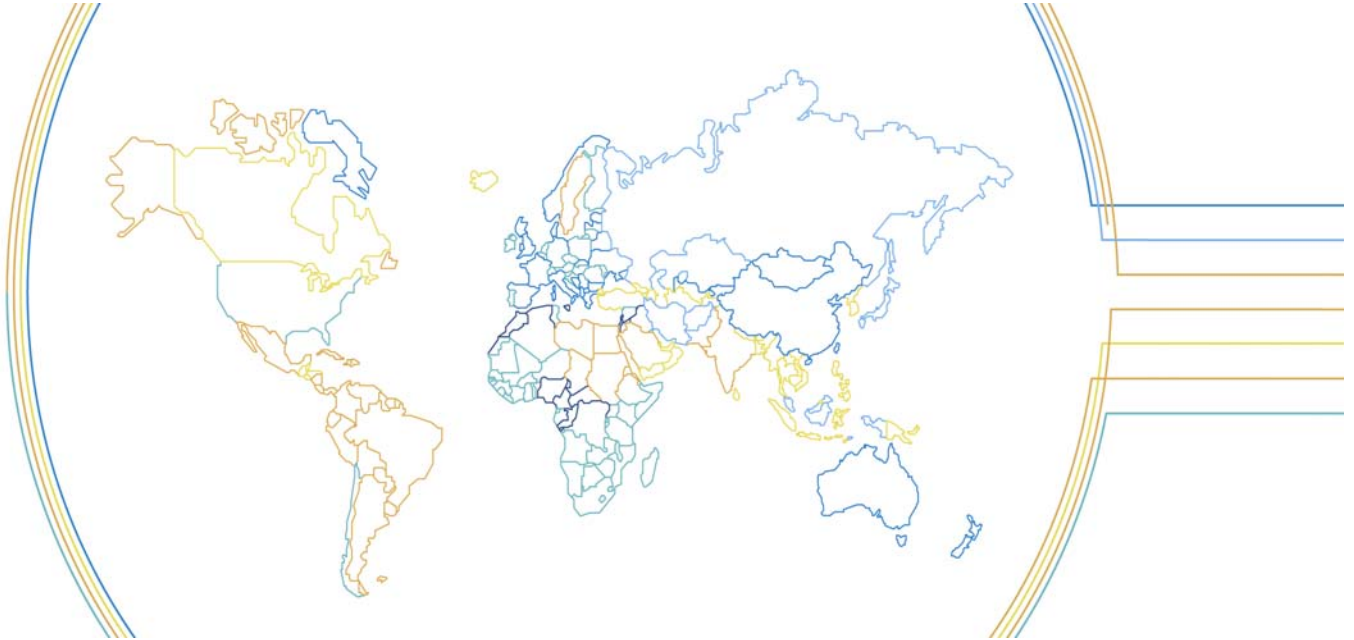


# ABB in mineral processing

## References



This report includes references from 2000 to 2012 in the following industries:

- Bauxite
- Chrome
- Copper
- Gold
- Iron ore
- Limestone
- Manganese
- Lead
- Metallurgical coal
- Nickel
- Silver
- Thermal coal
- Uranium
- Zinc
- Other

## Kaunisvaara - ITB2

Country: Sweden | Plant name/location: Datavägen 14  
Enduser: Northland Resources AB, Sweden  
Customer: Northland Resources AB, Sweden

Process: Benefication, Open pit mining  
Mineral: Iron Ore  
Capacity: 3MTPY  
Project type: Greenfield  
Description: E-containers, civil and network equipment directly to Northland Resources  
Year of award: 2012, Start of operation: 2012

### Equipment:

**POWER DISTRIBUTION**  
Distribution transformers, LV distribution, MCC motor control centers, MV switchgear, Overhead lines

**MOTORS and DRIVES**  
LV variable speed drives

**CONTROL and INSTRUMENTATION**  
Process control system, System 800xA

**INFRASTRUCTURE**  
Cables and installation material, Fire detection and protection, Prefabricated electrical rooms

**ENGINEERING**  
Automation engineering, Cable planning, Complete electrical & automation design & engineering, Equipment design, Power distribution engineering, Wiring engineering

**SERVICES**  
Commissioning, Operations assistance, Supervision of installation, Training

## Kaunisvaara EC&I for Metso Minerals

Country: Sweden | Plant name/location: Datavägen 14  
Enduser: Northland Resources AB, Sweden  
Customer: Metso Systems AB, Sweden

Process: Benefication, Material handling/transportation, Open pit mining  
Mineral: Iron Ore  
Capacity: 3MTPY  
Project type: Greenfield  
Description: Electrification and Automation for Iron Ore Beneficiation Plant - Tapuli Line - in North Sweden  
Year of award: 2012, Start of operation: 2012

### Equipment:

**POWER DISTRIBUTION**  
Distribution transformers, LV distribution, MCC motor control centers, MV switchgear, Overhead lines

**MOTORS and DRIVES**  
LV variable speed drives, MV motors, MV variable speed drives

**CONTROL and INSTRUMENTATION**  
Control room equipment, System 800xA

**COLLABORATION PRODUCTION MANAGEMENT**  
Knowledge Manager

**INFRASTRUCTURE**  
Cables and installation material, Fire detection and protection, Ventilation and air conditioning

**ENGINEERING**  
Cable planning, Complete electrical & automation design & engineering, Equipment design, Power distribution engineering, Wiring engineering

**SERVICES**  
Commissioning, Supervision of installation, System 800xA: Applications for minerals - Operation course, Training

Selection Criteria: Year From 2000 Year To 2012

Mineral: Bauxite | Manganese | Chrome | Metallurgical coal | Nickel | Copper | Silver | Gold | Thermal coal | Iron ore | Uranium | Limestone | Zinc | Other | Lead

Copyright 2011 ABB. All rights reserved.

ABB Switzerland Ltd | 5405 Baden 5 Dättwil | Switzerland | Phone: +41 58 586 84 44 | Fax: +41 58 586 73 22 | E-Mail: process.industries@ch.abb.com

References | 2

## Vale Minerals Malaysia Automation System

Country: Malaysia | Plant name/location: Unit No. 17F-PBS-2  
Enduser: Vale Malaysia Manufacturing Sdn Bhd, Malaysia  
Customer: VALE Malaysia Manufacturing Sdn Bhd, Malaysia

Process: Material handling/transportation, Port facilities  
Mineral: Iron Ore  
Capacity: 30Mt/a  
Project type: Greenfield  
Description: Vale transshipment hub in Asia for iron ore  
Year of award: 2012, Start of operation: 2014

### Equipment:

**POWER DISTRIBUTION**  
Emergency diesel generator

**CONTROL and INSTRUMENTATION**  
Control room equipment, Electrical control system, System 800xA

**COLLABORATION PRODUCTION MANAGEMENT**  
Stockyard management system

**INFRASTRUCTURE**  
Communication system

**ENGINEERING**  
Automation engineering

**SERVICES**  
Commissioning, Installation work, Operations assistance,  
Supervision of installation, Training

## Jabal Sayid - bundled electrification packages

Country: Saudi Arabia | Plant name/location: Jabal Sayid  
Enduser: Bariq Mining, Saudi Arabia  
Customer: Bariq Mining, Saudi Arabia  
Consultant/EPC(M): SNC-Lavalin Australia

Process: Concentrator  
Mineral: Copper  
Capacity: 60000 t/y.  
Project type: Greenfield  
Description: Copper concentrator to process ROM from Jabali Sayid underground mine  
Year of award: 2011, Start of operation: 2012

### Equipment:

**POWER DISTRIBUTION**  
Distribution transformers, LV distribution, MCC motor control centers

**MOTORS and DRIVES**  
LV variable speed drives

**CONTROL and INSTRUMENTATION**  
Control room equipment

**INFRASTRUCTURE**  
Fire detection and protection, Prefabricated electrical rooms,  
Ventilation and air conditioning

**ENGINEERING**  
Equipment design, Power distribution engineering, Substation planning

**SERVICES**  
Commissioning, Installation work, Supervision of installation

## Mina Ministro Hales electrification

Country: Chile | Plant name/location:  
Enduser: Corporation Nacional del Cobre Codelco, Chile  
Customer: Corporation Nacional del Cobre Codelco, Chile  
Consultant/EPC(M): Hatch Ingenieros y Consultores Ltda.

