

# GROUP ACTIVITY

## **Overview**

- Group general organisation
- Main events of fiscal year 2008/09
- General comments on activity and results
- Outlook

## **Sector review**

- Power Sectors
- Transport Sector
- Corporate & Others

## **Operating and financial review**

- Income statement
- Balance sheet
- Liquidity and capital resources
- Use of non-GAAP financial indicators

## Overview

### **GROUP GENERAL ORGANISATION**

Alstom serves the power generation market through its Power Sectors, and the rail transport market through its Transport Sector. Alstom designs, supplies and services a complete range of technologically advanced products and systems for its customers, and possesses a unique expertise in systems integration and through-life maintenance and service. In fiscal year 2008/09, orders amounted to €24.6 billion and sales to €18.7 billion. On 31 March 2009, the backlog amounted to €45.7 billion.

Alstom believes the power and transport markets in which the Group operates are sound, offering:

- solid long-term growth prospects based on customers' needs to expand essential infrastructure systems in developing economies and to replace or modernise them in the developed world; and
- attractive opportunities to serve the existing installed base.

Alstom believes it can capitalise on its long-standing expertise in these two markets to achieve competitive differentiation. Alstom is strategically well positioned for the following reasons:

- Alstom has global reach, with a presence in around 70 countries worldwide;
- Alstom is a recognised technology leader in most of its fields of activity, providing best-in-class technology; and
- the Group benefits from one of the largest installed bases of equipment in power generation and rolling stock, which enables it to develop its service activities.

An international network coordinates the presence of Alstom throughout the world. This network supports the Sectors in their business development and sales.

On 31 March 2009, Alstom had a total of approximately 81,500 employees worldwide.

# MAIN EVENTS OF FISCAL YEAR 2008/09

## **Alstom pursues its growth and improves once again its profitability**

In fiscal year 2008/09, Alstom achieved very good results, driven by commercial successes on the dynamic power and transport markets and by an overall proper execution of the projects in backlog. The Group set a new record in orders intake at €24.6 billion, a 5% increase on an actual basis (6% on an organic basis) compared to last year. Fuelled by these commercial successes, the backlog reached €45.7 billion at the end of March 2009 (an increase of 16% on an actual and an organic basis), the equivalent of 29 months of sales.

Sales also grew to €18.7 billion, representing an annual increase of 11% on an actual basis (10% on an organic basis) as a result of the execution of the Group's large backlog.

Continuously improving since 2004/05, operating income increased by 19% at €1,536 million during fiscal year 2008/09 (18% on an organic basis). Translating both the quality of the orders received and the attention paid to project execution, operating margin rose to 8.2% (7.7% in 2007/08).

During fiscal year 2008/09, net profit (Group share) after a 25% tax expense, increased 30% at €1,109 million due to an improved operational performance and a turned positive financial income. Earnings per share (basic) reached €3.9 versus €3.0 last year.

During the past fiscal year, Alstom generated €1,479 million of free cash flow, a notable performance – including the high capital expenditure programmes launched in 2007/08 – which results from a good operational performance and a favourable evolution of the Group's working capital.

## **Strong assets to face the challenging environment**

### *Long-term market drivers remain promising*

From liquidity shortages, the financial crisis rapidly turned into a global economic downturn bringing companies new challenges. A base of financially sound customers, a wide portfolio of activities and a broad geographic coverage are in this context, among the Group's strongest assets.

Regarding Power, Alstom's long-term market drivers remain positive. In the emerging markets, the need for power generation infrastructure together with the search for energy independence should continue to fuel an already large demand whereas in the industrialised countries, the ageing fleet should support the service and retrofit markets. In addition, more and more stringent environmental regulations should sustain the development of clean energy solutions such as hydro, wind and nuclear, foster the demand for higher technological contents to ensure a better efficiency of the thermal power plants and drive the need for replacement. In the short term, the financing constraints as well as a downward revision of end markets may drive a decrease of the demand for new power market as some new projects may be postponed. The service market should however be less volatile.

Regarding Transport, fast-growing urbanisation and the need for environment-friendly mobility should continue to pledge mass transportation means such as metros, tramways, inter city and

high speed trains. In addition, short-term demand is expected to be supported by stimulus packages put in place in a number of countries.

#### *A secured backlog in volume and in quality*

At 31 March 2009, the Group backlog reached €45.7 billion, representing 29 months of sales. The high volume and quality of this backlog give Alstom strong visibility to prepare for and face, if necessary, an extended slowdown in demand.

State-owned and large utilities account today for 80% of Alstom Power Sectors customer base, and 90% of Transport Sector's. This proportion should minimise the Group's sensitivity to financial risks impacting its customer base. In this respect, no project cancellation or deferral has been recorded so far.

#### *A sound financial performance*

At the end of fiscal year 2008/09, Alstom showed a steady liquidity position with net cash strengthened at €2.1 billion and gross cash amounting to €2.9 billion, after the reimbursement, during the period either at maturity or in anticipation of €559 million of bonds. As of 31 March 2009, the total outstanding bonds amounted to €275 million in nominal value (vs. €834 million at 31 March 2008). In terms of bonds and guarantees, Alstom also benefits from an €8 billion committed syndicated line and €13.5 billion of bilateral lines (€2.4 billion and €5.1 billion being respectively undrawn).

### **Preparing the future**

#### *Initiatives taken in an uncertain global context*

Uncertainties created by the recent economic downturn have prompted Alstom to take the following specific actions:

- a programme focusing on the strict control of S&A (Selling & Administrative) expenses was set up in December 2008, and actions deployed at the Group's unit level. Short-term specific actions have also been taken to limit IT, travel and consulting expenses. Lastly, specific attention will continue to be paid to the efficiency of support functions;
- future capital expenditures will be strictly prioritised, without questioning the ongoing major projects aiming at developing and reinforcing the industrial base in key markets (Wuhan Boiler Company new factory in China, Chattanooga steam turbines facility in the United States or Elblag foundry in Poland).

#### *Streamlining of Power organisation*

In March 2009, Alstom announced a reorganisation of its activities related to power generation consisting in the merger of the two Sectors, Power Systems (plants, equipments and retrofit) and Power Service (after-sales, from service to renovation and spare parts). The set-up of a single Power Sector will improve the commercial performance of the Group and optimise its engineering and production means. This new Sector will be organised around six activities (Thermal Systems, Thermal Products, Thermal Services, Hydro, Wind and Energy Management).

## **A strong and optimised industrial base**

The Group's capital expenditures for the fiscal year 2008/09 (excluding capitalised development costs) amounted to €499 million, an increase of 33% year on year.

Market oriented, major ongoing Power capital expenditure projects include:

- to address the American market, the construction of a new facility in Chattanooga (Tennessee, United States of America) to manufacture steam turbines for nuclear and thermal applications, gas turbines, generators and related equipments;
- to address the Chinese and export markets, the construction in Wuhan city outskirts (Hubei Province, China) of a new facility following the acquisition of 51% of Wuhan Boiler Company in 2007. This factory will be Alstom's largest utility boilers manufacturing site and should be operational by the end of 2009;
- the building of a foundry in Elblag (Poland), aiming at increasing the production capacity of key components for turbines.

In Transport Sector, the capital expenditure programmes were focused on the upgrade and expansion of the European manufacturing base for rolling stock (very high speed trains, tramways and components). The main investments have been made in France, Germany, Italy and Poland.

## **Joint ventures and partnerships to reinforce the strategic positioning**

In 2008/09, Alstom continued to deploy its growth strategy by finalising joint venture agreements and entering into promising partnerships.

- during the first half of 2008/09, Alstom finalised the creation of a joint venture with JSC Atomenergomash, part of the Russian Federal Agency for Atomic Energy responsible for the development of the national nuclear programme, to provide the turbine islands of Russian nuclear power plants based on Alstom's half-speed technology ARABELLE™. In September 2008, Alstom Atomenergomash LLC signed an agreement with Atomenergoproekt for the engineering of the turbine generator package and turbine hall equipment for the Seversk nuclear power plant in Siberia, recording a first success on the Russian market;
- in November 2008, Alstom and Bharat Forge Ltd (BFL), a global leader in manufacturing and metal forming, signed a shareholders' agreement to create a joint venture company based in India (the agreement is subject to Government and regulatory approvals). The new company will manage the whole process from engineering and manufacturing to selling and commissioning state-of-the-art 600 MW to 800 MW supercritical steam turbine islands in India;
- in March 2009, Alstom and Transmashholding (TMH), the main rolling stock manufacturer in Russia, signed a strategic agreement. This agreement follows a Letter of Intent announced in

October 2008, according to which Alstom Transport will support the modernisation of TMH manufacturing sites and the development of a new generation of rolling stock equipment adapted to the Russian market. Alstom and TMH have also committed to creating a joint venture, held in equal parts, for the development of new models of rolling stock which will be based on Alstom Transport and TMH's latest technologies. Finally, Alstom will acquire 25% (+ 1 share) of the capital of TMH holding company at a price that will be defined according to the financial results of TMH over the 2008-2011 period.

## **Shaping the future through innovation**

### *Research & Development*

In order to maintain its technological leadership, Alstom pursued the acceleration of its Research and Development (R&D) programmes over the last fiscal year. R&D expenditures (gross costs) amounted to €621 million versus €561 million in 2007/08. After capitalisation and amortisation of development costs, R&D expenditures as per the income statement, reached €586 million compared to €554 million last year, representing 3.1% of sales. Alstom's flagship R&D programmes - for Power, the development of CO<sub>2</sub> capture technologies and for Transport the AGV<sup>TM</sup>, the last generation of very high speed trains - accomplished significant progresses in 2008/09.

In 2008/09, Alstom continued to pave the way for CO<sub>2</sub> capture solutions, focusing on oxy-combustion and post-combustion processes. During fiscal year 2008/09, the Group entered the following technological partnerships:

- an agreement with TransAlta Corporation, a Canadian power generation company, to develop a large scale CO<sub>2</sub> capture and storage facility in Alberta, Canada;
- a Memorandum of Understanding (MoU) with PGE Elektrownia Belchatow S.A. for the development and implementation of Carbon Capture and Storage (CCS) technology at the Belchatow power plant in Poland;
- a joint development and commercialisation agreement with the Dow Chemical Company to develop advanced amine technology for CO<sub>2</sub> capture that will be used in the design and construction of a pilot plant in West Virginia, USA.

In addition, Alstom became this year a founding member of the Global Carbon Capture and Storage Institute (GCCSI), created under the initiative of the Australian government. This framework will allow Alstom to promote research in this field and set up demonstration projects.

To date, Alstom has started operation at three CO<sub>2</sub> capture pilot projects, with EPRI and We Energies in Wisconsin, USA, E.ON in Sweden and Vattenfall in Germany. Inaugurated in September 2009, Vattenfall's Schwarze Pumpe is the first pilot plant based on Alstom's oxy-combustion technology in the world.

Other initiatives contributed to strengthen the competitive edge of Alstom's Power products:

- the creation of a Global Technology Centre for hydroelectricity in Vadodara (India), will secure together with Hydro's Global Technology Centre in Grenoble (France), Alstom Hydro's leadership on the entire range of hydro turbines;

- R&D efforts in wind business have been focused on the development of the new 3 MW wind turbine, put in operation this year;
- performance improvement of GT13™ and GT26™ gas turbines, as well as the upgrade of GT24™ remained a focus point;
- lastly, Alstom Power Energy Management Business (EMB) announced its collaboration with Microsoft to deliver the next generation of high-performance information technology (IT) solutions for the power industry.

While promoting environment-friendly solutions, the Transport Sector continued to develop its advanced technology in its product range:

- the AGV™ ran dynamic tests in the Czech Republic before its first dynamic tests in France at 360 kph, the commercial speed it has been designed for. The AGV™ technology is based on articulated carriages and a distributed drive system. The first trains will be delivered starting from 2010;
- in tramways, the prototype for a new platform aiming at broadening the CITADIS™ range will complete testing phase in Germany end of April 2009;
- regarding regional trains, the first 24 CORADIA™ CONTINENTAL trains have been delivered to their customers and the CORADIA™ NORDIC X61, a product for regional traffic in Northern Europe, successfully completed its first test runs in Salzgitter (Germany);
- in signalling, the Group delivered its state-of-the-art URBALIS™ evolution system on the Beijing Line 2 and the Beijing Airport Link, right on time for the Olympic Games;
- finally, Alstom dedicated significant part of its Research and Development efforts to promote sustainable rail transport by developing trains featuring low energy consumption, reduced weight, hybrid or bi-modes traction and low noise pollution.

#### *"I Nove You" programme*

As a must to differentiate from the competition and to optimise processes, innovation is at the heart of Alstom's strategy. At Group level, the "I Nove You" programme initiated last year aims at three major objectives: create a favorable environment for innovation and innovative people within the Alstom community, enhance cross-fertilisation and support ongoing efforts to leverage innovations developed outside of the Group.

### **A reinforced Corporate Responsibility**

#### *A caring Human Resources management*

During fiscal year 2008/09, the Group continued to drive its headcount increase. At the end of March 2009, total headcount reached 81,500 people, including 11,000 new recruitments over the period to support the Group's development on key markets and to ensure the execution of its growing backlog. Alstom focused its recruitment particularly in Europe (57%) and Asia/Pacific (22%). This policy may be adapted pending future market development.

Care for people remained a key factor as the Group further developed its training programmes. The number of "Alstom University" training sessions delivered has doubled compared to last year, and five "Alstom University" regional campuses are operational around the world.

### *“Environment, Health and Safety” (EHS) continuous improvement*

Through continuous efforts to improve employees’ health and safety, the number of work-related incidents has been greatly reduced (-35% for 2008/09 compared to the same period a year before). The Group is committed to pursuing its efforts on training and communication to improve employees’ awareness and to minimise risks. In addition, as part of EHS policy, a new emphasis has been put on CO<sub>2</sub> reduction on Alstom sites.

### *Employee Sharing Programme*

Following the success met by the previous programmes, a third employee stock purchase scheme was announced in January 2009 in 22 countries with the same objectives: encouraging employees’ contribution to the Group’s performance while enlarging and stabilising the shareholding base. In line with past references, close to 30% of the employees participated into this programme. The number of additional shares represented around 0.4% of the Group’s share capital.

The Board of Directors also approved a new Long Term Incentive Plan based on the grant of conditional stock options and the free attribution of performance shares, depending on the Group’s performance in 2010/11; this plan could represent approximately 0.4% of the share capital.

### *Alstom Foundation for the Environment*

The Alstom Foundation, created in November 2007, will devote €1 million per year to support projects in the field of environmental protection. The Foundation has rewarded the first eleven projects this year. One of the most significant initiatives rewarded will establish a new conservation programme protecting the biodiversity in a national park of China’s Yunnan Province. Other selected projects promoted actions in Argentina, North Korea, India, Switzerland, USA, Indonesia, Malaysia, Philippines, South Africa and France.



# GENERAL COMMENTS ON ACTIVITY AND RESULTS

## Consolidated Key Financial Figures

The following table sets out, on a consolidated basis, some of the key financial and operating figures:

| Total Group<br>Actual figures<br>(in € million) | Year ended  |             | % Variation         |         |
|---|-------------|-------------|---------------------|---------|
|   | 31 March 09 | 31 March 08 | March 09 / March 08 |         |
|   |             |             | Actual              | Organic |
| Order backlog                                   | 45,670      | 39,222      | 16%                 | 16%     |
| Orders received                                 | 24,580      | 23,472      | 5%                  | 6%      |
| Sales   | 18,739      | 16,908      | 11%                 | 10%     |
| Income from operations                          | 1,536       | 1,295       | 19%                 | 18%     |
| Operating margin                                | 8.2%        | 7.7%        |                     |         |
| Net profit - Group share                        | 1,109       | 852         | 30%                 |         |
| Free cash flow                                  | 1,479       | 1,635       | (10%)               |         |

### *General comments on activity*

Over fiscal year 2008/09, power and transport markets showed a very strong activity creating numerous opportunities for Alstom.

Regarding Power, the favorable trend observed in 2007/08 was confirmed this year with a balanced demand for all technologies, both for the installed and the new base markets. Thermal continued to lead the market, not only supported by the high demand for coal in Asia and Europe, but also by an active gas market bringing new projects namely in Europe, Africa and the Middle East. Rising environmental concerns and enforcement of green regulations continued to call for the development of clean sources of energy and their substitution for polluting equipment. Consequently, demand for renewables such as hydro and wind kept on growing, and nuclear confirmed its strong potential. The market for retrofit and upgrade solutions was also fostered by a continuing demand for energy efficiency.

The transport market has been very dynamic in 2008/09. With fast-growing urbanisation, the need for mobility and respect for the environment were again the key leading factors of a high demand for transportation means. The market for very high speed, regional trains and metros remained strong while demand for tramways continued to progress.

### *Orders received and backlog*

Benefiting from favourable markets, Alstom achieved a strong commercial performance in fiscal year 2008/09, booking a record level of €24.6 billion orders, a 5% increase compared to last year on an actual basis and 6% on an organic basis. At the end of March 2009, the Group's backlog

amounted to €45.7 billion, a 16% increase year on year, representing the equivalent of 29 months of sales.

The combined Power Sectors booked €16.5 billion orders over fiscal year 2008/09, recording a 3% rise over the high level of the previous year on an actual basis (4% on an organic basis). Power Systems orders intake reached a new peak level with €11.9 billion, an increase of 3 % compared to previous year (on actual and organic bases), representing 48% of the Group's total orders received.

Illustrating customers' confidence in Alstom technology and know-how, Power Systems recorded major successes for coal and gas-fuelled power plants turnkey contracts including GT26<sup>TM</sup>-based combined-cycle power plants in Africa (the first on the continent), the Netherlands, Spain and Indonesia. Orders for equipment supply (turbines and generators) to oil or coal-based power plants were received, including key contracts in Saudi Arabia, South Africa, the Netherlands and Germany, where Alstom will supply the most advanced clean coal technology to an existing power plant.

In nuclear, Alstom confirmed its position as a leading supplier by booking an order for the engineering and procurement of the complete turbine island for the first nuclear power plant in China to use the EPR technology. Orders for nuclear equipment retrofit were also recorded in South Africa and France.

Over the last fiscal year, Alstom continued to strengthen its global presence in renewables. In hydro business, the Group booked large projects in South and Central America (Brazil, Panama), Europe (Portugal, Turkey) and Asia (India, China). Eighteen months after the acquisition of Ecotècnia and the creation of its Wind business activity, Alstom smoothly pursues its expansion on the European wind market.

Lastly, search for energy efficiency as well as ageing of the installed base brought also successes for Alstom with hydro power plant upgrades in Africa and Norway, boiler repowering in Germany and modernisation of equipment for a gas-fuelled plant in the Netherlands.

Seizing the opportunities of the growing service market, Power Service booked €4.6 billion orders in 2008/09, a 4% increase compared to last year on an actual basis (5% on an organic basis). The main Operation and Maintenance (O&M) contracts included projects in Algeria, Tunisia, the United Arab Emirates, the Netherlands and Spain. In addition to a record number of small and medium sized orders, Power Service signed contracts for power plants upgrade in Turkey, Hungary and France.

In fiscal year 2008/09, Transport realised major commercial achievements across its product range, booking orders at €8.1 billion, an increase of 9% (11% on an organic basis) compared to last year, which was already an exceptional year. Historic markets (France, the United Kingdom, Germany) with new products (CORADIA<sup>TM</sup> CONTINENTAL, AGV<sup>TM</sup>) and maintenance contracts (the United Kingdom, Italy) have driven the increase. In new markets, tramway turnkey solutions have been sold, demonstrating the continuous success of Alstom's CITADIS<sup>TM</sup> product range.

Alstom's leading position in very high speed was confirmed with the first order received for the AGV<sup>TM</sup> in Italy, whereas in high speed Alstom continued to demonstrate its know-how, booking several orders in Europe including a record contract for the extension of a PENDOLINO<sup>TM</sup> fleet and associated maintenance for the line between London and Glasgow in the United Kingdom. Alstom also benefited from the modernisation of European networks and fleets, winning several

projects for regional trains in Germany, Sweden, France and Luxemburg as well as for locomotives in France, the Netherlands and Germany.

Alstom was served by a the strong demand in mass transit, booking numerous turnkey projects based on the Group's CITADIS™ tramway products in North Africa and Middle East, and recoding metro contracts in Asia, South and Central America and North America, where the New York Municipality confirmed option for additional subway cars. Signalling projects, namely for Santiago de Chile and Sao Paulo metros, as well as orders for infrastructure (Romania) and maintenance for main lines fleets (Switzerland) also contributed to Transport Sector's high level of orders intake in 2008/09.

### ***Sales***

Supported by the smooth execution of a growing backlog, the Group's sales once again established a record at €18.7 billion, showing an 11% increase year on year on an actual basis (10% on an organic basis).

Power Systems achieved €9.2 billion sales, accounting for 49% of the Group's total sales in 2008/09, and representing a 19% increase year on year on an actual basis (16% on an organic basis). Main contracts contributing to sales over the period included gas-based power plant projects in Europe (the United Kingdom, Ireland, the Netherlands, France), the United Arab Emirates, Algeria, Brazil and Australia, boilers projects in Poland, Bulgaria and Germany as well as hydro projects in India and Brazil.

