Ladies & Gentlemen.

I am extremely honoured to have been invited to join the very distinguished list of speakers who have delivered the Sir Robert Reid Memorial Lecture. It is of course a real honour to be asked to give the annual lecture named after such a great railwayman. I know that in his ten years at the top, first as Chief Executive then as Chairman, he substantially transformed the UK railway industry – streamlining its structure, making it customer and business driven, and restoring confidence that it could compete in a fast changing world. I would very much like to have met him.

2007 promises to be a hugely significant year for high-speed rail travel in Europe, with the opening of High Speed 1, the East European TGV, the Brussels - Cologne link and HSL Zuid, the new high-speed line in the Netherlands.

However, as I stand here in London tonight, we should not forget that it was in this country in 1820 that the railway industry was invented!
Today, we have the opportunity to shape this industry at a critical time:
- a time when investment has never been greater,
- a time when customers, our customers, want even more mobility and flexibility,
- an emotive time when global warming considerations are creating a demand for collective transport solutions.

The rail industry, therefore, has a particular responsibility:
- we are responsible both to our shareholders and to our customers for the efficiency and profitability of our business; rail profitability is below market standards. We must do better in order to attract more of the capital needed for growth.
- we are responsible for making our services relevant to our governments and to our fellow citizens, because rail is a vital link in the economies of our countries; new and improved services are expected.
- we are responsible for preparing the future for our children and for the generations which will succeed them. We can do this through the railways and through sustainable development. We have a real role to play – for example, TGV causes 20 times less pollution than the car and 30 times less than the airplane.

It is now 10 years since the United Kingdom committed to a process of market deregulation, a process that has spread gradually throughout Europe. Today we have an incredible opportunity to rethink our plans and our organisations in order to combat the increasingly ferocious competition from the airlines, particularly with the flexibility of the new low cost carriers. This is despite the fact that, as my friend Jean Cyril Spinetta, a great Chairman of Air France, would often say: "It's the TGV which is a low cost carrier!"

Finally, and still by way of introducing the debate, in 2006 we celebrated the 25th anniversary of the TGV. This was a glorious and wonderful anniversary - how we all wish we were 25 years old again!

The TGV represents more than 1.2 billion passengers who have boarded a high-speed train travelling at between 168 and 186 mph in the safest
possible conditions. In 25 years, the TGV has not had a single casualty, other than accidents at level crossings, a scourge in our country just as they are in yours.

Accordingly, during this anniversary year we spoke of the TGV’s next 25 years. We are preparing an invitation to tender for a new generation TGV: 300 or 400 trains which will run at 200 or 218 mph in France and in Europe between 2015 and, most probably, 2050 – the same period, moreover, in which you in the UK will more than likely also be running an important tender for high-speed train equipment.

Deciding upon such investments - that commit the industry for such long periods of time - is one of the few strategic decisions that a CEO has to make when in office; nonetheless there are 3 key factors which are coming together favourably in this regard:

The first factor: the colossal level of investment in infrastructure
100 billion pounds is being invested in high-speed infrastructure in Europe over the next 15 years. In 2007, “on time, on budget”, Rob Holden's teams are going to deliver the last 40 kilometres of HS1. These are impressively complex: more than 20 km of tunnels under the Thames. Your country is wrong not to give true credit to the renewal of the railway network in the UK.

I have already mentioned the 4 high speed inaugurations scheduled for 2007. We will then open the Barcelona-Perpignan link between Spain and France, the Rhine-Rhône TGV and the Tours-Bordeaux TGV, the first lines built in France with PPP-type financing, signed on 23 January 2007. All these links are capable of 350 km/h. Between now and 2020, the European high speed network will double in size as we move from 4,000 km to 8,000 km of high-speed lines.

The second factor: the demand for sustainable development.
Since 11 October 2006, we have been offering an "eco-comparator" (“eco” as in a “saving” in French …and as in ecology). This is on our website at www.sncf.com and can compare for any given journey the cost of that journey, the time of that journey and an estimate of the amount of CO₂ emitted for the journey by train, by car and by aircraft, on both a regular airline and on a low cost carrier. In just 4 months, we have already had more than 1.3 million individual visitors to this site.

© 2007 Guillaume Pepy SNCF
I am also going to share a secret with you: it is actually Air France that has given us most publicity recently! By suing the SNCF group because our comparisons were allegedly prejudicing customers against the competition, they generated numerous press articles and considerable curiosity from our customers. A genuine, positive buzz for us. Our eco-comparator illustrates simply how our customers, who are also of course citizens, are truly concerned about the cost of energy, pollution and congestion in their everyday life.

