



KEY REFERENCES SINCE 2000

THE MOST SIGNIFICANT AND SUCCESSFULLY COMPLETED INSTALLATIONS

- SHAFT HOISTING
- BRAKE SYSTEMS
- AUTOMATION & DRIVE SOLUTIONS
- HEAVY LOAD HOISTING
- VENTILATION & COOLING
- MOBILE RESCUE WINCHES

The best for your project



SHAFT HOISTING SYSTEMS FOR CONVEYANCE OF RAW MATERIALS IN MINES

AUSTRALIA

BHP (WHENAN) – MAIN + SERVICE SHAFT 2018
 1 x double drum \varnothing 3,70 m; SB1-2 (8 x BE100); 9,5 t; 488 m; 13,0 m/s; 1.500 kW (AC gear); skip/skip
 1 x single drum \varnothing 3,54 m; SB1-2 (8 x BE100); 4,0 t; 488 m; 10,0 m/s; 1.500 kW (AC gear); cage

GLENCORE (CSA MINE COBAR) – MAIN + SERVICE SHAFT 2018
 1 x single drum \varnothing 4,30 m; SB1-2 (12 x BE100); 24,2 t; 1.020 m; 10,0 m/s; 2.500 kW (AC gear); skip
 1 x 6-rope Koepe \varnothing 2,59 m; SB1-2 (6 x BE100); 10,4 t; 909 m; 15,0 m/s; 2.500 kW (AC gear); skip/skip-cage

BELARUS

SLAVKALIJ (DH) – SHAFT SINKING 2018
 4 x system integration comprising power supply system, hoist control system, drive system, brake systems, signalling & communication system, visualisation
 2 x single drum \varnothing 3,60 m; SB1 (7 x BE125); 9,6 t; 750 m; 6,0 m/s; 2 x 710 kW (AC gear); kibble
 2 x single drum \varnothing 3,60 m; SB1 (8 x BE125); 14,0 t; 750 m; 10,0 m/s; 2 x 1.350 kW (AC gear); kibble

CANADA

AGRIUM – MAIN SHAFT 2015
 1 x 6-rope Koepe \varnothing 5,50 m; ST4+1 (12 x BE200); 50,0 t; 1.143 m; 20,3 m/s; 2 x 6.000 kW (AC direct); skip/skip

COMPASS MINERALS (SIFTO SALT #2) – MAIN SHAFT 2016
 1 x single drum \varnothing 1,80 m; 45,0 t; 600 m; 0,5 m/s; 380 kW (AC gear); skip

MOSAIC K3 – MAIN + SERVICE SHAFT 2018
 1 x 6-rope Koepe \varnothing 6,00 m; ST4+1 (12 x BE200); 54,4 t; 1.100 m; 18,3 m/s; 2 x 5.500 kW (AC direct); skip/skip
 1 x single drum Blair \varnothing 4,00 m; ST4+1 (12 x BE200); 24,5 t; 1.100 m; 12,7 m/s; 5.500 kW (AC direct); cage

CHINA

GAOHE – PRODUCTION SHAFT 2009
 2 x 4-rope Koepe \varnothing 4,60 m; ST3-D (12 x BE100); 25,0 t; 454 m; 12,0 m/s; 4.000 kW (AC direct); skip/skip

GUCHENG – SERVICE SHAFT 2015
 1 x 4-rope Koepe \varnothing 5,00 m; SB1 (10 x BE100); 33,0 t; 522 m; 9,4 m/s; 2.500 kW (AC direct); cage/cage
 1 x 4-rope Koepe \varnothing 2,30 m; SB1 (3 x BE100); 2,1 t; 522 m; 6,0 m/s; 425 kW (AC gear); cage/counterweight

HONGQINGHE – MAIN + SERVICE SHAFT 2015
 2 x 6-rope Koepe \varnothing 5,00 m; SB1 (18 x BE125); 50,0 t; 770 m; 15,2 m/s; 9.000 kW (AC integrated); skip/skip
 1 x 6-rope Koepe \varnothing 5,60 m; SB1 (14 x BE125); 60,0 t; 695 m; 10,1 m/s; 3.800 kW (AC direct); cage/counterweight
 1 x 4-rope Koepe \varnothing 2,25 m; SB1 (3 x BE100); 2,9 t; 695 m; 7,6 m/s; 355 kW (AC direct); cage/cage

