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THE RESCUE OF ALSTOM

by

Patrick Kron

Chairman and Chief Executive Officer, Alstom

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Report by Thomas Paris

Translation by Rachel Marlin

Overview

In 2003, Alstom was on the verge of bankruptcy. How could an international, industrial company, more than a hundred years old, have reached such a position in a rapidly expanding market ? What was the way out of this situation ? Alstom's difficulties were the result of a combination of four factors : a technical problem, an inadequate operational performance, an impossible financial situation, and the temporary collapse of its most important market. A rescue operation was hampered because these four factors had to be handled simultaneously and the various bodies involved, including banks, shareholders, clients and employees had to be convinced that there was a future for Alstom, in spite of feelings of pessimism and general distrust. Acting as a catalyst, the French state took on the challenge of making a successful last-ditch attempt to turn the company around.

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TALK : Patrick Kron

Alstom is a company which has been in existence for more than a hundred years and has had its share of difficulties. If my talk today is about the past few years and the company's economic recovery, it is in the hope that this episode, which is a tiny part of the company's long history will soon not be associated with the name of Alstom.

Alstom's two important activities

Currently Alstom is involved in two major activities : the construction of systems and equipment, and the delivery of services in the production of electricity. These sectors represent two-thirds of our activity. We sell turn-key power stations and monitor them during their life-span. Rail transport accounts for the other third of our activities.

We are an international group. Europe accounts for approximately 49 % of our activity ; North and South America, 23 % ; Asia/Pacific, 18 % ; and Africa, 10 %. Our turnover for 2006/2007, with a March 31st year-end, was 14.2 billion Euros. This year, it should be 16 billion Euros. We employ 70,000 people in seventy countries.

Our activities relate to infrastructures which are very closely linked to economic development, social progress and the protection of the environment. Economic growth requires an almost inexhaustible supply of electricity. It also increases population density in cities which in turn demands the development of a transport system. As for the protection of the environment and sustainable development, the fact that the production of electricity accounts for 40 % of all carbon dioxide emissions in the world means that we are extremely concerned about these emissions. This explains why our activities are growing significantly in contrast with heavy industry which is experiencing very weak or even negative growth during the most prosperous periods in the global economy.

Our activity in the generation of electricity is divided into two sectors which incorporate the activities and the ways in which we serve our various customers. In our 'Power Systems' Sector, which includes the new equipment and turn-key factories, we are the world number three behind General Electric (GE) and Siemens, with the largest range of products involving the production of electricity from fuel, gas, hydraulics, coal, nuclear and wind sources. We are the world leader, for example, in gas turbines and systems which control pollution emissions. Several key factors account for growth in the area of Power Systems. They include economic development, the impact of deregulation resulting in a mixed public/private clientele, the cost of raw energy materials and access to these resources, and the constraints and regulations concerned with the protection of the environment.

The 'Power Service' Sector handles after-sales service. All the equipment we produce functions at high temperature and includes quite complex devices for surface protection and cooling. Imagine that a gas power station has a higher working temperature than that of the melting point of the equipment working inside it ! All of this equipment requires regular and costly maintenance which we provide for our clients. We are the leader in this market. We achieved this by being able to offer a very large service offer : more than 25 % of the global production of electricity uses Alstom's technologies. In the long term, this activity will grow significantly for three reasons : the ageing of the equipment (30 % of our production is achieved with equipment which is more than thirty years old and is in need of serious modernisation) ; the additional restrictions aimed at protecting the environment (electrical power stations whose function was judged to be acceptable ten to fifteen years ago are now considered unacceptable) ; and the increase in the price of raw materials which encourages clients to improve output from their ageing power stations.

Alstom's presence in the transport activity is well known due to its manufacture of the much-publicised TGV (high-speed train). We are the global leader in this market with a 20 % market share. We are either number one or number two in the sectors of high-speed trains and urban transport, and are present throughout the transport range, including infrastructure and signalling. Economic development, urbanisation and environmental concerns are the main reasons for growth.

On the verge of bankruptcy

Between 2003 and 2004, I met with the president of the commercial court in Paris twice to inform him that there was a possibility we would not be able to make our end-of-month payments. How had we got to this point? As in any company failure, there was no single cause but a combination of factors. Alstom's difficulties resulted from a major technical problem, an inadequate operational performance, a financial situation which had become unacceptable, and the temporary collapse of our principal market, the production of electricity.

