



## Drive & Control systems for :

- Bulk & cargo handling in ports and stockyards
- Open mining machines
- Container Handling
- & Special applications



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Bulk handling



Open mining



Cargo Handling



Container handling





# Material Handling Technology

**Rexroth**  
Bosch Group



drive & control solutions with complete equipment  
designed for safe function and optimized life cycle costs

**Hydraulics** Company presentation Systems & Engineering

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# Bulk Handling

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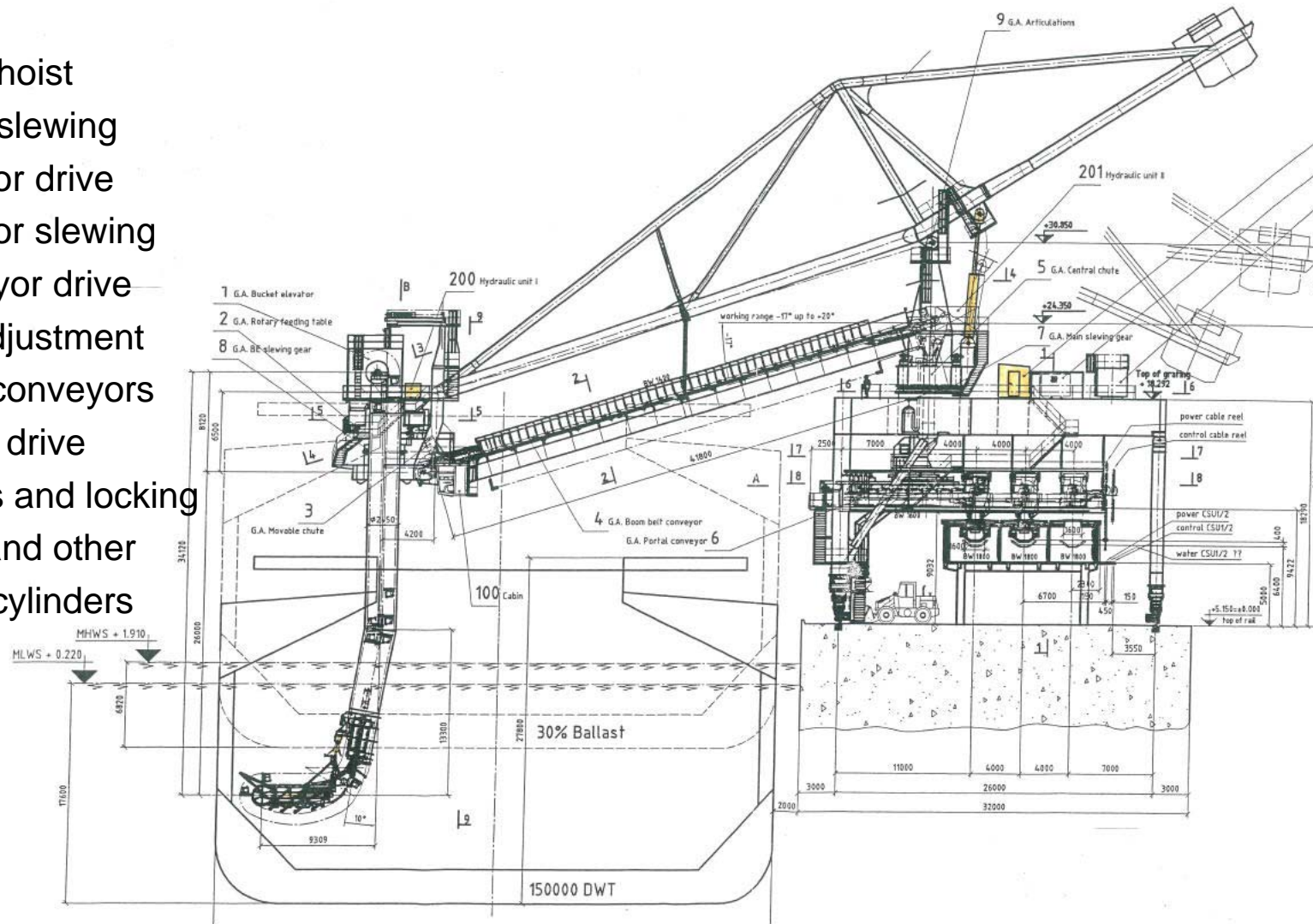
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# Bulk Handling - Continuous Ship Unloaders

hydraulic D&C systems to operate:

- boom hoist
- boom slewing
- elevator drive
- elevator slewing
- conveyor drive
- foot adjustment
- other conveyors
- gantry drive
- brakes and locking
- flaps and other small cylinders