Power Service generated €3.8 billion sales in fiscal year 2008/09, increasing by 6% the previous figure on an actual basis and by 8% on an organic basis.

In fiscal year 2008/09, Transport recorded sales at €5.7 billion, a 3% growth year on year on an actual basis (5% on organic). Significant main lines contracts traded during the year included high speed trains (TGV<sup>1</sup>) in France, regional trains in France, Spain and Germany, several projects for locomotives in France and Germany as well as a maintenance contract in the United Kingdom and signalling projects executed in Belgium and Italy. Traded mass transit contracts covered metro projects in the USA (New York City, Atlanta), Spain (Barcelona), Brazil (Sao Paulo), Hungary (Budapest) and Singapore and the delivery of a tramway turnkey system in Algeria (Algiers).

### ***Income from operations***

Income from operations reached €1,536 million in fiscal year 2008/09, representing a 19% increase compared to last year on an actual basis (18% on an organic basis). The operating margin rose from 7.7% to 8.2%, driven by the good quality of the orders in hand, a proper execution of the backlog and continuous cost controlling.

All Sectors contributed to the Group's income from operations and operating margin growth. Power Systems commercial performance drove an increase of income from operations by 45% on

---

<sup>1</sup> TGV is a trademark of the SNCF

an actual basis (42% on an organic basis) from €415 million in 2007/08 to €600 million in 2008/09, Power Service improved income from operations to €648 million from €592 million a year earlier (9% on an actual basis and 7% on an organic basis), representing 17.0% of sales in fiscal year 2008/09. Transport's income from operations was €408 million, stable versus last year, at 7.2% of sales.

### ***Net profit (Group share)***

Net profit (Group share) grew from €852 million to €1,109 million year-on-year. This 30% increase in one year mainly stemmed from a strong increase of income from operations.

### ***Free cash flow***

Free cash flow (as defined in paragraph "Use of non-GAAP financial indicators") reached €1,479 million in fiscal year 2008/09, compared to €1,635 million for the previous year. Supported by the increase of net income and a further improvement of working capital, the large free cash flow generation includes the Group's continuous investment efforts in R&D and capital expenditures.

### ***Net cash***

Switching from net debt to net cash in 2007/08, the Group's net cash position increased by more than €1 billion over last fiscal year to €2,051 million. This record surge includes €233 million dividends paid during the year (vs. €117 million last year).

## **Key geographical figures**

### ***Geographical analysis of orders by region of destination***

The table below sets out the geographical breakdown of orders received by region of destination:

| <b>Total Group</b>                    | <b>Year ended</b> |                     | <b>Year ended</b> |                     | <b>% Variation Mar 09/08</b> |             |
|---------------------------------------|-------------------|---------------------|-------------------|---------------------|------------------------------|-------------|
|                                       | <b>31 Mar. 09</b> | <b>% of contrib</b> | <b>31 Mar. 08</b> | <b>% of contrib</b> | <b>Actual</b>                | <b>Org.</b> |
| <b>Actual figures, in € million</b>   |                   |                     |                   |                     |                              |             |
| Europe                                | 11,718            | 48%                 | 11,709            | 50%                 | 0%                           | 0%          |
| North America                         | 2,509             | 10%                 | 3,137             | 13%                 | (20%)                        | (19%)       |
| South and Central America             | 1,574             | 7%                  | 999               | 4%                  | 58%                          | 64%         |
| Asia/Pacific                          | 2,537             | 10%                 | 3,198             | 14%                 | (21%)                        | (20%)       |
| Middle East/Africa                    | 6,242             | 25%                 | 4,429             | 19%                 | 41%                          | 48%         |
| <b>Orders received by destination</b> | <b>24,580</b>     | <b>100%</b>         | <b>23,472</b>     | <b>100%</b>         | <b>5%</b>                    | <b>6%</b>   |

With €11.7 billion for the year ended at 31 March 2009, Europe still accounted for almost half of the total orders booked by the Group over the period (48% in 2008/09 compared to 50% last year). The Transport Sector achieved major commercial successes booking the first order for the supply and maintenance of the AGV<sup>TM</sup> in Italy for an Italian private operator, the supply and maintenance of PENDOLINO<sup>TM</sup> trains in the United Kingdom and regional trains in Germany and

in Sweden. Key contracts for power plants in Germany and the Netherlands also contributed to this increasing backlog, as did maintenance contracts for Power Service in Spain and the Netherlands.

In North America, orders reached €2.5 billion showing a decrease both in volume and contribution compared to last year. North America orders accounted for 10% of total orders received by the Group this year. Major achievements comprised Transport contracts to supply additional cars for New York City metro and a contract for electromechanical equipment for line 12 of the Mexico City metro system. Power Sectors' orders comprised orders for a steam turbine in the USA as well as a number of small to medium size orders received by Power Service.

In comparison with fiscal year 2007/08, Alstom's orders intake in South and Central America increased by a strong 58% (64% on an organic basis) at €1.6 billion, representing 7% of the Group's total orders this year. Contracts in Brazil were the main contributors to this positive move with two major hydro projects in San Antonio and Jirau and a contract to supply a fully automated system for Sao Paulo metro (Lines 1, 2 and 3). Order for additional metro cars for Santiago de Chile was also received during the period.

Orders in Asia/Pacific showed a decrease to €2.5 billion in 2008/09 (-21% on an actual and -20% on an organic basis), and accounted for 10% of the Group's total orders. Power Systems strongly contributed to this level of orders intake with three major contracts booked in China in hydro and two in nuclear. Regarding Transport, key achievements comprised orders for additional X'TRAPOLIS™ trains for Melbourne (Australia) and metro equipment for the cities of Shanghai (China) and Singapore.

Fuelled by industrial development and significant investments in infrastructure, orders in Middle East and Africa rose very significantly to an exceptional €6.2 billion (+41% year-on-year on an actual basis and +48% on an organic basis), representing 25% of the Group's total orders received. Power Systems commercial achievements included contracts for the largest oil-fired power plant in Saudi Arabia and the supply of turbine islands for a coal-fired power plant in South Africa. Key projects also comprised gas-fuelled turnkey combined cycle power plants in Algeria, Tunisia and the Netherlands, for which Power Service will also provide long-term maintenance. In Transport Sector, growth of orders in the region was boosted by turnkey tramway projects for the cities of Rabat (Morocco), Oran and Constantine (Algeria) and Dubai (United Arab Emirates).

### ***Geographical analysis of sales by region of destination***

The table below sets out the geographical breakdown of sales by region of destination:

| <b>Total Group</b>                  | <b>Year ended</b> |                     | <b>Year ended</b> |                     | <b>% Variation Mar 09/08</b> |             |
|-------------------------------------|-------------------|---------------------|-------------------|---------------------|------------------------------|-------------|
|                                     | <b>31 Mar. 09</b> | <b>% of contrib</b> | <b>31 Mar. 08</b> | <b>% of contrib</b> | <i>Actual</i>                | <i>Org.</i> |
| <b>Actual figures, in € million</b> |                   |                     |                   |                     |                              |             |
| Europe                              | 9,705             | 52%                 | 8,308             | 49%                 | 17%                          | 16%         |
| North America                       | 2,943             | 16%                 | 3,109             | 19%                 | (5%)                         | (4%)        |
| South and Central America           | 1,088             | 6%                  | 881               | 5%                  | 23%                          | 26%         |
| Asia/Pacific                        | 2,557             | 13%                 | 3,058             | 18%                 | (16%)                        | (17%)       |
| Middle East/Africa                  | 2,446             | 13%                 | 1,552             | 9%                  | 58%                          | 55%         |
| <b>Sales by destination</b>         | <b>18,739</b>     | <b>100%</b>         | <b>16,908</b>     | <b>100%</b>         | <b>11%</b>                   | <b>10%</b>  |

Over fiscal year 2008/09, sales in Europe increased both in volume at €9.7 billion (+17 % on an actual basis and + 16% on an organic basis) and in proportion of the Group's total sales (52% against 49% last year). These results include, for Power Systems, GT26<sup>TM</sup>-based projects in the United Kingdom and boiler projects in Poland and Germany. In Transport Sector, the main traded contracts covered very high speed TGV<sup>2</sup> trains, metros and tramways in France, maintenance in the United Kingdom and regional trains in France, Spain and Germany.

Year on year, the Group's sales in North America decreased by 5% on an actual basis and by 4% on an organic basis, at €2.9 billion. Mass transit contracts for New York and Atlanta and an advanced high-efficiency coal fired generating plant in USA were the main contributing projects to the 2008/09 sales.

At €1.1 billion, sales in South and Central America grew by 23% compared to last year (+26% on an organic basis), contributing for 6% of the Group's total sales. The execution of a contract for gas-based plant and hydro contracts in Brazil generated the main part of Power Sectors' sales. Regarding Transport, metro projects in Sao Paulo (Brazil) continued to be traded.

Sales in Asia/Pacific contributed to 13% of the Group's total sales in 2008/09 at €2.6 billion (a decrease of 16% year on year on an actual basis and 17% on an organic basis). In Power Sectors, main contracts traded included GT13<sup>TM</sup> project in Australia, boiler projects coming from Wuhan Boiler Company's backlog and hydro contracts in India, China and Vietnam. In Transport, key contracts in China with the Ministry of Railways (Electrical Multiple Units and infrastructure for high speed lines, freight locos) and with Shanghai and Nanjing Municipalities (metro) made up most of the sales.

Sales in Middle East/Africa recorded a very significant yearly increase of 58% (55% on an organic basis) at €2.4 billion, accounting for 13% of the Group's total sales. In Power, the main part came from the execution of a major turnkey project in the United Arab Emirates and a gas-fuelled plant in Algeria. In Transport, tramway projects in Jerusalem, Dubai, Algiers and Oran, as well as infrastructure and signalling projects in Egypt, Morocco and Algeria were the main traded contracts over the period.

<sup>2</sup> TGV is a trademark of the SNCF

## ***Geographical analysis of sales by region of origin***

The table below sets out the geographical breakdown of sales by region of origin:

| <b>Total Group</b>                  | <i>% Variation Mar 09/08</i> |                |                   |                |               |             |
|-------------------------------------|------------------------------|----------------|-------------------|----------------|---------------|-------------|
|                                     | <b>Year ended</b>            | <b>% of</b>    | <b>Year ended</b> | <b>% of</b>    | <i>Actual</i> | <i>Org.</i> |
| <b>Actual figures, in € million</b> | <b>31 Mar. 09</b>            | <b>contrib</b> | <b>31 Mar. 08</b> | <b>contrib</b> |               |             |
| Europe                              | 13,133                       | 70%            | 11,562            | 68%            | 14%           | 12%         |
| North America                       | 2,858                        | 15%            | 3,041             | 18%            | (6%)          | (5%)        |
| South and Central America           | 660                          | 4%             | 528               | 3%             | 25%           | 32%         |
| Asia/Pacific                        | 1,650                        | 9%             | 1,511             | 9%             | 9%            | 10%         |
| Middle East/Africa                  | 438                          | 2%             | 266               | 2%             | 65%           | 60%         |
| <b>Sales by origin</b>              | <b>18,739</b>                | <b>100%</b>    | <b>16,908</b>     | <b>100%</b>    | <b>11%</b>    | <b>10%</b>  |

Europe still represents the main centre of production and project execution with 70% of total sales by origin, at €13.1 billion.

## OUTLOOK

The quality and the size of the Group's backlog enable Alstom to confirm its objective in 2009/10. The operating margin should reach around 9%, split between 10% and 11% for the Power Sector and between 7% and 8% for the Transport Sector.

These targets are based on a number of assumption and actions, including the correct execution of the contracts in the Group's backlog, the intake of profitable orders and the optimisation of the cost base. For each of the Sectors, the following assumptions were taken.

- Power Sector aims at focusing on the delivery of its important backlog, while continuing to record contracts. Targeting the performance of its project execution, the Sector will put particular attention to its cost structure optimisation.
- Transport's objective is to reach the targeted operating margin through improvement of contract execution and further cost optimisation ensured by standardisation, sourcing optimisation and cost adjustment.

The foregoing are "forward-looking statements" and as a result, remain subject to uncertainties. The success of the Group's strategy and action plans, its sales, operating margin and financial position could differ materially from the goals and targets expressed above if any of the risks described in the Risk section of the Annual Report for fiscal year 2008/09, or other unknown risks, materialise.



## Sector review

### **POWER SECTORS**

During fiscal year 2008/09, Alstom's activities in power generation were managed through two Sectors as presented in this section: Power Systems which addressed plants, new equipment and retrofit, and Power Service, which addressed the after market from up-grade to spare parts delivery and field service.

In March 2009, a merger of these two Sectors into a single Alstom Power Sector was announced. This new organisation has been set up to meet two main objectives. Firstly, the Group faces growing demand in the installed base and needs to optimise its offering to successfully address these opportunities. Secondly, this organisation will allow to optimise Alstom's sales efficiency, improving its cost base through common manufacturing and supply chain, fully coordinated research and development and controlled fixed costs.

The new organisation functions according to two major principles "One face to the customer" and "One single technology".

The new Alstom Power Sector is organised in six activities:

- Thermal Systems, including gas and steam power plants and environmental control systems;
- Thermal Products, including gas, steam and nuclear product lines;
- Thermal Services, including the retrofit and fleet management for all types of equipment, as well as the local service centre network;
- Hydro;
- Wind;
- Energy Management, regrouping instrumentation & control and automation products.

## **Offering**

### **POWER SYSTEMS OFFERING**

The Power Systems Sector designs, manufactures and supplies the broadest range of products and systems in the power generation industry for coal, gas, oil and biomass power plants. It also supplies wind and hydro equipment as well as conventional islands for nuclear power plants.

All components can be integrated in order to build the most efficient and the cleanest power solutions for the customers. Alstom has an extensive experience in retrofitting existing power plant equipment. This knowledge is of great value as the worldwide installed base is ageing and needs to operate under more and more stringent environmental regulations.

The Power Systems Sector operates in all geographic markets:

- Alstom has a worldwide manufacturing footprint for steam and gas turbines and generators located in Birr (Switzerland), Belfort (France), Elblag and Wroclaw (Poland), Mannheim and Bexbach (Germany), Budapest (Hungary), Beijing (China), Morelia (Mexico) and 2 factories are under construction in Chattanooga (USA) and in Podolsk (Russia);
- boilers are mainly manufactured in Durgapur (India), Surabaya (Indonesia), Brno (Czech Republic) and Wuhan (China);
- heat recovery steam generators are mainly manufactured in Surabaya (Indonesia);
- hydro turbines and generators are mainly manufactured in Grenoble (France), Baroda (India), Taubaté (Brazil), Tianjin (China), Birr (Switzerland) and Tracy (Canada);
- wind turbines are manufactured in several sites in Spain.

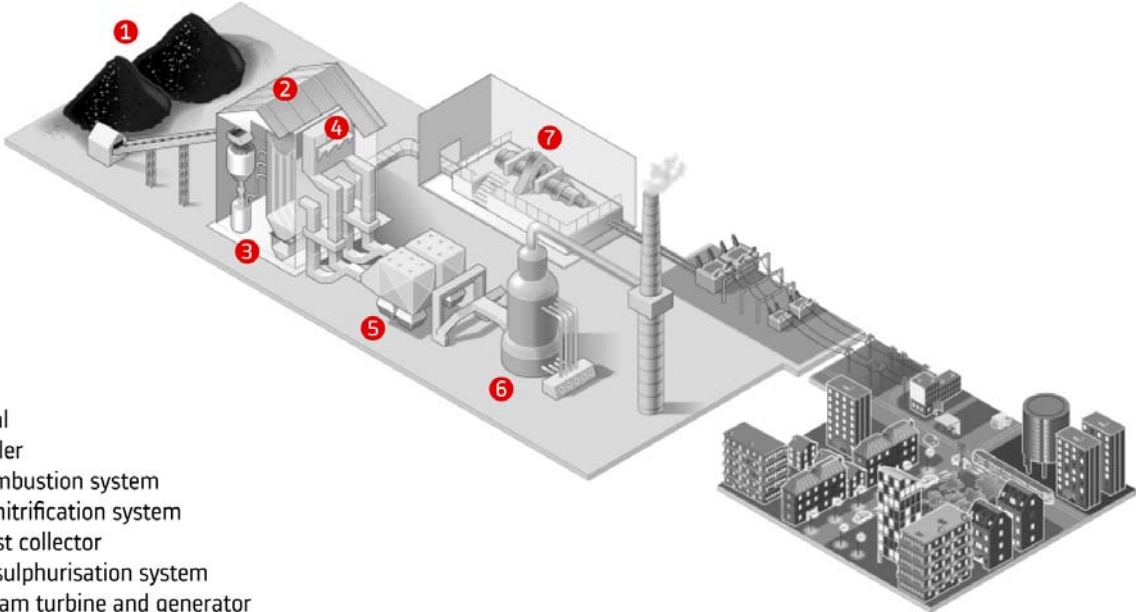
Alstom is building a new facility in Chattanooga, Tennessee, USA, to fully manufacture gas and steam turbines for nuclear and fossil power plants for new and retrofit projects. The factory will be operational in 2011.

In Russia, the Group and the Russian company, Atomenergomash, set up a joint venture to manufacture conventional islands for Russian nuclear power plants, based on Alstom's ARABELLE™ half-speed turbine technology.

Alstom Hydro has joined forces with Bardella, a Brazilian capital goods company, to create a 50/50 joint venture called Indústria Metalúrgica e Mecânica da Amazônia (IMMA). IMMA is building a plant in Porto Velho, in the State of Rondônia, Brazil, to manufacture hydromechanical and lifting equipment for projects in the Amazon region and in other countries of Latin America. The plant will be operational at the end of 2009.

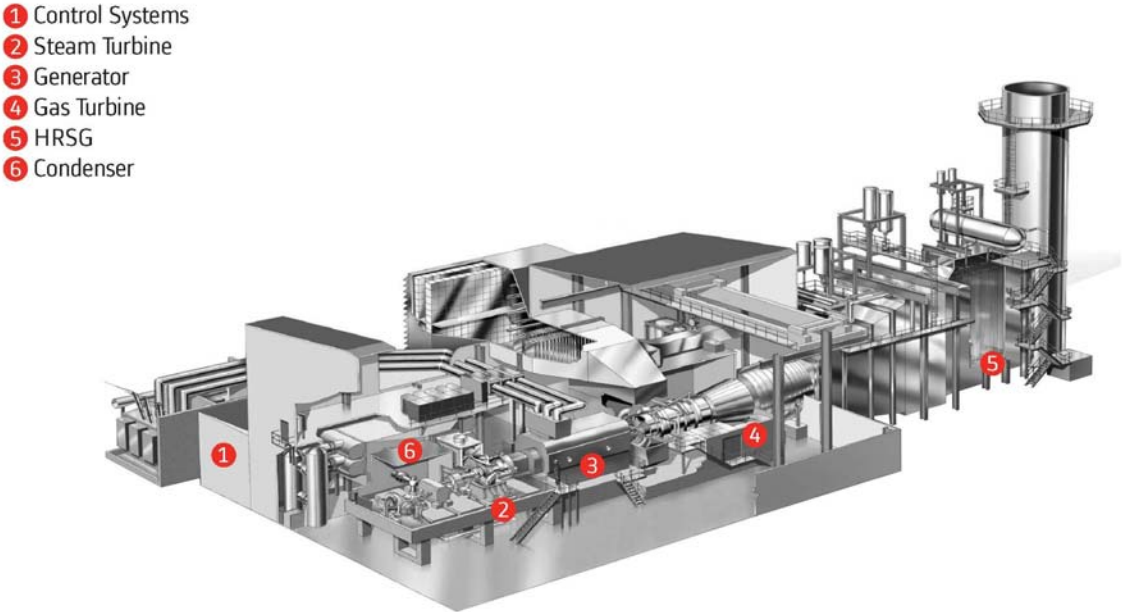
Alstom and Bharat Forge Ltd (BFL), a global leader in manufacturing and metal-forming, signed a shareholders' agreement on the creation of a joint venture company in India, which will manage the whole process from engineering and manufacturing to selling and commissioning state-of-the-art 600 MW to 800 MW supercritical turbine island power plant equipment.

**Coal power plant**



- ① Coal
- ② Boiler
- ③ Combustion system
- ④ Denitrification system
- ⑤ Dust collector
- ⑥ Desulphurisation system
- ⑦ Steam turbine and generator

**Combined cycle power plant**



- ① Control Systems
- ② Steam Turbine
- ③ Generator
- ④ Gas Turbine
- ⑤ HRSG
- ⑥ Condenser

## Coal-fired power plants

With over a century of experience in building coal-fired power plants, Alstom has the expertise, the technology and the product portfolio to meet its customers' specific requirements, combining high performance and reliability with total environmental compliance.