Process: Concentrator  
Mineral: Copper; Silver  
Capacity: 170000t/y copper  
Project type: Greenfield  
Description: New concentrator located at 3000 masl in Calama, Chile  
Year of award: 2011, Start of operation: 2011

### Equipment:

**POWER DISTRIBUTION**  
Harmonic filter, HV switchgear, MV switchgear, Power transformers

**MOTORS and DRIVES**  
Gearless mill drive system

**INFRASTRUCTURE**  
Prefabricated electrical rooms

**ENGINEERING**  
Equipment design, PFC and harmonic filter study, Substation planning

**SERVICES**  
Commissioning, Supervision of installation, Training

## BMZ Zhlobin lime kiln

Country: Belarus | Plant name/location: Zhlobin  
Enduser: Belarusskiy Metallurgicheskiy Zavod Rupp, Belarus  
Customer: Belarusskiy Metallurgicheskiy Zavod Rupp, Belarus  
Contractual partner(s): Maerz Ofenbau AG / A Company of Polysius, Switzerland

Mineral: Limestone  
Capacity: 400 t/d  
Project type: Extension

Year of award: 2010, Start of operation: 2011

### Equipment:

**POWER DISTRIBUTION**  
LV distribution, MCC motor control centers

**MOTORS and DRIVES**  
LV variable speed drives

**CONTROL and INSTRUMENTATION**  
Field instrumentation, Process control system, System 800xA

**INFRASTRUCTURE**  
Earthing & lightning protection

**ENGINEERING**  
Complete electrical & automation design & engineering

**SERVICES**  
Commissioning, Supervision of installation, Training

## Toromocho concentrator electrification and control

Country: Peru | Plant name/location:  
Enduser: Minera Chinalco Perú S.A. Toromocho, Peru  
Customer: Minera Chinalco Perú S.A. Toromocho, Peru  
Consultant/EPC(M): Aker Solutions

Process: Concentrator  
Mineral: Copper  
Capacity: 1'000'000 t/y  
Project type: Greenfield  
Description: Copper mine and concentrator located at an altitude of 4800 masl in the Andes  
Year of award: 2010, Start of operation: 2012

### Equipment:

#### POWER DISTRIBUTION

Distribution transformers, Harmonic filter, LV distribution, MCC motor control centers, MV switchgear, Power factor compensation, Unit substations

#### MOTORS and DRIVES

Gearless mill drive system, LV variable speed drives, MV variable speed drives

#### CONTROL and INSTRUMENTATION

Process control system, System 800xA

#### INFRASTRUCTURE

Fire detection and protection, Lighting system, Prefabricated electrical rooms, Ventilation and air conditioning

#### ENGINEERING

Automation engineering, Complete electrical & automation design & engineering, Equipment design, PFC and harmonic filter study, Power distribution engineering, Power system study, Substation planning

#### SERVICES

Commissioning, Supervision of installation, Training

## Sulb DRI power distribution

Country: Bahrain | Plant name/location: Hidd  
Enduser: United Stainless Steel Company BSC ©, Bahrain  
Customer: Kobe Steel, Ltd. KOBELCO, Japan

Process: Direct reduction  
Mineral: Iron Ore  
Capacity: 1.5 Mt/a  
Project type: Greenfield  
Description: New DRI Line  
Year of award: 2010, Start of operation: 2012

### Equipment:

#### POWER DISTRIBUTION

Distribution transformers, Emergency diesel generator, MCC motor control centers, MV switchgear, Power transformers

#### INFRASTRUCTURE

Cables and installation material, Earthing & lightning protection, Fire detection and protection, Lighting system

#### ENGINEERING

Cable planning, Equipment design, Network study, Power distribution engineering, Power system study, Substation planning, Wiring engineering

#### SERVICES

Commissioning, Operations assistance, Supervision of installation, Training

## Bayovar phosphate desalination plant

Country: Peru | Plant name/location:  
Enduser: Vale Bayovar, Peru  
Customer: Vale Bayovar, Peru

Mineral: Other  
Project type: Greenfield  
Description: Plant electrification and control  
Year of award: 2010, Start of operation: 2012

### Equipment:

**POWER DISTRIBUTION**  
Distribution transformers, LV distribution, MV switchgear

**ENGINEERING**  
Complete electrical & automation design & engineering

**CONTROL and INSTRUMENTATION**  
Operator station, Process control system, System 800xA

**SERVICES**  
Commissioning, Supervision of installation

## Itabiritos

Country: Brazil | Plant name/location: Diretoria de Ferrosos Sul  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Pelletizing  
Mineral: Iron Ore  
Project type: Greenfield  
Description: Electrical and control equipment for a new pelletizing plant  
Year of award: 2010, Start of operation: 2012

### Equipment:

**POWER DISTRIBUTION**  
Distribution transformers, MCC motor control centers, MV switchgear

**ENGINEERING**  
Automation engineering, Equipment design, Power distribution engineering

**MOTORS and DRIVES**  
LV variable speed drives, MV variable speed drives

**SERVICES**  
Commissioning

**CONTROL and INSTRUMENTATION**  
Process control system, System 800xA

**INFRASTRUCTURE**  
Prefabricated electrical rooms

Selection Criteria: Year From 2000 Year To 2012

Mineral: Bauxite | Manganese | Chrome | Metallurgical coal | Nickel | Copper | Silver | Gold | Thermal coal | Iron ore | Uranium | Limestone | Zinc | Other | Lead

Copyright 2011 ABB. All rights reserved.