A technical catastrophe

Alstom did not create the technical problem, but inherited it. The company wanted to extricate itself from a license agreement with GE regarding gas turbines because the relationship had become increasingly tense. At the same time, Alstom had started negotiations with one of its European rivals, ABB, to share their electricity generation activities. Although this agreement was strategically solid, Alstom unfortunately inherited a number of sales contracts dealing with a new generation of gas turbines which did not function properly. We were faced with a situation where we not only had to make eighty turbines function in all four corners of the world, but also to compensate our clients. Consequently, we had to increase our R&D expenses four or five-fold because, apart from the gas turbines which did not work and which were costing us 3 million Euros every day, we were also faced with a combination of technical issues some of which raised precise, metallurgical questions which had to be researched. In the end, this series of events cost us between 4 and 5 billion Euros, but at least today we can safely say that these turbines are the most efficient in the market.

An inadequate operational performance

The second factor was an inadequate operational performance. The company had grown very quickly, doubling its size in three years as a result of sustained external growth. As is often the case in these situations, the companies Alstom had purchased had been integrated into Alstom without any attempt to achieve industrial optimisation. The increase in size had been accompanied by a decrease in activity and a deficiency in the monitoring systems. We suffered heavy, repeated losses in implementing some of these onerous projects and our results were well below our expectations and the forecasts of the financial markets. It was at this time that I discovered something I had not been taught at school, namely that the difference between a profit and a loss is not just a question of a plus or a minus sign, but that profits have a limit (otherwise known as the turnover) whereas losses do not!

We also realised that our organisation was focused on products. Our factory managers who were responsible for our wonderful machines were at the top of the pyramid. Beneath them, there were other employees who were in charge of installing these machines on the clients' premises but this was secondary. Our problems of efficiency were also linked to organisational questions which had to be resolved.

An unbalanced balance sheet

The companies which had contributed to our external growth had been bought with existing debts, notably Alcatel, one of our shareholders which wanted to pull out. As a result, our debt increased twenty-fold. Even though debt itself is not a bad thing, it can prove to be dangerous

in an economic model such as ours because we work with finance from our clients and our suppliers. It is the cheapest way of financing. However, if clients think that the company is financially fragile, they do not place orders, and, as a result, debt increases.

Temporary collapse

Finally, to complete the picture, even though I mentioned that our profession benefits from considerable growth rates in the long term, it does not necessarily mean that it is safe from unexpected events. In 2002 and 2003, the market collapsed and this fall was accompanied by a feeling of distrust from clients regarding Alstom's situation and this was a cause for concern. These clients preferred to place their orders with our rivals. At the same time, our bankers wondered if they had not invested too much money in Alstom, and subsequently decided that they had. How was it possible to reduce their liability ? We were not able to pay off the debt and so they stopped granting their guarantee to our clients, and waited until the former guarantees became obsolete. The difficulty associated with obtaining a guarantee, coupled with questions from clients, led to a drop in orders. Losses were followed by a fall in cash advances, and relations with suppliers became difficult. When I arrived at Alstom, there was between one billion and one-and-a-half billion Euros of cash flow, but a few weeks later, there was nothing left. This is why, during the summer of 2003, Alstom was no longer able to pay its bills.

The recovery

We had to find basic answers to all these problems. In the first months of 2003, we embarked on a global plan based on four actions : a management and organisational audit ; refocusing of the portfolio in view of the fact that we were no longer able to ensure a future for all our activities ; an improvement in our technical and operational performance ; and financial consolidation. Our difficulty was that we had to handle all these problems at the same time and we felt that failure in any one of them would make work on the others pointless.

Management and organisation

Each person's functions had to be clarified and simplified. We renewed management, changing three-quarters of the executive committee and more than half the five hundred 'top managers'. The real problem was that many of our employees were surprised by the scale of the crisis. They had not imagined that it was possible for the company to have reached such a critical situation without any forewarning. Had management hidden things from them ? Had management been incompetent ? We had to remobilise our teams to be able to begin the recovery process, and to mobilise them, we had to gain their confidence. This was the challenge facing us.

