Selected References

Mining Belt Conveyors
Installed base 2011 (since 1960)
BU Process Industries

>300 conveyors, all climates, >720km

- Russia, Uzbekistan, Kazakhstan: 78km
- Germany: 203km
- Balkan countries: 115km
- Cuba: 16.8km
- Peru: 7.5km
- Chile: 43km
- Tunisia, Senegal, Nigeria: 26km
- China: 47.5km
- Thailand: 22km
- India: 174km
- Indonesia: 5km
- Australia: >90km
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Overburden Conveyor Tamnava West/ Serbia

ACS800 LV drives and process control

Open pit-mine Tamnava West, Serbia

- Contractor: FAM GmbH, Germany
- End user: EPS, Republic of Serbia
- Mechanical performance data:
  - 5 pcs 2000mm belt drive stations with return station
  - 1 tripper car, 2 hopper cars
- Scope of ABB:
  - Medium voltage switchgears, Low voltage switchgears
  - Transformers, Control system, Frequency converters
  - Motors 1000kW, Field devices, Cables
  - Containers, Communication system (WLAN, Radio)
  - Engineering, Supervision, Erection
  - Commissioning and tests
- Key features:
  - ABB AC 800F controller system
  - ABB ACS 800 technology
  - Central control room (CCR) with 800xA for > 7.500 I/O’s
  - 4 Operator workplaces, 2 Service workplaces
  - Optimized belt speed regulation (OBS)
  - WLAN data communication
MCCP for Worsley Conveyor

OLC2 Extension (27km)

- 2 snub drives added
- Altogether 4 drives at head station of OLC2
- Master – Follower not suitable
- Code in PLC reduced by more than 50%
- Solution with MCCP
Collahuasi/ Chile – Extreme conditions
Conveyor with Crusher – Collahuasi/Chile

Overland conveyor system with semi-mobile crushing station

- Copper mine, Chile, 4,500 m above MSL
- OEM: ThyssenKrupp Robins Inc. Canada / TAKRAF GmbH, Germany (crusher)
  End user: Doña Ines de Collahuasi SCM (CMDIC)
- Commissioning in 2003/2004
- Mechanical performance data:
  - more than 8.5 km total length, 10,000 t/h
  - gyratory crusher 750 kW / 3.3 kV
- Scope of ABB:
  - 3 up- and down-hill belt conveyors
  - redundant ABB AC 800 M control
  - conveyor drives: 3 pcs. ACS 6000 (VFD) for 8 x 2000 kW motors
  - central control room, containers, MV- and LV-switchgears
ACS6000 drives
Collahuasi/ Chile

- ACS6000 Drives for 5 flights
- Regenerative drive for downhill conveyor CV203
- Uphill conveyor with starting torque control
Extreme conditions
Collahuasi/ Chile

>4500 m.a.s.l.

- Hardrock
- ACS6000 MV Drives
- Uphill / downhill
- 10.000t/hour
Collahuasi/ Chile – Extension contract
Highly inclined uphill conveyor – Starting torque boost
Collahuasi/ Chile

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  - 3 up- and down-hill belt conveyors
  - redundant ABB AC 800 M control
  - conveyor drives: 3 pcs. ACS 6000 (VFD) for 8 x 2000 kW motors
  - central control room, containers, MV- and LV-switchgears
Advanced process control
Coal Conveyor Welzow South/ Germany

- Upgrade of 9 flights (>9km in total)
- MCCP drive control for n x 1250kW motors VFD controlled
- ABB LV drives (ACS600, ACS800, ACS880)
- Optimized Conveyor Load function
- 98% Availability
Tianjin Coke/ China – Overland Conveyor (7.6km), Head/Tail with MCCP
Some References – Semi Mobile Crusher - Sino Iron NT (AU)
Cadia East/ Australia – HV Switchroom – ACS6000 liquid cooled drive
Cadia East/ Australia – Site construction – underground conveyors
Cadia East/ Australia – Site construction – slope conveyor
Electronic Compact Resistor Starter (ECOSS)
Overburden Bridge F60 Reichwalde/ Germany

- Since 2009/2010
- 23 ECOSS drives at overburden conveyor bridge F60 Reichwalde/Germany
- 400kW up to 1500kW
Binary resistor starter

El Abra/ Chile

- Since 1996
- Stepped rotor resistance
- DC injection braking
- 8 conveyors, 32km in total
- Longest single flight = 9.6km; downhill conveyor
- Motor power 4 x 1800kW (WRIM)
ACS800 LV Drives with MCCP
Tobene/ Senegal

- ACS800 VFD
- 6.9km length
- Motor power 3 x 710kW (WRIM)
- MCCP drive control