# Bulk Handling - D&C systems for CSU machines

**BR equipment** consisting of:

- Power unit(s)
- Valve blocks
- Hydraulic cylinders
- Gears & motors for rotary functions
- Interconnecting piping
- (Local) controls
- Flushing & Commissioning
- Spare parts
- Maintenance contract





# Bulk Handling - examples for hydraulic driven CSU's



CSU El Ferrol / Spain



CSU Rijeka / Croatia



CSU Hawaii / USA



with HD elevator drive

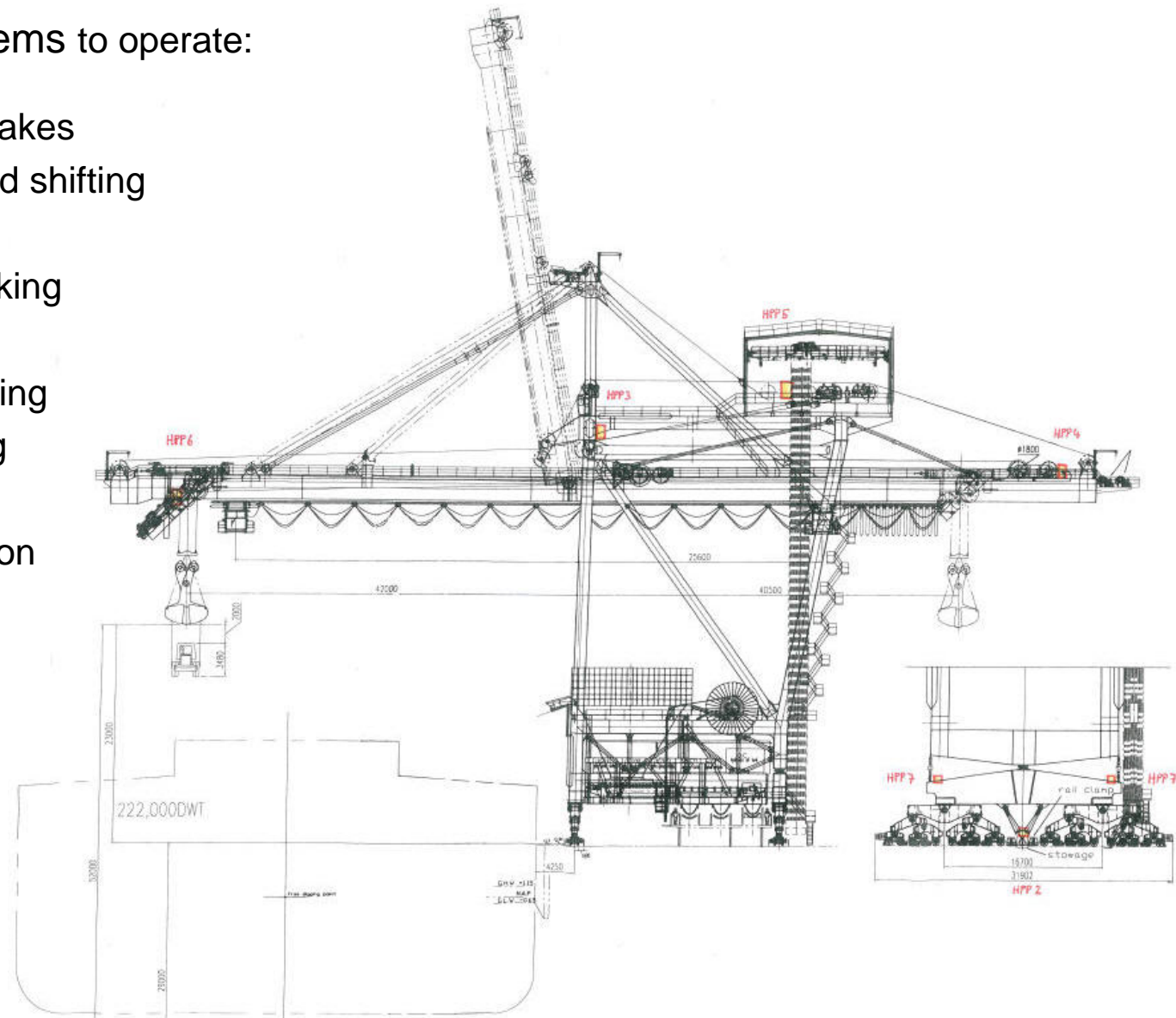


CSU Hadong / Korea

# Bulk Handling - Grab Unloaders

hydraulic D&C systems to operate:

