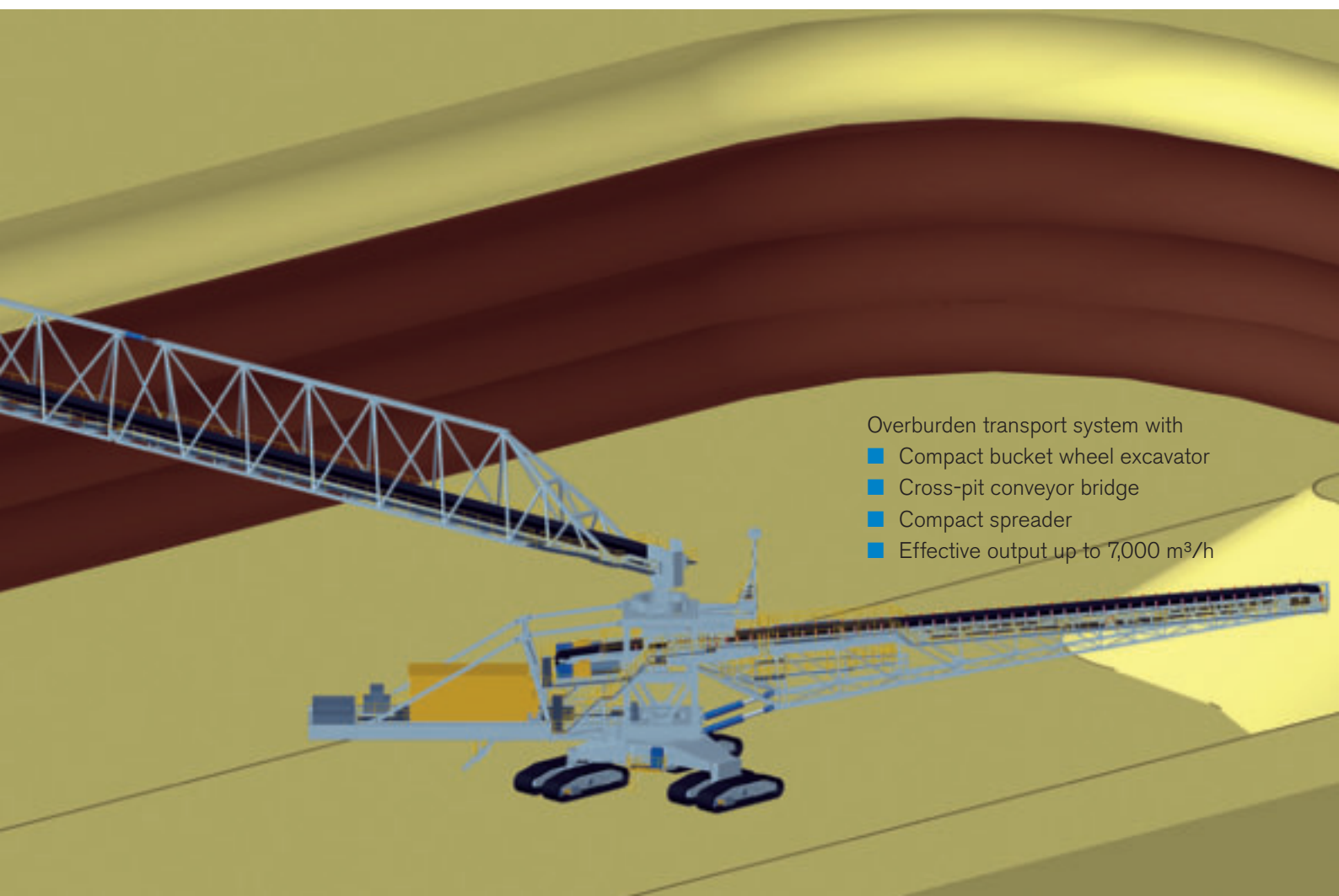
Our line-up of models in the large and giant BWE class offers daily capacities of up to 240,000 bank m<sup>3</sup>.