Refocusing the portfolio

When I arrived, the company was active in other areas as well as those I have already mentioned, including shipbuilding and the transmission and distribution of electricity. We carried on selling our activities while trying to refocus them. We were limited by two constraints : selling activities capable of being sold but which limited our room for manoeuvre ; and making sure that these sales would not ruin the remaining business. With some regret, we sold 25 % of our portfolio in twelve months, as well as all our real estate assets. Subsequently, as the European Commission requested compensation for the financial help which the French government gave us, we had to raise even more money and so we sold a further 15 % of our portfolio. We then sold assets in activities for which we considered we did not have the critical size, such as shipbuilding. The sum of these transfers amounted to a total of three billion Euros.

Improving the operational performance

We actively worked to improve our operational performance in order to optimise our industrial equipment and to adapt our capacity in the market. The market price was falling and we were slow to adjust. This combination of structural and temporary adjustments led to restructuring plans which affected nearly 13,000 people, in other words 20 % of our European workforce. Added to the reduction in the number of employees due to the transfer of activities, our workforce dropped from 110,000 at the beginning of 2003, to 55,000 at the end of 2005.

At the same time, we had set up a means of improving the operational functioning in our factories and projects, and we embarked on a determined plan to reduce structural costs by 15 % in the activities and 30 % in the head office. We invested less but did not alter our R&D expenditure. This would have been easy to do but we knew that this would have endangered the future of the company.

Financial consolidation

Finally, we attempted to redress the financial side. This was complex because we had to concentrate simultaneously on the reconstitution of equity capital, the renegotiation of the debt, our cash flow, and access to the cash flow. Additionally, we had to come to a compromise in the face of a divided financial environment at Alstom which had been built up through time and haphazardly from acquisitions, without any genuinely centralised financial department. When one has to restructure a company financially, one generally discusses with the 20 % of the bankers who represent 80 % of the risk, and one leaves it to them to discuss with the remaining 80 % in order to group together the commitments taken, in other words, to share them with the rest of the pool. In our case, 20 % of our most vulnerable bankers only represented 40 % of the risk. When they were asked if they preferred to make an agreement with us and then to negotiate with the other bankers, or take their losses, they chose the latter.

We also called upon our shareholders. This was not any easier. When I arrived, there were 250 million shares. At the end of 2005, there were 5.5 billion, in other words, a huge number had been issued. The initial share price at the beginning of 2000 was approximately 30 Euros. The last increase in capital in the context of this restructuring was calculated on a share price of 40 centimes. The company lost more than 98 % of its value during this period !

In the end, we managed to generate 3 billion Euros in equity capital by increasing the capital, and we signed agreements with the bankers concerning the securities, the refinancing of the debt and the availability of credit lines. To achieve this, we needed a catalyst. Chapter 11, which exists in the United States, does not exist in France. Chapter 11 suspends business activity and invites the different parties to discuss possible solutions. Voluntary liquidation was not the answer because this would stop work currently in progress in a number of countries. So we asked the French government to play the role of catalyst. The state intervened by injecting capital, and supplying loans and securities. The state did not act in a philanthropic way : loans were granted to us under normal conditions and the state took 21 % of the capital for 800 million Euros which it sold eighteen months later for 2 billion Euros.

The intervention of the French state had to be ratified by the European Commission which found itself in a schizophrenic situation. Ordinarily, the Commission dissuaded and punished companies which called on the state for help, but at the same time, the services of the directorate general for competition considered that in our concentrated market, it was important to keep Alstom alive in order to guarantee a sufficient level of competition.

Results and assessment

Since this plan was implemented in March 2004, the number of orders has increased, as has our turnover, and the operational result has grown from a negative figure in March 2003 to approximately 7.5 % this year. Our financial structure included a debt of 5 billion Euros in March 2003, as well as 2 to 3 billion Euros which we had to pay as a result of the gas turbine problem. At the end of 2007, our cash flow was positive with a total of 900 million Euros. Our shareholders must have thought that this recovery would increase the value of the company because our market capitalisation rose from 0.5 billion to approximately 20 billion Euros at the present time, with results which are noticeably better than those of other companies on the Paris stock exchange.

We are in a market which is expanding and we are well placed in terms of price. Last year, we grew internally by 14 %, and this year, that should increase to 15 %. As a result, we are investing in R&D, human resources and our physical capacities of production. We are building a new turbine factory in the United States and a factory producing coal-fired boilers in China. We are adding to this internal growth by acquisitions when it makes good business sense in financial terms, and when we are able to integrate the companies we buy.