As the European leader of large-capacity ultra-supercritical units, Alstom has installed more than 1,400 steam turbine and generator sets above 100 MW, totalling over 480 GW around the world. Its more than 100 turnkey steam power plants total 500 GW worldwide. Covering nuclear, fossil, combined cycle and cogeneration applications, Alstom offers reaction and impulse turbine technologies. Alstom steam turbines for power generation solutions are available as back-pressure or condensing turbines with and without controlled steam extractions for a wide range of applications, including independent power producers and utility power stations, turbine retrofits, and other industrial processes and mechanical drive installations.

### INTEGRATED SOLUTIONS

Alstom provides a comprehensive range of flexible integrated solutions for various output. The coal-fired power plants can burn efficiently any quality of coal, in a single or multi-unit arrangement using different types of boilers.

Alstom's Plant Integrator™ approach calls on proven solutions tailored to meet each customer's specific needs.

Due to the broad combination of different elements and technologies used in coal-fired power plants, these projects are inherently complex and require specialist expertise. Alstom manages large-scale and complex projects, providing the entire range of services from technical engineering and sub-contracting, construction and commissioning.

Alstom's technology provides optimum performance for all steam cycles from 100 MW. Its cutting-edge expertise in supercritical conditions allows higher efficiency. Alstom's position as a leading supplier of environmental control systems significantly reduces the environmental impact of the power plant.

### PRODUCTS

#### Steam Turbines

Alstom offers a comprehensive portfolio of steam turbines for all fossil fired power plant applications, with outputs up to 1,200 MW.

Steam turbines for steam power plants:

|        |                |
|--------|----------------|
| STF100 | 700 – 1,200 MW |
| STF60  | 500 – 900 MW   |
| STF40  | 250 – 700 MW   |
| STF25  | 100 – 350 MW   |

Steam turbines for combined cycle power plants:

|        |              |
|--------|--------------|
| STF30c | 150 – 400 MW |
| STF15c | 100 – 250 MW |

Steam turbines for cogeneration (i.e. steam extraction for industry or district heating) and desalination:

COMAX 100 – 400 MW

Turbogenerators

Alstom has more than 100 years' experience in designing and manufacturing turbogenerators. As an experienced, global supplier, the Group provides a full range of turbogenerator leading technologies for coal-fired power plants:

- GIGATOP 2-pole covers a power output range from 400 MW to 1,400 MW at 50Hz and from 340 MW to 1,100 MW at 60 Hz
- TOPGAS covers a power output range from 300 MW to 530 MW at 50 Hz and from 250 MW to 450 MW at 60 Hz.
- TOPAIR covers a power output range from 150 MW to 400 MW at 50 Hz and from 90 MW to 300 MW at 60 Hz

Alstom's GIGATOP 2-pole is the most powerful turbogenerator running at full speed and it is ready to support the largest coal-fired power plants. The GIGATOP 2-pole product range delivers the needed power at an optimum efficiency and it has demonstrated extremely high reliability in operation.

Boilers

Alstom offers a broad range of equipment for boilers, including:

- suspension-fired boilers, 50-1,200 MW, including advanced pulverized coal technologies;
- circulating fluidised bed (CFB) boilers, 50-600 MW, and hybrid fluidised bed boilers; and
- auxiliary boiler products for energy recovery, including air preheaters and coal pulverizers.

CLEAN COMBUSTION

Alstom's expertise in boiler technologies and firing systems provides the perfect blend of knowledge to ensure that each fuel burns cleanly. Alstom has designed a family of low-NO<sub>x</sub> tangential and wall-fired combustion systems to significantly abate emissions, such as nitrogen oxides.

Alstom is the world's leading supplier of air quality control systems to the power generation industry and for many other industrial applications (source: Alstom). The wide range of post-combustion solutions addresses all customers' existing and future emission-compliance needs for all traditional pollutants:

- control of sulphur dioxide (SO<sub>2</sub>): greater than 98% reduction;
- control of nitrogen oxide (NO<sub>x</sub>): greater than 90%;
- control of Particulates: Alstom is PM 2.5 compliant;
- control of Mercury emissions: up to 90%.

The next challenge will be the capture of carbon dioxide (CO<sub>2</sub>). Alstom is testing and demonstrating various combustion and post-combustion solutions on an industrial scale (see Research & development section).

## Gas-Fired Power Plants

Alstom has leading experience and knowledge in gas fired simple cycle, combined cycle and cogeneration projects-based on Alstom gas turbines. Today, Alstom-built gas fired power plants produce over 100 GW of power for various power generation, heat and industry applications.

### INTEGRATED SIMPLE CYCLE POWER PLANTS

Today, simple cycle power plants are used whenever power generation capacity needs to be built rapidly. Alstom is the key supplier for many customers who are looking for reliable commitments and on-time delivery.

### INTEGRATED COMBINED CYCLE POWER PLANTS

For customers who look for efficient, flexible and competitive power generating capacity, Alstom Plant Integrator™ concept proposes combined cycle power plant designs with optimised installation times, high-performance, low emissions, and high operational flexibility features. The Alstom-made reference modules are adaptable to various site conditions and to individual power plant requirements.

Alstom's project capabilities and references also encompass special applications, for example: the cogeneration for district heating, industrial processes or desalination; the conversion of simple cycle into combined cycle power plants, and the conversion of steam power plants into combined cycle power plants.

### PRODUCTS

#### Gas Turbines

Alstom's gas turbines (ranging from 50 to 288 MW) are successfully operating in open, combined and/or cogeneration applications.

Alstom's gas turbine products are:

- GT26™ (288 MW) for 50 Hz
- GT24™ (188 MW) for 60 Hz
- GT13™E2 (180 MW) for 50 Hz
- GT11™N2 (115 MW) for 50 and 60 Hz
- GT8™C2 (56 MW) for 50 and 60 Hz

#### Turbogenerators

As a leader in air-cooled technology, Alstom has set the trend with TOPAIR by designing a simple, robust air-cooled turbogenerator with high reliability. The largest air-cooled turbogenerator in operation is a TOPAIR with 340 MW output power.

The upper range of such application are covered by Alstom's TOPGAS with outstanding reliability and efficiency proving it as very cost effective solution.

TOPAIR together with TOPGAS turbogenerators are the result of continuous, evolutionary development that has pushed the limits of power output while maximising efficiency. At the same time, it is characterised by simplicity and ease of operation and maintenance.

HRSG (Heat Recovery Steam Generator)

Alstom offers a complete range of HRSGs that provide high performance in cycling operations, cost-effective construction, and efficient operations. Alstom has unparalleled experience in this area, from horizontal and vertical drum-type HRSGs to advanced once-through HRSGs.

## Hydro Power

As part of a global cooperation between Alstom and Bouygues, a joint venture (50%-50%), Alstom Hydro, was created in 2006.

Today, Alstom Hydro, which counts more than 6,000 employees, is the worldwide market leader for hydropower solutions and services, with over 25% of the global hydropower installed capacity (400 GW of turbines and generators) (source: Alstom).

### ALSTOM HYDRO POWER SOLUTIONS

Water is the world's largest consistent source of renewable energy enabling the reduction of carbon dioxide emissions to avoid further global warming.

With over 100 years of experience and know-how, Alstom Hydro currently offers the world's most comprehensive range of power generation services and equipment that can cover all hydropower schemes from small to large, from run-of-river to pumped storage power plants, from individual equipment to complete turnkey solutions.

Alstom Hydro offers the customers a single point-of-contact to coordinate and interact with all related parties (consulting engineering, civil engineering, etc.) and acts as the consortium leader for major projects (where required), taking full responsibility for the project and its optimisation.

Alstom Hydro's power plants combine reliability with very high efficiency, converting more than 90% of available energy into electricity.

For medium and small power ranges, Alstom Hydro has also developed a range of turnkey solutions based upon standardised electromechanical equipment for industrial and agricultural applications, to satisfy all requirements from 5 MW to 30 MW.

### PRODUCTS

Alstom Hydro's wide and advanced product range enables the company to provide cost effective hydropower solutions for any application for both new and installed power plants.

#### Turbines up to 900MW

Alstom Hydro provides a full range of hydro turbines, with maximum power capacities of to 900 MW. This range includes Francis, Kaplan, Pelton, Bulb and Pump turbines to meet all customers needs and applications.

#### Generators up to 1,000 MVA

Alstom Hydro's generators can produce up to 1,000 MVA depending on the type of hydro power application. The range includes large and medium hydro generators, small generators, bulb generators, motor-generators, ring motors and excitation systems.

## Hydro-Mechanical Equipment

Alstom Hydro designs and manufactures hydro-mechanical equipment for hydro power plants as well as for waterways and irrigation systems.

## Balance of Plant and Control Systems

Alstom Hydro's core competencies in control systems span all types of hydro power plants to optimise power production. Strategic products for power generation applications, Alstom Hydro developed and qualified specific control system solutions as well as dedicated machine control equipment, in order to guarantee safe, optimised power plant operations.

## Nuclear Power Plants

Nuclear energy is becoming more and more topical in many countries. Alstom is world leader in equipment and solutions for conventional islands for nuclear power plants. More than 30% of installed nuclear power plants have Alstom turbine-generator sets (source: Alstom).

Alstom offers integrated conventional islands as well as specific products. Alstom has one of the best turbine technologies and is the only turbine manufacturer able to fully design, engineer and manufacture all the main equipments of a conventional island for any type of civil nuclear reactor. Alstom is also market leader in the retrofitting business, with a market share of about 50% (source: Alstom). Retrofitting a nuclear power plant turbine and generator package by replacing various key components, such as turbine rotors, whilst keeping most of its basic features, allows a significant improvement in power output as well as extending the power plant's lifetime. By 2015, the majority of the nuclear installed base will be over 40 years old, creating a strong potential demand for retrofit.

### NUCLEAR SOLUTIONS

Alstom's core competencies cover all phases of implementation of the power conversion systems, starting from licensing, conventional island basic and detail design, including general layout, civil work studies, supply of equipment, engineering of electrical equipment and control, documentation and training, technical assistance to erection up to commissioning and performance testing.

### PRODUCTS

#### Steam Turbines

Alstom has produced and installed more than 180 steam turbines for nuclear plants, making it a clear market leader. They operate all over the world and have demonstrated a high level of reliability and performance.

The ARABELLE™ steam turbine is central to Alstom nuclear technology. Widely acknowledged as the most advanced in the market, the "half-speed" turbine offers outstanding power output (1,000 to 1,800 MW) and uses exclusive welded-rotor technology, used on all Alstom gas and steam turbines. This technology ensures unparalleled efficiency, resistance to corrosion, longevity (60 years) and optimal maintenance, along with reduced costs and call-out times.

The world's largest operating steam turbines are four Alstom ARABELLE™ turbines running in EDF plants in France: Chooz B1 and Chooz B2 (commissioned in 1997; each with an output of



1,550 MW); Civaux 1 and Civaux 2 (commissioned in 1999 and 2000; each rated at 1,550 MW). These turbines have already notched up 200,000 operating hours and boast an outstanding reliability rate (99.97%). Alstom will reach another world record with Flamanville 3, (rated at 1,750 MW) the first Evolutionary Pressurised Reactor (EPR) in France.

#### Turbogenerators

Alstom is a highly experienced turbogenerator supplier for nuclear applications, with a worldwide operational experience since the 1960s. The Group has installed turbogenerators for about one third of nuclear power plants. The world largest turbogenerators in operation today are Alstom's GIGATOP 4-pole covering an output range from 900 MW to 2,000 MW, in both 50 and 60 Hz markets. GIGATOP 4-pole, the turbogenerator behind Alstom's proprietary ARABELLE™ steam turbine, sets the benchmark for reliability and efficiency.

## Wind Power

Alstom believes in wind as a viable source of clean power to help meet today's energy challenges and wants to become a major player in this field. The acquisition in 2007 of Ecotècnia, a Spanish wind turbine company, has provided the adequate foothold for Alstom's entry into this activity.

Since 1981, Ecotècnia was a pioneer in the development of wind power as a reliable source of clean power. The company grew from a small local wind equipment supplier into an international manufacturer that nowadays designs, assembles and installs a wide range of onshore wind turbines spanning 0.64 MW to 3MW. The company has taken a significant part of the development of the Spanish wind energy market, which is ranked second in Europe. The company currently generates about 50% of its sales from other European countries.

To date, Alstom Ecotècnia has installed or is installing more than 1,600 wind turbines in 88 wind farms, corresponding to a total capacity of approximately 1,800 MW (about 2% of the worldwide installed base). Alstom Ecotècnia is also active in the field of solar panels, particularly in Spain.

#### WIND SOLUTIONS

From site development, system design, key components design and manufacturing, assembly, site installation and operation and maintenance, Alstom is present throughout the entire value chain.

#### PRODUCTS

The Alstom portfolio offers the appropriate choice of wind turbine to match a particular wind farm location and ranges from 0.64 MW to 3 MW turbines.

Alstom wind turbines are based on a unique mechanical design concept. The hub is supported directly by a cast frame on two bearings whereas the gearbox is fully separated from the supporting structure. As a consequence the deflection loads are transmitted directly to the tower whereas only torque is transmitted through the shaft to the gearbox. This configuration reduces breakdowns to the gearbox, providing higher reliability levels.

The Eco74 and Eco80 have a rated power of 1.67MW and rotor diameters of 74m and 80m respectively. The Eco74 is suitable for sites with medium wind speed ("class II" sites). The Eco80 is suitable for sites with low wind speed ("class III" sites).

The Eco80 2.0 is a turbine with a rated power of 2MW suitable for class II sites.

The Eco100 3.0 MW wind turbine owes its name to its 100 m rotor diameter, one of the biggest available for the onshore market. The Eco100 is suitable for class II sites.

## Retrofit solutions for the installed base

An entire generation of power plants built in the last 10 to 40 years faces a series of existing and future emission regulations to which they must comply. Simultaneously, the worldwide increase in power demand is also driving utilities to seek solutions to get extra power output out of their existing power plants. In order to respond to these obligations, increase power output by boosting power plants' efficiency and availability, as well as extend their lifetime, Alstom provides its customers with state-of-the-art technologies, ranging from comprehensive retrofits for boilers, turbines and air quality control systems to plant upgrades.

Alstom's flexible, innovative retrofits offer customers optimised solutions for their installed fleet.

### COMPONENT RETROFITS

- Steam turbines: Alstom has retrofitted over 780 cylinders to date and is the leader in fossil and nuclear steam turbine retrofits worldwide with over 50% market share (source: Alstom). Alstom retrofits own fleet and 3rd party manufactured steam turbines.
- Boilers: Alstom has experience and capabilities to service any fossil fuel plant by providing: fuel flexibility, boiler upgrade for performance improvement, pressure parts condition assessment and redesign including surface technologies and environmental compliance.
- Turbogenerators: Alstom has a proven track record in adapting turbogenerator retrofit solutions to the existing interfaces and boundary conditions in order to optimise system uptime and risk mitigation.
- Gas: several combined cycle gas plants are currently over 15 years old, driving utilities to replace older gas turbines with new turbines featuring state-of-the-art technology. Gas plant turbine island retrofits seek to repower with gas turbine and Heat Recovery Steam Generators (HRSGs) to increase the plant's performance.
- Hydro: Alstom Hydro has developed many products for the specific needs of the growing refurbishment sector to significantly improve plant performance, availability and reliability without increasing the overall plant size or environmental impact. It offers individually tailored client service packages ranging from technical support, customer help lines, personnel training, maintenance engineering and condition monitoring, to full reliability packages, total operation and complete maintenance.

## INTEGRATED RETROFITS

Power Systems has unique value-integration skills that combine the retrofitting of a whole system, comprised of several components and auxiliary systems, to increase plant's economic and environmental benefits. These include the retrofitting of the:

- boilers, turbines, generators and auxiliaries for fossil plant retrofits,
- heat exchangers, turbines, generators and auxiliaries for nuclear power plant retrofits,
- heat recovery steam generators, turbines, generators and auxiliaries for gas plant retrofits.

As a leading supplier for all types of power generation equipment, Alstom offers comprehensive solutions that optimise the performance of the full range of components. Alstom's unique integration capabilities optimise the performance of the whole system. Alstom specialists conduct a study of the whole plant in order to both optimise all components and their interaction, in order to maximise unit efficiency and capacity prior to specifying the retrofit parameters.

## Energy Management Solutions

Through Energy Management Solutions, Alstom leverages its leadership as Plant Integrator™ and Clean Power specialist to supply Automation & Grid Connection solutions improving the efficiency of energy infrastructures from fuel supply to electricity production and consumption.

This technology is provided for all forms of power generation: steam, gas, nuclear, renewables.

Value for automation and grid connections for power plants is created through three main areas:

- plant efficiency – to get the best output of the power plant through effective automation. New power plant software suites to manage plant scheduling, plant asset management and plant simulation.
- plant availability – to provide the right amount of power at the right time to the grid to fulfil the demand.
- power quality – to enable customers to deliver power at the desired quality, whether related to grid frequency or voltage management.

## PRODUCTS

### Distributed Control Systems

Alstom has provided 158 GW worth of CONTROPLANT Distributed Control Systems for all types of power plants.

### Machine Control

Alstom's supplies pre-packaged machine control solutions for applications for steam and gas turbines, burners and boilers, as well as automatic voltage regulator and excitations.

Isolated phase buses

Alstom's Isolated Phase Buses range from 3,000 A up to 52,000 A. Alstom has installed 1,100 units around the world.

## **POWER SERVICE OFFERING**

Power Service provides a complete range of services, support and equipment to the thermal power generation industry on a global scale. The Sector has the widest range of services on offer, including:

- power plant management: tailored service packages including Operation and Maintenance (O&M) agreements for plants' full life cycles;
- consulting and support: technical services, training, monitoring and diagnostics, performance analysis;
- performance improvement: modernisation, upgrades and lifetime extension;
- field service: outage management, field repairs, erection, commissioning, construction and supervision; and
- new spare parts, improved and reconditioned components.

Power Service helps its customers maximise plant performance, availability and reliability, meeting their business goals in asset life-cycle management, performance improvements, risk management, cost management and environmental compliance.

As an Original Equipment Manufacturer (OEM), Alstom is the best qualified to maintain, upgrade and repair its own installed base – as well as components and systems from third-party suppliers.

The Sector has more than 21,000 employees and operates through 25 dedicated manufacturing workshops and technical expertise centres. In addition the Sector maintains 32 dedicated field service hubs providing support to some 200 local service centres, operating in 70 countries around the world.

### **Combined cycle gas power plants**

Optimising a combined cycle gas power plant necessitates a deep knowledge of all plant components, as well as of the interaction between components.

Power Service provides comprehensive support to help customers identify areas of improvement in their gas turbine simple and/or combined cycle power plant(s), and to apply customised solutions and services accordingly to effectively optimise the plant(s).

The Sector offers cost-effective packages for the whole power train, as well as for instrumentation and control, and monitoring and diagnostics systems. In depth plant knowledge and expertise in product and component integration enables Power Service to increase plant performance throughout its life cycle. Component improvements or upgrades and life extension packages ensure optimised plant output, operational flexibility, and compliance with the most stringent emission regulations.

## Steam power plants

Steam power plants are and will remain key contributors of electricity production worldwide.

Through the ECORAM™ programme, Power Service focuses on plant condition assessments, resulting in recommendations for lifetime extension and increased power output, efficiency, availability and reliability. The Sector covers the full range of steam plants, including the conventional island of nuclear power plants. Since the inception of the ECORAM™ programme, over 30 plants have been assessed in several countries.

The Sector also invests in plant fleet analysis methods. The goal is to propose improvement programmes on a predefined basis, enabling optimised operation and maintenance cycles, and ultimately improved plant performance, flexibility and environmental impact. Proposed solutions cover standalone components as well as component synergy.

## Gas Turbines

Against a backdrop of continuous cost pressure and volatile market conditions, plant owners expect high efficiency, flexibility and a long life from their gas turbines, as well as full compliance with environmental regulations.

Power Service addresses these needs through continuous improvement, focusing on quality of spare parts, use of latest reconditioning technologies, field service availability and commitment, and consultancy skills.

The Sector has also developed a comprehensive range of upgrade solutions to enhance existing turbine designs and therefore to provide more efficiency and flexibility at the customer's discretion. For instance, the recent GT 11N2 upgrade package enables operation of the engine in 'Performance' mode (maximised power and efficiency) and/or 'Lifetime' mode (increasing major inspection interval) with the same hardware package.

As part of its strategy to expand its presence in the gas turbine service market, Power Service acquired Power Systems Mfg., LLC (PSM) in March 2007. PSM, headquartered in Jupiter, Florida (USA), is a leading manufacturer of alternate-source components for advanced gas turbines specialising in machines made by other equipment manufacturers. Since the acquisition, PSM has broadened its business to include refurbishment of gas turbine hot parts and field services, and is also penetrating additional markets outside its core market of North America.

## Steam Turbines

With an ageing worldwide installed fleet of steam turbines, significant investments are being made and will continue to be made by plant operators to extend their lifetime and increase their efficiency.