- gantry drive and brakes
- conveyor drives and shifting
- flaps and cylinders
- rail clamps and locking
- winch brakes
- active rope tensioning
- rope pre-tensioning
- grab slewing
- structure stabilization

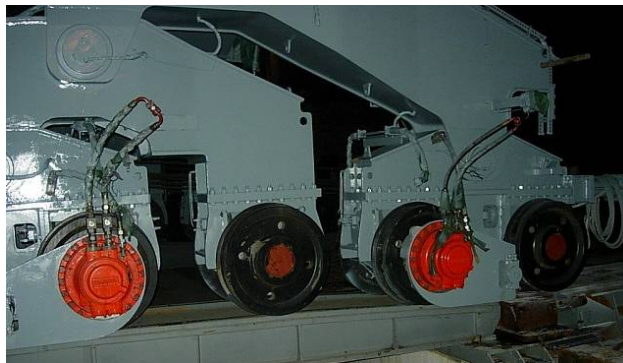




# Bulk Handling - Grab Unloaders

BR equipment consisting of

- power unit(s)
- valve blocks
- hydraulic cylinders
- gears & motors  
for rotary functions
- interconnecting piping
- (local) controls
- flushing & commissioning
- spare parts
- maintenance contract







equipment for

**new machines**

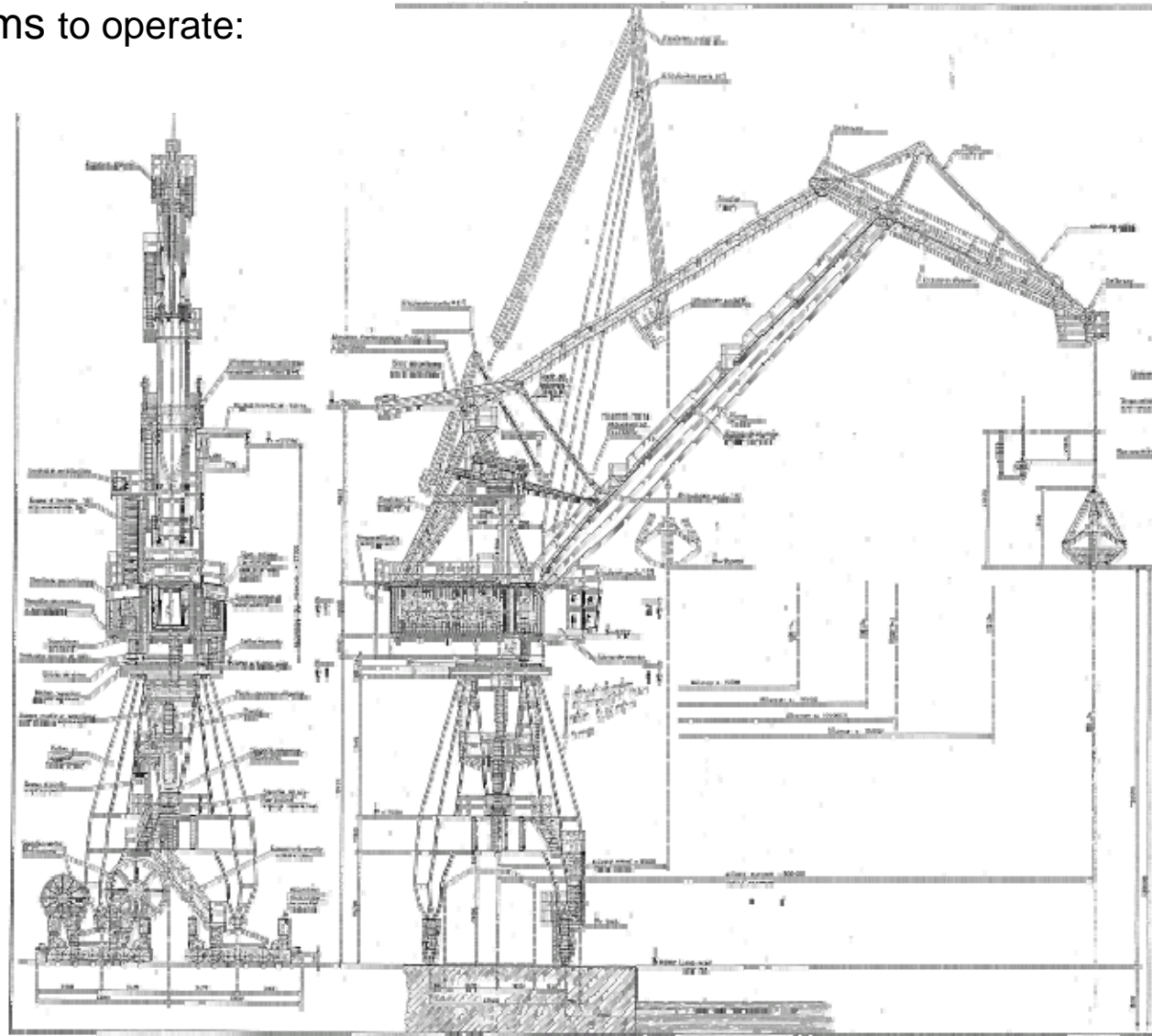
or

**refurbishment**

# Cargo Handling - Level Luffing Cranes

hydraulic D&C systems to operate:

- **level luffing**
- boom slewing
- hoist-winch
- brakes
- gantry drive
- flaps & others





# Cargo Handling – Level Luffing Cranes

BR equipment consisting of:

- power unit(s)
- valve blocks
- hydraulic cylinders
- gears & motors  
for rotary functions
- interconnecting piping
- (local) controls
- flushing & commissioning
- spare parts
- maintenance contract



# Cargo Handling – LLC examples



LLC Cuxport / Germany



LLC Kooper / Slovenia



LLC Rhenus Hamburg



LLC Weserport / Germany



LLC Marseille / France



# Stockyard machines - Stacker / Reclaimers

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# Stockyard machines - STR

hydraulic D&C systems to operate:

- boom hoist
- slewing
- bucket wheel
- cabin levelling
- flaps and brakes
- conveyor belts
- gantry drive





# Stockyard machines - STR examples

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EMO - Kombi 6 / NL



EECV stockyard / NL



Hadong / Korea



Kamsar / Guinea

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## Drive and Control Systems for **wagon tippers**

to operate:

- wagon clamping (vertical clamps with dampening and partially release function)
- side-pads
- rotation of wagon-drum,
- dumping-cylinders
- side arm chargers
- positioner
- rail clamp units
- conveyor belts