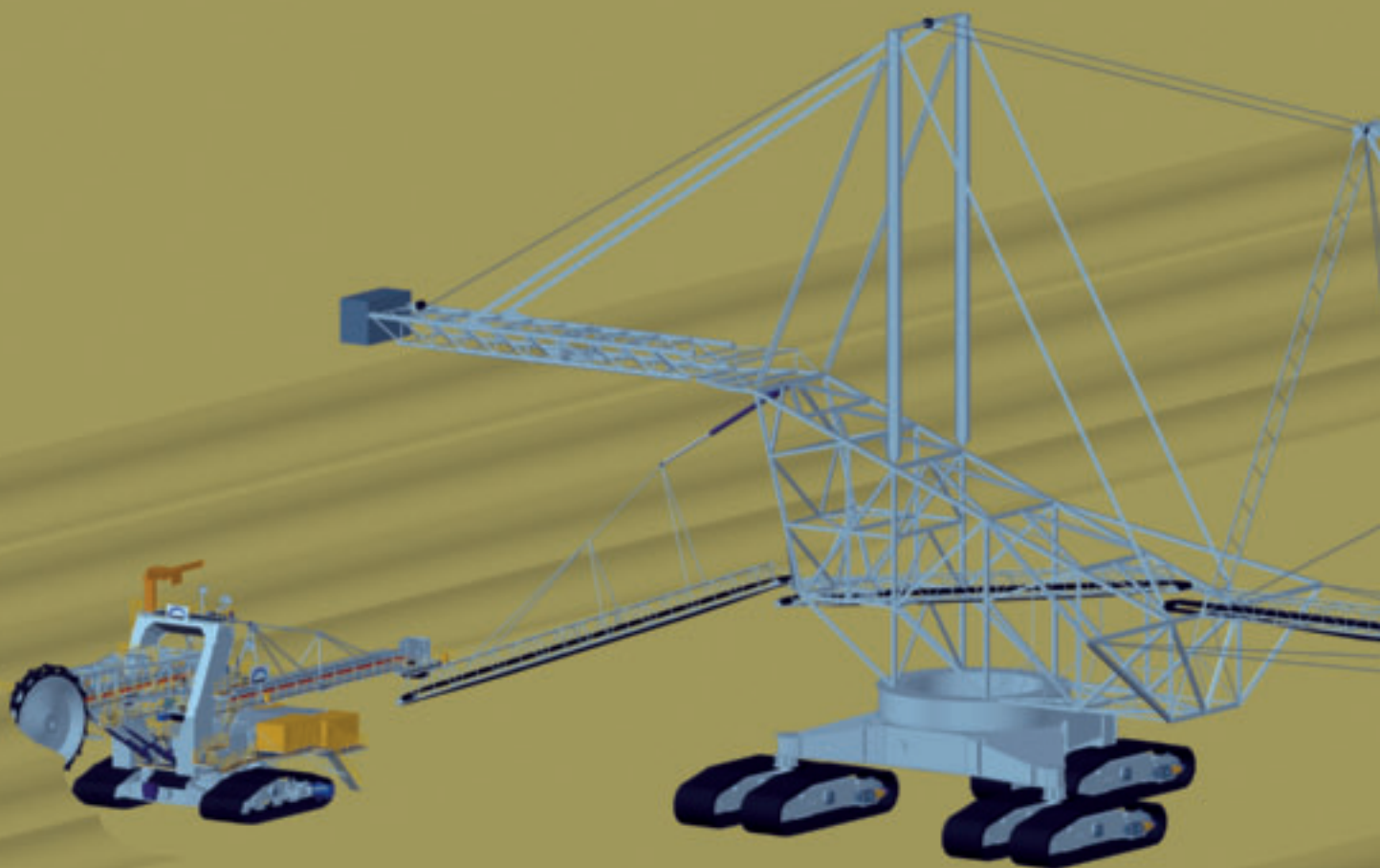
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A large variety of possible combinations of these machines with individually matched spreaders and belt conveyor systems, as well as cross-pit spreaders, ensures efficient, cost-saving operations.



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Up to 240,000 bank m<sup>3</sup> of overburden per day can be shifted in cross-pit operation using various combinations of our machines.