As a result, Power Service focuses on:

- introducing technologies that reduce total outage duration through optimised dismantling, assembly, inspection and repair. For instance, a specific technology has been developed by the Sector, which allows for dismantling of certain blade types in existing steam turbines in less than 1 hour, as opposed to 6 to 8 hours using traditional methods.
- offering life-time extension packages and upgrades that significantly enhance the power output of existing steam turbines and therefore accelerate return on investment for customers. For instance, by replacing older steam turbine blades by new ones developed and manufactured in-house, using the latest Alstom technologies, our customers benefit from an upgraded steam path and reduced valve loss that strongly increases turbine efficiency.

In addition, Power Service covers a large variety of steam turbine fleets (over 20 turbine technologies in portfolio), which results in a unique breadth of technical capabilities for all maintenance and performance improvement projects.

## Generators

As the generator installed base worldwide ages, plant operators require cost effective solutions and high reactivity from their maintenance provider.

Power Service is able to provide its customers with tailored solutions, which span from "week-end" type inspections to full stator / rotor rewinds and full replacement of components, for a large variety of generator technologies (15 types in portfolio), covering all cooling techniques. This versatility builds upon:

- a unique combination of generator expertise and broad operational feedback built up over a long period, since approximately 20% of the worldwide generator fleet is based on Alstom technologies.
- a proven capability in innovative maintenance and repair programmes, with a strong service mindset. Power Service has been a pioneer for in-situ inspection and repair technologies, such as a rotor inspection robot able to reduce both outage time and rotor handling risk. In addition, the Sector has developed dedicated monitoring and diagnostics solutions to help customers assess failure risks and offer customised preventive maintenance programmes, a key element in the context of older fleets.
- a dedicated supply chain, which enables the Sector to deliver faster, more efficient and higher quality operations.

## Boilers

Close to two thirds of the worldwide boiler installed base is in coal-fired power plants. The key concerns of plant operators are reliability, availability and fuel efficiency. Power Service is well positioned to address these issues with innovative new technologies for each boiler subsystem.

The Sector capabilities include products and services for both Alstom and Alstom licensed fleets worldwide, as well as upgrades for other Original Equipment Manufacturer (OEM) equipment. One of Power Service's priorities is on innovative and high performance upgrade solutions that apply to the major boiler subsystems, including pulverisers, firing systems, pressure parts, ignitors and scanners as well as bottom and ash handling systems.

Power Service is implementing a solution to increase the reliability and availability of the boiler installed base. For instance, a new performance, recovery and optimisation system was developed for the MPS-type pulveriser. The system manages and reduces pulveriser wear to extend operation time between outages. It improves coal fineness to facilitate in-furnace emission reduction and maximises pulveriser capacity. This results in better operational flexibility with a wider range of coal types, without shutting down the pulverizer for adjustment.

Another example of customer commitment is the Sector's inventory management programmes, which provide customers with replacement parts when needed. These programmes ensure parts availability, eliminate exposure on obsolescence, reduce the total cost of parts acquisition and improve outage materials planning. This in turn reduces time and cost of the outage.

## Environmental equipment

Increasingly stringent environmental regulations are driving power and industrial plant operators to control and lower emission levels in their facilities, notably for particles, for NO<sub>x</sub> and for SO<sub>2</sub>. This is especially the case for coal and oil fired power plants, as well as for plants in process industries (iron, non ferrous, cement, pulp and paper, waste to energy). A recent trend is the growing importance of environmental regulations – and their actual implementation – for authorities in the newly industrialised countries, especially in Asia.

Power Service proposes cost effective and flexible solutions to upgrade and extend the life of air pollution control equipment. The Sector develops a comprehensive line of environmental services that not only result in fewer emissions, but also reduce the power consumption of environmental systems already in operation, therefore bringing operation costs down. Services offered include spare parts, improved equipment design, optimised maintenance technologies, and programmes tailored to customer needs, which propose upgrades with proven performance.

Environmental systems covered are electrostatic precipitators (ESP), fabric filters, flue gas desulphurisation, DeNO<sub>x</sub> systems and more globally, the entire flue gas line.

In addition, the Sector provides advanced control systems which allow for dramatic emission reductions whilst retaining full control of operations. They can typically bring particles emissions of plants equipped with ESP significantly below 30 mg/Nm<sup>3</sup>, which would not have been possible a few years ago.

All these service activities cover original Alstom equipment as well as equipment from the other main OEMs.

## Monitoring and diagnostics

With Alstom monitoring and diagnostics systems, customers can analyse key aspects of their plants during operation (e.g. shaft line vibration, generator condition, etc.). They are able to recognise potential degradation of machine components at an early stage and take action accordingly. Through the implementation of a predictive maintenance policy, they can thus increase plant availability and reduce maintenance downtime. Moreover, customers are now given the possibility to monitor whole fleet of plants across large geographic areas, from one single remote centre.

Having successfully merged the capabilities developed over the years by Power Service with the ones of Alstom Strongwish, based in Shenzhen, China (acquired in 2006), the Sector now offers a

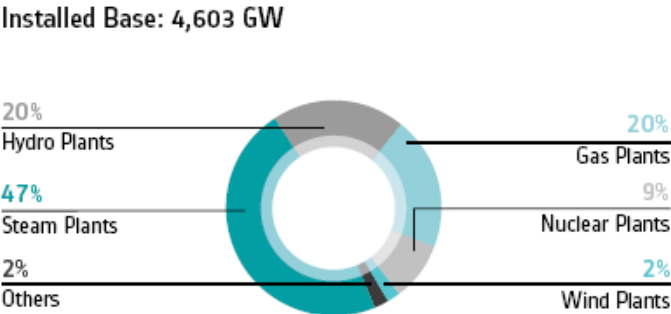
comprehensive range of plant monitoring and diagnostics services, covering all the key power plant components across the whole spectrum of power generation sources (gas, coal-fired or oil-fired steam, nuclear steam, etc.). In addition, this service offering also applies to industrial plants.



# Industry characteristics

The world’s installed power generation capacity as of 1 January 2008 was estimated at around 4,603 GW. The chart below sets out the breakdown of this installed base by technology.

Installed base by plant type as of 1 January 2008



Source: Alstom, UDI.

Investments needed in new power plant construction generation over the next decades are extremely important: according to IEA (International Energy Agency) (WEO 2008), they should represent an average of more than €225 billion per year over the period until 2030.

## MARKET EVOLUTION

After a period of intense growth in power infrastructure investment in the United States from the late 1990s, the world economy has been driven from 2003 by unprecedented growth in Asia – especially China and India – where there is a buoyant demand for new power plants. This market shift – decline in North America, growth in Asia – also resulted in a technology switch from gas to coal and hydroelectric power, which account for a large proportion of the available resources in this region.

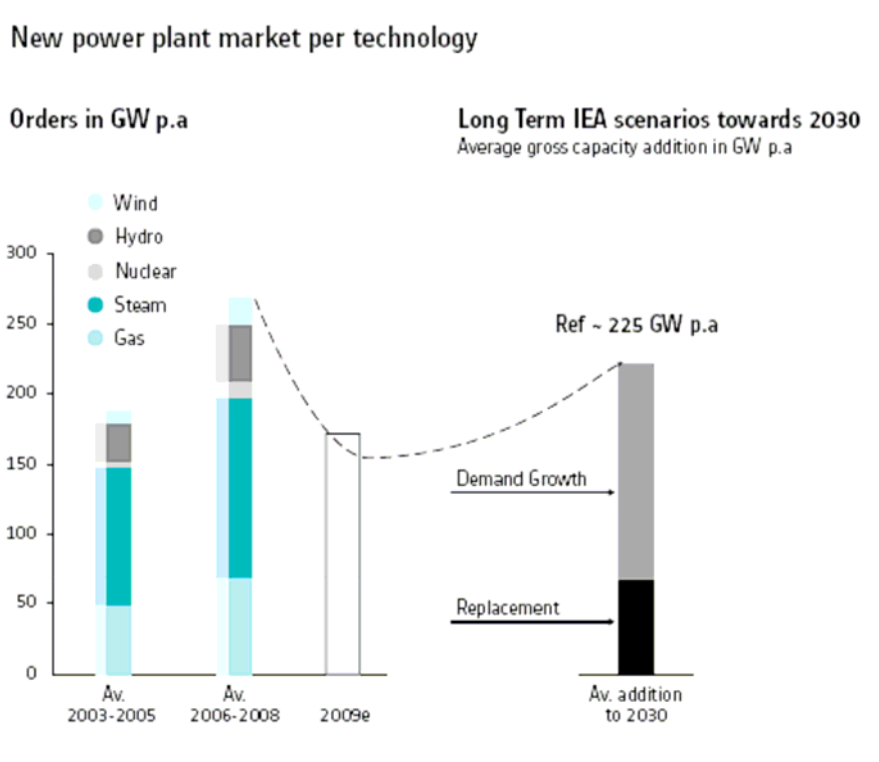
2007 was a record high year for power markets in almost every regions, with overwhelming demand for conventional steam plants and hydro plants especially in Asia, but also a high level of gas plant orders in Europe and Middle East resulting in a fairly balanced technology split.

2008 was another exceptional year for new power plant markets and almost not affected by the crisis that started in the last quarter of the year. Asian-Pacific market continued to dominate the picture with more than 60% market share followed by India, the Middle East and Europe. Technology wise, coal plants continued its dominance, not only due to solid demand in China and India but also in South Africa and Europe. Gas represented 23% of the total market. 2008 was also a record high year ever in the power market history for CO<sub>2</sub> free technologies, with more than 50 GW of hydro and 25 GW of wind together with a flow of order for new nuclear power plants.

The world economy is expected to strongly slow down in 2009. Reduced GDP growth will impact downwards the electricity consumption growth during that year, especially in the countries where economies strongly rely on industrial output. Financing constraints will also push utilities to delay certain investments. Long term drivers of power investments remain nevertheless extremely strong: emerging countries are looking for new power capacity, having often too small reserve margins, if not negative ones. In most industrialised countries, the ageing fleet drives the need for replacement, regardless of the electricity consumption growth, and the environmental issue remains a key driver, as illustrated by the “green” chapter inserted in most of government “stimulus packages”.

Despite the relative slowdown in China, Asia is likely to remain the biggest market globally. The rest of the world market will be distributed among the Middle East and Europe, which remains gas dominated, but with a strong coal market in Germany. Markets will also grow in the Americas, with growing needs in Latin America and a new investment cycle to start in North America, including for gas and nuclear.

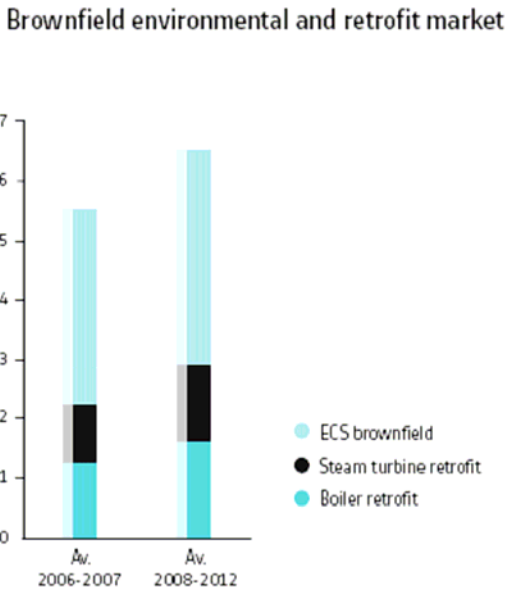
The graph below shows the evolution of the large power plant market by technology towards 2030, covering Alstom’s scope of activity:



Source: Market until 2009e + replacement: Alstom. Long term demand growth: IEA reference scenario WEO 2006/2007 with 3.6% real PPP GDP growth (IB in 2030 is 8,240 GW)

Environmental products and retrofit markets should offer strong opportunities in developed countries, mainly driven by more stringent regulations and ageing of the installed base.

The graph below shows the evolution of the brownfield environmental<sup>3</sup> and retrofit markets over the 2008-2012 period:



Source: Alstom

The service market benefits from solid long-term drivers. In Europe and in North America, an ageing installed base has increased the requirement for regular equipment maintenance, lifetime extension and/or performance upgrade. In developing markets such as China, India or the Middle East, the growing number of new power plants will boost service needs in the years to come. Everywhere, environmental concerns are pushing for lower emissions in existing power plants and fossil fuel prices, which should remain structurally high in the coming decades, are also contributing to the demand for services.

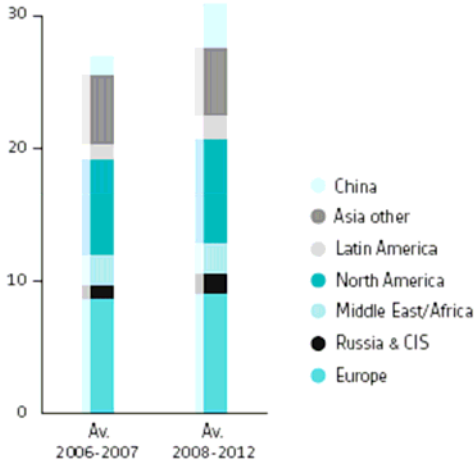
Alstom considers that the current financial and economic crisis should have a limited impact on the service market. However, in some geographical areas, some upgrades could be postponed. Correspondingly, any potential slowdown in the investment flow directed to new power plants may increase maintenance opportunities in existing plants in the short term. Alstom will continue to watch market conditions carefully, and adapt accordingly.

Overall, the service market generates an annual volume of circa €28 billion worldwide, with an estimated average growth rate of around 5% p.a. over 2008-2012 (source: Alstom).

<sup>3</sup> The brownfield environmental market includes add-ons of environmental systems on existing power plants to make them compliant with new emission regulations.

Evolution of the service market by geography over the 2008-2012 period, considering Alstom’s scope of activity:

Total world outsourced market in billion euros



Source: Alstom  
 Note: excluding inflation, Thermal Power Plants >20MW only

## MARKET DRIVERS

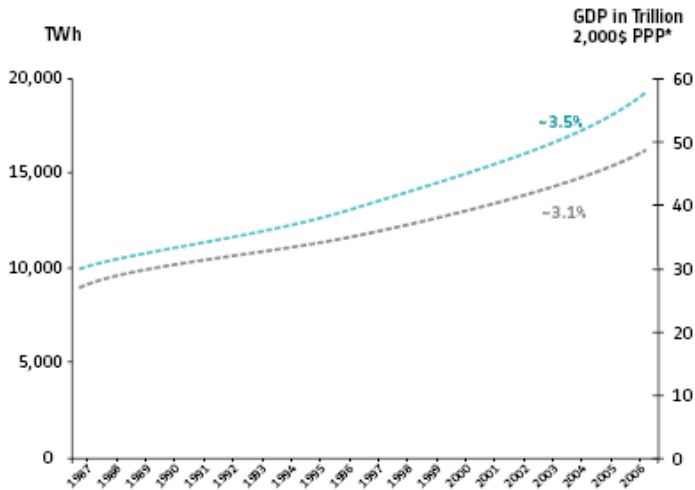
Demand for power generation equipment tends to be driven by a variety of complex and inter-related factors, notably:

### Economic growth

Power consumption and Gross Domestic Product (GDP) are tightly linked. Economic development is driving consumption of electricity, particularly in countries with rapid industrialisation. In China for example, power consumption growth has outpaced GDP growth, driven by strong production from heavy industry and growing electrification in rural areas. However, the difficult economic environment has had an impact here as well. Industrial production has taken a dip in several of the major Asian developing countries, most notably India, Vietnam and especially China, where power consumption declined for the first time in six years.

In developed countries, the ratio of electricity consumption to GDP, known as electricity intensity, is progressively declining due to a shift of the economy to more services.

## Correlation between electricity consumption and GDP growth



\*Using Purchasing Power Parity, GDP Growth using exchange rate on the same period was 3.1%.

Source: Alstom, IEA, World Bank.

## Environmental concern

Environmental concerns have been the most widely debated topics over recent years. A real change in behaviour is visible, with more stringent regulations being implemented all over the world. Global warming is a fact now accepted by the majority of scientists, politicians and general public, and man-made greenhouse gases such as CO<sub>2</sub> are seen as the major root cause. The power sector, as one of the biggest emitters of CO<sub>2</sub>, is looking at ways to dramatically reduce its carbon footprint. Legislators are beginning to put in place the policies that will be needed to drastically reduce CO<sub>2</sub> emissions in the medium- to long-term.

### 2006 CO<sub>2</sub> Emissions from fossil fuel combustion



Source: IEA

In Europe, the Energy and Climate Change Package voted on December 17<sup>th</sup> 2008 by the European Parliament represents the most important and comprehensive piece of legislation ever

implemented in Europe. The new directives will enter into force by March 2009 and will push investors (private and public) towards renewable and low carbon investments.

This will considerably influence Alstom’s markets, among which, on the short term, massive new development of renewable (hydro, wind etc) in all EU27 countries but principally in those which are further down as compared to their 2020 objectives (Spain, Italy, in Western Europe, and all Eastern European countries).

**EU climate and energy package**



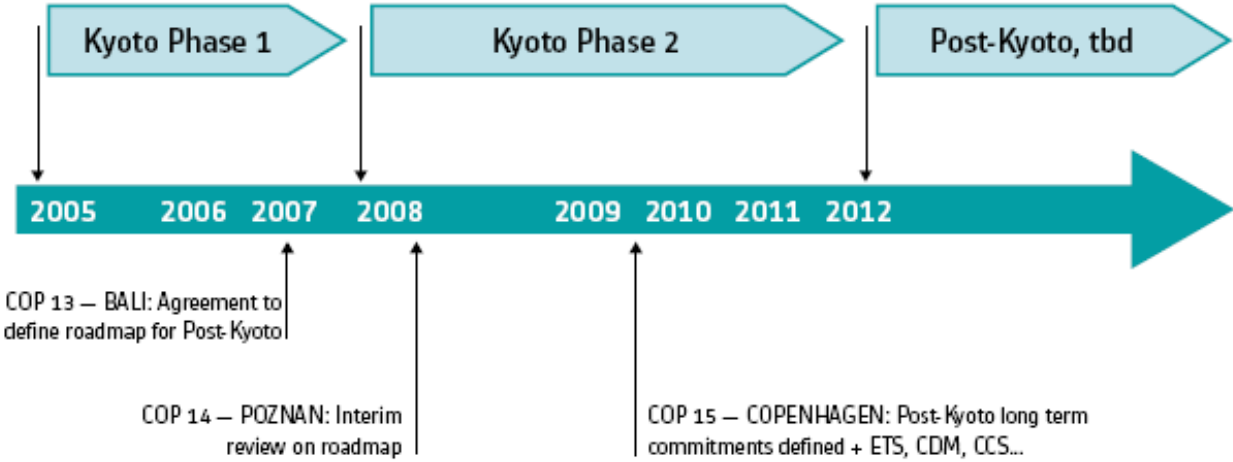
In the United States, there are rising expectations around the comprehensive “New Energy for America” plan announced by the new administration.

Among other measures, the announced plan will provide legislative framework to ensure that 10% of US electricity comes from renewable sources by 2012 and 25% by 2025. There is also the clear commitment to clean coal technology and the expected implementation of a CO<sub>2</sub> trading system.

In China, the Medium and Long Term Development Plan for Renewable Energy issued in September 2007 established targets for the development of various sources of renewable energy up to 2020, calling for the percentage of renewable energy to rise to 10% of total energy consumption by 2010 and 15% by 2020.

**Environmental legislation: a main driver for change**

**The United Nations Framework Convention on Climate Change (UNFCCC) process**



These environmental concerns have not only created increased demand for clean-coal technologies, but also for retrofitting of existing power plants and the integration of environmental control systems, a field where Alstom is particularly strong.

The outlook for the environmental equipment market is positive worldwide, with current years being exceptionally strong for DeSox systems in North America and in Europe due to compliance deadlines.

**Ageing installed base of power plants**

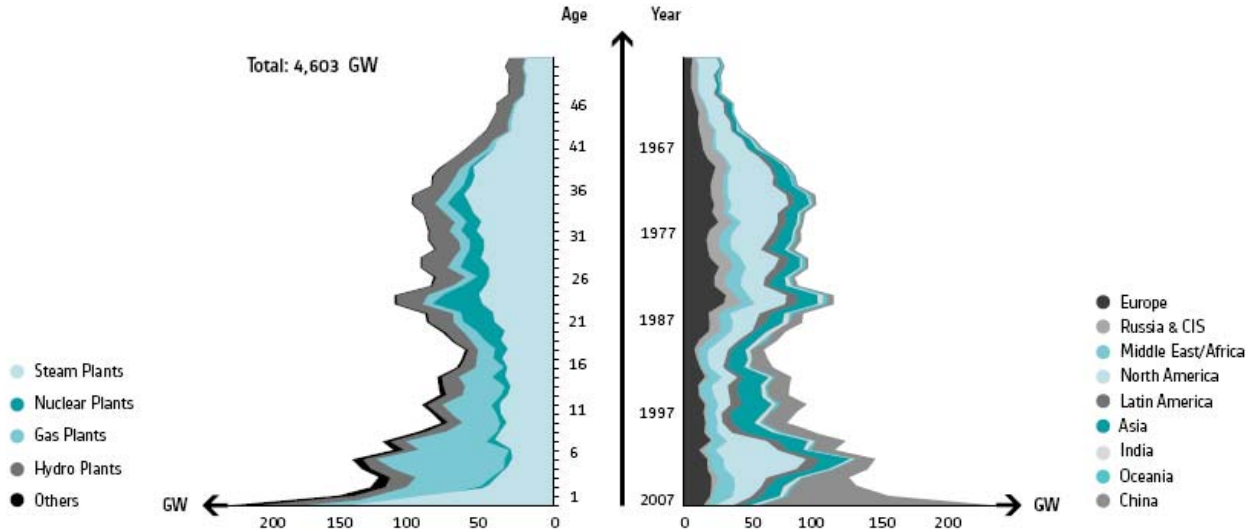
The ageing installed base along with more stringent environmental regulations and increased fuel prices will lead to a higher demand for retrofit. In recent years, demand for maintenance and refurbishment has been strengthened by a general trend among power producers to seek to increase performance, lower operating costs and extend the life cycles of their existing plants. This increase in demand to upgrade and retrofit facilities will particularly benefit power plant manufacturers such as Alstom, and the Group believes that its large worldwide installed base will be a significant source of future growth for its Power Systems and Power Service activities, especially in Europe and in the USA, but increasingly in other regions like Asia or the Middle East. The increasing number of old plants reaching retirement age will continue to drive the market for servicing and retrofits as utilities strive to replace components to maintain current levels of installed capacity, or take the opportunity to increase the plant’s power output capacity to simultaneously address increased power demand.