ABB Switzerland Ltd | 5405 Baden 5 Dättwil | Switzerland | Phone: +41 58 586 84 44 | Fax: +41 58 586 73 22 | E-Mail: process.industries@ch.abb.com

References | 6

## Salobo II

Country: Brazil | Plant name/location: Salobo  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Concentrator  
Mineral: Copper; Gold  
Capacity: 127'000 t/y  
Project type: Extension  
Description: Phase 2 to double the capacity of the copper/gold concentrator in Marabà, State of Pará  
Year of award: 2010, Start of operation: 2013

### Equipment:

MOTORS and DRIVES  
Gearless mill drive system, MV motors, MV variable speed drives

ENGINEERING  
Equipment design, PFC and harmonic filter study

SERVICES  
Commissioning, Supervision of installation

## Vitoria - revamp of plants 1, 2 7 and utilities

Country: Brazil | Plant name/location: Vitoria / Ponta de Tubarao  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Pelletizing  
Mineral: Iron Ore  
Project type: Up-grade/Revamp  
Description: Revamp of electrical and control systems  
Year of award: 2010, Start of operation: 2013

### Equipment:

POWER DISTRIBUTION  
Distribution transformers, MCC motor control centers, MV switchgear

ENGINEERING  
Automation engineering, Equipment design, Power distribution engineering

CONTROL and INSTRUMENTATION  
System 800xA

SERVICES  
Commissioning

## Antapaccay copper concentrator

Country: Peru | Plant name/location:  
Enduser: Xstrata Peru, Peru  
Customer: Xstrata Peru, Peru

Process: Concentrator  
Mineral: Copper  
Capacity: 70'000 t/d  
Project type: Greenfield  
Description: Electrification  
Year of award: 2010, Start of operation: 2012

### Equipment:

#### POWER DISTRIBUTION

LV distribution, MCC motor control centers, MV switchgear, Power factor compensation

#### MOTORS and DRIVES

LV variable speed drives, MV variable speed drives

#### ENGINEERING

PFC and harmonic filter study, Power distribution engineering

#### SERVICES

Commissioning, Supervision of installation

## Rönnskär -Smelter

Country: Sweden | Plant name/location: Rönnskär Smelter  
Enduser: Boliden Mineral AB, Sweden  
Customer: Boliden Mineral AB, Sweden

Mineral: Copper  
Project type: Up-grade/Revamp  
Description: Large process control system with 15'000 I/O's  
Year of award: 2009, Start of operation: 2009

### Equipment:

#### CONTROL and INSTRUMENTATION

Operator station, Process control system, System 800xA, Former ABB Process Control system

#### ENGINEERING

Automation engineering

#### SERVICES

Commissioning, Supervision of installation



## Cerro Verde debottlenecking

Country: Chile | Plant name/location: Interior puente ojanos KM9  
Enduser: Freeport- McMoRan Copper & Gold Inc, Chile  
Customer: Freeport- McMoRan Copper & Gold Inc, Chile

Process: Concentrator  
Mineral: Copper  
Capacity: 20'000 t/d  
Project type: Extension  
Description: Debottlenecking project to increase production by 20%  
Year of award: 2009, Start of operation: 2010

### Equipment:

**POWER DISTRIBUTION**  
LV distribution, MV switchgear, Power transformers

**MOTORS and DRIVES**  
MV variable speed drives

**ENGINEERING**  
Equipment design, Power distribution engineering

**SERVICES**  
Commissioning, Supervision of installation

## OIC material handling and pelletizing plant, Sohar

Country: Oman | Plant name/location: Falaj Al Qabail  
Enduser: Vale Oman Pelletizing Company L.L.C, Oman  
Customer: Vale Oman Pelletizing Company L.L.C, Oman  
Consultant/EPC(M): Essar Steel

Process: Material handling/transportation, Pelletizing, Port facilities  
Mineral: Iron Ore  
Capacity: 9 mt/y pellets, 40mt/y port  
Project type: Greenfield  
Description: Vales iron ore and pellets hub in the Middle East  
Year of award: 2009, Start of operation: 2011

### Equipment:

**POWER DISTRIBUTION**  
Distribution transformers, Emergency diesel generator, Harmonic filter, HV switchgear, MCC motor control centers, MV switchgear, Power factor compensation, Power transformers, Transformer

**MOTORS and DRIVES**  
FSD Single (motor), FSD Single (motor) + starter, LV variable speed drives, MV motors, MV variable speed drives, VSD Multi active front end, VSD Single

**CONTROL and INSTRUMENTATION**  
Control room equipment, Electrical control system, Field instrumentation, Kiln shell scanner, Process control system, System 800xA, Video system

**COLLABORATION PRODUCTION MANAGEMENT**  
Knowledge Manager

**INFRASTRUCTURE**  
Cables and installation material, Lighting system

**ENGINEERING**  
Automation engineering, Cable planning, Complete electrical & automation design & engineering, Electrical feasibility study, Equipment design, Network study, PFC and harmonic filter study, Power distribution engineering, Power system study, S

**SERVICES**  
ACS800 - Maintenance and operation course, Commissioning, Knowledge Manager - Application engineering course, Life cycle support, Operations assistance, Supervision of installation, Training

## Vitoria - revamp of complete iron ore harbour

Country: Brazil | Plant name/location:  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Port facilities  
Mineral: Iron Ore  
Project type: Up-grade/Revamp  
Description: Revamp of electrical and control systems  
Year of award: 2009, Start of operation: 2013

### Equipment:

**POWER DISTRIBUTION**  
Distribution transformers, MCC motor control centers, MV switchgear

**MOTORS and DRIVES**  
LV variable speed drives

**ENGINEERING**  
Automation engineering, Equipment design, Power distribution engineering

**SERVICES**  
Commissioning

## Canaã dos Carajás -Serra Sul project

Country: Brazil | Plant name/location: Sossego  
Enduser: Vale, Brazil  
Customer: ThyssenKrupp Fördertechnik Latino Americana, Brazil

Process: Material handling/transportation  
Mineral: Copper  
Project type: Extension  
Description: Process control and MCC's for three reclaimer machines  
Year of award: 2009, Start of operation: 2014

### Equipment:

**POWER DISTRIBUTION**  
MCC motor control centers

**CONTROL and INSTRUMENTATION**  
System 800xA

## Carajas - 130Mtpa project

Country: Brazil | Plant name/location: Carajas  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Benefication, Material handling/transportation  
Mineral: Iron Ore  
Project type: Greenfield  
Description: Plant-wide process control system  
Year of award: 2009, Start of operation: 2012

### Equipment:

CONTROL and INSTRUMENTATION  
System 800xA

ENGINEERING  
Automation engineering, Equipment design

## Moatize Coal Mine, complete turnkey project

Country: Mozambique | Plant name/location:  
Enduser: VALE, Mozambique  
Customer: VALE, Mozambique  
Consultant/EPC(M): Africon Engineering Co

Process: Coal Preparation, Open pit mining  
Mineral: Metallurgical Coal; Thermal Coal  
Capacity: 11mt/y  
Project type: Greenfield  
Description: Project involves exploitation of an open pit mine with 370 million ton coal reserve for 35 years.  
Year of award: 2009, Start of operation: 2011

### Equipment:

POWER DISTRIBUTION  
Distribution transformers, Harmonic filter, HV switchgear, LV distribution, MCC motor control centers, MV switchgear, Overhead lines, Power factor compensation, Power transformers, Transformer, Unit substations

MOTORS and DRIVES  
LV variable speed drives, VSD Multi

CONTROL and INSTRUMENTATION  
System 800xA

COLLABORATION PRODUCTION MANAGEMENT  
Knowledge Manager

INFRASTRUCTURE  
Earthing & lightning protection, Prefabricated electrical rooms

ENGINEERING  
Automation engineering, Cable planning, Complete electrical & automation design & engineering, Equipment design, Network study, PFC and harmonic filter study, Power distribution engineering, Power system study, Substation planning, Wiring eng

SERVICES  
Commissioning, Operations assistance, Supervision of installation, Training

## Dubai SBRT 6

Country: United Arab Emirates | Plant name/location:  
Enduser: Dubai Aluminium Co. Ltd., United Arab Emirates