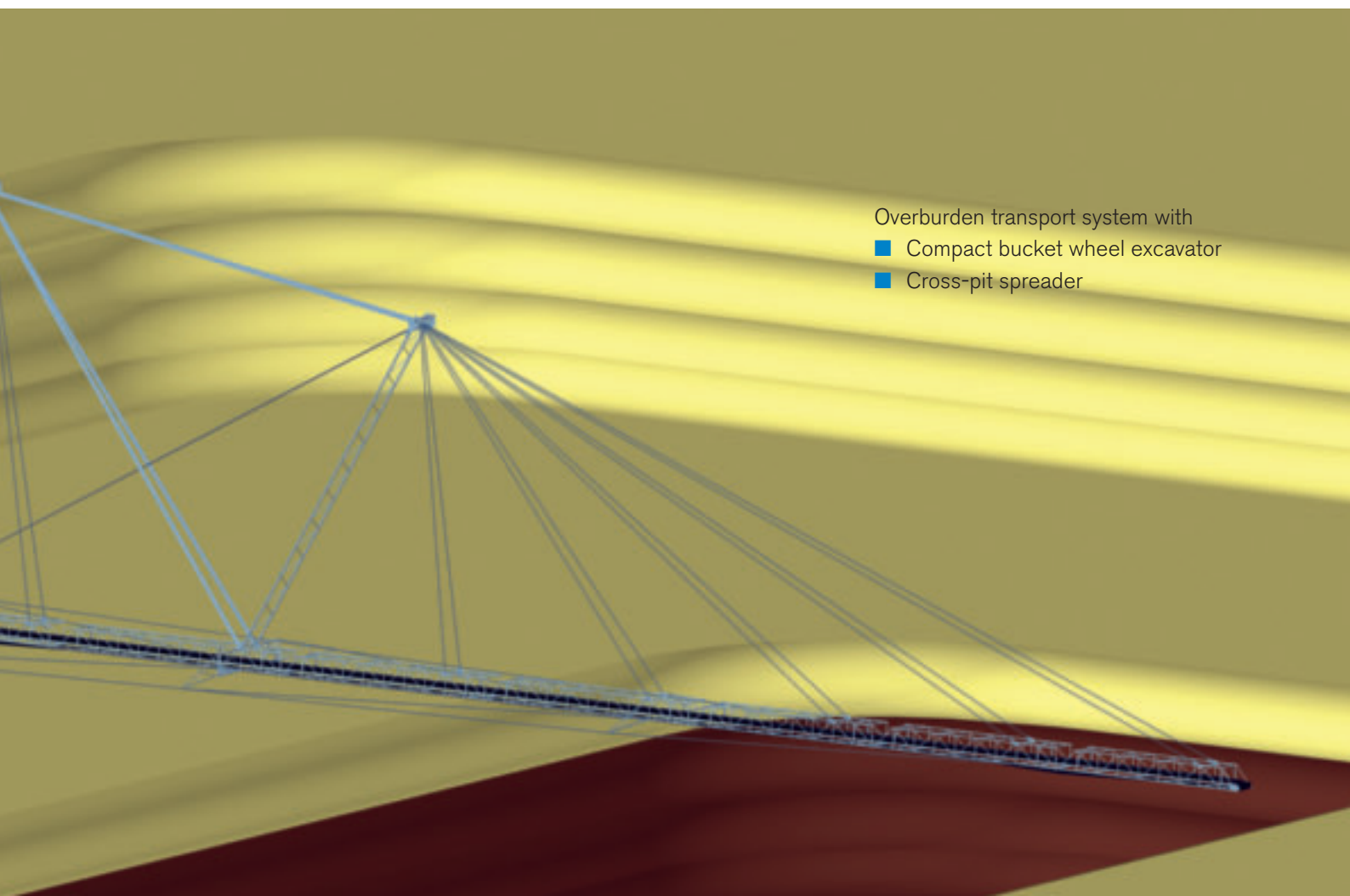




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Furthermore, TAKRAF machinery has proved to be highly reliable under toughest geological and climatic conditions and working environments.

All units, systems and plants can be supplied for use in low-temperature areas down to  $-45^{\circ}\text{C}$  minimum.