There are three lessons to be learnt from this episode. The first is the importance of analysing the situation in real time by distinguishing between the temporary aspect and the structural aspect. Paradoxically, we suffered as a result of the extremely favourable temporary environment in the period which preceded the crisis because it masked our structural problems. In our profession, problems must be handled very quickly. I laid down principles of management : I am never impatient to hear good news – good news always travels very fast – but I also like to hear bad news very quickly because this needs to be handled rapidly. With regard to the Alstom crisis, the favourable environment masked the structural weaknesses and when the market turned around between 2002 and 2003, the company collapsed ! The second lesson is that it is important to anticipate, and to be able to treat problems sequentially and not all at the same time. This makes it necessary to be good at detecting possible changes and facing facts.

Finally, we had a problem with trust : our clients, financial partners and in-house teams doubted us. In our opinion gathering, we noted that our employees were a great deal more pessimistic than people outside the company. In fact, after the crisis our clients came back to us very quickly because they needed us. I have spent a great deal of time trying to rebuild trust inside the company, and to suggest future projects for the company, and in particular for each employee. I think that this aspect and the involvement of management in this matter have been crucial to our recovery. We have recruited 13,000 people over the last eighteen months, and we are working with an order book which is at record levels. We are well placed to seize opportunities and develop. Four years ago, people gave us up for dead, but we never stopped fighting. Our motto could be ‘Never ever give up’.

DISCUSSION

Question : *In times of crisis, companies often call on managers from outside the company to come to turn the situation around. Were you in such a position ?*

Patrick Kron : I think I belong to a category of people in danger of extinction, namely those who have spent their entire career in industry. Having spent five years in administration, fifteen years at P echiney, and five years in the Imetal group (which later became Imerys), I joined Alstom at the beginning of 2003. I was an administrator on the Alstom board from the middle of 2001. At the end of 2002, faced with a deteriorating situation, the Alstom board decided to change the managing director, financial director and their strategy, and they appointed me to the position which I now occupy. I probably underestimated the problems or overestimated my skills, but I accepted the job. When a company which has 110,000 employees recruits someone from outside the company who does not necessarily have experience of the industrial sector in question, it is a sign that there is a problem !

The role of the state

Q. : *The natural reaction of a French industrialist who is experiencing problems is to ask the state to help. Alstom is part of the tradition associated with the steel industry, machine tools and so on.*

P. K. : The first time I went to talk with the Finance Minister at that time, Francis Mer, I got lost at Bercy (the site of the finance ministry) ! It was not my natural reaction to talk to the state about our problems. Having exhausted all the conventional methods of getting the company out of this impasse, and having gone as far as I could to convince our financial partners, I concluded that I could not succeed.

The state had influence in its negotiations with the banks which I did not have. I convinced the state that Alstom was a marvellous, viable company but that it had a problem. There was no question of keeping it afloat forever, but simply to get it out of a tricky situation. This is a fundamental difference by comparison with the sectors you mention.

The state agreed to take the risk, decided to support us and defended its action in Brussels so that its intervention was judged to be ‘compatible’ with European rules. Two years on, the state is no longer involved in Alstom, and has made a large capital gain. The French government, which is rather liberal, helped us for pragmatic reasons. It took a risk which proved to be justified, and made money with Alstom.

Q. : *Would the existence of a mechanism such as Chapter 11 have simplified things for you ?*

P. K. : Chapter 11 would have certainly enabled us to ‘freeze’ the situation and to sit down and have a discussion with the banks. I am not sure that it would have prevented bankruptcy. One of the characteristics of our profession – electricity generation and transport – is that we function with negative working capital and, like a supermarket, we live on the money from our clients and suppliers. Today, our strong growth rates generate a huge amount of cash flow : our book-to-bill ratio of orders placed (demand) compared to sales (supply), is at an historic level of 1.6 (ie. more orders than can be delivered). When the market turns around, it will be the reverse, and we will need to watch our financial situation to give us room for manoeuvre.

Q. : *The government may take a more aggressive role in completing contracts abroad.*

P. K. : The state may be a shareholder, financier, or representative. It is clear that favourable, diplomatic relations between two countries create a situation which allows business to develop. In some cases, the role of the state goes beyond the creation of a favourable environment. In the transport sector, the state is forced to intervene because transport – rban or interurban – is never wholly financed from ticket sales. There is always public funding.

