Alstom in Italy

Over 15 years of contribution to Italy

**KEY DATA:**

- **3,950** Employees (500 Power, 3,050 Transport, 400 Grid)
- **12** Entities, including 1 office in Rome
- **7** Manufacturing Units:
  - **Power** - Sesto San Giovanni (MI)
  - **Transport** - Savigliano (CN), Sesto San Giovanni (MI), Bologna, Lecco
  - **Grid** - Noventa di Piave (VE), Sesto San Giovanni (MI)
- **7** Centre of excellence:
  - **Power: Sesto San Giovanni** – production of stator bars with Micadur and TVPI technologies
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- **Transport**: Savigliano - high speed trains with “tilting” technology (Pendolino) and regional trains (Coradia Meridian), Bologna - railway signalling, Sesto San Giovanni - traction systems, Lecco - third rail, components for catenaries and APS rails

- **Grid**: Noventa di Piave – high voltage (HV) disconnectors, Sesto San Giovanni – bushings and RIP developments

- **2013/2014 Sales**: 1 billion €

**Export**: 40% of annual sales

**History**

1998  Acquisition of SASIB Railway of Bologna (founded in 1933), its units in Verona, Bari and Guidonia (Rome)

1999  Merger of ABB (present in Italy since 1863) and Alstom Power, ABB Alstom Power is born.

2000  Alstom acquires ABB’s shares, gaining total control of the company.

2000  Acquisition of Fiat Ferroviaria (existing since 1880, part of Fiat since 1970) and its subsidiaries Elettromeccanica Parizzi (founded in 1955) and Fiat-Sig (Switzerland), merging all them into Alstom Ferroviaria.

2004  Alstom wins an historical contract of 60 EMU trains for The Chinese Transport Minister. The project managed by sites of Savigliano (Cuneo) and Sesto S.G. (Milan), includes some technology transfer.

2005  December 19, inauguration of the first section of the Rome-Naples high speed line, the first line in Europe equipped with ERTMS (European Rail Traffic Management System) Level 2 signalling system, developed in Italy by Alstom.

2006  Alstom wins a contract for the construction of three 800 MW combined cycle power plants in Modugno (Bari), Gissi (Chieti) and Scandale (Crotone). The plants will be equipped with Alstom GT26 turbines.

2007  Alstom acquires Ecotècnia, specialised in wind energy present in Italy with several wind farms

2008  Alstom wins a contract for the supply of 25 AGV trains to NTV, the first private operator in Italy on high speed lines.

2008  Alstom acquires a majority stake in Osvaldo Cariboni Lecco SpA (founded in 1908), specialised in components for catenary.

2009  The Alstom Power Italia plant in Sesto San Giovanni completes the stator for Leidbstat nuclear power plant. With its 14 meters, 450 tons and more than 1,200 MW, is the biggest ever made in Italy.

2010  With the birth of Alstom Grid, Alstom Italia grows further, adding three other sites and another historical brand of the Italian electro-mechanical industry, the former Passoni & Villa of Milan.

2012  Alstom completes the acquisition of Osvaldo Cariboni Lecco SpA

**Awards and Certification**

**Power:**

- San Giovanni: ISO 9001, ISO 14001, OHSAS 18001

Alstom Italy – January 2015
direzione.comunicazione@transport.alstom.com
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Transport:
- Savigliano: ISO 14001; IRIS 02; ISO 9001; UNI EN 15085-2; UNI EN ISO 3834-2
- Sesto San Giovanni: ISO 14001; IRIS02; Russian certificate of accreditation; RINA
- Bologna: ISO 9001
- Guidonia: ISO 9001; OHSAS BS 18001:2007
- Bari: ISO 9001
- Lecco: ISO 9001; AFNOR

Grid:
- Milano: ISO 9001
- San Pellegrino: ISO 9001, ISO 14001, OHSAS 18001
- Noventa di Piave: ISO 9001, ISO 14001, OHSAS 18001

Power

Alstom Power Italy design and supply electric power plants, strategic components for power generation (such as turbines, generators, environmental systems, boilers) and ensures all the related services.

Our Achievements:
- 40% of the turbo-generators present in Italy are Alstom
- 1000 MW of installed based in Italy
- more than 40 plants with services and maintenance by Alstom Power

References:

Thermal Power
- Turnkey plants:
  - 800 MW combined-cycle power stations in Modugno (Bari), Scandale (Crotone), Gissi (Chieti) equipped with GT26 gas turbines.
- Environmental systems:
  - Turnkey supply of desulphurisation plants for power stations in Huchet and Gardanne (France), Amager (Denmark), Megalopolis (Greece), Rovinari (Romania), Kusile (South Africa: ongoing, the first ever plant of its kind in Africa), Craiova (Romania: ongoing), La Marmora (Italy, using SDA technology).
  - Turnkey supply of denitrification plants in Pego and Sines (Portugal), Amager (Denmark).
  - Combustion gas treatment plants for incinerators in Rimini, Ferrara, Forlì, Lomellina and Brescia.
- Generator and steam turbine overhauls
Over 15 years of contribution to Italy