# Open Mining - Bucket wheel machines

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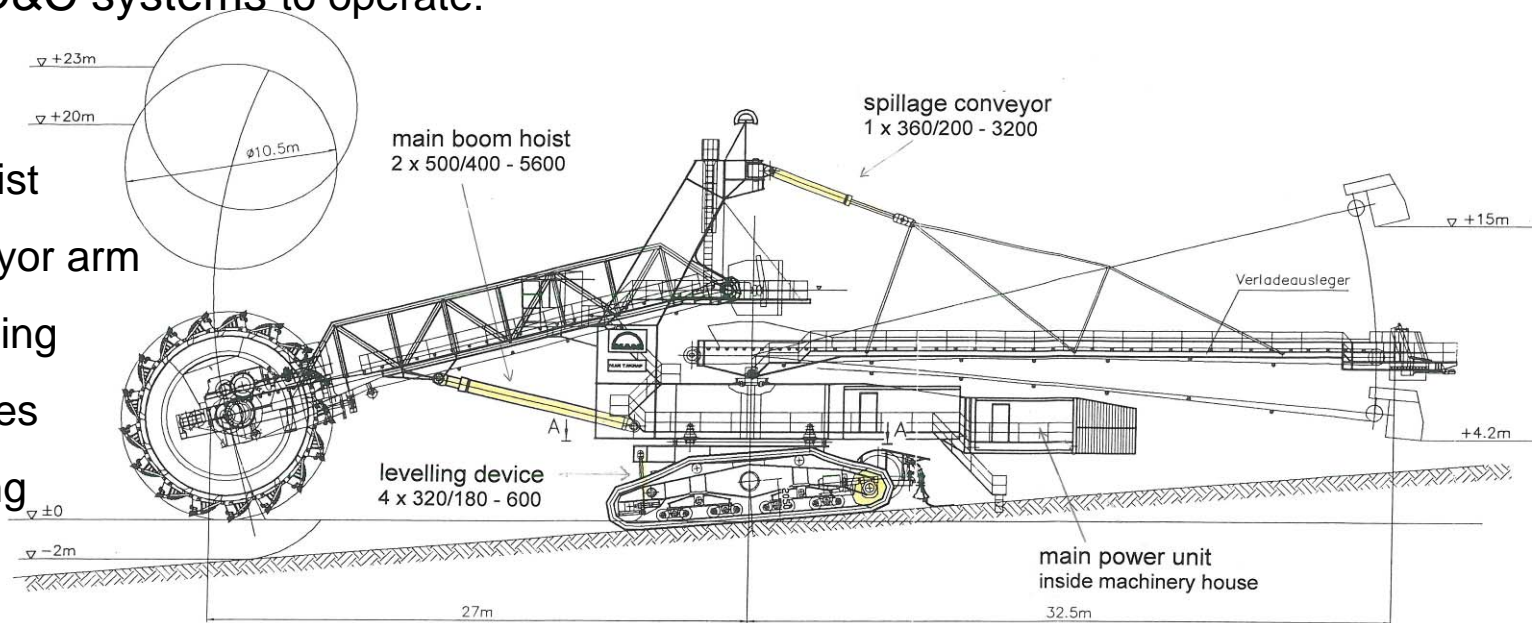
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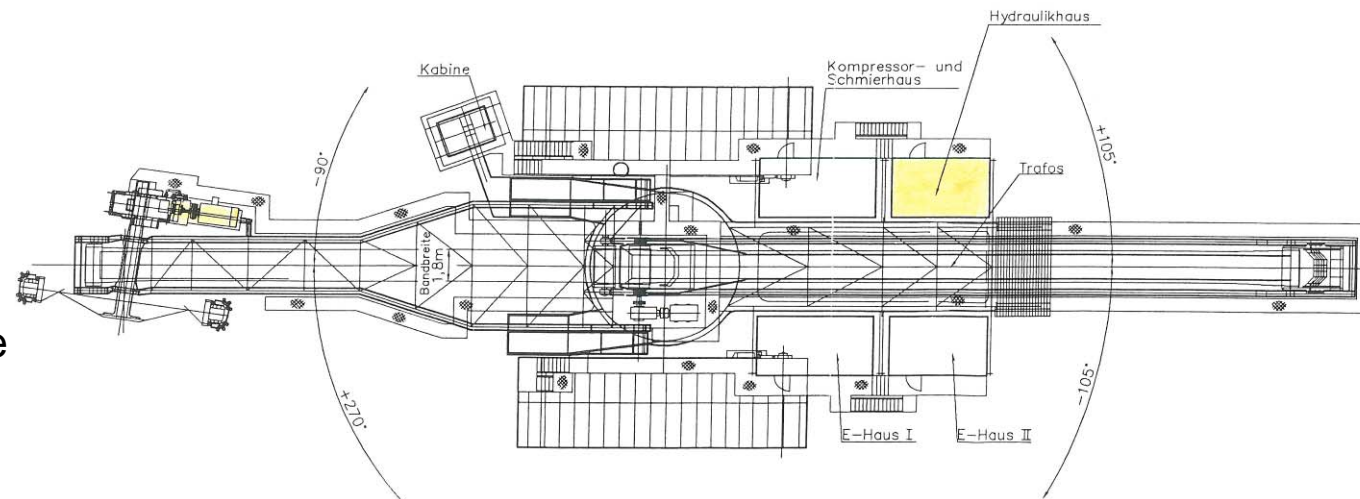
# Open Mining - Bucket wheel machines

hydraulic D&C systems to operate:

- cylinders for:
- main boom hoist
  - spillage conveyor arm
  - structure levelling
  - flaps and brakes
  - crawler steering



- rotary drives for:
- bucket wheel,  
or grinder
  - conveyors
  - crawler travel drive
  - slewing functions





# Open Mining - Bucket wheel machines

BR equipment consisting of:

- power unit(s)
- hydraulic cylinders
- motors for rotary functions
- valve blocks
- interconnecting piping
- (local) controls
- flushing & commissioning
- spare parts
- maintenance contract





# Open Mining – bucket wheel examples



EL Tesoro / Chile



Cottbus Nord / Germany



Surface miner / Taschkura / Australia



Garzweiler & Nochten / Germany

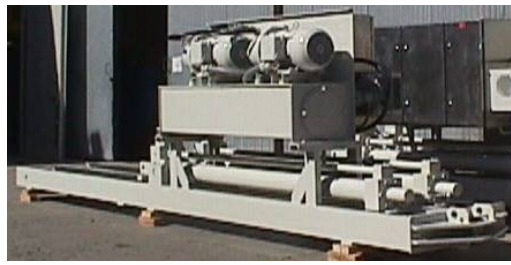


# Container Handling equipment

## Drive and Control Systems for container handling machines

complete multifunction modules, with:

- cylinders
- valve blocks
- interconnecting piping
- controls
- piped and flushing
- ready installed for plug-in & commissioning



# Systems & Engineering for Material Handling

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