Mineral: Bauxite  
Capacity: 65 kA  
Project type: Extension

Year of award: 2008, Start of operation: 2009

Equipment:

POWER DISTRIBUTION

## Aluminium Smelter Project HELGUVIK, Potline 1

Country: Iceland | Plant name/location: Grundartangi  
Enduser: Nordural Nordic Aluminum, Iceland

Mineral: Bauxite  
Capacity: 360 pots  
Project type: Greenfield

Year of award: 2008, Start of operation: 2010

Equipment:

POWER DISTRIBUTION

INFRASTRUCTURE  
Cables and installation material

SERVICES  
Commissioning, Supervision of installation

## Koniambo automation and drives

Country: New Caledonia | Plant name/location: Koniambo Mine  
Enduser: Societe Minière du Sud Pacifique, New Caledonia  
Customer: Societe Minière du Sud Pacifique, New Caledonia  
Consultant/EPC(M): Hatch

Mineral: Nickel  
Project type: Greenfield  
Description: Nickel smelter to produce 60'000 t/y of ferronickel  
Year of award: 2008, Start of operation: 2012

### Equipment:

**MOTORS and DRIVES**  
MV motors, MV variable speed drives

**ENGINEERING**  
Automation engineering, Equipment design

**CONTROL and INSTRUMENTATION**  
Process control system, System 800xA

**SERVICES**  
Commissioning

## Salobo I

Country: Brazil | Plant name/location: Salobo  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Concentrator  
Mineral: Copper; Gold  
Capacity: 127'000 t/y Cu concentrate  
Project type: Greenfield  
Description: Phase I of concentrator in Marabà, state of Parà, to produce 120'000 t/y concentrate and 130'000 ounces of gold as a by-product  
Year of award: 2008, Start of operation: 2011

### Equipment:

**POWER DISTRIBUTION**  
Harmonic filter

**ENGINEERING**  
Automation engineering, Equipment design, PFC and harmonic filter study

**MOTORS and DRIVES**  
Gearless mill drive system, MV motors, MV variable speed drives

**SERVICES**  
Commissioning, Operations assistance, Supervision of installation

**CONTROL and INSTRUMENTATION**  
Operator station, Process control system, System 800xA

## Vitória - pelletizing plant 8

Country: Brazil | Plant name/location: Vitoria / Ponta de Tubarao  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Pelletizing  
Mineral: Iron Ore  
Project type: Extension  
Description: Plant-wide process control system  
Year of award: 2008, Start of operation: 2012

### Equipment:

POWER DISTRIBUTION  
MCC motor control centers

ENGINEERING  
Automation engineering

MOTORS and DRIVES  
LV variable speed drives

SERVICES  
Commissioning

CONTROL and INSTRUMENTATION  
Asset optimization, Operator station, System 800xA

## Worsley Alumina Refinery Power distribution

Country: Australia | Plant name/location: Gastaldo Road  
Enduser: Worsley Alumina Refinery, Australia  
Customer: Bechtel Australia Pty Ltd, Australia

Mineral: Bauxite  
Capacity: 10Mt/a  
Project type: Extension

Year of award: 2008, Start of operation: 2010

### Equipment:

POWER DISTRIBUTION  
MCC motor control centers, MV switchgear

ENGINEERING  
Complete electrical & automation design & engineering, Power distribution engineering

INFRASTRUCTURE  
Earthing & lightning protection, Fire detection and protection,  
Prefabricated electrical rooms, Ventilation and air conditioning

SERVICES  
Commissioning, Supervision of installation, Training

Selection Criteria: Year From 2000 Year To 2012

Mineral: Bauxite | Manganese | Chrome | Metallurgical coal | Nickel | Copper | Silver | Gold | Thermal coal | Iron ore | Uranium | Limestone | Zinc | Other | Lead

Copyright 2011 ABB. All rights reserved.

ABB Switzerland Ltd | 5405 Baden 5 Dättwil | Switzerland | Phone: +41 58 586 84 44 | Fax: +41 58 586 73 22 | E-Mail: process.industries@ch.abb.com

References | 14

## Aitik concentrator expansion

Country: Sweden | Plant name/location: P.O.Box 85  
Enduser: Boliden Mineral AB, Sweden  
Customer: Boliden Mineral AB, Sweden

Process: Concentrator  
Mineral: Copper; Gold; Silver  
Project type: Extension  
Description: Expansion to double throughput capacity from 18 to 36 million mt/y of ore.  
Year of award: 2007, Start of operation: 2009

### Equipment:

#### POWER DISTRIBUTION

Distribution transformers, Harmonic filter, HV switchgear, LV distribution, MCC motor control centers, MV switchgear, Power transformers

#### MOTORS and DRIVES

Gearless mill drive system, LV motors, LV variable speed drives, MV motors, MV variable speed drives

#### CONTROL and INSTRUMENTATION

Operator station, Process control system, System 800xA

#### ENGINEERING

Automation engineering, Equipment design, PFC and harmonic filter study, Power distribution engineering

#### SERVICES

Commissioning, Life cycle support, Supervision of installation, Training

## CBA Mirai - Control of Bauxite Plant

Country: Brazil | Plant name/location:  
Enduser: CBA - Cia Brasileira de Alumínio SA, Brazil  
Customer: CBA - Cia Brasileira de Alumínio SA, Brazil

Mineral: Bauxite  
Description: 2 operator station, 2 controller, 1576 I/O, 204 MCC  
Year of award: 2007, Start of operation: 2008

### Equipment:

#### POWER DISTRIBUTION

MCC motor control centers

#### CONTROL and INSTRUMENTATION

Operator station, System 800xA

## Tenke Fungurume copper cobalt concentrator

Country: Congo | Plant name/location: Tenke Fungurume Mine  
Enduser: Freeport- McMoRan Copper & Gold Inc, Congo  
Customer: Freeport- McMoRan Copper & Gold Inc, Congo

Process: Concentrator  
Mineral: Copper  
Capacity: 115'000 t/y  
Project type: Greenfield

Year of award: 2007, Start of operation: 2009

### Equipment:

#### POWER DISTRIBUTION

Distribution transformers, HV switchgear, LV distribution, MCC motor control centers, MV switchgear

#### MOTORS and DRIVES

LV motors, LV variable speed drives

#### CONTROL and INSTRUMENTATION

Field instrumentation, System 800xA

#### ENGINEERING

Automation engineering

## GIIC 2nd pelletizing plant

Country: Bahrain | Plant name/location:  
Enduser: Gulf Industrial Investment Company (E.C), Bahrain  
Customer: Kobe Steel Ltd, Japan  
Contractual partner(s): Kobe Steel Ltd, Japan

Process: Pelletizing  
Mineral: Iron Ore  
Capacity: 6 Mio t/y  
Project type: Greenfield  
Description: Kobe technology  
Year of award: 2007, Start of operation: 2009

### Equipment:

#### POWER DISTRIBUTION

Emergency diesel generator, Harmonic filter, LV distribution, MCC motor control centers, Power factor compensation

#### MOTORS and DRIVES

LV motors, MV motors

#### CONTROL and INSTRUMENTATION

Field instrumentation, Operator station, System 800xA

#### COLLABORATION PRODUCTION MANAGEMENT

Knowledge Manager

#### INFRASTRUCTURE

Cables and installation material, Communication system, Earthing & lightning protection, Fire detection and protection, Lighting system

#### ENGINEERING

Cable planning, Equipment design

#### SERVICES

ACS800 - Maintenance and operation course, Commissioning, Knowledge Manager - Application engineering course, Supervision of installation, System 800xA: Applications for minerals - Config. & operation course, Training

Selection Criteria: Year From 2000 Year To 2012

Mineral: Bauxite | Manganese | Chrome | Metallurgical coal | Nickel | Copper | Silver | Gold | Thermal coal | Iron ore | Uranium | Limestone | Zinc | Other | Lead

Copyright 2011 ABB. All rights reserved.