LICUN – MAIN + SERVICE SHAFT 2011
 1 x 4-rope Koepe \varnothing 4,50 m; ST3-D (12 x BE100); 33,0 t; 567 m; 8,4 m/s; 1.500 kW (AC gear); cage/cage
 1 x 4-rope Koepe \varnothing 2,50 m; ST3-D (4 x BE100); 6,0 t; 567 m; 5,6 m/s; 615 kW (AC direct); cage/counterweight
 1 x 4-rope Koepe \varnothing 5,00 m; ST3-D (14 x BE100); 30,0 t; 547 m; 12,0 m/s; 4.400 kW (AC direct); skip/skip

MAJIALIANG – SERVICE SHAFT 2015
 1 x 4-rope Koepe \varnothing 5,70 m; ST3-D (12 x BE100); 50,0 t; 538 m; 9,9 m/s; 3.600 kW (AC direct); cage/counterweight
 1 x 4-rope Koepe \varnothing 2,80 m; ST3-D (2 x BE100); 42,9 t; 538 m; 6,7 m/s; 400 kW (AC gear); cage/counterweight

MENKEQING – SERVICE SHAFT 2015
 1 x 6-rope Koepe \varnothing 5,00 m; ST3-D (18 x BE100); 50,0 t; 567 m; 10,5 m/s; 3.300 kW (AC direct); cage/counterweight

NALINHE – SERVICE SHAFT 2013
 1 x 6-rope Koepe \varnothing 5,00 m; ST3-D (18 x BE100); 50,0 t; 552 m; 9,4 m/s; 3.000 kW (AC direct); cage/counterweight

SHILAWUSU – MAIN + SERVICE SHAFT 2016
 2 x 6-rope Koepe \varnothing 4,50 m; SB1 (14 x BE125); 44,0 t; 742 m; 14,0 m/s; 6.500 kW (AC direct); skip/skip
 1 x 6-rope Koepe \varnothing 5,60 m; SB1 (14 x BE125); 60,0 t; 688 m; 10,0 m/s; 4.000 kW (AC direct); cage/counterweight

TUNLIU – MAIN SHAFT 2012
 2 x 4-rope Koepe \varnothing 4,50 m; ST3-D (12 x BE100); 25,0 t; 547 m; 12,0 m/s; 4.000 kW (AC direct); skip/skip

YINGPANHAO – MAIN + SERVICE SHAFT 2016
 2 x 6-rope Koepe \varnothing 4,50 m; SB1 (14 x BE125); 44,0 t; 831 m; 14,0 m/s; 6.500 kW (AC direct); skip/skip
 1 x 6-rope Koepe \varnothing 5,60 m; SB1 (14 x BE125); 60,0 t; 754 m; 10,0 m/s; 4.000 kW (AC direct); cage/counterweight

YUNNAN CHIHONG (HUIZE) – MAIN + SERVICE SHAFT 2016
 1 x 6-rope Koepe \varnothing 5,50 m; SB1 (12 x BE125); 30,0 t; 1.523 m; 14,0 m/s; 3.700 kW (AC direct); skip/cage

YUWU / TUNLIU – SERVICE SHAFT 2015
 1 x 4-rope Koepe \varnothing 5,00 m; SB1 (12 x BE100); 19,0 t; 545 m; 8,4 m/s; 2.500 kW (AC direct); cage/cage

ZHAOLOU – MAIN SHAFT 2009
 2 x 4-rope Koepe \varnothing 4,70 m; ST3-D (12 x BE100); 22,0 t; 896 m; 13,9 m/s; 4.000 kW (AC direct); skip/skip

FINLAND

KEMI – MAIN SHAFT 2019
 1 x system integration comprising power supply system, hoist control system, drive system, brake systems, signalling & communication system, visualisation
 1 x 4-rope Koepe \varnothing 4,00 m; SB1-2 (10 x BE100); 20,5 t; 1.070 m; 16,0 m/s; 4.200 kW (AC direct); skip/skip

GERMANY

K+S HATTORF (NORTH/SOUTH) – MAIN SHAFT 2006
 1 x 1-rope Koepe \varnothing 6,50 m; ST3+1 (6 x BE100); 15,0 t; 701 m; 15,0 m/s; 3.000 kW (AC integrated); skip/skip

1 x 1-rope Koepe \varnothing 6,50 m; ST3+1 (6 x BE100); 15,0 t; 701 m; 15,0 m/s; 3.000 kW (AC integrated); skip/skip

K+S NEUHOF – MAIN SHAFT 2014
 1 x 1-rope Koepe \varnothing 6,50 m; ST3+1 (6 x BE100); 14,5 t; 593 m; 15,0 m/s; 3.000 kW (AC integrated); skip/skip