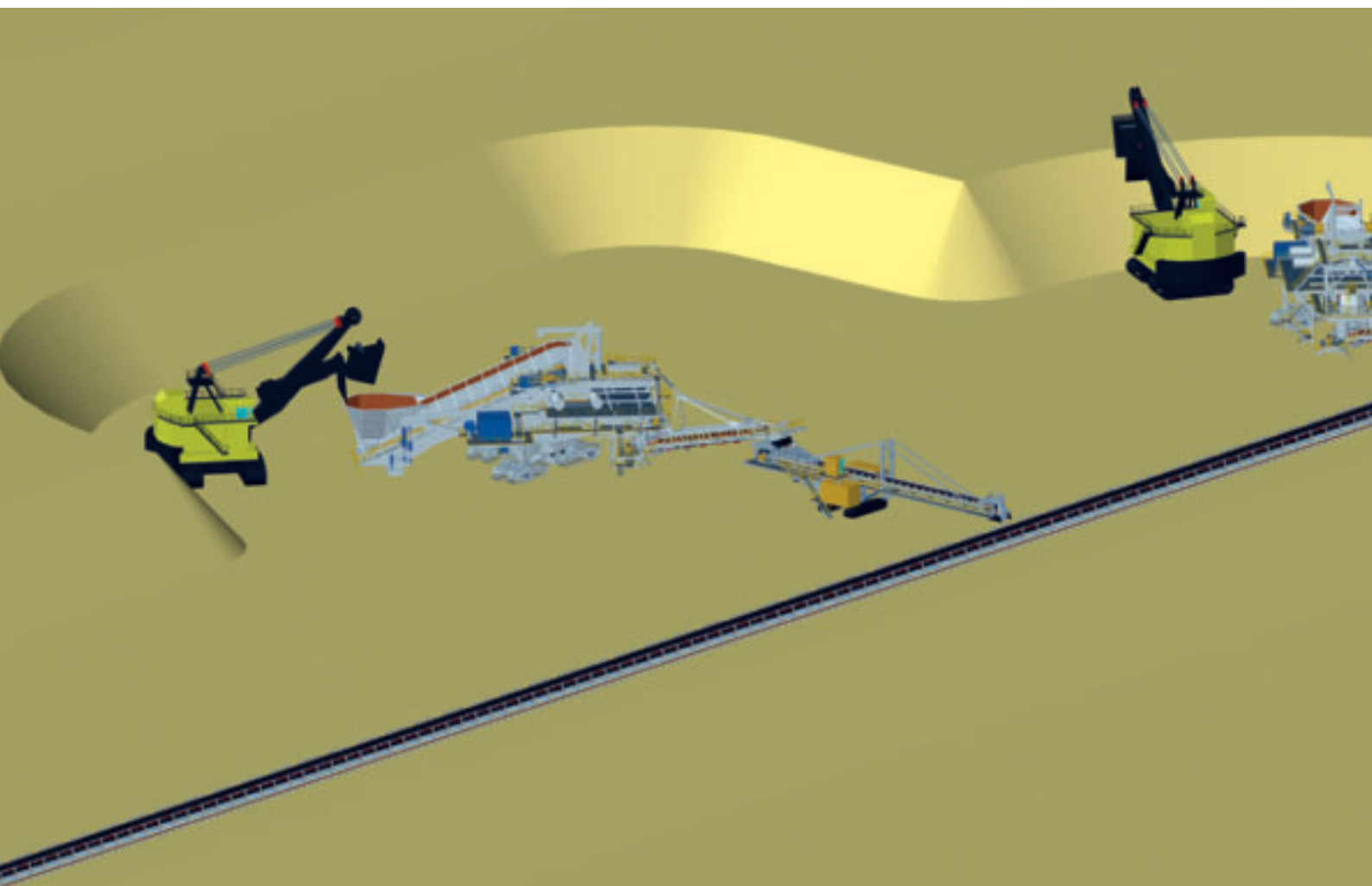


Overburden transport system with  
■ Compact bucket wheel excavator  
■ Cross-pit spreader

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TAKRAF systems guarantee the following benefits to the client:

- optimum adaptation to the geological and technical requirements of earthworks and surface mining operations with our in-house R & D capacities
- optimum investment costs
- use of proven and standardized structural components
- high availability
- simple maintenance
- low operating costs