When I travel professionally, I meet our ambassadors almost inevitably because they are now in charge of economic development. The state has an even more important role to play, for example in the deployment of French schools abroad. They are the long-term means of the development of a French presence abroad, firstly because they train foreign executives who will become decision-makers in their countries (whereas a representative with a European degree and a representative with an American degree do not have the same perspective) ; and secondly, because development takes place through ex-pats, and to encourage executives to live abroad, schools must be provided for their children.

The rivals' waiting game

Q. : *Why did your two major rivals keep a low profile at the time of your crisis ?*

P. K. : When I arrived in January 2003, my first meeting was with the bankers who said we had to sell everything. At the end of the week, having had time to grasp the scale of the catastrophe, I went to see the head of Siemens in Munich to ask him if he could help. He replied that he would make this situation a priority and Siemens would think about it. They are still thinking about it, but today they consider us to be one of their most serious rivals. I think that they made a big mistake by not having been brave enough to take us over.

Q. : *Do you think they were waiting for Alstom to be dismantled ?*

P. K. : GE was relatively passive because it considered that there would be anti-monopoly problems or negative reactions from clients. Siemens' strategy was more active. They were waiting for us to collapse so that they could then pick up the pieces which interested them, such as the TGV or the monitoring service for power stations. They were very active lobbyists and had a very ruthless sales policy to make sure that our recovery would be as difficult as possible. This did not work.

Q. : *The decisive role played by the Directorate for competition both helped and hindered. It helped you because it dissuaded GE and Siemens from attempting to do anything other than cherry-pick. In view of this, the strategy of the French government was to show Brussels that the solution of dismantling Alstom would have been more expensive for the French government than leaving it to die. The events of September 11th also helped because of the increase in the price of oil. The state considered it would be foolish to leave the revenues gained from selling off parts of the company to other countries at a time of expansion in the electricity market.*

The industrial side

Q. : *Can you explain the industrial aspect of your recovery ?*

P. K. : We had a problem relating to our efficiency in project management and industrial performance. As far as the projects were concerned, we refocused the company in favour of projects rather than on products as had been the case previously. We knew how much money each factory was earning, but we did not know if we were making money on the project overall. We gave the project manager the responsibility for the trading accounts because he was the interface with the client, and he is in charge of the establishment of the factory with the support of external and internal suppliers.

We tried to improve industrial efficiency in our factories. As far as rail transport is concerned, there is not enough mass production to be able to apply the techniques used in the car industry, but there is too much production for it to become a craft industry. For example, each town council wants its own tramway, but we cannot make a prototype every time. This would make management of mass production impossible. We therefore decided to standardise as much as possible by designing basic models (tramway cars) and by retaining an element of individualisation. In the tramways which we sell today, there are 85 to 90 % of shared components ; but the model remains adapted to a specific client. The advantage of such

sharing is that it enables the implementation of a genuine sales policy, in other words a truly industrialisation policy, and it limits the risks encountered in production if there were to be a specific series.

Q. : *You have discussed drastic social restructuring without mentioning trade unions and management.*

P. K. : When selling more than one third of our portfolio of activities, the restructuring of the remaining European factories involving the redundancy of one fifth of the employees, the freezing of salaries, and the great uncertainty as to the survival of the company, social dialogue was difficult. They tried to drag me into court for 'interference'. The windows of our headquarters were broken several times. But in the end, the measures were accepted because the alternative was the liquidation of the company. I explained both to the unions and management, and to our financial partners, that everyone in this sector was capable of putting an end to the company.

It was important afterwards to move forward and take positive steps. We are currently in this positive process. We are expanding, we are recruiting, we are buying companies, we have set up employee shareholding plans and we have distributed free shares to the staff.

Q. : *In your current recruitment policy, do you give priority to people whom you made redundant ?*

P. K. : We have recruited 13,000 people over the past eighteen months, in other words 20 % of our workforce, half of whom are engineers. This is an important opportunity for us because we know what kind of skills we will need in the future, the nature of our future markets, and to place our employees where costs are minimal. In the end, there is not very much overlap time between those who leave the company and those who arrive. 40 % of our recruitment took place in Asia.