ABB Switzerland Ltd | 5405 Baden 5 Dättwil | Switzerland | Phone: +41 58 586 84 44 | Fax: +41 58 586 73 22 | E-Mail: process.industries@ch.abb.com

References | 16



## Oyu Tolgoi copper-gold concentrator

Country: Mongolia | Plant name/location:  
Enduser: Ivanhoe Mines Mongolia Inc., Mongolia  
Customer: Ivanhoe Mines Mongolia Inc., Mongolia  
Consultant/EPC(M): Fluor Canada Ltd

Process: Concentrator  
Mineral: Copper; Gold; Silver  
Capacity: 500'000  
Project type: Greenfield  
Description: Concentrator located in South Gobi region of Mongolia to produce 500'000 t/y of copper and 650'000 ounces of gold  
Year of award: 2007, Start of operation: 2013

### Equipment:

#### POWER DISTRIBUTION

Distribution transformers, HV switchgear, MCC motor control centers, MV switchgear, Power factor compensation, Power transformers

#### MOTORS and DRIVES

LV variable speed drives

#### COLLABORATION PRODUCTION MANAGEMENT

Expert Optimizer

#### INFRASTRUCTURE

Prefabricated electrical rooms

#### ENGINEERING

Electrical feasibility study, Equipment design, PFC and harmonic filter study, Power distribution engineering, Substation planning

#### SERVICES

Commissioning

## Hosco 1&2 - new production line

Country: Iran | Plant name/location: Bikiot  
Enduser: National Iranian Steel Company "NISCO", Iran  
Contractual partner(s): MME Mines & Metals Engineering Co., Iran

Process: Direct reduction  
Mineral: Iron Ore  
Description: Process control system  
Year of award: 2007, Start of operation: 2008

### Equipment:

#### CONTROL and INSTRUMENTATION

Operator station, System 800xA

#### ENGINEERING

Automation engineering

#### SERVICES

Commissioning, Supervision of installation

## Shadeed Hotlink

Country: Oman | Plant name/location: Sohar  
Enduser: Shadeed Iron & Steel L.L.C, Oman  
Customer: Kobe Steel Ltd (KOBELCO), Japan  
Contractual partner(s): Kobe Steel Ltd (KOBELCO), Japan

Process: Direct reduction  
Mineral: Iron Ore  
Project type: Greenfield

Year of award: 2007, Start of operation: 2009

### Equipment:

**POWER DISTRIBUTION**  
HV switchgear, MV switchgear, Transformer

**ENGINEERING**  
Equipment design

**SERVICES**  
Supervision of installation

## Onça Puma ferronickel plant

Country: Brazil | Plant name/location: Onça Puma mine  
Enduser: Vale, Brazil  
Customer: Vale, Brazil  
Contractual partner(s): Progen Projetos Gerenciamento e Engenharia, Brazil  
Consultant/EPC(M): Hatch

Mineral: Nickel  
Capacity: 58'000 t/y  
Project type: Greenfield  
Description: The plant produces 220'000 t/y of FerroNickle alloy in 2 production lines with rotary kilns and electric furnaces  
Year of award: 2007, Start of operation: 2008

### Equipment:

**POWER DISTRIBUTION**  
Distribution transformers, LV distribution, MV switchgear, Power transformers

**ENGINEERING**

**MOTORS and DRIVES**  
LV variable speed drives, MV variable speed drives

**SERVICES**  
Commissioning, Supervision of installation

**CONTROL and INSTRUMENTATION**  
Process control system, System 800xA

**INFRASTRUCTURE**  
Prefabricated electrical rooms

## Gaby-006 copper electrowinning

Country: Chile | Plant name/location:  
Enduser: CODELCO, Chile  
Customer: CODELCO, Chile  
Consultant/EPC(M): Fluor Chile S.A.

Process: Solvent extraction/Electro Winning  
Mineral: Copper  
Capacity: 100'000 t/y  
Project type: Greenfield  
Description: Rectifier plant for the Gaby copper oxide plant  
Year of award: 2006, Start of operation: 2008

### Equipment:

**POWER DISTRIBUTION**  
Harmonic filter, Power transformers, Rectifier transformer,  
Rectifiers, Transformer

**ENGINEERING**  
Equipment design, PFC and harmonic filter study

**SERVICES**  
Commissioning, Supervision of installation

## Zam Zam 1 Control Revamping & Oxygen Injection

Country: Iran | Plant name/location: Ahwaz-Bandar  
Enduser: Khouzeestan Steel Co., Iran  
Customer: AscoTec GmbH, Germany

Process: Material handling/transportation  
Mineral: Iron Ore  
Capacity: 700'000 t/y  
Project type: Up-grade/Revamp

Year of award: 2006, Start of operation: 2007

### Equipment:

**MOTORS and DRIVES**  
Application engineering

**ENGINEERING**  
Automation engineering, Wiring engineering

**CONTROL and INSTRUMENTATION**  
Field instrumentation, System 800xA

**SERVICES**  
Commissioning, Supervision of installation, Training

**COLLABORATION PRODUCTION MANAGEMENT**  
Knowledge Manager, Former CPM system version

## Khuzestan DRI

Country: Iran | Plant name/location: Ahwaz-Bandar  
Enduser: Khuzestan Steel Co., Iran  
Customer: AscoTec GmbH, Germany

Process: Direct reduction, Material handling/transportation  
Mineral: Iron Ore  
Capacity: 800'000t/y  
Project type: Greenfield  
Description: Due to raising demand, Khuzestan Steel built a complete new production line in Ahwaz.  
Year of award: 2006, Start of operation: 2007

Equipment:

POWER DISTRIBUTION  
Transformer

ENGINEERING  
Automation engineering

CONTROL and INSTRUMENTATION  
Field instrumentation, System 800xA

SERVICES  
Commissioning, Gaz analyzer course, Supervision of installation

COLLABORATION PRODUCTION MANAGEMENT  
Knowledge Manager, Former CPM system version

## Yabulu nickel refinery

Country: Australia | Plant name/location: Yabulu Refinery  
Enduser: QNI Pty Ltd, Australia  
Customer: QNI Pty Ltd, Australia

Mineral: Nickel  
Capacity: 30'000 t/y  
Description: Process Control System with 26 operator station, 35 controller, 30'000 I/O  
Year of award: 2006, Start of operation: 2008

Equipment:

CONTROL and INSTRUMENTATION  
Operator station, System 800xA

ENGINEERING  
Automation engineering

SERVICES  
Commissioning

## Sohar PL1

Country: Oman | Plant name/location: Al Harthy Complex  
Enduser: Sohar Aluminium Co. L.L.C, Oman  
Customer: Sohar Aluminium Co. L.L.C, Oman  
Consultant/EPC(M): Bechtel & Co. LLC