By carrying out an integrated analysis of power plant equipment, operation and maintenance, individual plants can be improved to run more efficiently, thus cutting fuel costs, enhancing performance and allowing to drastically reduce CO<sub>2</sub> emissions.

According to the Group’s analysis based on data published by Utility Data Institute (UDI-USA) and proprietary sources, Alstom has installed major power generation equipment in about 25% of the world’s installed power generation equipment. The Group considers its experience of installing, retrofitting and servicing this large installed base of equipment is key to securing further retrofit

and customer service contracts and supporting sales of the Power Systems and Power Service Sectors in the future.

**Age pyramid of world installed capacity**



Source: Alstom, UDI.

**Fuel price and availability**

Fuel price and its availability is not a prime driver for electricity demand but it rather influences the portfolio of technologies. Recent years have been characterised by rising fuel prices and concerns about energy security. However, alongside the economic and financial crisis experienced over the last financial year, the fuel market has also been affected. The slowing economy putting downward pressure on all fuels and official estimates indicate the global oil demand fell in 2008 and will drop again in 2009 amid the impact of the economic crisis. Lower demand also has had an impact on fuel prices, exemplified by oil prices sinking by more than two thirds from its peak of 143\$ per barrel. Volatile energy prices are not just an oil issue - natural gas, coal and uranium prices are all directly or indirectly affected by the fluctuations and questioning the right choice for investment in new power plants. Impacts on the cost of electricity produced by the power plants are variable: gas plants are more sensitive to fuel price changes than coal or nuclear plants. Energy resources are not evenly distributed. The Middle East holds by far the largest reserves of oil and is also the world’s main producer. The USA, Western Europe and Asia/Pacific are the largest importers of oil. For gas, the picture is different, as the Middle East still holds the largest proven reserves but Russia alone has over 25% of worldwide proven reserves and is also the largest exporter of natural gas. Future developments will also focus on new sources of gas, like unconventional gas. The potential for unconventional gas is big, although these reserves face considerable exploration and production challenges in terms of costs and availability of equipment. Coal is an abundant energy source in many regions, with China, India, Australia, South Africa, Russia, Western Europe and the USA all having large proven reserves. This price volatility, energy security concerns and the need to reduce greenhouse gas emissions (GHG) have led to a return of nuclear power plants to many countries’ development plans.



Globally, a balanced portfolio of technology and fuel appears to be probably the best way to secure electricity generation in the long term and a key path for energy security increase in a country.

## Energy management

The systems inside the plant for automation and managing all the information related to the plant, will have to grow into the higher level systems used by traders and plant portfolio operators. This will allow them to improve their plant operational decisions on how to dispatch their plant optimally, doing the most efficient arbitration between coal, gas, wind, hydro as well as in the future demand side participation.

# Competitive position

## POWER SYSTEMS COMPETITIVE POSITION

The Power Systems Sector holds a leading position in all of its Businesses worldwide; it has altogether seven core segments where Alstom faces international competition:

In gas turbines, Alstom is facing competition from three major global groups: General Electric, Siemens and Mitsubishi Heavy Industries.

In steam turbines, the Sector competes with General Electric, Siemens, Mitsubishi Heavy Industries and Toshiba as well as to emerging regional players, such as Shanghai Electric, Harbin and Dongfang from China and BHEL in India.

In the utility boilers segment, the main competitors are Mitsubishi Heavy Industries, Babcock & Wilcox, Babcock Hitachi, Foster Wheeler and the above-mentioned suppliers from China and India.

In emissions control systems for electrical power producers, the main competitors are Fisia Babcock, BPI, Babcock & Wilcox, Lurgi, Siemens-Wheelabrator, Mitsubishi Heavy Industries, Babcock Hitachi, Black & Veatch and Austria Energy & Environment.

In emissions control for industrial application, the Sector mainly competes with Hamon, FLS Airtech, Solios, Mitsubishi, Voest Alpine, Enfil and BHA.

In hydroelectric power generation, the main competitors are Voith-Siemens, Andritz VATECH Hydro and IMPSA as well as Harbin, Dongfang and BHEL.

In wind, Alstom entered the market in 2007 when it completed the acquisition of Spanish Ecotècnia; its main competitors are Vestas, Gamesa, Siemens, General Electric, and Enercon.

In power plant control systems, the main competitors are ABB, Siemens, Emerson, Yokogawa and Invensys.

The Power Systems Sector's competitive strengths include:

- one of the leading companies with a global presence and references;
- its unique capability to supply optimised turnkey plants by integrating all major components from in-house technology: turbine, generator, boiler, condenser, environmental systems, electrical and control systems;
- its extensive experience in heavy duty and mid-range gas turbines, with a portfolio of proven machines;
- its strong market position and extensive experience in all types of boiler technologies, including clean coal combustion;
- its leadership position in steam turbines and generators for all applications;
- its leadership position in the conventional islands of the nuclear power plant;
- its leadership in retrofit solutions for the installed base;
- its position as number 1 in hydro systems and equipment;
- a growing position in wind turbines, mainly in Southern Europe.

## **POWER SERVICE COMPETITIVE POSITION**

Besides Alstom, the following players are present in the "after sale" market:

- the Original Equipment Manufacturers (OEMs) of power generation equipment, concentrating mainly on servicing their own machines;
- independent service providers offering varied service products to OEM customers, including some reverse-engineered replacement parts (such as Sulzer and Wood Group);
- many local field service companies with activities mostly limited to maintenance planning and execution.

Power Service has developed strong synergies between its global assets and its local capabilities. The Sector's global assets include:

- the largest installed base of OEM equipment in operation within power plants worldwide (source: UDI-Alstom);
- the depth and breadth of its technology portfolio, fuelled by specific Sector Research & development (R&D);
- effective industrial networks;
- transversal tools to streamline operations and ensure their efficiency: Customer Relationship Management system, Project Management practice; and
- a strong service culture shared by over 21,000 employees.

These competitive advantages enable Power Service to leverage its proximity with customers all over the world, and sell a wide portfolio of differentiating services, therefore increasing both volume and added value.

# Research & development

## POWER SYSTEMS R&D

Power Systems has a long term Research & development (R&D) programme for developing and/or acquiring the best available technology that will provide optimum efficiency, environmental and commercial benefits to power plant operators worldwide, now and in the future.

Alstom has been carrying out an intensive R&D programme over the past years to meet the technological and economic challenges of capturing the CO<sub>2</sub> created by fossil-fuel-based electricity production. In the medium term, the company will be able to offer solutions for all fossil-fuel-based power plants to capture CO<sub>2</sub> emissions. Alstom has launched the development of several technologies so that it should be in a position to offer CO<sub>2</sub> capture solutions that give one of the best energy efficiency for an acceptable cost of installation and maintenance for the operator. Power Systems is mainly focusing on post-combustion and oxy-combustion technologies. The availability and efficiency performances for these technologies are promising. They should allow to capture CO<sub>2</sub> emissions from commercial scale power plants from around 2015 depending on the technology. Moreover, part of the installed base should be retrofittable with these technologies.

Post-combustion technology is the most advanced technology today. It consists of separating CO<sub>2</sub> from exhaust gases using a solvent (amine or chilled ammonia). The latest results from our bench test show that the chilled ammonia capture method developed by Alstom could remove up to 90% of CO<sub>2</sub> from combustion gases. This technology could also be applied to both coal-fired power plants and to combined cycle gas-fired power plants. The various pilot projects and industrial demonstrations already under way will measure the energy use of these technologies and should confirm their economic advantages over other technologies.

The oxy-combustion method consists of burning a solid fuel in oxygen instead of air. This combustion produces a concentrated stream of CO<sub>2</sub> which can be easily stored. Conditions for retrofitting existing fleet with oxy-combustion technology are currently being studied. Also, important technological breakthroughs are being prepared, such as chemical looping, a new and promising form of oxy-combustion currently undergoing bench tests at Alstom.

The third path, called pre-combustion, consists of transforming by gasification a fuel rich in carbon (coal or petrol derivatives) into a synthetic gas made up of carbon monoxide and hydrogen. Alstom has not decided to invest at a large scale in the gasification process itself as this technology cannot be applied to the existing fleet. This technology may potentially be successful in a "poly-generation" mode producing synthetic gas (or hydrogen if equipped with carbon capture), synthetic fuels as well as other by-products, including electricity and consequently Alstom has launched development programmes to enable its gas turbines to burn hydrogen-rich gases.

Alstom has already signed nine agreements with utilities and oil companies for pilot CO<sub>2</sub> capture plants using both oxy-combustion and post-combustion methods.

#### Post-combustion:

- a 5 MWt post-combustion pilot plant (using chilled ammonia) in association with the Electric Power Research Institute (EPRI) for We Energies in the United States (coal);
- a 5 MWt post-combustion demonstration plant (using chilled ammonia) for E.ON in Sweden (oil and gas);
- a 30 MWt post-combustion product validation unit (using chilled ammonia) for American Electric Power (AEP) in the United States (coal) to be followed by the design, construction and commissioning of a commercial scale CO<sub>2</sub> capture system of over 200 MWt;
- a 40 MWt post-combustion test and product validation facility (using chilled ammonia) for Statoil in Norway (gas);
- an agreement with TransAlta in Canada to develop and construct a commercial CO<sub>2</sub> capture and storage facility to retrofit an existing coal-fired power plant;
- an agreement with PGE Elektrownia Bełchatów S.A. in Poland for a 20 MWt pilot carbon capture plant and a larger Carbon Capture and Storage (CCS) project to capture CO<sub>2</sub> produced by the new 858 MW lignite-fired unit is currently being built by Alstom for Elektrownia Bełchatów;
- a collaboration between Alstom and Dow to design and construct a pilot plant using a new advanced amine technology to capture CO<sub>2</sub> from the flue gas of coal-fired boiler at a Dow-owned facility in West Virginia, USA.

#### Oxy-combustion:

- a 32 MWt oxy-firing demonstration (boiler retrofit) unit for Total in France (gas);
- a 30 MWt oxy-firing demonstration plant for Vattenfall in Germany (lignite).

A joint development and commercialisation agreement with The Dow Chemical Company (Dow) has been signed for advanced amine scrubbing technology for the removal of CO<sub>2</sub> from low pressure flue gases particular to fossil fuel fired power plants and other major industries. Other partnerships are also currently under discussion. Alstom thus intends to take a worldwide leadership position in CO<sub>2</sub> capture, as is already the case in other “clean energy” areas.

While the development of CO<sub>2</sub> capture solutions is a priority, Alstom remains committed to the foundation of its business and the continued improvement of energy efficiency is key among its research and development efforts.

In parallel, the Sector has continued to work on the performance upgrades of its GT26™ and GT13™ gas turbines with the development of more efficient cooling systems, increases in turbine temperature, pressure and speed, advanced materials including ceramic, alloy and super-conducting, and improved insulation.

In the Wind activity, the Sector is currently developing a new 3MW wind turbine called Eco 100 with the first prototype installed at the beginning of 2008. It will match the growing needs of bigger turbines.

Alstom Hydro’s dedicated R&D organisation is continuously improving product development in order to better meet customer needs. Global technology centres create in-house Alstom Hydro product designs. They contribute to breakthroughs in the fields of oil-free turbine components,

generator oblique elements, variable speed technologies and double-stage adjustable pump turbines.

Alstom's R&D efforts are essentially driven by current and future market needs in its product areas. To ensure that this is so, R&D resources are an integral part of its businesses. The Group has major development centres in France, Germany, Switzerland, United Kingdom and the United States of America. Power Systems employs over 4,000 engineers and has 22 development centres and 13 laboratories worldwide. In addition to its internal resources, Alstom actively seeks links with leading academic institutions to access facilities, expertise and research talents. Across the world, the Group has established relations with some forty universities where active R&D collaboration is underway.

## **POWER SERVICE R&D**

Power Service has continuously invested in dedicated Research & Development (R&D) programmes, which have enabled the Sector to both protect and enhance its competitive position in the market, and to continue to deliver useful innovations to customers.

This R&D programmes focus mainly on the following areas:

- a wide range of upgrade designs for plant components (gas and steam turbines, boilers, environmental systems). In a large number of cases, upgrades enable customers to keep their plants competitive when they are running on older technologies. They aim at increasing power output, equipment efficiency, lifetime, environmental performance, or a combination of these four elements.
- a unique set of inspection technologies, based on advanced in-house competencies in inspection robotics. The goal is to perform faster and more effective inspections or non-destructive tests on complex equipment such as gas and steam turbines.
- the development of a comprehensive range of monitoring and diagnostics systems, enabling customers to leverage the potential of the latest information technologies to remotely analyse the condition of critical equipment in their plants.
- methods and technologies to reduce outage duration and related cost for the benefits of its customers.
- specific technologies to increase plant efficiency and therefore to reduce CO<sub>2</sub> emissions and improve the environmental footprint of existing plants.

In addition, and in order to leverage the full potential of the Sector's R&D capabilities, projects often cover components from both Alstom and non-Alstom fleets. For instance, the Sector recently developed upgrade technologies, which apply to non-Alstom gas turbines.

# Strategy

## POWER SYSTEMS STRATEGY

The two pillars of the Power Systems strategy are:

- Clean Power; and
- Plant Integrator.

### Clean Power

Combating climate change is truly a global issue and one that all sectors of government, industry and the community at large must address. However with 40% of CO<sub>2</sub> emissions emanating from the power generation sector, and with global energy demand expected to double by 2030, the power industry must take a leadership position and play a key role in significantly reducing its emissions. The global scientific community shares a common view that in order to limit further increases in the earth's surface temperature, the concentration of CO<sub>2</sub> in the atmosphere must be stabilised at a manageable level in the mid to long term – at a concentration not exceeding 450ppm.

Alstom's commitment to providing solutions to meet this challenge is a long standing one. There is no single solution and it will take a range of approaches. Strong leadership from regulators is required to establish a global regulatory framework and create the foundations of certainty in which the industry can properly plan for and operate in the future.

The first approach for the reduction in CO<sub>2</sub> emissions focuses on the technology mix. No single form of power generation will address the dual challenge of securing the supply of reliable and affordable energy and affecting a rapid transformation to a low carbon system of energy supply. It will take all types of generation technologies including fossil fuels, nuclear and renewables. Alstom has no single preferred technology. With the most comprehensive and balanced portfolio of generation equipment in the market including the removal of traditional pollutants, Alstom is well positioned to assist plant operators apply the most appropriate technology mix to meet their market conditions.

The second approach is that of production efficiency and energy flow management. In this field Alstom looks to solutions for both the installed base and for new plants. With 60% of the total of CO<sub>2</sub> emissions in 2030\* coming from existing plants, solutions must continue to be developed and implemented to increase the efficiency of plants operating today. It follows that for every incremental increase in production efficiency, there is a decrease in emissions concentration. Similarly, such increases in production efficiency, have a direct effect on fuel consumption. The more efficient a plant is, the less fuel it consumes to produce the same electrical output – an area of increasing priority in a time where security of fuel supply is a growing concern. Alstom's comprehensive range of integrated retrofit solutions offer its customers a varied and innovative range of products that can be applied to their existing asset base, increasing their efficiency, output and extending the plant life. Alstom is also continually improving on existing technologies.

---

\* IEA World Energy Outlook 2008

With customer focus on plant economics and environmental impact, all new plants offered by Alstom today provide significant improvements on yesterday's technology. Alstom is working towards innovations that aim to achieve the goal of 50% plant efficiency for steam plants and 60% for combined cycle gas fired plant - a significant improvement in comparison to technologies currently available.

The third approach to address the climate change challenge is the application of Carbon Capture and Storage (CCS) technologies. With fossil fuels accounting for 80% of primary energy production by 2030\*, CCS is essential. Alstom is currently focussing on two main categories of CCS, Oxy-Combustion and Post-Combustion Capture. This strategy arises not only because these technologies should be the most economically viable and sustainable solutions for Alstom's customers, but also because these technologies can be retrofitted to the installed base - an essential component to meeting future emission targets. Alstom continues its significant R&D efforts in the field of CCS and is currently validating the technologies at a number of pilot and demonstration projects throughout the world, working closely with its partners toward full scale commercialisation which should be available to market in 2015. During this validation process of the CCS solutions, to avoid the risk of stranded assets, Alstom offers its customers a 'CCS Ready' plant concept. This concept takes into account the needs of customers who purchase plants today that will ensure they are not financially penalised when the technology becomes available. Capture ready will limit the time for plant outages and unnecessary expense and ease the integration at the time of installation of the CO<sub>2</sub> capture system.

Addressing the climate change challenge will take a global approach and Alstom is confident that its strategy of "Clean Power Today" will meet this challenge.

## Plant Integrator

Thanks to its Plant Integrator™ concept, Alstom's complete portfolio can be customised according to the project specific needs.

Alstom's expertise and competence are used to imagine the best solution for the customer, and to shape a new plant every time. Within Plant Integrator™, the Group encompasses integration of both components (products) and its expertise, the knowledge needed for ad hoc consultancy required by each project.

To offer the best solution to the customer, the Group provides a consultancy work and the search for optimised, customised solutions.

This holistic approach allows having a more comprehensive vision of the plant, and has tangible benefits for the customer:

- increase cash flow and get the lowest cost;
- get more power;
- increase the installation's efficiency;
- burn less fuel;
- improve flexibility of operations.

---

\* IEA World Energy Outlook 2008

The Plant Integrator™ approach is particularly efficient for the retrofit of the installed base.

## **POWER SERVICE STRATEGY**

Alstom Power Service ambition is to be recognised as the global leader in plant maintenance and plant long-term service.

This objective is underpinned by a market-driven organisation centred on meeting customers' needs, by differentiation through technology, and by the provision of innovative products and services delivering value to the customer.

The development of the Sector's portfolio aims at meeting customers' requirements not only at the individual components level, but also encompasses the entire power plant. Innovation concentrates on solutions that extend plant components lifetime, improve power plants overall performance and reduce their environmental impact.

Beyond the maintenance and the modernisation of Alstom's own installed base, which is core to business, noble parts for other original equipment manufacturers will also contribute to generating long term growth opportunities for Power Service.

The Power Service strategy includes acquisition opportunities where these can generate synergies with existing businesses. Potential acquisitions will be considered in order to support specific initiatives, consolidate local footprints or execution capabilities, or add new products and technologies to the Sector's service portfolio.