MOROCCO

CMG DRAA LASFAR – MAIN SHAFT 2007
 1 x 4-rope Koepe \varnothing 4,00 m; ST1/2 (10 x BE100); 19,0 t; 1.150 m; 12,0 m/s; 2 x 1.200 kW (DC gear); skip/counterweight

POLAND

PG SILESIA – MAIN SHAFT 2013
 1 x 2-rope Koepe \varnothing 4,20 m; SB1 (6 x BE100); 12,5 t; 479 m; 12,0 m/s; 2.000 kW (DC direct); skip/skip

POLKOWICE – SERVICE SHAFT 2012
 1 x 1-rope Koepe \varnothing 6,00 m; (12 x BSGF408) ; 11,5 t; 835 m; 12,0 m/s; 1.250 kW (DC gear); cage/counterweight

RUSSIA

NORILSK NICKEL (BC 10) – SERVICE SHAFT 2012
 1 x double drum Blair \varnothing 5,60 m; ST3-B (16 x BE200); 32,0 t; 2.150 m; 8,0 m/s; 2.900 kW (AC direct); cage/counterweight

NORILSK NICKEL (KOMSOMOLSKIJ) – MAIN SHAFT 2012
 2 x 4-rope Koepe \varnothing 4,20 m; ST3-D (14 x BE100); 30,0 t; 675 m; 14,0 m/s; 4.600 kW (AC direct); skip/skip

NORILSK NICKEL (SKS1) – MAIN + SERVICE SHAFT 2018
 1 x double drum Blair \varnothing 5,75 m; SB1 (18 x BE200); 30,0 t; 2.050 m; 14,0 m/s; 8.600 kW (AC direct); skip/skip

TALITZKIJ – MAIN + SERVICE SHAFT 2019
 1 x 4-rope Koepe \varnothing 6,50 m; SB1 (16 x BE100); 20,0 t; 365 m; 12,0 m/s; 2.250 kW (AC direct); cage/counterweight

URALKALI (BKPRU 2) – MAIN SHAFT 2008
 2 x double drum \varnothing 5,5 m; SB1 (16 x BE100); 30,0 t; 419 m; 10,0 m/s; 3.800 kW (AC direct); skip/skip
 1 x 4-rope Koepe \varnothing 4,0 m; SB1 (8 x BE100); 25,0 t; 335 m; 8,0 m/s; 1.450 kW (AC direct); cage/counterweight
 1 x single drum \varnothing 3,00 m; SB1 (8 x BE100); 1,6 t; 398 m; 4,0 m/s; 330 kW (AC gear); cage

URALKALI (BKPRU 4) – MAIN SHAFT 2008
 1 x double drum \varnothing 5,00 m; ST3-B (16 x BE100); 30,0 t; 467 m; 10,7 m/s; 4.000 kW (AC direct); skip/skip

URALKALI (BKPRU 4) – MAIN SHAFT 2008
 3 x double drum \varnothing 5,00 m; ST3-B (16 x BE100); 30,0 t; 467 m; 10,7 m/s; 4.000 kW (AC direct); skip/skip

SOUTH AFRICA

ASSMANG BLACK ROCK – MAIN SHAFT 2015
 1 x double drum \varnothing 4,88 m; Escort (2 x external shoe brake); 20,0 t; 402 m; 9,0 m/s; 2.200 kW (AC direct); skip/skip
 1 x double drum \varnothing 4,88 m; Escort (2 x external shoe brake); 20,0 t; 553 m; 9,0 m/s; 2.200 kW (AC direct); skip/skip

GOLDFIELDS (SOUTH DEEP VENT) – MAIN SHAFT 2011
 1 x double drum Blair \varnothing 7,10 m; ST4+1 (16 x BE200); 31,0 t; 3.000 m; 18,0 m/s; 2 x 6.070 kW (AC direct); skip/skip

SIBANYE STILLWATER (KLOOF) – MAIN SHAFT 2015
 1 x double drum \varnothing 5,50 m; Escort (2 x external shoe brake); 19,0 t; 1.645 m; 3,0 m/s; 180 kW (AC gear); skip/skip

SOUTH KOREA

HANDUK – MAIN + SERVICE SHAFT 2018
 2 x system integration comprising power supply system, hoist control system, drive system, brake systems, signalling & communication system, visualisation

1 x single drum \varnothing 2,00 m; SB1 (3 x BE100); 1,5 t; 587 m; 4,0 m/s; 250 kW (AC gear); cage

1 x 4-rope Koepe \varnothing 3,40 m; SB1(8 x BE100); 19,0 t; 675 m; 12,0 m/s; 1.500 kW (AC direct); skip/counterweight