Mineral: Bauxite  
Capacity: 360pots, 360kA  
Project type: Greenfield

Year of award: 2006, Start of operation: 2008

### Equipment:

POWER DISTRIBUTION  
HV switchgear

CONTROL and INSTRUMENTATION  
Process control system

INFRASTRUCTURE

## Minera Condestable concentrator

Country: Peru | Plant name/location:  
Enduser: Trafigura CORMIN & Urion del Peru SAC  
Consorcio Minero S.A., Peru

Process: Concentrator  
Mineral: Copper  
Capacity: 5'000 t/d  
Project type: Greenfield

Year of award: 2006, Start of operation: 2009

### Equipment:

POWER DISTRIBUTION  
Distribution transformers, LV distribution, MCC motor control  
centers, MV switchgear

CONTROL and INSTRUMENTATION  
Field instrumentation, Process control system, System 800xA

ENGINEERING  
Automation engineering, Equipment design, Power distribution  
engineering

SERVICES  
Commissioning, Supervision of installation

## Paragominas Bauxite Plant - 9,9Mtpy

Country: Brazil | Plant name/location: Paragominas  
Enduser: Vale (Ex CVRD Paragominas), Brazil  
Customer: Vale (Ex CVRD Paragominas), Brazil

Mineral: Bauxite  
Capacity: 9,9Mtpy  
Project type: Extension  
Description: 1 operator station, 3 controller, 4000 I/O, 150 MCC  
Year of award: 2006, Start of operation: 2008

### Equipment:

POWER DISTRIBUTION  
MCC motor control centers

ENGINEERING

CONTROL and INSTRUMENTATION  
Field instrumentation, Operator station, System 800xA

## Pilot plant to produce cathode

Country: Brazil | Plant name/location: Carajás Hydrometallurgical  
Plant (UHC)  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Solvent extraction/Electro Winning  
Mineral: Copper  
Capacity: 10'000 t/y  
Project type: Greenfield  
Description: Rectifiers, instrumentation and control  
Year of award: 2006, Start of operation: 2008

### Equipment:

POWER DISTRIBUTION  
Rectifiers

ENGINEERING  
Automation engineering, Equipment design

CONTROL and INSTRUMENTATION  
Field instrumentation, Operator station, Process control system,  
System 800xA

SERVICES  
Commissioning

Selection Criteria: Year From 2000 Year To 2012

Mineral: Bauxite | Manganese | Chrome | Metallurgical coal | Nickel | Copper | Silver | Gold | Thermal coal | Iron ore | Uranium | Limestone | Zinc | Other | Lead

Copyright 2011 ABB. All rights reserved.

ABB Switzerland Ltd | 5405 Baden 5 Dättwil | Switzerland | Phone: +41 58 586 84 44 | Fax: +41 58 586 73 22 | E-Mail: process.industries@ch.abb.com

References | 22

## Chador Malu extension line 4

Country: Iran | Plant name/location:  
Enduser: Chador Malu Mining & Industrial Co., Iran  
Customer: National Iranian Steel Co. "NISCO", Iran  
Contractual partner(s): Kobe Steel Ltd, Japan

Process: Benefication  
Mineral: Iron Ore  
Capacity: 1.7 Mio t/y  
Project type: Extension  
Description: Electrification and control of Line 4 as well as modernization of control system for lines 1 -3  
Year of award: 2005, Start of operation: 2007

Equipment:

**POWER DISTRIBUTION**  
MCC motor control centers

**MOTORS and DRIVES**  
LV motors, LV variable speed drives, MV motors, MV variable speed drives

**CONTROL and INSTRUMENTATION**  
Field instrumentation, Operator station, Process control system, System 800xA

**INFRASTRUCTURE**  
Communication system, Fire detection and protection

**ENGINEERING**  
Automation engineering, Equipment design

**SERVICES**  
Commissioning, Supervision of installation

## Cerro Lindo zinc and lead concentrator

Country: Peru | Plant name/location: Minera Cerro Lindo  
Enduser: Compañía Minera Milpo, Peru  
Customer: Compañía Minera Milpo, Peru

Process: Concentrator  
Mineral: Zinc; Lead  
Capacity: 5'000 t/d  
Project type: Greenfield  
Description: Plantwide automation and instrumentation system  
Year of award: 2005, Start of operation: 2007

Equipment:

**CONTROL and INSTRUMENTATION**  
Control room equipment, Operator station, Process control system, System 800xA

**ENGINEERING**  
Automation engineering, Equipment design

## LKAB MK3 - pelletizing plant and concentrator expansion

Country: Sweden | Plant name/location: Malmberget  
Enduser: LKAB, Sweden  
Customer: LKAB, Sweden

Process: Concentrator, Material handling/transportation, Pelletizing  
Mineral: Iron Ore  
Capacity: 2.5 - 4 million t/y  
Project type: Extension  
Description: Expansion of the existing 145kV switchyard and concentrator and a new pellet plant in northern Sweden.  
Year of award: 2005, Start of operation: 2006

### Equipment:

#### POWER DISTRIBUTION

Distribution transformers, Emergency diesel generator, HV switchgear, LV distribution, MCC motor control centers, MV switchgear, Power factor compensation, Power transformers, Transformer

#### MOTORS and DRIVES

LV motors, LV variable speed drives, MV motors, MV variable speed drives

#### CONTROL and INSTRUMENTATION

Field instrumentation, System 800xA

#### COLLABORATION PRODUCTION MANAGEMENT

Knowledge Manager

#### ENGINEERING

Automation engineering, Cable planning, Complete electrical & automation design & engineering, Equipment design, Network study, PFC and harmonic filter study, Power distribution engineering, Power system study

#### SERVICES

Commissioning, Supervision of installation, System 800xA: Applications for minerals - Config. & operation course, Training

## Sungun Tailings PCS project

Country: Iran | Plant name/location: Sungun Copper Complex  
Enduser: National Iranian Copper Industries Co. "NICICO", Iran  
Customer: National Iranian Copper Industries Co. "NICICO", Iran  
Consultant/EPC(M): Pooyesh Tec Pars

Mineral: Copper  
Capacity: 300'000 t/y  
Project type: Greenfield  
Description: Process control system with 5 operator station, 5 controllers, 1'600 I/O  
Year of award: 2005, Start of operation: 2007

### Equipment:

#### CONTROL and INSTRUMENTATION

Operator station, Process control system, System 800xA

#### ENGINEERING

Automation engineering

#### SERVICES

Commissioning, Supervision of installation



## Isal Unit C5

Country: Iceland | Plant name/location: Straumsvik  
Enduser: Rio Tinto Alcan, Iceland

Mineral: Bauxite  
Project type: Extension

Year of award: 2005, Start of operation: 2006

Equipment:

POWER DISTRIBUTION  
Transformer

CONTROL and INSTRUMENTATION  
Process control system, Former ABB Process Control system

INFRASTRUCTURE

SERVICES

## Cerro Verde plant electrification & drives

Country: Peru | Plant name/location: Cerro Verde  
Enduser: Sociedad Minera Cerro Verde S.A.A., Peru  
Customer: Sociedad Minera Cerro Verde S.A.A., Peru  
Consultant/EPC(M): Fluor Canada Ltd

Process: Concentrator  
Mineral: Copper  
Capacity: 200'000 t/y  
Project type: Greenfield  
Description: Primary sulphate plant located close to Arequipa  
Year of award: 2005, Start of operation: 2007

Equipment:

POWER DISTRIBUTION  
Distribution transformers, Harmonic filter, HV switchgear, MV switchgear, Power transformers, Rectifier transformer

MOTORS and DRIVES  
Gearless mill drive system, LV variable speed drives, MV variable speed drives

ENGINEERING  
Equipment design, Power distribution engineering

SERVICES  
Commissioning, Supervision of installation, Training

Selection Criteria: Year From 2000 Year To 2012

Mineral: Bauxite | Manganese | Chrome | Metallurgical coal | Nickel | Copper | Silver | Gold | Thermal coal | Iron ore | Uranium | Limestone | Zinc | Other | Lead

Copyright 2011 ABB. All rights reserved.