I made myself very clear with the unions and management. I explained that we were in a growth market, but we had to make redundancies because we had structural problems. Adapting our capacity in Germany should not prevent us recruiting computer scientists who are necessary to develop our monitoring systems in Bangalore, Delhi or Kuala Lumpur.

Q. : *Alstom exists in seventy countries and is acquiring companies. Is there an Alstom company culture ?*

P. K. : We are actively working on this. Alstom is a very old company which began more than one hundred years ago in France, India and Japan, fifty years ago in Brazil, and forty years ago in Malaysia. However, Alstom has changed a great deal because of its portfolio of operations. Its current structure is only about ten years old, and a large part of this was devoted to putting the company back on its feet and giving it stability and prospects for the future. Once we had achieved this, we started working on the culture. We brought together several hundred people and asked them to consider what they had in common. Then we met with the executive board for three days in order to define a certain number of management principles and shared values based on these results. It is not a case of creating a 'homo alstomus' but agreeing on shared foundations around which each country and each business can build its own identity.

Working on an Alstom culture is important to us because our employees are our priority because they are the 'door-keepers' and also a factor of success. We must have a good recruitment policy and train our teams well. In order to do this, we have to promote values and principles.

Alstom, France and globalisation

Q. : *France has a record of delivering superb technology manifested in trains, nuclear power stations, rockets and aeroplanes. What does it mean to you to be French ?*

P. K. : Many countries have an industrial capacity which is better than ours and others have an industrial capacity which is growing very quickly. Let us not have a superiority complex. When I come back to Europe from China, Argentina or Russia, I am upset by the lack of reaction to our systems, and the complexity of everything. In order to succeed in the future, we must create conditions which enable us to be flexible and reactive. In our professions, in order to win a contract, one must be capable of reacting faster than everyone else : it is one of the decisive criteria.

I do not know how to define the nationality of a company. Alstom is now only listed on the Paris stock exchange, its head office is in Levallois (in the Paris suburbs), the working language is English and the majority of our investors are French, but all this can change. We are an international company with a mixture of French, British, Swiss and Scandinavian roots.

Q. : *Does China present a threat to you ?*

P. K. : We have been selling to China for fifty years and we have been there for thirty years with a current Chinese workforce of 8,500 people. China is first and foremost a very important market for us in the energy and transport sectors. We have a strong presence there and we will also use China as an export base. Thus China is not a threat to us, but represents both a great opportunity and a risk from Chinese rivals. A question which is often asked concerns the transfer of technology. We do this, but with the aim of always having a clear head start on the others. We lost many contracts because we did not accept the transfers of technology which were asked of us. However, this will not prevent us making a billion Euros in turnover this year in China.

Q. : *Will the dollar crisis result in industrial relocations outside France in the future ?*

P. K. : France accounts for approximately 10 % of Alstom sales so we could never handle all the commercial side of the Alstom business from France. Nevertheless, Alstom's case shows that globalisation is not incompatible with a strong industrial base in Europe and France where 20 to 25 % of the workforce and 50 % of its R&D is located. Alstom exports between one half and two-thirds of the total that French factories manufacture, and exports one-third of its European manufacture outside Europe. When we sell trains in China for a billion Euros, we are using our European factories. Between five and seven hundred SMEs (small and medium-sized enterprises) are associated with these projects.

The problem of the dollar raises two questions : one about the parity of absolute value and the other to do with its volatility. We know how to adapt ourselves to any level of parity. However, severe changes pose real problems in a resilient profession such as ours. Having said this, broadly speaking we work 50 % Euro-Euro¹, 35 % Dollar-Dollar and 15 % Euro-Dollar. The parity problems are associated with the Euro-Dollar 15 %.

The market is currently very nervous. We have more projects than we are able to handle. When we sign a contract, this signifies that we are satisfied with the values including the 15 % which is most vulnerable to these parities. The various volatile components are fixed. They include raw materials, civil engineering, subcontracted qualified jobs, and currency. Therefore, our order book does not put us at risk in the short term. We have another adjustment variable. By buying 50 % of what we sell, we adapt ourselves at all times to the macroeconomic reality by revising our supply chain. In other words, we pass on part of the risk to our European suppliers. This is where the parity in absolute value poses a real problem.

¹ Production in Euros, sales in Euros.

