Alstom in Korea

Over 45 years of contribution to Korea

Alstom’s Presence

Key Data
- Alstom Korea Ltd
- Alstom Transport Korea Ltd
- 40 employees
- FY 2011/2012 Sales: 130 M€ | Orders: 115 M€
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History

1965: Steam Turbine Generators supply to YongWol thermal power plant
1972: Electric locomotives supply
1975: Opening of the representative office in Seoul
1994: Contract for Seoul-Busan High-speed train project - KTX project, Alstom’s first super high speed project in Asia
   Establishment of Eukorail Co Ltd for project management of Transport projects such as Korean TGV, Incheon Airport Link
1996: Contract for the supply of 8 x GT24 Gas turbine combined cycle plant, 1800MW Poryong CPP
1999: Establishment of ABB-ALSTOM Power Korea Ltd.
2000: Company name change from ABB-ALSTOM Power Korea Ltd. to ALSTOM Power Korea Ltd.
2002: Contract for Incheon Airport Railway Link: 60 km line connecting Incheon airport to city centre of Seoul.
   Company name change from ALSTOM Power Korea Ltd. to ALSTOM Korea Ltd.
2004: Inauguration of KTX Phase-I (Seoul - Daegu)
2007: Gas turbine upgrade order for Bundang power plant from Korea South East Power Company (KOSEP):
   upgrade 8 x GT11N gas turbines to GT11NM.
   Inauguration of Incheon Airport Link Phase-I (Incheon Airport - Kimpo Airport)
2008: Change of company name from Eukorail to ALSTOM Transport Korea Ltd.
2009: Relocation of ALSTOM Korea Ltd. and ALSTOM Transport Korea Ltd. to the same office building
2010: Integration of Areva T+D Korea staff into Alstom Korea (Grid Sector) following acquisition
   Inauguration of KTX Phase-II (Daegu-Busan)
   Inauguration of Incheon Airport Link Phase-II (Kimpo Airport – Seoul Station)
2012: Contract for the supply of 2 x 600MW Steam Turbine and Generator sets for Dongbu Green Power Plant unit 1 & 2

Partnerships

TGV Project: Consortium leader of 12 French and Korean companies for TGV Seoul-Busan high-speed train - KTX project
Incheon Airport Link: Partnership with Korean company for railway project which links Incheon airport with downtown Seoul
Tramways: Partnership with Korean company for the promotion & implementation of tramway projects in Korea

Awards and Certification

ISO9001
Thermal & Renewable Power

Since its debut in Korea in 1965 with the thermal power plant at YongWol, Alstom has supplied more than two thirds of the utility boilers through license contracts with the local companies, more than 34% of the hydro power plant, 14% of the gas turbines and 14% of the steam turbines for nuclear power plant.

Gas Turbine & Combined Cycle Power Plants (Commercial Operation Date)
- Anyang 450MW CCPP, LNG (1992)
- Bundang 900MW CCPP, LNG (1 Block: 1992, 2 Block: 1995)
- Poryong 1,800MW CCPP, LNG (2000)
- Pohang 350MW CCPP, LNG (2001)

Steam Power Plant
- Seochon #1&2 200MW TP Coal (Boiler 1983)
- Poryong #3–6 500MW TP Coal (Boiler 1994)
- Samcheonpo #1–6 500MW TP Coal (Boiler 1997)
- Taean #1–4 500MW TP Coal (Boiler 1997)
- Donghae #1&2 200MW TP Coal (Boiler 1999)
- Hadong #1–6 500MW TP Coal (Boiler 1999)
- Dangjin #1–8 500MW TP Coal (Boiler 2001)
- Yonghung #1&2 800MW TP Coal (Boiler 2004)
- Honam #1&2 250MW TP Oil (ST 1972)
- Youngnam #1 200MW TP Oil (ST 1972)
- Ulsan #4–6 400MW TP Oil (ST 1981)

Hydro Power Plant
- Muju 2x300MW PSPP – pumped storage (1995)
- Sanchong 2x350MW PSPP – pumped storage (2001)
- Yecheon 2x400MW PSPP – pumped storage (2011)

Nuclear Plant
- Kori #1–4 600, 650, 2x950MW, NPP (1986)
- Ulchin #1&2 2 X 950 MW Nuclear Power Plant (1989)

Services
- Gas turbine services for Anyang power plant - GS Power
- Gas turbine services - POSCO
- Gas turbine upgrades for Bundang Combined Cycle Power Plant - KOSEP
- Gas turbine upgrades for Anyang Combined Cycle Power Plant – GS Power
- Gas turbine services for Poryong Combined Cycle Power Plant - KOMIPO
- Kori #1–4 Low Pressure Steam Turbine Retrofit (2000)
- Yonggwang #1&2 High Pressure Steam Turbine Retrofit (2007)
- Kori #1–4 High Pressure Steam Turbine Retrofit (2009)
- Ulsan #4–6 IP/LP LP Life Time Extension (2010)
- Ulchin HP/LP Turbine Retrofit (2010)
- Yulchon S501F GT OOEM LTSA (2010)
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References and Ongoing Projects

Rail Transport

The first business in Korea goes back to 1972 with the supply of diesel locomotives. Since then, Alstom maintained 25% of market share in traction equipment by supplying rolling stock equipment for the different types of metros and 20% market share in signalling. With the inauguration of KTX in 1 Apr, 2004, Alstom proved its ability successfully as a world leader in high-speed trains.