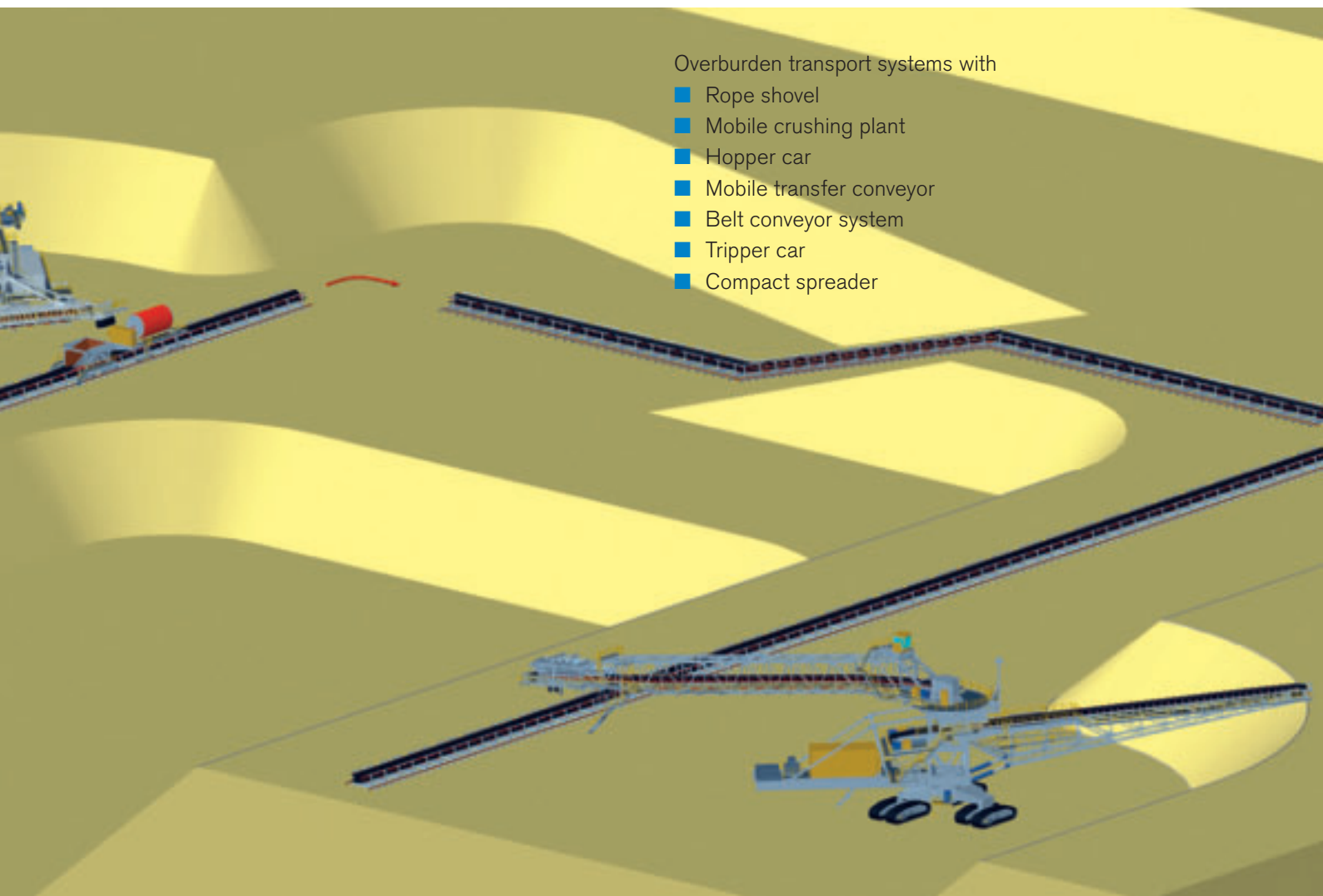
We offer project studies on:

- complete new surface mining operations
- expansion and modernisation of existing surface mines
- refurbishment of surface mining installations
- conversion and transfer of mining systems

Optimum combinations of machinery for surface mines with:

- cross-pit operation
- belt conveyor operation
- conveyor bridge operation

The design focus on low maintenance and operational expenses for our plant and machine systems, our comprehensive service and the short delivery times of spare parts assure that TAKRAF equipment is economical and can work efficiently and reliably year after year.



Overburden transport systems with

- Rope shovel
- Mobile crushing plant
- Hopper car
- Mobile transfer conveyor
- Belt conveyor system
- Tripper car
- Compact spreader







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