ABB Switzerland Ltd | 5405 Baden 5 Dättwil | Switzerland | Phone: +41 58 586 84 44 | Fax: +41 58 586 73 22 | E-Mail: process.industries@ch.abb.com

References | 25

## Paragominas Bauxite Plant - 4,5Mtpy

Country: Brazil | Plant name/location: Paragominas  
Enduser: Vale (Ex CVRD Paragominas), Brazil  
Customer: Vale (Ex CVRD Paragominas), Brazil

Mineral: Bauxite  
Capacity: 4.5 Mtpy  
Project type: Greenfield  
Description: 4 operator station, 12 controller, 6000 I/O, 300 MCC  
Year of award: 2005, Start of operation: 2007

Equipment:

POWER DISTRIBUTION  
MCC motor control centers

ENGINEERING

CONTROL and INSTRUMENTATION  
Field instrumentation, Operator station, System 800xA

## Nordural Potline 2

Country: Iceland | Plant name/location: Grundartangi  
Enduser: Nordural Nordic Aluminum, Iceland

Mineral: Bauxite  
Project type: Extension

Year of award: 2004, Start of operation: 2006

Equipment:

POWER DISTRIBUTION  
Rectifier transformer

SERVICES

CONTROL and INSTRUMENTATION  
Process control system, Former ABB Process Control system

INFRASTRUCTURE  
Cables and installation material

## Gol-E-Gohar pellet plant

Country: Iran | Plant name/location:  
Enduser: Gol-e-Gohar Iron Ore, Iran  
Customer: Gol-e-Gohar Iron Ore, Iran  
Contractual partner(s): Outokumpu Technology, Germany; TAIM  
WESER S.A, Spain; CIC Concrete Industries & Copper, Iran

Process: Pelletizing  
Mineral: Iron Ore  
Capacity: 5 Mio t/y  
Project type: Greenfield  
Description: Electrification and control for a pelletizing plant using  
Outokumpu (Lurgi) process  
Year of award: 2003, Start of operation: 2007

### Equipment:

#### POWER DISTRIBUTION

Distribution transformers, Harmonic filter, LV distribution, MCC  
motor control centers, MV switchgear, Power factor compensation,  
Power transformers

#### MOTORS and DRIVES

LV motors, LV variable speed drives, MV motors, MV variable  
speed drives

#### CONTROL and INSTRUMENTATION

Control room equipment, Field instrumentation, Process control  
system, System 800xA

#### COLLABORATION PRODUCTION MANAGEMENT

Knowledge Manager

#### INFRASTRUCTURE

Cables and installation material

#### ENGINEERING

Automation engineering, Cable planning, Complete electrical &  
automation design & engineering, Equipment design, Network  
study, PFC and harmonic filter study, Power distribution  
engineering, Power system study

#### SERVICES

Commissioning, Supervision of installation, Training

## Toquepala leaching plant

Country: Peru | Plant name/location: Toquepala  
Enduser: Southern Peru Copper Corp., Peru  
Customer: Southern Peru Copper Corp., Peru

Process: Solvent extraction/Electro Winning  
Mineral: Copper  
Capacity: 110'000 t/y  
Project type: Extension  
Description: Electrification system  
Year of award: 2002, Start of operation: 2004

### Equipment:

#### POWER DISTRIBUTION

Distribution transformers, LV distribution, MV switchgear, Power  
transformers

#### ENGINEERING

Equipment design, Power distribution engineering

#### SERVICES

Commissioning, Supervision of installation

## Sossego concentrator electrification & drives

Country: Brazil | Plant name/location: Sossego  
Enduser: Vale, Brazil  
Customer: Vale, Brazil  
Consultant/EPC(M): Aker Kvaerner

Process: Concentrator  
Mineral: Copper  
Capacity: 467'000 t/y  
Project type: Greenfield  
Description: Concentrator has an average annual production capacity of 467'000 tons of copper concentrate which is equivalent to 140'000 tons of copper  
Year of award: 2002, Start of operation: 2004

### Equipment:

POWER DISTRIBUTION  
HV switchgear, MV switchgear

MOTORS and DRIVES  
FSD Single LCI, Gearless mill drive system, LV variable speed drives, MV variable speed drives

CONTROL and INSTRUMENTATION  
Process control system, System 800xA

COLLABORATION PRODUCTION MANAGEMENT  
Knowledge Manager, Lab information management system

ENGINEERING  
Automation engineering, Equipment design, Power distribution engineering, Substation planning

SERVICES  
Commissioning, Supervision of installation, Training

## Dunkerque, PL1 (Booster)

Country: France | Plant name/location:  
Enduser: Aluminium Pechiney S.A, France

Mineral: Bauxite  
Project type: Up-grade/Revamp

Year of award: 2001, Start of operation:

### Equipment:

POWER DISTRIBUTION

CONTROL and INSTRUMENTATION  
Process control system

## Ardakan pellet plant electrification and control

Country: Iran | Plant name/location: Ardakan  
Enduser: Chador Malu Industrial & Mining Company, Iran  
Customer: National Iranian Steel Co. "NISCO", Iran  
Contractual partner(s): Kobe Steel Ltd, Japan; TAIM WESER S.A,  
Spain

Process: Pelletizing  
Mineral: Iron Ore  
Capacity: 3 Mio t/y  
Project type: Greenfield

Year of award: 2001, Start of operation: 2007

### Equipment:

#### POWER DISTRIBUTION

Emergency diesel generator, LV distribution, MCC motor control centers, Power factor compensation

#### MOTORS and DRIVES

FSD Single (motor), FSD Single (motor) + starter, LV motors, LV variable speed drives, MV motors, MV variable speed drives, VSD Single

#### CONTROL and INSTRUMENTATION

Field instrumentation, Process control system, Video system

#### COLLABORATION PRODUCTION MANAGEMENT

Knowledge Manager

#### INFRASTRUCTURE

Cables and installation material

#### ENGINEERING

Automation engineering, Cable planning, Complete electrical & automation design & engineering, Equipment design, Network study, PFC and harmonic filter study, Power distribution engineering

#### SERVICES

Commissioning, Supervision of installation, Training

## Sunndal PL4

Country: Norway | Plant name/location:  
Enduser: Hydro Aluminium A. S., Norway

Mineral: Bauxite  
Project type: Up-grade/Revamp

Year of award: 2001, Start of operation:

### Equipment:

#### POWER DISTRIBUTION

#### CONTROL and INSTRUMENTATION

Process control system

## Sungun copper concentrator - drives and automation

Country: Iran | Plant name/location: Sungun Copper Complex  
Enduser: National Iranian Copper Industries Co. "NICICO", Iran  
Customer: National Iranian Copper Industries Co. "NICICO", Iran  
Contractual partner(s): Metso Systems AB, Sweden  
Consultant/EPC(M): IRITEC Iran International Engineering Co.