## **Key financial data**

The following table presents key financial data for the combined Power Systems and Power Service Sectors:



| <b>Power</b><br><b>Actual figures</b><br><b>(in € million)</b> | <b>Year ended</b><br><b>31 March 2009</b> | <b>Year ended</b><br><b>31 March 2008</b> | % Variation         |         |
|--|---|---|---------------------|---------|
|  |   |   | March 09 / March 08 |         |
|  |   |   | Actual              | Organic |
| Order backlog  | 26,164                                    | 21,939                                    | 19%                 | 17%     |
| Orders received  | 16,466                                    | 15,970                                    | 3%                  | 4%      |
| Sales  | 13,054                                    | 11,370                                    | 15%                 | 13%     |
| Income from operations   | 1,248                                     | 1,007                                     | 24%                 | 22%     |
| Operating margin   | 9.6%                                      | 8.9%                                      |                     |         |
| EBIT   | 1,172                                     | 1,001                                     | 17%                 |         |
| Capital employed   | 1,469                                     | 1,287                                     | 14%                 |         |

The following tables set out these financial data for the Power Systems and Power Service Sectors:

### *Power Systems*

| <b>Power Systems</b><br><b>Actual figures</b><br><b>(in € million)</b> | <b>Year ended</b><br><b>31 March 2009</b> | <b>Year ended</b><br><b>31 March 2008</b> | % Variation         |         |
|--|---|---|---------------------|---------|
|  |   |   | March 09 / March 08 |         |
|  |   |   | Actual              | Organic |
| Order backlog  | 19,385                                    | 16,039                                    | 21%                 | 20%     |
| Orders received  | 11,879                                    | 11,569                                    | 3%                  | 3%      |
| Sales  | 9,239                                     | 7,768                                     | 19%                 | 16%     |
| Income from operations   | 600                                       | 415                                       | 45%                 | 42%     |
| Operating margin   | 6.5%                                      | 5.3%                                      |                     |         |
| EBIT   | 548                                       | 408                                       | 34%                 |         |
| Capital employed   | (950)                                     | (937)                                     | 1%                  |         |

### *Power Service*

| <b>Power Service</b><br><b>Actual figures</b><br><b>(in € million)</b> | <b>Year ended</b><br><b>31 March 2009</b> | <b>Year ended</b><br><b>31 March 2008</b> | % Variation         |         |
|--|---|---|---------------------|---------|
|  |   |   | March 09 / March 08 |         |
|  |   |   | Actual              | Organic |
| Order backlog  | 6,779                                     | 5,900                                     | 15%                 | 10%     |
| Orders received  | 4,587                                     | 4,401                                     | 4%                  | 5%      |
| Sales  | 3,815                                     | 3,602                                     | 6%                  | 8%      |
| Income from operations   | 648                                       | 592                                       | 9%                  | 7%      |
| Operating margin   | 17.0%                                     | 16.4%                                     |                     |         |
| EBIT   | 624                                       | 593                                       | 5%                  |         |
| Capital employed   | 2,419                                     | 2,224                                     | 9%                  |         |

# Comments on activity during fiscal year

## Orders

### *Power Systems*

Fiscal year 2008/09 was, as 2007/08, a strong year for the market of new equipment for power plants. Asia/Pacific continued to dominate with more than half of the market, followed by the Middle East and Europe. Technology wise, coal plants confirmed their dominance, due to the solid demand not only in China and India but also in South Africa and Europe. The renewables (mainly hydro) kept on growing in all continents. Nuclear projects have progressed in several countries confirming the anticipated nuclear revival, whereas gas market remained at the high level of 2007/08. The demand for upgrade and refurbishment of the existing power plants also progressed worldwide.

In fiscal year 2008/09, Power Systems was awarded key contracts for all types of fuels for a total of €11.9 billion, a 3% growth compared to the high level registered last year, both on actual and organic bases.

In Europe, Alstom enjoyed major successes in coal, with equipment (boilers or turbines) ordered for power plants in Germany and the Netherlands. Total orders booked amounted to €4.3 billion. Demand for de-pollution equipments and retrofit of existing plants remained high all across Europe, as the need to improve power plants efficiency and to comply with environmental regulations was confirmed. In renewable energies, the Sector won contracts in the United Kingdom for a biomass co-firing power plant allowing CO<sub>2</sub> emissions reduction, and hydro power plants in Portugal and in Turkey. Gas market has been very active in Europe, where Alstom booked contracts in the Netherlands (3 x GT26<sup>TM</sup>), Spain (1 x GT26<sup>TM</sup>), France (2 x GT13<sup>TM</sup>) and in Armenia (2 x GT13<sup>TM</sup>). Alstom also received the first orders for its new 3 MW Wind turbine (Eco 100) on top of the Eco 80 orders (2 MW).

South and Central America was again dominated by hydro orders with key contracts for a total of 47 turbine sets in Brazil for the San Antonio and the Jirau hydro plants in the Amazonia region, in Ecuador and in Panama. North American contracts awarded were mainly for coal installed base (de-pollution equipment or retrofit) and hydro power plant retrofit.

Main orders received in China were for three hydro power plants and two nuclear projects, where Alstom could demonstrate once again its competitive edge for conventional island technologies. In this country, the Sector also booked contracts for coal steam turbines and boilers. In the rest of Asia, orders covered the Sector's whole portfolio: coal-fired boilers, hydropower and environment control systems for industrial plants in India as well as gas in Indonesia.

Demand in the Middle East/Africa region has been strong again this year. Very large projects such as Kusile (turbine islands of a coal power plant) in South Africa, which followed the Medupi

contract received the previous year, served the increasing demand for electricity in the country. In Saudi Arabia, Alstom was awarded a new phase (3 x 400 MW oil-based turnkey plant) of the Shoaiba plant, for which the company had already conceived and built the 11 x 400 MW blocks. Alstom also received the first order in this country for a boiler retrofit. In Africa, contracts for combined cycles with four GT26<sup>TM</sup> have been signed (Algeria and Tunisia). Projects to retrofit the existing fleet, for hydro in Angola and the Democratic Republic of Congo, and for nuclear in South Africa, were also awarded to Alstom. Total of orders booked in the region amounted to €4.2 billion, a 23% increase compared to last year (31% on an organic basis).

### *Power Service*

Power Service's orders intake during the year 2008/09 was €4.6 billion, a 4% increase (5% on an organic basis) compared to €4.4 billion booked last fiscal year. Main orders received included four major Operation and Maintenance (O&M) contracts as well as the upgrade of equipment, supply of spare parts and inspections.

Europe accounted for 35% of the total orders received by the Sector at €1.6 billion, showing a slight decrease of 4% compared to fiscal year 2007/08 (-1% on an organic basis). Lower bookings in the United Kingdom, where a large Operation and Maintenance contract was registered last year, explained this small decrease this year. Main orders received comprised Operation and Maintenance contracts for power plants in Spain and the Netherlands, a long term service agreement and spares supplies in the United Kingdom, desulphurization systems for a power plant in Estonia and the upgrade of the turbo group for a power plant in Hungary. In addition, Alstom signed in 2008/09 a framework agreement for the renovation of 900 MW and 1,300 MW generators for nuclear power plants in France.

Standing at €1.0 billion, North America gathered 22% of the orders received, a slight decrease (- 1% on an actual basis) from the previous year. Orders booked in Canada showed a 10% increase over the year. Orders in South and Central America stood at €86 million, representing 2% of the total orders booked by the Sector.

In 2008/09, Power Service recorded €644 million orders in Asia/Pacific (a 14% decrease since last year on actual and organic bases), representing 14% of the total orders booked over the period by the Sector. Main successes in the region were recorded in Korea, Japan and Indonesia, as well as in Australia.

Finally, with €1.3 billion, the Middle East/Africa region represented 27% of the total Power Service new orders intake in 2008/09 (19% last year), realising a 52% growth (49% on an organic basis) year on year. Main orders received included three long-term Operation and Maintenance contracts for GT26<sup>TM</sup> combined cycle power plants in Algeria, Tunisia and the United Arab Emirates.

### ***Main orders received by the Power Sectors during fiscal year 2008/09***

The Power Sectors received the following major orders during 2008/09:

| <b>Country</b>       | <b>Sector</b> | <b>Description</b>   |
|----------------------|---------------|--|
| Algeria              | Power Systems | Turnkey 1,280 MW 3 x GT26™ combined cycle power plant  |
|                      | Power Service | 20-year long-term maintenance contract   |
| Brazil               | Power Systems | Supply of electro-mechanical and hydro-mechanical equipment for a hydro power plant (19 bulb turbines and 22 generators) |
| Brazil               | Power Systems | Supply part of the equipment for a hydro power plant (10 bulb turbines and 17 generators)                                |
| China                | Power Systems | Turbine island of an EPR nuclear power plant   |
| China                | Power Systems | Turbine island of a CPR1000 nuclear power plant  |
| France               | Power Service | Framework agreement to renovate generators in nuclear power plants (1 x 900MW and 1 x 1, 300 MW)                         |
| Germany              | Power Systems | Supercritical boilers for 2 x 800 MW units of a coal-fired power plant   |
| Germany              | Power Systems | Turnkey power block of a 910 MW supercritical coal-fired power plant   |
| India                | Power Systems | Turnkey hydro electric project (6 x 40 MW bulb turbine generator units)  |
| Indonesia            | Power Systems | 235 MW 1 x GT13™ combined cycle power plant  |
| Panama               | Power Systems | Turbine-generators and other mechanical equipment for 3 hydropower plants  |
| Portugal             | Power Systems | Extension of a hydropower plant (2 x 120 MW)   |
| The Netherlands      | Power Systems | Turnkey 3 x GT26™ combined cycle power plant and repowering of an existing power plant                                   |
|                      | Power Service | Long-term operation and maintenance agreement  |
| The Netherlands      | Power Systems | 2 x 800 MW boilers for a coal based power plant  |
| Saudi Arabia         | Power Systems | 1,200 MW oil-fired steam power plant   |
| South Africa         | Power Systems | 6 x 790 MW turbine islands for a coal-fired power plant  |
| South Africa         | Power Systems | Retrofit solution for low-pressure turbines for 2 x 970 MW units at a nuclear power station                              |
| Spain                | Power Systems | Turnkey contract for a 400 MW 1 x GT26™ combined cycle power plant   |
|                      | Power Service | Long term operation and maintenance contract (12 years)  |
| Spain                | Power Systems | Frame agreement for 300 MW wind turbines   |
| Tunisia              | Power Systems | Turnkey 400 MW 1 x GT26™ combined cycle power plant  |
|                      | Power Service | 12-year operation and maintenance contract   |
| United Arab Emirates | Power Service | 16-year contract for spare parts and maintenance services for a 2,000 MW combined cycle power plant                      |

## Sales

### *Power Systems*

The following table sets out the geographical breakdown of sales by destination:

| <b>Power Systems</b>                | <i>% Variation Mar 09/08</i>           |                               |  |                               |               |             |
|-------------------------------------|--|-------------------------------|--|-------------------------------|---------------|-------------|
|                                     | <b>Year ended</b><br><b>31 Mar. 09</b> | <b>% of</b><br><b>contrib</b> | <b>Year ended</b><br><b>31 Mar. 08</b> | <b>% of</b><br><b>contrib</b> | <i>Actual</i> | <i>Org.</i> |
| <b>Actual figures, in € million</b> |  |                               |  |                               |               |             |
| Europe                              | 4,341                                  | 47%                           | 3,665                                  | 47%                           | 18%           | 12%         |
| North America                       | 1,080                                  | 12%                           | 1,348                                  | 17%                           | (20%)         | (19%)       |
| South and Central America           | 641                                    | 7%                            | 475                                    | 6%                            | 35%           | 38%         |
| Asia/Pacific                        | 1,493                                  | 16%                           | 1,472                                  | 19%                           | 1%            | (2%)        |
| Middle East/Africa                  | 1,684                                  | 18%                           | 808                                    | 11%                           | 108%          | 106%        |
| <b>Sales by destination</b>         | <b>9,239</b>                           | <b>100%</b>                   | <b>7,768</b>                           | <b>100%</b>                   | <b>19%</b>    | <b>16%</b>  |

In 2008/09, Power Systems generated sales of €9.2 billion, a level 19% higher than in the previous year (+16% on an organic basis). Middle East/Africa, Europe and South and Central America strongly contributed to this increase in sales. The book-to-bill ratio remained strong at 1.3 (1.5 last year).

Sales in Europe represented once again the main part (47%) of the Sector's total sales during the period at €4,341 million showing an 18% progression year on year (+12% on an organic basis). Sales were mainly fuelled by turnkey plant projects in the United Kingdom, Ireland, Poland and Bulgaria.

Sales in North America decreased by 20% at €1,080 million (-19% on organic basis), as some of the large projects entered into their final stage of execution.

With €641 million, sales in South and Central America increased by 35% over the last period (38% on an organic basis), representing 7% of the total Power Systems' sales. Contracts for hydro and gas turbine power plants in Brazil have generated most of the sales during last year.

Sales in Asia/Pacific remained stable at €1,493 million, contributing to 16% of the total Sector's sales. Traded projects included a turnkey gas-fired power plant in Australia, hydro projects in India and China, a gas power plant in Indonesia and boilers in China.

Sales in Middle East/Africa were €1,684 million showing a 108% increase over the last period (+106% on an organic basis). Execution of major projects in Algeria, the United Arab Emirates, Saudi Arabia and South Africa explained this strong progression.

#### *Power Service*

The following table sets out the geographical breakdown of sales by destination:

| <b>Power Service</b>                | <b>Year ended</b> |                     | <b>Year ended</b> |                     | <b>% Variation Mar 09/08</b> |             |
|-------------------------------------|-------------------|---------------------|-------------------|---------------------|------------------------------|-------------|
|                                     | <b>31 Mar. 09</b> | <b>% of contrib</b> | <b>31 Mar. 08</b> | <b>% of contrib</b> | <i>Actual</i>                | <i>Org.</i> |
| <b>Actual figures, in € million</b> |                   |                     |                   |                     |                              |             |
| Europe                              | 1,403             | 37%                 | 1,241             | 34%                 | 13%                          | 18%         |
| North America                       | 1,108             | 29%                 | 1,154             | 32%                 | (4%)                         | (3%)        |
| South and Central America           | 158               | 4%                  | 105               | 3%                  | 50%                          | 53%         |
| Asia/Pacific                        | 648               | 17%                 | 642               | 18%                 | 1%                           | 2%          |
| Middle East/Africa                  | 498               | 13%                 | 460               | 13%                 | 8%                           | 4%          |
| <b>Sales by destination</b>         | <b>3,815</b>      | <b>100%</b>         | <b>3,602</b>      | <b>100%</b>         | <b>6%</b>                    | <b>8%</b>   |

During the year 2008/09, overall sales were up by about 6% to €3,815 million (8% on an organic basis), with Europe contributing 37% of total sales at €1,403 million up from €1,241 million the previous year.

With total sales of €1,108 million, North America's contribution to Service Sector sales was 29%. Sales during the year were lower by 4% on an actual basis (-3% on an organic basis).

During fiscal year 2008/09, Asia/Pacific sales were at €648 million, stable year-on-year, while sales in Middle East/Africa showed a growth of 8% (4% on an organic basis), with sales at €498 million.

### Income from operations and operating margin

#### *Power Systems*

The Power Systems income from operations was €600 million, compared to €415 million in 2007/08, representing an increase of 45% (42% on an organic basis). The operating margin rose from 5.3% to 6.5%, driven by the higher sales volume, a controlled project execution and a focus on costs control.

#### *Power Service*

Power Service recorded an income from operations of €648 million for fiscal year 2008/09, a €56 million increase compared to the previous fiscal year. Supported by volume increase and the project execution performance, the operating margin reached 17.0% (16.4% for fiscal year 2007/08).

# TRANSPORT SECTOR

The Transport Sector serves the urban transit, the regional/intercity passenger travel markets and the freight markets all over the world with rail transport products, systems and services. Alstom designs, develops, manufactures, commissions and maintains trains, and develops and implements system solutions for rail control. It also designs and manages the creation of new railway lines, as well as offers customers maintenance and renovation programmes to keep their assets safe and productive. The Sector markets each of these as stand-alone offerings or combined within turnkey system solutions, according to each customer's requirements.

## Offering

### Trains (rolling stock)

Alstom addresses all segments of passenger rail transport from tramways to very high speed trains and locomotives. Alstom is the world leader in very high speed trains and holds the number 2 position in the tramway and metro rolling stock segments. Alstom is among the leaders for suburban commuter regional trains and locomotives (source: Alstom). It addresses all market segments worldwide with customised solutions configured from standard platforms. Alstom addresses the freight-by-rail segment with locomotives, rail control and parts and maintenance support.

The rolling stock product line is organised into five product centres of excellence and manufacturing centres of excellence, as follows:

- High Speed Trains Group based in La Rochelle, France, is the design centre for trains to operate at speeds over 250 kph. In early February 2008, the Group launched the new AGV™ very high speed train;
- Intercity Trains Group based in Savigliano, Italy, is in charge of PENDOLINO™ tilting trains, CORADIA™ "MINUETTO\*" and X'TRAPOLIS™. These trains operate at speeds ranging from 140 kph to 250 kph;
- Regional Trains Group based in Salzgitter, Germany, is in charge of the CORADIA™ family of electrical and diesel multiple units as well as the double-deck trains. These operate at speeds ranging from 100 kph to 180 kph;
- Urban Trains Group based in Valenciennes, France, is in charge of designing the Sector's new generation of CITADIS™ tramways including a "Tram-Train" CITADIS Dualis™ as well as the METROPOLIS™ metros;
- Locomotives Group based in Belfort, France, is in charge of the new generation of PRIMA™ locomotives.

\* MINUETTO is a trademark of the company Trenitalia SpA.

Manufacturing centres of excellence are present across all continents.

## Railway infrastructure (track & electrification)

Alstom addresses both urban and main line rail transport Infrastructure segments. This encompasses the design and construction of:

- new railway lines;
- extensions to existing lines;
- modernisation of existing railway lines.

To these segments, Alstom brings expertise and project management in:

- trackwork, with design and installation on concrete or ballast beds;
- line electrification and power supply, including sub-stations and specific power supply feeding system for tramways to suppress catenaries;
- station utilities including electrical and mechanical equipment;
- maintenance of all these items of railway infrastructure.

## Rail control systems (railway signalling and information solutions)

Alstom provides Information Solutions to rail transport operators and infrastructure managers, supplying equipment which allow them to operate efficiently and safely.

In the main line railway segment, the Group offers customers a complete range of products. It is organised around centres of excellence:

- train control and monitoring systems and electronic modules in Villeurbanne (France);
- trackside products and interlocking systems in Bologna (Italy);
- integrated control and security centres in Meudon (France);
- urban transit solutions in Saint-Ouen (France);
- railway main line solutions in Charleroi (Belgium);
- freight optimised solutions in Sao Paulo (Brazil).

Alstom markets these products either as single products or as integrated system solutions that meet either European (with the ATLAS™ solution) or American standards.

In the urban segment, the offering ranges from basic operations control to driverless systems. These systems take advantage of telecommunication-centred architectures such as the mass transit train control systems (URBALIS™) implementing a CBTC (Communication Based Train Control) technology.

Signalling systems are complemented by other related information-based systems and services, such as:

- passenger information systems (AGATE™ Media), on board trains and on platform;
- security systems (closed circuit TV, emergency telephony...);
- train control and monitoring systems (TCMS).



The offering also covers maintenance services ranging from simple spare parts and repairs to availability-based maintenance contracts.

## Lifetime service support for trains & rail infrastructure

For trains, railways and rail control systems, Alstom supports its customers with:

- advanced logistic services for the supply of the parts they need;
- comprehensive maintenance programmes;
- modernisation services;
- technical support and assistance with documentation management.

The trend of railway market liberalisation around the world, combined with the underlying trend for increasing private financing in railway ventures, is triggering long term growth rates in rail transport markets. Alstom continues to lead the industry by supporting operators in boosting their performance through faster supply chains, modernised rolling stock and optimised fleet availability.

## Full-integrated system solutions

The Systems Business offers complete turnkey solutions. Alstom addresses these DBOM (Design Build Operate Maintain) or PPP (Public Private Partnership) opportunities either as a consortium leader or as a consortium partner in turnkey project management. The Sector addresses urban transit (tramway or metro) as well as main line railways (including very high speed rail projects). The management of such projects includes design, building, commissioning, maintenance programmes and coordination of financial, administrative and technical project domains. The Group's core competency consists of the development and supply of an optimised and integrated rail transport system, comprising rolling stock, information solutions, infrastructure and lifetime maintenance.

# Industry characteristics

## MARKET EVOLUTION

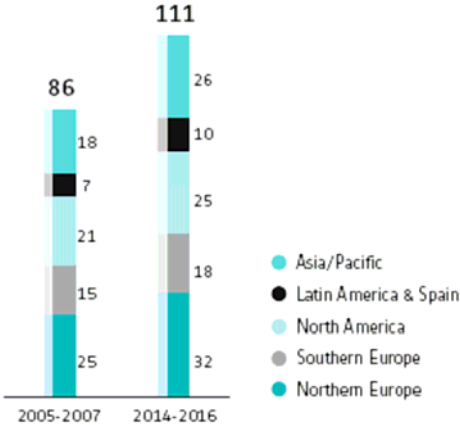
The rail market has exhibited a high level of development over the past couple of years, driven by economic growth, demographics, ever-increasing urbanisation and a growing concern for the environment. Moreover, existing transport infrastructures are increasingly saturated, causing modal shift from air and road to rail, as well as generating investment in additional rail infrastructure. The combination of all these factors has driven market growth, which is expected to continue in the long run.

In September 2008, the European Railway Industries Union (UNIFE) updated its 2006 world market study. The accessible market, re-evaluated accordingly, shows a total of €86 billion p.a. on average in 2005-2007. This market is expected to grow at 3% p.a., leading to €111 billion p.a. on average in 2014-2016. Whereas Europe will continue to represent the bulk of the market with approximately half of the world market, Asia-Pacific and Latin America are expected to grow at the fastest pace, at 3.5% and 4% respectively. At the same time, signalling and services segments are expected to grow above the aggregate average: between 3.5% and 4%. It should be noted that the Sector has access to roughly half this market given its current commercial as well as product and service footprint.