- Programmed general servicing of third-party turbines and generators at the CC power stations in Cassano d’Adda, Ostiglia, Falconara and Piacenza.
- General revamping of the Franco Tosi steam turbine (660 MW) at Brindisi Sud
- Emergency repair of the steam turbine at Priolo Nord.
- On-site stator rewinding in Meghnaghat (Bangladesh), Komotini (Greece) and Brescia.
- Mechanical reconditioning of turbines in La Spezia, Brindisi, Mohammedia (Morocco) and Ostiglia.

**Gas turbines and O&M**
- Running and maintenance of the combined-cycle power station and refinery utilities at Falconara, plant conversion from syngas to natural gas.
- Support for the running and maintenance of the GT26 gas turbines at the CC power stations in Modugno (Bari), Scandale (Crotone), Gissi (Chieti).

**Manufacture and supply of spare parts for generators and turbines**
- Manufacture of a stator for the thermo-electric power station in Aboño (Spain) – 639 MVA – and the nuclear power station in Leibstadt (Switzerland) – 1,280 MW.
- Manufacture of replacement generators for the power stations in Hassi Berkine (Algeria) – 110 MW, Sarmato (Piacenza) – 160 MW, Priolo (Syracuse) – 90 MW, Sannazzaro (Pavia) – 200 MVA.

**Boiler upgrades**
- Retrofit of four boilers of the electric power station in Ghazlan (Saudi Arabia).
- Modernisation of the boiler in the thermo-electric power station of Vado Ligure (Savona).
- Improvement of the performance of the boilers for the mills of the power station in Torrevaldaliga (Rome).

**Plant flexibilisation**
- Insertion of CO catalysers in the HRSG of the combined-cycle power stations in Livorno, Falconara, Torviscosa, Altomonte, Simeri-Crichi and Bussi.
- Modification of a recovery boiler in order to reduce the start-up times of the power station in Termini Imerese.

**Environmental works**
- Adjustment of traditional-cycle boilers in Mantua and Zagreb (Croatia) in order to conform with CO and Nox emission limits.
- Upgrade of the electrostatic precipitator of the power station in Puente Nuevo (Spain).
- Upgrade of three WFGDs for the power stations in Le Havre and Cordemais (France), and revamping of the desulphurisation plant at Brindisi Sud.
- New bag filters for dust collection plants at the electric steelworks in Catania and the removal of coal/coke from the ovens of the cokery in Cairo Montenotte (SV).

**Renewable Power**

- **Wind power**
  - ECO80 and O&M wind turbines for the wind farms of:
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- Sella di Conza and Santomenna (Salerno)
- Minervino Murge (Barletta-Andria-Trani)
- Ennese (Catania)
- Lucito (Campobasso)
- Melissa (Crotone)

Hydro Service
- Repair of the Gr. 2 (25 MW) horizontal Francis turbine at the power station of Cotilia Salto (Rieti).
- Extraordinary overhaul of the Gr.1 (80 MVA) vertical alternator at the power station of Oricella (Crotone): disassembly, restoration and reinsulation of rotor poles, stator restoration, electrical testing, reassembly and start-up.
- Supply of two latest-generation, digital speed regulators for the Gr. 1 and 2 double horizontal Pelton turbines (11 MW each) at the power station of Vedello (Sondrio), the related spare parts, and operator training.
- Reconditioning of the shaft of the vertical Francis turbine (25 MW) and supply of a new hydrostatic bearing in two halve for the power station in Pieve Vergonte (Verbano-Cusio-Ossola).

Ongoing projects:
- “Turn-key” wet flue gas desulphurisation (Wet FGD) systems for the following power plant: Rovinari (Romania), Kusile (South Africa).
- Service and maintenance of the Afşin-Elbistan A (Turkey) power plant unit 3.

Transport

Alstom Transport Italy is a world leader for high speed trains based on tilting technology (Pendolino). Alstom Transport Italy is also known for its capabilities in designing and producing railway signalling systems and traction systems. The company is also operating successfully in many foreign markets, with exports accounting for around 40% of its turnover.

Our Achievements:
- Over 500 Pendolino high speed tilting trains built in Italy and sold in 13 countries, including UK, Russia, Finland and China.
- More than 300 Coradia regional trains built and sold in Italy to public, private and regional operators.
- ERTMS level 2 system for the Italian high speed lines, the first in Europe to be equipped the new interoperable standard.