Process: Concentrator  
Mineral: Copper  
Capacity: 300'000t t/y  
Project type: Greenfield  
Description: Largest open-cast copper mine in Iran, located in East Azerbaijan  
Year of award: 2001, Start of operation: 2007

Equipment:

MOTORS and DRIVES  
FSD Single (motor), LV variable speed drives, MV variable speed drives, VSD Single

CONTROL and INSTRUMENTATION  
Process control system, System 800xA

ENGINEERING  
Automation engineering

SERVICES  
Commissioning, Supervision of installation

## Grundartangi, PL1 (Booster)

Country: Iceland | Plant name/location: Grundartangi  
Enduser: Nordural Nordic Aluminum, Iceland

Mineral: Bauxite  
Project type: Up-grade/Revamp

Year of award: 2001, Start of operation:

Equipment:

CONTROL and INSTRUMENTATION  
Process control system

## Renukoot, PL9-11

Country: India | Plant name/location:  
Enduser: Hindalco Industries Ltd. (Plant), India

Mineral: Bauxite  
Project type: Up-grade/Revamp

Year of award: 2000, Start of operation:

Equipment:

CONTROL and INSTRUMENTATION  
Process control system

## Escondida concentrator phase IV

Country: Chile | Plant name/location: Escondida  
Enduser: Minera Escondida Limitada, Chile  
Customer: Minera Escondida Limitada, Chile  
Consultant/EPC(M): BECHTEL Chile Ltda.

Process: Concentrator  
Mineral: Copper  
Capacity: 600'000 t/y  
Project type: Extension  
Description: Largest single-phase expansion of the worlds largest open-pit copper mine  
Year of award: 2000, Start of operation: 2002

Equipment:

MOTORS and DRIVES  
Gearless mill drive system, MV variable speed drives

CONTROL and INSTRUMENTATION  
Process control system, System 800xA

ENGINEERING  
Automation engineering, Equipment design, PFC and harmonic filter study

SERVICES  
Commissioning, Supervision of installation, Training

## Yanacocha leaching & refining

Country: Peru | Plant name/location: Cajamarca  
Enduser: Minera Yanacocha SA, Peru

Mineral: Gold

Year of award: 2000, Start of operation:

Equipment:

### POWER DISTRIBUTION

Distribution transformers, HV switchgear, LV distribution, MCC motor control centers, MV switchgear, Power factor compensation, Power transformers

## Bikiot ore handling and port facilities

Country: Iran | Plant name/location: Bikiot  
Enduser: National Iranian Steel Co. "NISCO", Iran  
Contractual partner(s): TAIM WESER S.A, Spain

Process: Material handling/transportation, Port facilities

Mineral: Iron Ore

Capacity: 2.5 Mio t/y

Project type: Greenfield

Description: Ore handling terminal

Year of award: 2000, Start of operation: 2004

Equipment:

### POWER DISTRIBUTION

LV distribution, MCC motor control centers, MV switchgear, Power factor compensation

### MOTORS and DRIVES

LV motors, MV motors, VSD Single

### CONTROL and INSTRUMENTATION

Field instrumentation, Process control system

### INFRASTRUCTURE

Cables and installation material, Lighting system

### ENGINEERING

### SERVICES

Commissioning, Supervision of installation

Selection Criteria: Year From 2000 Year To 2012

Mineral: Bauxite | Manganese | Chrome | Metallurgical coal | Nickel | Copper | Silver | Gold | Thermal coal | Iron ore | Uranium | Limestone | Zinc | Other | Lead

Copyright 2011 ABB. All rights reserved.

ABB Switzerland Ltd | 5405 Baden 5 Dättwil | Switzerland | Phone: +41 58 586 84 44 | Fax: +41 58 586 73 22 | E-Mail: process.industries@ch.abb.com

References | 32



## Pingguo, PL2

Country: China | Plant name/location:  
Enduser: Pingguo Aluminium Ind. Co., China

Mineral: Bauxite  
Project type: Up-grade/Revamp

Year of award: 2000, Start of operation:

Equipment:

POWER DISTRIBUTION

CONTROL and INSTRUMENTATION  
Process control system

## Toquepala concentrator

Country: Peru | Plant name/location: Toquepala  
Enduser: Southern Peru Copper Corp., Peru  
Customer: Southern Peru Copper Corp., Peru

Process: Concentrator  
Mineral: Copper  
Capacity: 60'000 tpd  
Project type: Extension  
Description: Plantwide process control system  
Year of award: 2000, Start of operation: 2002

Equipment:

CONTROL and INSTRUMENTATION  
Control room equipment, Process control system, System 800xA,  
Former ABB Process Control system

ENGINEERING  
Automation engineering

SERVICES  
Commissioning, Supervision of installation

Selection Criteria: Year From 2000 Year To 2012

Mineral: Bauxite | Manganese | Chrome | Metallurgical coal | Nickel | Copper | Silver | Gold | Thermal coal | Iron ore | Uranium | Limestone | Zinc | Other | Lead

Copyright 2011 ABB. All rights reserved.

ABB Switzerland Ltd | 5405 Baden 5 Dättwil | Switzerland | Phone: +41 58 586 84 44 | Fax: +41 58 586 73 22 | E-Mail: process.industries@ch.abb.com

References | 33

## Vale Vitoria - pelletizing plant, lines 1-7 and utilities

Country: Brazil | Plant name/location: Vitoria / Ponta de Tubarao  
Enduser: Vale, Brazil

Process: Pelletizing  
Mineral: Iron Ore  
Capacity: 26 Mio t/y  
Project type: Up-grade/Revamp  
Description: Plantwide automation upgrade  
Year of award: 2000, Start of operation: 2004

### Equipment:

**CONTROL and INSTRUMENTATION**  
ABB Controller 800F, Process control system, Former ABB  
Process Control system

**INFRASTRUCTURE**  
Cables and installation material

**ENGINEERING**  
Automation engineering, Cable planning

**SERVICES**  
Commissioning, Installation work, Supervision of installation,  
Training

## Sao Luis pellet plant

Country: Brazil | Plant name/location: Sao Luis  
Enduser: Vale, Brazil  
Customer: Vale, Brazil

Process: Material handling/transportation, Pelletizing  
Mineral: Iron Ore  
Capacity: 7.5 million t/y  
Project type: Greenfield  
Description: Vale's twelfth pelletizing plant located in Maranhão state is considered the largest pellet plant in the world  
Year of award: 2000, Start of operation: 2002

### Equipment:

**POWER DISTRIBUTION**  
Harmonic filter, MCC motor control centers, Power factor  
compensation

**MOTORS and DRIVES**  
FSD Single (motor), LV variable speed drives, MV motors, MV  
variable speed drives, VSD Single

**CONTROL and INSTRUMENTATION**  
ABB Controller 800F, Field instrumentation, Operator station,  
Process control system

**ENGINEERING**  
Automation engineering, Equipment design, Power distribution  
engineering

**SERVICES**  
Commissioning, Supervision of installation