The future for Alstom

Q. : *How do you see the strategic position of Areva and Alstom ?*

P. K. : A nuclear power station is a 'nuclear island' (a steam generation unit of nuclear power plants) or reactor, and a 'conventional island' is a group turbo alternator which transforms steam generated to produce electricity through turbines and generators. We are involved in the second part. We have installed our steam turbines in more than 30 % of nuclear power stations in the world. Areva builds nuclear islands. We could both have autonomous development strategies without any problem, but if we were to reach an agreement, it would be possible to jointly create a world leader in electricity generation, in other words a world champion in an important economic sector. We could grow more quickly together than separately. Having an efficient international network is essential in order to be well-placed in areas where the use of nuclear power will increase in every sector. Also, a large network with a wide range of products is more profitable.

Q. : *What synergies exist between the rail transport sector and energy ?*

P. K. : These are separate professions which have markets structured on long term projects, equipment, and services ; their decision-makers can be the same. In terms of an international network, as I have said, sharing is important. Secondly, our activities do not follow the same cycles, but it is not bad to be on different cycles. Finally, I am not in favour of going it alone. All our important rivals are present in more than one sector. GE and Siemens are much more diversified, and the same is true for our major rivals in the transport sector, Siemens and Bombardier. Others have succumbed to lone player status, such as GEC which became Marconi and then disappeared, or Alcatel...

We are very happy with our present situation, and if Alstom had a third activity, such as the transmission and distribution of electricity or the cycle of nuclear fuel, it would not be a bad thing.

Q. : *Your markets increasingly interest entrepreneurs and venture capitalists, with paradigms which are in contrast to nuclear thinking and are more directed to micro-turbines or wind-driven facilities. What is your opinion of these entrepreneurial movements ?*

P. K. : Let us not forget the problem. The electricity needs of the planet will be such that we will need all the energy sources available. If we do nothing, we will emit more and more carbon dioxide which may lead to catastrophe.

We should work along three themes. The first is a more rapid growth of electricity production from energy which does not produce carbon dioxide, such as the nuclear, hydraulic, solar or wind power. The second theme is that important action should be taken in terms of energy efficiency. The combustion of coal represents 40 % of electricity production and 25 % of carbon dioxide emissions. The energy yield of a newly installed coal-fired power station today is 45 % compared to a little more than 30 % on average for the existing installation. The reduction of carbon dioxide emissions from existing power stations by the improvement of energy yield at the present time is an issue which the media have not noticed, but is significant. By taking action about the yield of coal-fired power stations, one can reduce their emissions of carbon dioxide by more than 15 %. The third theme is that carbon dioxide emissions from future thermal power stations should eventually be 'caught' and stocked. This is already the case for various conventional polluting materials, such as sulphur dioxide, nitrogen dioxide, heavy metals, and dust from thermal power stations whose 'capture' represents 5 to 10 % of energy charges. This will be the case tomorrow for carbon dioxide with costs which should decrease.

As far as wind power is concerned, we were not in this market and this was not a problem for us as long as our clients did not invest in wind farms. Now they have done so, and so have we. Now we can provide them with a wide range of energy production and join with them in an activity which is expanding very quickly. We could have made the developments ourselves. We have the skills, but this would have taken too much time. We could have

bought a large listed company, but these companies tend to be overvalued. We finally found a medium-sized Spanish company which was looking for an investor capable of helping them grow abroad, but not too important a player in its sector to be seen as a threat. We bought this company and we want to treble its sales in the next five years.

Presentation of the speaker :

Patrick Kron : studied at the École polytechnique and was an engineering student in the prestigious Corps des Mines. He began his career in the Ministry for Industry (1979 – 1984) before joining the Pechiney group where he occupied various operational and financial positions. In 1993, he became a member of the Pechiney executive committee and was chairman and managing director of Carbone Lorraine from 1993 to 1997. From 1995 to 1997, he was in charge of the food packaging, hygiene and beauty activities at Pechiney and was Chief Operating Officer of American National Can Company in Chicago. He was president of the Imerys board of directors from 1998 to 2002 before joining Alstom. He has been managing director of Alstom since January 1st, 2003, and administrator since July 24th, 2001. He was appointed chairman and chief executive officer on March 11th, 2003.

Translation by Rachel Marlin (rjmarlin@gmail.com)