References:

Rolling stock
- 25 AGV trains for NTV, the first Italian private operator on high speed lines. The contract includes the maintenance for 30 years.
- Coradia Regional trains for: Trenitalia, Italy, FCU Ferrovia Centrale Umbra, Umbria, Ferrotramviaria – Ferrovie del Nord Barese, Abulia, Ferrovia Adriatico Sangritana, Abruzzo, TRENORD Lombardy, GTT Gruppo Torinese Trasporti, Turin and
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Piedmont, TT Trentino Trasporti, Trentino

- New Pendolino for Trenitalia (Italy) and SBB (Switzerland), Pendolino for PKP (Poland)

Signalling:
- ERTMS level 2 for High Speed/High Capacity lines: Rome-Naples (first in the world) Bologna-Florence
- Integrated control centre for Bologna central railway station, one of the biggest signalling systems capable of managing in safety the traffic of over 1,000 trains per day.
- Signalling system for Passante di Bologna: an approximately 16 km length through-line, 10 km of which in tunnels, connecting the Bologna-Florence and Bologna-Milan High Speed lines.
- Redesign of the signalling system for the Milan metro line 1, with no interruption in service.

Infrastructures:
- Electrification of part of the Bologna-Florence high speed line and completion of safety installations for its long tunnels; lighting and driving systems.
- Infrastructures for the metro line 12 of Mexico City and the new metro line Caracas - Los Teques.
- Traction system for the catenary-free tramway system of Dubai (UEA) and Cuenca (Ecuador).

Services and components:
- Traction systems for trams in Rio de Janeiro, Ottawa, Cuenca, Dubai, Tours, Nottingham, Istanbul; and for the metros in Chennai, Nanjing, Singapore, Paris and Los Teques;

Ongoing projects:

Rolling stock
- 70 Coradia Meridian regional trains for Trenitalia and 10 for Ferrovienord Milano.
- 20 Pendolino trains for PKP Intercity, Poland and 8 New Pendolino trains for SBB, Switzerland

Signalling:
- Renewal of the signalling system of West Denmark and of the Arad-Curtici line in Romania.

Infrastructure:
- Power supply system, traction system, tracks system and a protection system with loading bays for the new Line 5 of Milan underground network.

Services and components:
- Full maintenance of the Coradia Meridian fleet (14 trains) of Ferrovienord Milano and the Trenitalia Minueto fleet (214 trains) of Trenitalia.
- Train traction systems for the Metropolis Metro of Chennai (India)
Alstom Grid Italia is born in 2010 with Alstom’s acquisition of the Transmission activities of Areva T&D. The activities of Alstom Grid Italia include a wide offer of products (high voltage disconnectors, compact substation solutions and power connectors) systems and automation (real time automation solutions for the Smart and Secure operation of energy assets).

**Our Achievements:**

- 20 registered patents in the field of disconnectors
- first DCS technology provider for Terna with 14 stations delivered

**References:**

- The disconnectors manufactured by Alstom Grid in Italy have been installed in some of the most important projects worldwide, such as:
  - Xiangjiaba-Shanghai (China) 800 kV DC
  - Rio Madeira (Brazil) 600 kV DC
  - Champa (India) 800 kV DC
  - Experimental substation “Bina” (India) 1200kV
  - Megaswitch 765 kV (U.S.A.) with a 1000kVopen gap
  - “Cape Link” (Sudafrica) 800kV interconnection
  - Kuskaya 800kV (Russia) for a nuclear plant
  - Western Link (U.K.) 617kV DC
- Revamping of the substations: 132kV Ponte Resia; 150kV Trapani; 132kV Falconara (Italy).
- Protection and control systems for the GIS 400 kV power station in Tzafit (Israel) and the 690 MW thermal power station in Hassi Messaud (Algeria).
- Outline contracts for 145, 170, 245 and 420 kV knife switches, switches and terminal boards for Terna, Italy.
- Outline contracts for knife switches with APG, Kelag and EVN in Austria, covering 100% of the Austrian market.
- 24kV, 16000A generator circuit breakers for the power stations of Turano Lodigiano, Batna and M’Sila (Algeria) being constructed by Ansaldo Energia.
- Supply of HV and UHV bushings based on various technologies:
  - oil-impregnated paper for the 1100 kV transformer of the first and second 1100 kV transmission line operating in China;
  - hybrid technology (DIP SF6) for 820 kV, 4500A HVDC transformers being installed on transformers in China;
  - gas for 600 kVDC (project Madeira-Brazil) and the 820 kV 4500° HVDC wall bushings (project Xilodou-Xhexi-China).
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- Prototype bushings for transformers based on RIP technology for both DC (up to 410 kV) and AC applications (up to 420 kV).
- First 600 kVDC wall bushings in the world to pass the pollution tests carried out at the CEPEL laboratories (Brazil).

Ongoing projects:

- Champa 800 kV DC project in India; Xilodou-Xhexi 820kV 4500° HVDC project in China.