Systems

- **KTX Project - First TGV exported as a “system solution” (1994)**
  - Scope: Rolling stock, core-system engineering, catenary and traffic control system manufacturing
  - Of a total of 46 trains, 34 were manufactured locally with technical assistance and training
  - 10 stations: Seoul - Namseoul - Chonan – Osong- Daejon – Gimcheon - Daegu - Gyongju – Ulsan - Busan
  - Phase 1 (Seoul - Daegu): April 2004
  - Phase 2: IXL for Daegu-Busan: December 2010

- **Incheon Airport Link (2002)**
  - 60km link between Incheon International Airport and Seoul Station
  - Scope: project management, system engineering and integration, supply of E&M (Signaling equipment, Power and Telecommunication) excluding Rolling Stock
  - Phase 1 (Incheon Airport – Gimpo Airport): March 2007
  - Phase 2 (Gimpo Airport – Seoul station): December 2010

Traction

- Seoul Line 3 (170 Cars) in 1993
- Gwacheon Line (82 Cars) in 1993
- Seoul Line 7 & 8 (226 Cars) in 1993
- Seoul Line 2 (30 Cars) in 1994
- Busan Line 2 (336 Cars) in 1996
- Incheon Line 1 (200 Cars in 1996)

Train Information Solutions

- IXL for HSR
- Daegu Line 1 in 1994
- Seoul Line 6 in 1996
- Daegu Line 2 in 2002
- Seoul Line 9 in 2006
- Seoul Line 7 extension in 2010
- Seoul Line 9 Extension Phase 2 and Phase 3 in 2012
Alstom Grid in Korea is a market leader in high voltage transmission solutions. The company has a strong presence in the domestic market and also a re-export business as supplier to major Korean EPC companies.

**Systems:**
Alstom supplied the first High Voltage Direct Current (HVDC) link (300MW) between Haenam and Jeju in 1997. Alstom is currently executing a second HVDC link between Jin-do and Jeju (400MW) which will be completed during 2012.
- #2 HVDC JINDO-JEJUDO Interconnection DC 250kV 2*200MW + #1 HVDC Refurbishment of Control system (2009)

**Automation:**
New Energy Management system (NEMS) - Alstom supplied advanced technology to the Korean Power Exchange (KPX). This has been in operation since 2001.

**Products:**
**Generator Circuit Breaker**
Alstom has contracted to supply GCB to KHNP for all its nuclear power plants since 1995 and to CCPP and Hydro PP.
- Shin-Kori Unit 1&2 Generator Circuit Breaker 1 x PKG2C (2005)
- Shin-Wolsung Unit 1&2 Generator Circuit Breaker 2 x PKG2C (2005)
- Incheon CCPP Unit 5&6 Generator Circuit Breaker 6 x FKG1N (2009)
- Shin-Kori Unit 3&4 Generator Circuit Breaker 2 x PKG2T (2009)
- Gwanggyo Combined Heat & Power Plant Generator Circuit Breaker 1 x FKG2M (2010)
- Shin Ulchin 1&2 Generator Circuit Breaker 2 x PKG2T (2011)
- YeongHeung Unit 5&6 Generator Circuit Breaker 2 x FKG1 (2011)
- Oseong PP Generator Circuit Breaker 4 x FKG1 (2011)
- Pocheon LNG PP Generator Circuit Breaker 6 x FKG1 (2012)
- ULSAN #4 CCPP Generator Circuit Breaker 3 x FKG1 (2012)
- Dangjin CFPP Unit 9&10 Generator Circuit Breaker 2 x FKG2 (2012)
- Ansan CCPP Generator Circuit Breaker 3 x FKG1 (2012)
- Incheon CCPP Unit 7,8 &9 Generator Circuit Breaker 3 x FKG1 (2013)

**Gas Insulated Switchgear**
Alstom was the first GIS supplier to KEPCO in 1979 (4 x 170 KV GIS S/S for Duckdo, Norangjin, Tosung and Yeoungdung po). These were replaced in 2005 after 25 years of successful operation due to higher short-circuit demand for the network.

**Service**
- Sanchong PSPP GCB/RDS Maintenance
- ULSAN TP GCB Revamping
- #1 HVDC Converter Transformer Maintenance
- Ulchin Nuclear PP GCB maintenance
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References and Ongoing Projects

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