SPAIN

IBERPOTASH CABANASAS – MAIN SHAFT 2002
 1 x 4-rope Koepe \varnothing 4,20 m; ST1/2 (8 x BSGF508); 30,0 t; 680 m; 16,0 m/s; 3.100 kW (AC integrated); skip/counterweight

TURKEY

ETI BAKIR (KURE) – MAIN + SERVICE SHAFT 2013
 2 x system integration comprising power supply system, hoist control system, drive system, brake systems, signalling & communication system, visualisation

1 x 4-rope Koepe \varnothing 3,50 m; SB1 (6 x BE100); 12,0 t; 905 m; 13,0 m/s; 2.200 kW (DC direct); skip/skip

1 x single drum \varnothing 2,00 m; (2 x BE100); 3,5 t; 930 m; 3,5 m/s; 160 kW (DC gear); cage

ETI BAKIR (SIIRT) – MAIN + SERVICE SHAFT 2019
 2 x system integration comprising power supply system, hoist control system, drive system, brake systems, signalling & communication system, visualisation

1 x 4-rope Koepe \varnothing 3,50 m; SB1 (6 x BE100); 12,0 t; 680 m; 11,0 m/s; 1.700 kW (AC direct); skip/skip

1 x single drum \varnothing 1,50 m; SB1 (3 x BE100); 1,4 t; 680 m; 4,0 m/s; 250 kW (AC gear); cage

FINA POLYAK – SERVICE SHAFT 2019
 2 x system integration comprising power supply system, hoist control system, drive system, brake systems, signalling & communication system, visualisation

1 x 4-rope Koepe \varnothing 4,80 m; SB1-2 (12 x BE100); 30,0 t; 753 m; 14,0 m/s; 4.176 kW (AC direct); cage/counterweight

1 x single drum \varnothing 3,00 m; SB1 (3 x BE100); 0,5 t; 753 m; 3,0 m/s; 270 kW (AC gear); cage

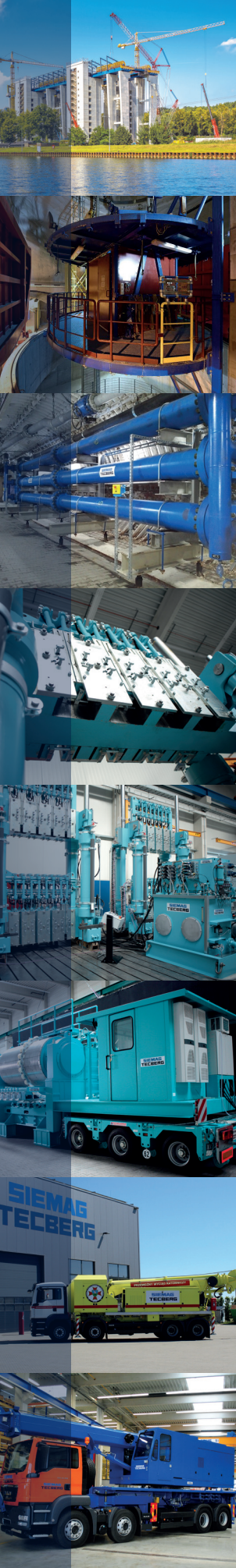
VIETNAM

NUI BEO – MAIN + SERVICE SHAFT 2018
 3 x system integration comprising power supply system, hoist control system, drive system, brake systems, signalling & communication system, visualisation

1 x 4-rope Koepe \varnothing 3,50 m; SB1 (6 x BE100); 21,1 t; 415 m; 9,5 m/s; 1.300 kW (DC direct); cage/counterweight

1 x single drum \varnothing 1,90 m; SB1 (3 x BE100); 2,1 t; 395 m; 3,0 m/s; 180 kW (AC gear); cage

1 x 4-rope Koepe \varnothing 3,50 m; SB1 (6 x BE100); 15,1 t; 385 m; 10,5 m/s; 4.100 kW (DC direct); skip/cage 2019



SYSTEMS FOR THE HOISTING AND CONVEYANCE OF HEAVY LOADS

GERMANY

Niederfinow – Ship Lift System 2019
 125,5 x 12,5 x 4,0 m (caisson); 10.000 t (capacity); 56,0 m (pylon height); 112 x \varnothing 4,0 m (double rope rollers)