In the short run, the current crisis is expected to have a limited impact on Transport's market. Passenger traffic is holding up very well, even growing in certain sub-segments. At the same time, the industry benefits from economic stimulus packages in a significant number of markets, from Europe, to the USA and China. These plans favour investments in infrastructure as well in "cleaner" means of transportation. Financing issues can cause some project delays, whereas others are accelerated as a result of above plans. The consequence is overall a resilient market in the passenger segment. By contrast, freight traffic is heavily impacted by the economic downturn, pushing operators to reduce the level of their investment; Alstom's Transport Sector has overall a limited exposure to this market segment.

**Market growth by region**

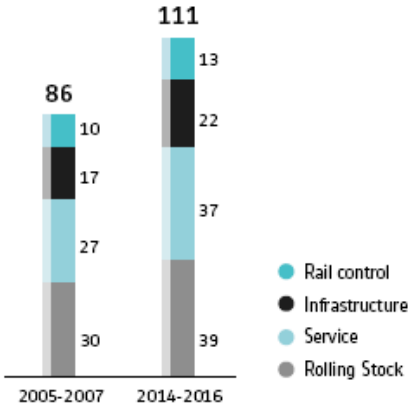
Rail transport market by region in billion euros



Source: UNIFE-Alstom

**Market growth by product line**

Rail market by segment in billion euros



Source: UNIFE-Alstom

# MARKET DRIVERS

## Environmental concerns and energy management

The global need for mobility is creating specific nuisances: greenhouse gas emissions, noise and congestion in cities. At the same time, public opinion is becoming increasingly conscious of environmental risks and climate change. Cleaner and more energy efficient trains, as well as the capacity to boost traffic on existing rail lines are concrete and feasible solutions to address these concerns.

The Sector is committed to contributing to the environmental performance of rail systems, focusing on lower energy consumption (motor efficiency, weight reduction, new materials or recovery of braking energy), reduced internal and external noises and limited global impact throughout product life management. For instance, the Sector already offers the option to send a significant amount of electricity back to the grid during the braking phase.

Transport's industrial organisation also contributes to this environmental concern through a management system assessing continuous improvement. As part of this effort, an "Eco-design" Centre of Excellence was created in 2007.

## Urban Integration

Cars are increasingly becoming unwelcome in cities around the world, whereas the need for mobility keeps growing. Thus, Alstom needs to offer alternative solutions that bring full satisfaction to city planners and inhabitants. Both expect minimum disturbance from the rail system, which should be the least intrusive possible. City planners also want to offer efficient interchange between transport modes.

For example, several years ago Alstom developed a catenary-less tram solution, APS, and put it in service in 2003. To this day, Alstom remains the only supplier to offer a service and safety-proven solution that allows electrical power supply without catenary and this solution has been sold several times since, most recently in Dubai (United Arab Emirates). The Sector also offers a battery-based solution, already in service in Nice, France, and is testing super capacitor-based technology.

Beyond this wide tramway offering, the Sector also provides other solutions to address the needs of rail transport in urban areas i.e. the metro and tram-train ranges. These various solutions can be developed into an integrated transport network including intermodal nodes. In addition, the Sector provides a unique way to customise the design of its product to best match the "spirit" of each city: Alstom is equipped with an integrated Design & Styling studio.

## Infrastructure saturation

Airports are increasingly saturated, causing delays and customer dissatisfaction. Car ownership, high in developed economies, is also growing fast in developing economies; this, combined with population growth, leads to insufficient road capacity. Consequently, authorities seek to develop rail infrastructure. This not only provides an increase in transport capacity, but also a reduction in green house gas emissions when commuters and freight shift to rail.

In developed economies, rail infrastructure is generally mature, with the exception of the very high speed network which continues to show growth in rail kilometres. For the rest of the network, the focus is on maximising throughput on existing networks: European standard ERTMS (mainline) or CBTC (urban) allow for reduced headways and interoperability; increased speed (AGV, freight locomotives) as well as double-decker rolling stock (very high speed, regional or suburban) offer additional throughput; and Alstom's unique TrainTracer maintenance system maximises availability of rolling stock by minimising the turn-around time in case a repair is needed. In developing economies such as China or India, for both urban or intercity transportation, the focus is put on expanding the network, so that passengers and goods can travel more efficiently.

Alstom offers a complete portfolio of solutions that helps relieve this infrastructure saturation. This includes from high-performance signalling systems, high capacity and very high speed rolling stock, track and electrification installation to provide efficient service and an effective supply chain for parts.

## Freight development

Even if freight volume has dropped significantly as a result of the current economic slow down, there remains a long-term trend for growth, driven by economic activity and trade. In addition, infrastructure is improving, bottlenecks are being alleviated and international corridors are being established (e.g. Trans-European-Network-Transport in Europe or Europe-to-Asia route). Operators increasingly extend their reach internationally, feeding the continents from the harbours.

Consequently, the Sector is offering locomotives which freight operators can use along the full length of international corridors in Europe, as they are equipped to run under various signalling systems: interoperability is the key word. Operators no longer have to change locomotives at borders. Moreover, we are addressing the specific needs of the growing population of private operators and leasers, by reducing our time-to-market, to meet their need to swiftly adjust their capacity in order to fulfil new transportation contracts.

## Global comfort

Passenger operators and city governments seek to build their competitive advantage, either to position themselves versus existing competition or to capitalise upon the spirit of the community. In addition, the regionalisation of the investment decision process in Europe results in increasing attention paid to customers' expectations, whether it is for more safety, more comfort or on-board connectivity, for instance. Such services are also ways to generate more revenues and profitability for operators.

The Sector develops a number of R&D programs to deliver innovative solutions towards global comfort. It offers comfortable interiors thanks to its unique in-house Design & Styling studio, Internet connectivity to remain in touch, on-board entertainment systems for pleasure and passenger information systems in both trains and stations to provide the means for operators to keep their passengers informed at all times.

# Competitive position

The Transport Sector has successfully established its global presence through a strategy of organic growth in existing and new markets, complemented by targeted acquisitions and alliances.

Alstom is a world market leader in rail transportation equipment and services. In particular, the Transport Sector is number 1 in very high-speed trains, number 2 in tramways and metros and is among the leaders for electrical and diesel multiple units, information systems, traction systems, power supply and track work. Alstom's main competitors in the field of rail transportation are Bombardier and Siemens.

One of the Sector's key competitive strengths is its product and service offering, the broadest in the industry. This allows Alstom to offer optimal solutions for its customers' specific needs. Furthermore, this provides a significant competitive edge to optimise the integration of the various parts, whether products or services, in turnkey projects.

This competitive strength in products and service is best demonstrated by Alstom's technological leadership in products such as AGV™, PENDOLINO™ tilting trains, ERTMS Signalling, URBALIS™, APS catenary-less tramway, and services such as TrainTracer. This strength is also visible through the customer-centric, service-and-assistance-focused organisation supported by a strong global network of engineering, manufacturing and service locations.

The customer benefits, resulting from the above, range from full life cycle cost competitiveness, overall system performance including product availability and reliability, to passenger comfort or product styling.

# Research & development

In 2008/09, the Transport Sector further strengthened its product portfolio thanks to the following R&D key achievements:

- AGV™: the test runs of the 7-car prototype of this fourth generation very high speed train were successfully carried out in Velim (Czech Republic) and on the Eastern LGV Line (France), where the targeted 360km/h mark was exceeded.
- CITADIS™: the new generation of this successful tramway product, designed to run in an optimal fashion on older existing tramlines, completed this year a programme of prototype test runs. These dynamic tests were held in Valenciennes (France), Wildenrath (Germany) and then in Katowice (Poland) on an old existing tramline, thus validating this new architecture concept, which also covers the tram-train application.
- URBALIS™: this CBTC (Communications-Based Transit Control) system solution has been successfully commissioned for the 2008 Olympic Games on the Beijing metro line 2.

- STEEM: this new Energy Storage System, using super capacitors, will go through final testing before summer 2009, prior to entering into revenue service. This new system will allow CITADIS™ tramways power supply autonomy over a short section without catenary.
- TRAINTRACER™: this web-based technology solution enables train status and infrastructure provided by on-board equipment to be managed as information, thus improving train fleet availability and decreasing maintenance costs. This innovative solution is already in service on PENDOLINO™ in the UK. In addition, it was successfully tested this year on two pilot projects in France on locomotives and on tramways.

## Strategy

The rail market remains very promising, and its growth takes place in segments where the Sector has strong positions. In this business environment, Alstom confirms its strategy of profitable growth, while continuing its policy of strict selectivity in order intake.

To respond to the evolution of the market towards standard solutions, Alstom has launched a platforming strategy: the Sector already benefits from shared development costs, while selecting the opportunities that are most in line with the Group's platforms. The necessary customisation is made possible by Alstom's modular design combined with customer-specific developments. The Sector is investing in new value-adding platforms, as demonstrated by the AGV™, which has already been sold in Italy.

This favourable situation also provides an opportunity to optimise the Sector's industrial organisation: Alstom is investing in manufacturing capacity, mixing increased customer proximity and lower cost base. The Sector is also redesigning its sourcing network: the intensification of its partnership with selected suppliers will provide improved quality, economies of scale and shared development opportunities.

Another key part of the Sector's strategy is to put an emphasis on developing its activities in promising markets, in particular Russia where Alstom entered into a strategic partnership with the Russian rolling stock manufacturer Transmashholding (TMH), as well as in India, China and Brazil. These markets are driven by a pronounced need to develop or renovate their national and urban public transport infrastructures. The Sector's efforts in these markets may take the shape of either partnerships or fully owned entities.

## Key financial data

The following table sets out key financial data for Transport:

| Transport<br>Actual figures<br>(in € million) |               |               | % Variation         |         |
|---|---------------|---------------|---------------------|---------|
|   | Year ended    | Year ended    | March 09 / March 08 |         |
|   | 31 March 2009 | 31 March 2008 | Actual              | Organic |
| Order backlog                                 | 19,506        | 17,283        | 13%                 | 14%     |
| Orders received                               | 8,114         | 7,467         | 9%                  | 11%     |
| Sales   | 5,685         | 5,509         | 3%                  | 5%      |
| Income from operations                        | 408           | 397           | 3%                  | 5%      |
| Operating margin                              | 7.2%          | 7.2%          |                     |         |
| EBIT  | 389           | 368           | 6%                  |         |
| Capital Employed                              | (331)         | (84)          | 294%                |         |

## Comments on activity during fiscal year

Transport benefited from a dynamic market, particularly strong for very high speed, mass transit, and tramways, but also for turnkey, services and signalling.

### Orders

Orders received by Transport during financial year 2008/09 were €8.1 billion, i.e. 9% higher than last year (11% on an organic basis).

Confirming Alstom's position at the cutting edge of very high speed and demonstrating customers' interest in innovative solutions, the Sector booked its first order for its new generation of very high speed train – the AGV<sup>TM</sup> – to be supplied to a private Italian operator along with a maintenance contract. Other orders received included the supply and maintenance of high speed PENDOLINO<sup>TM</sup> trains in the United Kingdom, as well as regional trains in Germany with CORADIA<sup>TM</sup> CONTINENTAL products.

Numerous turnkey projects based on the Group's CITADIS<sup>TM</sup> tramway products were booked in the Middle East, a new area of fast growth for Transport, whereas contracts for metros in the USA), for signalling in Brazil and metros in China were also signed during the year.

With orders intake at €5.8 billion for the fiscal year 2008/09, Europe remained the most important region in terms of orders received (72% of the total). The record level of orders achieved proved Alstom's ability to adapt efficiently, through operational excellence and innovation, to all kinds of markets (PENDOLINO<sup>TM</sup> in the United Kingdom, CORADIA<sup>TM</sup> CONTINENTAL in Germany, AGV<sup>TM</sup> in Italy).

Orders received in North America were €746 million (9% of the total) as compared to €670 million last year. In 2008/09, Alstom re-entered the Mexican metro market by booking a contract to supply electromechanical equipment for the Line 12 of the Mexico City metro.



Orders received in South & Central America were at €324 million (4% of the Sector's total) vs. €247 million last year. Alstom succeeded in selling its URBALIS™ solution in the region, after achievements in China and Turkey. In Brazil, an order was booked to supply a fully automated control system for 3 lines of the Sao Paulo metro.

In Asia/Pacific, Transport registered orders amounting to €446 million (5% of the Sector's total) after €563 million last year (when Transport had booked two significant orders for metros in China). The exercise of an option for X'TRAPOLIS™ trains for Melbourne metropolitan network (Australia) was the main contract booked during the period.

In Middle East/Africa, booking of new orders more than quadrupled year on year at €776 million (10% of the Sector's total orders received) vs. €177 million last year. A contract for a turnkey tramway system for Dubai was signed while tramway orders for Rabat, Oran and Constantine cities confirmed the dynamism of the Alstom's light rail vehicles solutions.

Transport received the following significant orders during 2008/09:

| <b>Country</b>       | <b>Description</b>  |
|----------------------|---|
| Algeria              | Turnkey tramway systems for the cities of Oran and Constantine  |
| Australia            | X'TRAPOLIS™ suburban trains (option) for Melbourne  |
| Brazil               | Automated system for lines 1, 2 and 3 of the Sao Paulo metro system   |
| Chile                | Metropolis cars for the Santiago metro system (option)<br>Automatic train control system for Santiago metro line 1 extension and line 5 extension |
| France               | Studies, signalling work and supply of signalling equipment for the Eastern branch of the Rhine-Rhone high-speed line                             |
| France /Luxemburg    | New-generation double-decker TER regional trains (option)   |
| Germany              | CORADIA™ LINT regional trains   |
| Germany              | CORADIA™ CONTINENTAL regional trains  |
| Italy                | New-generation very high speed train AGV™ for a private Italian operator and maintenance contract   |
| Mexico               | Electromechanical equipment for Line 12 of the Mexico City metro system   |
| Morocco              | CITADIS™ for the Rabat tramway  |
| Singapore            | Supply of track works for the Singapore metro future Downtown Line  |
| Sweden               | CORADIA™ NORDIC Regional trains   |
| United Arab Emirates | Phase 1 of the Al Safouh tram network in Dubai  |
| United Kingdom       | PENDOLINO™ high-speed tilting trains and a 10-year maintenance contract   |
| United States        | Subway cars to New York City (option)   |

## Sales

The following table sets out the geographical breakdown of sales by destination:

| <b>Transport</b>                    | <i>% Variation Mar 09/08</i>           |                               |  |                               |               |             |
|-------------------------------------|--|-------------------------------|--|-------------------------------|---------------|-------------|
|                                     | <b>Year ended</b><br><b>31 Mar. 09</b> | <b>% of</b><br><b>contrib</b> | <b>Year ended</b><br><b>31 Mar. 08</b> | <b>% of</b><br><b>contrib</b> | <i>Actual</i> | <i>Org.</i> |
| <b>Actual figures, in € million</b> |  |                               |  |                               |               |             |
| Europe                              | 3,961                                  | 70%                           | 3,400                                  | 62%                           | 17%           | 18%         |
| North America                       | 755                                    | 13%                           | 607                                    | 11%                           | 24%           | 26%         |
| South and Central America           | 289                                    | 5%                            | 302                                    | 5%                            | (4%)          | (2%)        |
| Asia/Pacific                        | 416                                    | 7%                            | 916                                    | 17%                           | (55%)         | (55%)       |
| Middle East/Africa                  | 264                                    | 5%                            | 284                                    | 5%                            | (7%)          | (7%)        |
| <b>Sales by destination</b>         | <b>5,685</b>                           | <b>100%</b>                   | <b>5,509</b>                           | <b>100%</b>                   | <b>3%</b>     | <b>5%</b>   |

In 2008/09, Transport's sales amounted to €5.7 billion, recording a 3% increase compared to previous fiscal year on an actual basis and 5% on an organic basis.

Europe remained the main contributor (with 70% of the total) at €3,961 million, posting a 17% rise since last year (+18% on an organic basis). Contracts for very high speed TGV<sup>4</sup> trains in France, maintenance in the United Kingdom, regional trains in France, Spain and Germany, metros and tramways in France and metros and infrastructure in Turkey were traded.

At €755 million (13% of contribution), sales in North America showed a 24% progression over the period (26% on organic basis), driven by the execution of a major metro project in New York City, while contracts for the Atlanta and Washington metro networks were nearing completion.

Sales in South and Central America decreased slightly (- 4% on actual and - 2% on organic bases) at €289 million as progress was made on the delivery of metros for the Sao Paulo network, while projects in Chile and Venezuela were coming to an end.

Sales in Asia/Pacific recorded a decrease (55% on both actual and organic bases) over last fiscal year at €416 million. Key contracts in China (intercity and metro projects) reaching final stage of execution explained this downturn.

Sales in Middle East/Africa stood at €264 million (a 7% decrease year on year on both actual and organic bases). The progressive delivery of tramways in Algeria (Algiers), Israel (Jerusalem) and the UAE (Dubai) contributed to this amount of sales, whereas a tramway project in Tunisia was nearing completion.

#### Income from operations and operating margin

Transport's income from operations was €408 million, stable versus last year at 7.2% of sales. This demonstrates a solid profitability level whilst the Sector has accelerated investment in the future through R&D and capital expenditures.

To renew its products portfolio and attack new markets, the Sector kept on focusing on project execution as well as on continuing cost reductions through the implementation of its platforming strategy.

<sup>4</sup> TGV is a trademark of the SNCF

# CORPORATE & OTHERS

Corporate and others comprise all the units bearing Corporate costs.

The following table sets out some key financial data for the Corporate & Others organisation:

| <b>Corporate &amp; Others</b> | <b>Year ended</b>    | <b>Year ended</b>    |
|-------------------------------|----------------------|----------------------|
| <b>(in € million)</b>         | <b>31 March 2009</b> | <b>31 March 2008</b> |
| Income from operations        | (120)                | (109)                |
| EBIT                          | (118)                | (148)                |
| Capital Employed              | (281)                | (128)                |

Loss from operations reached €(120) million for the fiscal year 2008/09, compared to €(109) million for the previous year, and included €11 million expense related to a third employee stock purchase scheme, implemented in 2008/09.

# Operating and financial review

## INCOME STATEMENT

| Total Group<br>(in € million) | Year ended    | Year ended    | % Variation                       |            |
|-------------------------------|---------------|---------------|-----------------------------------|------------|
|                               | 31 March 2009 | 31 March 2008 | March 2009 / March 2008<br>Actual | Organic    |
| Sales                         | 18,739        | 16,908        | 11%                               | 10%        |
| Cost of sales                 | (15,225)      | (13,761)      | 11%                               | 10%        |
| R&D expenditure               | (586)         | (554)         | 6%                                | 4%         |
| Selling expenses              | (666)         | (619)         | 8%                                | 8%         |
| Administrative expenses       | (726)         | (679)         | 7%                                | 4%         |
| <b>Income from operations</b> | <b>1,536</b>  | <b>1,295</b>  | <b>19%</b>                        | <b>18%</b> |
| Operating margin              | 8.2%          | 7.7%          |                                   |            |

### Sales

For the fiscal year 2008/09, sales were at €18,7 billion, compared to €16,9 billion for the previous year, representing an increase of 11% on an actual basis and 10% on an organic basis. The three Sectors contributed to this increase in sales with Power Systems sales amounting to €9,2 billion, materialising a 19% increase in 2008/09 (16% on an organic basis), whereas Power Service recorded a 6% sales growth (8% on an organic basis) at €3,8 billion. Transport sales for 2008/09 were up by 3% at €5,7 billion for the fiscal year 2008/09 (5% on an organic basis).

### Research and development expenditures

Research and development expenditures (gross costs) amounted to €621 million in 2008/09. Including the impact of capitalisation and amortisation of development costs, R&D expenditures amounted to €586 million compared to €554 million in 2007/08. Main programmes include, for Power Systems, the development of advanced CO<sub>2</sub> capture technologies and the upgrade of steam and gas turbine technologies, and, for Transport, the improvement of technologies across the whole range of activities with a focus upon very high speed trains (AGV<sup>TM</sup>) and signalling.

### Selling and administrative expenses

Representing 7.4% of the Group's sales, selling and administrative expenses amounted to €1,392 million for the year ended 31 March 2009, compared to €1,298 million for the previous year. Selling expenses grew by 8%, at €666 million, as a consequence of a high tendering activity and the strengthening of the Group's commercial networks, with offices set up in markets showing a strong growth potential (China and Russia). Administrative expenses reached €726 million this year (vs. €679 million last year).

## Income from operations

Income from operations was €1,536 million for the fiscal year 2008/09 (8.2% of the sales), up 19% compared to the previous year, when income from operations stood at €1,295 million and represented 7.7% of sales. A very high level of activity, a constantly improved quality of orders in hand, as well as a strong focus on project execution and costs supported this positive trend.

| <b>Total Group</b>                        | % Variation          |                      |                   |
|---|----------------------|----------------------|-------------------|
|   | <b>Year ended</b>    | <b>Year ended</b>    | Mar 09/<br>Mar 08 |
| <b>(in € million)</b>                     | <b>31 March 2009</b> | <b>31 March 2008</b> |                   |
| <b>Income from operations</b>             | <b>1,536</b>         | <b>1,295</b>         | <b>19%</b>        |
| Restructuring costs                       | (46)                 | (35)                 | 31%               |
| Other income (expense)                    | (47)                 | (39)                 | 21%               |
| <b>Earnings Before Interest and Taxes</b> | <b>1,443</b>         | <b>1,221</b>         | <b>18%</b>        |
| Financial income (expense)                | 21                   | (69)                 | (130%)            |
| Income tax charge                         | (373)                | (291)                | 28%               |
| Share in net income of equity investments | 27                   | 1                    | N/A               |
| Minority interests                        | (9)                  | (10)                 | N/A               |
| <b>Net income - Group share</b>           | <b>1,109</b>         | <b>852</b>           | <b>30%</b>        |

## Earnings before interest and taxes (EBIT)

EBIT was €1,443 million for the fiscal year 2008/09, up by 18% from last year's €1,221 million. This performance results from an increase in income from operations moving from €1,295 million to €1,536 million, in spite of higher restructuring costs related to the optimisation of the Group's industrial base.

## Net financial income

Net financial income turned positive during year 2008/09 at €21 million at the end of March 2009, resulting mainly from net interest income at €29 million, a solid net cash position at €2.1 billion and a gross debt reduced to €1.4 billion.

## Income tax charge

Explained by the progression of the pre-tax income at €1,464 million (€1,152 million in 2007/08), the income tax charge was €373 million for the fiscal year 2008/09, compared to €291 million a year earlier. It was composed of a €173 million current income tax charge (vs. €194 million in 2007/08) and of a €200 million deferred income tax charge (vs. €97 million in 2007/08).

The effective tax rate was at 25% for the year.

## **Net income - Group share**

Net income (Group share) amounted to €1,109 million for the year ended at 31 March 2009, a 30% increase compared to €852 million last year, as a result of higher earnings before interests and tax, and a positive financial income.

# BALANCE SHEET

| <b>Total Group</b>                                       |                         |                         | Variation             |
|--|-------------------------|-------------------------|-----------------------|
| <b>(in € million)</b>                                    | <b>At 31 March 2009</b> | <b>At 31 March 2008</b> | Mar 2009/<br>Mar 2008 |
| Goodwill   | 3,886                   | 3,767                   | 119                   |
| Intangible assets  | 1,397                   | 1,322                   | 75                    |
| Property, plant and equipment                            | 1,735                   | 1,501                   | 234                   |
| Associates and available-for-sale financial assets       | 66                      | 62                      | 4                     |
| Other non-current assets                                 | 529                     | 635                     | (106)                 |
| Deferred taxes   | 1,012                   | 1,070                   | (58)                  |
| <b>Non-current assets</b>                                | <b>8,625</b>            | <b>8,357</b>            | <b>268</b>            |
| Working capital assets                                   | 12,661                  | 10,703                  | 1,958                 |
| Marketable securities and other current financial assets | 15                      | 170                     | (155)                 |
| Cash and cash equivalents                                | 2,943                   | 2,115                   | 828                   |
| <b>Current assets</b>                                    | <b>15,619</b>           | <b>12,988</b>           | <b>2,631</b>          |
| <b>Assets</b>  | <b>24,244</b>           | <b>21,345</b>           | <b>2,899</b>          |

| <b>Total Group</b>                             |                         |                         | Variation             |
|--|-------------------------|-------------------------|-----------------------|
| <b>Actual figures</b>                          | <b>At 31 March 2009</b> | <b>At 31 March 2008</b> | Mar 2009/<br>Mar 2008 |
| <b>(in € million)</b>                          |                         |                         |                       |
| Equity (Group share and minorities)            | 2,884                   | 2,245                   | 639                   |
| Provisions (non-current and current)           | 1,670                   | 1,761                   | (91)                  |
| Accrued pension and other employee benefits    | 970                     | 818                     | 152                   |
| Financial debt (current and non-current)       | 1,356                   | 1,927                   | (571)                 |
| Deferred taxes                                 | 70                      | 3                       | 67                    |
| Working capital liabilities (excl. provisions) | 17,294                  | 14,591                  | 2,703                 |
| <b>Liabilities</b>                             | <b>24,244</b>           | <b>21,345</b>           | <b>2,899</b>          |

## Goodwill and intangible assets

Goodwill increased to €3,886 million at the end of March 2009 from €3,767 million at 31 March 2008, as the result of acquisitions completed during the year (mainly Power Service South Africa) as well as subsequent purchase accounting adjustments on Ecotècnia and Wuhan Boiler Company, both acquired last year.

Intangible assets include acquired intangible assets and capitalised development costs. They amounted to €1,397 million at 31 March 2009 (€1,322 million at 31 March 2008). Development costs reached €172 million at the end of fiscal year compared to €124 million a year before. Amortisation of development costs followed the same ascending trend, from €55 million in March 2008 to €77 million at the end of this year.

The amortised costs of acquired technology at the end of fiscal year 2008/09 were €60 million, compared to €62 million at the end of March 2008.

### **Tangible assets**

Tangible assets amounted to €1,735 million at 31 March 2009, compared to €1,501 million at 31 March 2008.

Aiming at strengthening the Group's industrial presence in fast growing markets and improving production capacity, capital expenditures (excluding capitalised development expenses) increased by 33% in 2008/09 at €499 million (€374 million in 2007/08). These investments were focused, for Power Sectors, in Asia (boiler manufacturing facility in Wuhan, China), the United States of America (steam turbine facility in Chattanooga) and Eastern Europe (foundry in Elblag, Poland), and for Transport in France, Germany and Italy where they were dedicated to the upgrade and the extension of the current manufacturing base.

### **Other non-current assets**

Other non-current assets amounted to €529 million at the end of March 2009, compared to €635 million at the end of March 2008. Financial non-current assets directly associated to a long-term lease of trains and associated equipment for a London Underground operator in the United Kingdom were €449 million at the end of March 2009 compared to €546 million at the end of March 2008.

### **Working capital**

Working capital (defined as current assets excluding cash and cash equivalents, as well as marketable securities, less current liabilities excluding current financial liabilities and including non current provisions) at 31 March 2009 was €(6,303) million compared to €(5,649) million at 31 March 2008. This improvement, mainly due to a high level of orders intake during the year, also comes from a sound working capital management.

### **Deferred tax**

Net deferred tax assets reached €942 million at the end of March 2009, compared with €1,067 million a year before, mainly due to the use of deferred tax assets in France.

### **Current and non-current provisions**

The current and non-current provisions were €1,670 million at 31 March 2009, compared to €1,761 million at 31 March 2008.



## **Equity attributable to the equity holders of the parent and minority interests**

Equity at 31 March 2009 reached €2,884 million (including minority interests) compared with €2,245 million at 31 March 2008. The net increase for the period mainly arises from the following items:

- net income from the fiscal year 2008/09 positive by €1,118 million (Group share and minority interests)
- net negative expense directly recognised in equity of €296 million mainly due to actuarial losses on measurement of employee defined benefit plans
- distribution of dividends (€233 million in 2008/09)

## **Financial debt**

The gross financial debt was €1,356 million at the end of March 2009, compared to €1,927 million a year earlier, representing a decrease of €571 million. The reimbursement, either at maturity or in anticipation, of €559 million of bonds (in nominal value), explains this drop.

See Note 26 to the consolidated financial statements for further details regarding the financial debt.

# LIQUIDITY AND CAPITAL RESOURCES

The following table sets out selected figures concerning the consolidated statement of cash flows:

| <b>Total Group</b>   | <b>Year ended<br/>31 March 2009</b> | <b>Year ended<br/>31 March 2008</b> |
|--|-------------------------------------|-------------------------------------|
| <b>(in € million)</b>  |                                     |                                     |
| Net cash provided by operating activities -<br>before changes in net working capital | 1,581                               | 1,195                               |
| Changes in net working capital resulting from operating activities                   | 555                                 | 897                                 |
| <b>Net cash provided by operating activities</b>                                     | <b>2,136</b>                        | <b>2,092</b>                        |
| Net cash used in or provided by investing activities                                 | (657)                               | (896)                               |
| Net cash used in financing activities  | (617)                               | (957)                               |
| Net effect of exchange rate  | (27)                                | (33)                                |
| Other changes  | (7)                                 | 2                                   |
| <b>Change in cash and cash equivalents</b>   | <b>828</b>                          | <b>208</b>                          |

## Net cash provided by operating activities

Net cash provided by operating activities reached €2,136 million for the fiscal year 2008/09, compared to €2,092 million for the fiscal year 2007/08.

Net cash provided by operating activities before changes in net working capital was €1,581 million in 2008/09. It represents the cash generated by the Group's net income after elimination of non-cash items (given that provisions are included in the definition of the working capital, provisions are not part of the elimination of non-cash items) and before working capital movements.

The Group's net working capital resulting from operating activities improved by €555 million, a progression mainly arising from a €1,318 million increase in Construction Contracts In Progress.

## Net cash used in investing activities

Net cash used in investing activities was €657 million for the fiscal year 2008/09, vs. €896 million for the previous fiscal year. Contributing to this amount are the following:

- capital expenditures of €671 million, including capitalised research and development for €172 million;
- cash expenditures for acquisition of business of €40 million

See Notes 5.B and 4 to the consolidated financial statements for further details regarding capital expenditure and cash expenditure for acquisition of investments, respectively.

## Net cash used in financing activities

Net cash used in financing activities was negative at €617 million for the fiscal year 2008/09, compared to the previous year when it stood at €957 million, an improvement by €340 million. This includes the payment of dividends for €233 million, and the repayment of current and non-current borrowings for €548 million.

## Net cash position

At 31 March 2009, the Group achieved a record net cash level of €2,051 million, an increase of €1,147 million over the year.

| <b>Total Group</b>   |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| <b>(in € million)</b>  | <b>Year ended<br/>31 March 2009</b> | <b>Year ended<br/>31 March 2008</b> |
| <b>Net cash at the beginning of the period</b>                     | <b>904</b>                          | <b>(64)</b>                         |
| Change in cash and cash equivalents                                | 828                                 | 208                                 |
| Change in marketable securities and other current financial assets | (162)                               | (49)                                |
| Change in current and non current borrowings                       | 548                                 | 956                                 |
| Change in obligations under finance leases                         | 27                                  | 38                                  |
| Net debt of acquired entities at acquisition date                  | (12)                                | (210)                               |
| Net effect of exchange rate and other                              | (82)                                | 25                                  |
| <b>Net cash at the end of the period</b>                           | <b>2,051</b>                        | <b>904</b>                          |

Notes 25, 26, 27, 30, 31 and 34 to the consolidated financial statements provide further details, respectively on:

- the analysis of pensions and other employee benefits;
- the nature and the maturity of the financial debt;
- the Group's policy regarding financial risk management, including currency, interest, credit and liquidity risks;
- off-balance sheet commitments and lease obligations; and
- a subsequent event

## USE OF NON-GAAP FINANCIAL INDICATORS

This section presents financial indicators used by the Group that are not defined by accounting standard setters.

### *Free cash flow*

Free cash flow is defined as net cash provided by operating activities less capital expenditures including capitalized development costs, net of proceeds from disposals of tangible and intangible assets. In particular, free cash flow does not include the proceeds from disposals of activity.

The most directly comparable financial measure to free cash flow calculated and presented in accordance with IFRS is net cash provided by operating activities and a reconciliation of free cash flow and net cash provided by operating activities is presented below:

| <b>Total Group</b>  | <b>Year ended</b>    | <b>Year ended</b>    |
|---|----------------------|----------------------|
| <b>(in € million)</b>   | <b>31 March 2009</b> | <b>31 March 2008</b> |
| <b>Net cash provided by operating activities</b>              | <b>2,136</b>         | <b>2,092</b>         |
| Capital expenditure (including capitalized development costs) | (671)                | (498)                |
| Proceeds from disposals of tangible and intangible assets     | 14                   | 41                   |
| <b>Free Cash Flow</b>   | <b>1,479</b>         | <b>1,635</b>         |

Alstom uses the free cash flow measure both for internal analysis purposes as well as for external communication as the Group believes it provides accurate insight into the actual amount of cash generated or used by operations.

### *Capital employed*

Capital employed is defined as the closing position of goodwill, intangible assets, property, plant and equipment, other non-current assets (excluding prepaid pension benefits and financial non-current assets directly associated to financial debt) and current assets (excluding marketable securities and other current financial assets, and cash and cash equivalents) minus current and non-current provisions and current liabilities (excluding current provisions and current financial debt).

Capital employed by Sectors and for the Group as a whole is also presented in Note 5 to the Consolidated Financial Statements.

Capital employed is used both for internal analysis purposes as well as for external communication, as it provides insight into the amount of financial resources employed by a Sector or the Group as a whole, and the profitability of a Sector or the Group as a whole in regard to resources employed.

---

**Total Group**

| <b>(in € million)</b>   | <b>At 31 March 2009</b> | <b>At 31 March 2008</b> |
|---|-------------------------|-------------------------|
| Non current assets  | 8,625                   | 8,357                   |
| less deferred tax assets                                      | (1,012)                 | (1,070)                 |
| less non-current assets directly associated to financial debt | (449)                   | (546)                   |
| less prepaid pension benefits                                 | (4)                     | (17)                    |
| <b>Capital employed - non current assets (A)</b>              | <b>7,160</b>            | <b>6,724</b>            |
| Current assets  | 15,619                  | 12,988                  |
| less cash & cash equivalents                                  | (2,943)                 | (2,115)                 |
| less marketable securities and other current financial assets | (15)                    | (170)                   |
| <b>Capital employed - current assets (B)</b>                  | <b>12,661</b>           | <b>10,703</b>           |
| Current liabilities   | 19,268                  | 16,468                  |
| less current financial debt                                   | (748)                   | (619)                   |
| plus non current provisions                                   | 444                     | 503                     |
| <b>Capital employed - liabilities (C)</b>                     | <b>18,964</b>           | <b>16,352</b>           |
| <b>Capital employed (A)+(B)-(C)</b>                           | <b>857</b>              | <b>1,075</b>            |

---

***Net cash***

Net cash is defined as cash and cash equivalents, marketable securities and other current financial assets and financial non-current assets directly associated to financial debt, less current and non-current financial debt.

---

**Total Group**

| <b>(in € million)</b>  | <b>At 31 March 2009</b> | <b>At 31 March 2008</b> |
|--|-------------------------|-------------------------|
| Cash and cash equivalents  | 2,943                   | 2,115                   |
| Marketable securities and other current financial assets           | 15                      | 170                     |
| Financial non-current assets directly associated to financial debt | 449                     | 546                     |
| <i>less:</i>   |                         |                         |
| Current financial debt   | 748                     | 619                     |
| Non current financial debt   | 608                     | 1,308                   |
| <b>Net cash</b>  | <b>2,051</b>            | <b>904</b>              |

---

***Organic basis***

Figures presented in this section include performance indicators presented on an actual basis and on an organic basis. Figures have been given on an organic basis in order to eliminate the impact of changes in business composition and of variation of exchange rates between the Euro and the

foreign currencies. The Group uses figures prepared on an organic basis both for internal analysis and for external communication, as it believes they provide means by which to analyse and explain variations from one period to another. However these figures, provided on an organic basis, are not measurements of performance under IFRS.

To prepare figures on an organic basis, the figures presented on an actual basis are adjusted as follows:

- the actual figures for 2007/08 (order backlog, orders received, sales and income from operations) are restated taking into account the exchange rates used for 2008/09, as used for preparing the Consolidated Financial Statements;
- in order to reflect the same scope of activity, the same indicators are adjusted both for 2007/08 (restatement of disposals) and for 2008/09 (restatement of acquisitions).

Figures on an organic basis are presented in the table shown next page.

## Alstom - ORGANIC FIGURES 2008/09

| in € million                  | Year ended 31 March 2008 |               |              |                       | Year ended 31 March 2009 |              |                 |                        |                        |
|-------------------------------|--------------------------|---------------|--------------|-----------------------|--------------------------|--------------|-----------------|------------------------|------------------------|
|                               | Actual figures           | Exchange rate | Scope impact | Comparable<br>Figures | Actual figures           | Scope Impact | Organic figures | % Var Act.             | % Var Org              |
|                               |                          |               |              |                       |                          |              |                 | March 09 /<br>March 08 | March 09 /<br>March 08 |
| Power Systems                 | 16,039                   | 162           | -            | 16,201                | 19,385                   | -            | 19,385          | 21%                    | 20%                    |
| Power Service                 | 5,900                    | 194           | -            | 6,094                 | 6,779                    | (88)         | 6,691           | 15%                    | 10%                    |
| Transport                     | 17,283                   | (143)         | -            | 17,140                | 19,506                   | (7)          | 19,499          | 13%                    | 14%                    |
| Corporate & Others            | -                        | -             | -            | -                     | -                        | -            | -               | N/A                    | N/A                    |
| <b>Orders backlog</b>         | <b>39,222</b>            | <b>213</b>    | <b>-</b>     | <b>39,435</b>         | <b>45,670</b>            | <b>(95)</b>  | <b>45,575</b>   | <b>16%</b>             | <b>16%</b>             |
| Power Systems                 | 11,569                   | (285)         | -            | 11,284                | 11,879                   | (236)        | 11,643          | 3%                     | 3%                     |
| Power Service                 | 4,401                    | (43)          | -            | 4,358                 | 4,587                    | (7)          | 4,580           | 4%                     | 5%                     |
| Transport                     | 7,467                    | (169)         | -            | 7,298                 | 8,114                    | (6)          | 8,108           | 9%                     | 11%                    |
| Corporate & Others            | 35                       | (3)           | (32)         | -                     | -                        | -            | -               | N/A                    | N/A                    |
| <b>Orders Received</b>        | <b>23,472</b>            | <b>(500)</b>  | <b>(32)</b>  | <b>22,940</b>         | <b>24,580</b>            | <b>(249)</b> | <b>24,331</b>   | <b>5%</b>              | <b>6%</b>              |
| Power Systems                 | 7,768                    | (64)          | -            | 7,704                 | 9,239                    | (321)        | 8,918           | 19%                    | 16%                    |
| Power Service                 | 3,602                    | (70)          | -            | 3,532                 | 3,815                    | (17)         | 3,798           | 6%                     | 8%                     |
| Transport                     | 5,509                    | (76)          | -            | 5,433                 | 5,685                    | (6)          | 5,679           | 3%                     | 5%                     |
| Corporate & Others            | 29                       | (3)           | (26)         | -                     | -                        | -            | -               | N/A                    | N/A                    |
| <b>Sales</b>                  | <b>16,908</b>            | <b>(213)</b>  | <b>(26)</b>  | <b>16,669</b>         | <b>18,739</b>            | <b>(344)</b> | <b>18,395</b>   | <b>11%</b>             | <b>10%</b>             |
| Power Systems                 | 415                      | 5             | -            | 420                   | 600                      | (4)          | 596             | 45%                    | 42%                    |
| Power Service                 | 592                      | 11            | -            | 603                   | 648                      | -            | 648             | 9%                     | 7%                     |
| Transport                     | 397                      | (9)           | -            | 388                   | 408                      | -            | 408             | 3%                     | 5%                     |
| Corporate & Others            | (109)                    | -             | (5)          | (114)                 | (120)                    | -            | (120)           | N/A                    | N/A                    |
| <b>Income from Operations</b> | <b>1,295</b>             | <b>7</b>      | <b>(5)</b>   | <b>1,297</b>          | <b>1,536</b>             | <b>(4)</b>   | <b>1,532</b>    | <b>19%</b>             | <b>18%</b>             |
| Power Systems                 | 5.3%                     |               |              | 5.5%                  | 6.5%                     |              | 6.7%            |                        |                        |
| Power Service                 | 16.4%                    |               |              | 17.1%                 | 17.0%                    |              | 17.1%           |                        |                        |
| Transport                     | 7.2%                     |               |              | 7.1%                  | 7.2%                     |              | 7.2%            |                        |                        |
| Corporate & Others            | N/A                      |               |              | N/A                   | N/A                      |              | N/A             |                        |                        |
| <b>Operating margin</b>       | <b>7.7%</b>              |               |              | <b>7.8%</b>           | <b>8.2%</b>              |              | <b>8.3%</b>     |                        |                        |
| Sales                         | 16,908                   | (213)         | (26)         | 16,669                | 18,739                   | (344)        | 18,395          | 11%                    | 10%                    |
| Cost of sales                 | (13,761)                 | 211           | 21           | (13,529)              | (15,225)                 | 304          | (14,921)        | 11%                    | 10%                    |
| R&D expenses                  | (554)                    | (3)           | -            | (557)                 | (586)                    | 7            | (579)           | 6%                     | 4%                     |
| Selling expenses              | (619)                    | 5             | -            | (614)                 | (666)                    | 5            | (661)           | 8%                     | 8%                     |
| Administrative expenses       | (679)                    | 7             | -            | (672)                 | (726)                    | 24           | (702)           | 7%                     | 4%                     |
| <b>Income from Operations</b> | <b>1,295</b>             | <b>7</b>      | <b>(5)</b>   | <b>1,297</b>          | <b>1,536</b>             | <b>(4)</b>   | <b>1,532</b>    | <b>19%</b>             | <b>18%</b>             |