SWITZERLAND

GOTTHARD BASE TUNNEL 2002
 1 x 4-rope Koepe \varnothing 4,80 m; SB1-2 (13 x BE100); 30,0 t; 753 m; 14,0 m/s; 4.176 kW (AC direct); cage/counterweight
 1 x single drum \varnothing 3,00 m; SB1-2 (3 x BE100); 0,5 t; 753 m; 3,0 m/s; 270 kW (AC gear); cage
 2 x system integration comprising power supply system, hoist control system, drive system, brake systems 2013
 signalling & communication system, visualisation
 1 x single drum \varnothing 3,00 m; SB1 (6 x BE100); 13,5 t; 796 m; 1,0m/s; 400 kW (AC gear); cage
 1 x single drum Blair \varnothing 3,00 m; SB1 (8 x BE100); 5,0t ; 796 m; 4,0 m/s; 2 x 560 kW (AC gear); cage

SHAFT HOISTING FOR STORAGE OF CONTAMINATED WASTE IN SPECIAL MINES

FINLAND

POSIVA – ENCAPSULATION PLANT 2019
 1 x system integration comprising power supply system, hoist control system, drive system, brake systems, signalling & communication system, visualisation
 1 x 4-rope Koepe \varnothing 2,15 m; SB1 (8 x BE100); 32,0 t; 446 m; 0,4 m/s; 250 kW (AC gear); cage/counterweight

VENTILATION AND COOLING OF UNDERGROUND MINES AND REPOSITORIES

CHINA

PINGBAO – PRESSURE EXCHANGE SYSTEM (P.E.S.) 2018
 DN 500/DN 200 (type); 150 bar; 700 m; 750m³/h (flow rate)

POLAND

BOGDANKA II – PRESSURE EXCHANGE SYSTEM (P.E.S.) 2013
 DN 500/DN 200 (type); 150 bar; 1.050 m; 272 m³/h (flow rate)
 BUDRIK II – PRESSURE EXCHANGE SYSTEM (P.E.S.) 2013
 DN 500/DN 200 (type); 150 bar; 1.050 m; 430 m³/h (flow rate)
 BUDRIK III – PRESSURE EXCHANGE SYSTEM (P.E.S.) 2017
 DN 500/DN 200 (type); 150 bar; 1.300 m; 450 m³/h (flow rate)

CLAMPING AND LIFTING EQUIPMENT

CANADA

PCS ALLAN 2015
 1 x 4-rope CLD; 56 mm (rope); 1.600 kN (force); 1.600 mm (lift)

MONGOLIA

OYU TOLGOI 2018
 1 x 6-rope CLD; 56 mm (rope); 2.500 kN (force); 1.600 mm (lift)

RUSSIA

NORILSK NICKEL (SKS1) 2019
 1 x 4-rope CLD; 54 mm (rope); 2.000 kN (force); 1.600 mm (lift)

SOUTH AFRICA

IMPALA (PLATINUM #16) 2010
 1 x 4-rope CLD; 54 mm (rope); 1.700 kN (force); 1.600 mm (lift)

SINGLE- AND MULTI-ROPE FRICTION WINCHES

CANADA

PCS ALLAN 2017
 1 x 1-6 rope mobile friction winch; 56 - 60 mm (rope); 1.800 kN (force); 530 kW

MONGOLIA

OYU TOLGOI 2018
 1 x 1-6 rope mobile friction winch; 28 - 56 mm (rope); 1.830 kN (force); 500 kW

RUSSIA

NORILSK NICKEL (SKS1) 2018
 1 x 1-4 rope mobile friction winch; 48 - 63 mm (rope); 1.800 kN (force); 500 kW

SOUTH AFRICA

PALABORA COPPER 2011
 1 x 1-6 rope mobile friction winch; 48 mm (rope); 1.500 kN (force); 315 kW
 IMPALA (PLATINUM #16) 2015
 1 x 1-6 rope mobile friction winch; 54 -62 mm (rope); 1.700 kN (force); 500 kW

SWITZERLAND

GOTTHARD BASE TUNNEL 2002
 1 x 1-4 rope mobile friction winch; 52 mm (rope); 700 kN (force); 160 kW

MOBILE SHAFT WINCHES

CHINA

XINWEN MINING GROUP 2013
 1 x mobile shaft winch; 2,0-3,5 t; 0-1m/s; 1.300 m; 6-10 m (jib radius)

POLEN

CSRG 2015
 1 x mobile shaft winch; 1,8 t; 0-1 m/s; 1.400 m; 10 m (jib radius - fixed)

SWITZERLAND

GOTTHARD BASE TUNNEL 2002
 1 x mobile shaft winch; 5,0 t; 0-1 m/s; 885 m; 10 m (jib radius)