Finally, the third essential factor is the renewal of the rail fleet. Rolling stock is the fundamental, differentiating and strategic asset of each train operator. At present, SNCF has a fleet of 430 TGV trains and we will be acquiring 15 duplex trains (505 seats) per year until 2009. This fleet is almost three times as large as the DB fleet and approximately 1.5 times as large as British Airways, if that makes sense. For the SNCF group, our next invitation to tender will be valued at approximately 4 to 6 billion pounds. It will involve drafting a specification for a new generation of high speed trains. And defining technical and comfort specifications. All this includes an element of forecasting and an element of risk. This is both a major and a long-term investment. We will be buying equipment to last until 2050. These trains will be depreciated over 30 years and remain in service for 40.

The recent massive investments in infrastructure, the demand for sustainable development and the start of a new rolling stock cycle are therefore three major levers to accelerate the growth of the high-speed rail network in Europe.

I have a number of colleagues and friends in the hall and obviously I consulted them when preparing this talk. All of them said to me: you must explain the history of the TGV and its success. Dear friends, I am about to betray you. I don't see how I could do this without coming over as the archetypal arrogant Frenchman, here to harangue you. Instead, I propose asking you a number of questions which seem essential to me, but to which, although we are working on them, I still don't have all the answers. This debate will surely help us to move forward.
First question: what do our customers want for the future? And how will their behaviour change? Are we falling short of their expectations?

As of today, we are faced with a real challenge: to provide an increasingly personalized service, even though we are a mass transport industry. Every 30 minutes, we run a TGV Duplex shuttle service between Paris and Lyon, with more than 1,000 customers on board, including 400 first class passengers. We have set up a loyalty system for frequent travellers, the same as that used by the airlines; we are making considerable use of customer relationship management techniques and have a portfolio of more than 3 million customers; and, most importantly, we have borrowed from the Accor hotel group the concept of a “service university” at which we train all our front line agents. Marketing is not an exact science, however! Four years ago, we tried to push a “premium service” offer dedicated to businessmen on the Paris-Lyon run as a custom-made product and it flopped! I withdrew this offer after only 1 year as it just wasn't reaching its target market. We must, in the future, find new ideas to enrich the services we provide: the solution is probably to be found either in new pricing and new services or in new products.

We must also prepare to welcome customers who are taller, older and larger. Between now and 2030, the average height in France is expected to increase by 6 cm. We must therefore alter the space between seats and noticeably reduce the number of seats on board trains, thereby losing a few profitability points. In 2020, 40% of France's population will be aged over 60. This will force us to offer personal assistance services and to make access to TGV easier. We have therefore launched a service aimed at senior citizens, which, for those who want it, involves going directly to their home, collecting them, carrying their luggage and accompanying them until they board the train. Finally, a third factor is obesity. In 2020, 10% of the French population will be obese (15% of UK people). Perhaps we should consider the related cardio-vascular risks? For example, cardiac defibrillators are installed in Japan's railway stations.

With 100 million passengers a year, turnover of almost 4 billion pounds…and a profit margin of 10%... TGV is one of today’s major consumer products! It is our duty to study trends in depth and to anticipate them.
In this day and age, there is also emerging a new way of working. Our office is wherever we happen to be. In the home, in the car, in the air and on the train. Our offices resemble hotels and our hotels resemble offices. Must we make everywhere a workplace? We have already started to address the question: our 48 largest railway stations are all equipped with WIFI. We will also have to allow our customers, frequently members of the ultra-mobile society, to work on board our trains. Must we install WIFI on a larger scale? Or must we find a way for mobile carriers to provide access to their networks across our railway network? This works on the Tokyo, Seoul and Paris metros. Why not in the Channel tunnel or in HS1?

Another transformation is a new way of consuming, devoted to saving time and gaining pleasure. Time is increasingly the determining factor. Low prices no longer necessarily justify wasted time: new compromises are being reached between huge out-of-town hypermarkets and small town-based businesses. Time management is becoming an obsession; we must reduce work time to increase leisure time. Our Internet offering, which gives 24/7 access to all of SNCF plus much more - we sell air tickets, hotel rooms and car hire too - meets this demand.

Our online sales amount to 2.5 billion pounds. In 2006, more than 1.8 million tickets were printed by our customers in their own homes. Another essential consideration is society’s impatience. We are producing a society of people who won't wait. If surfers wait for more than 7 seconds to view a web page, the site loses over 30% of its visitors for good. If they wait for more than 12 seconds, the site loses 70% of its visitors. All this leads us to work on the responsiveness of our site, as well as on the response times of ticket distributors, ticket office dispensers and all our processes. Just how far must we go down this road? How can TGV take advantage both of time and leisure gains?

A third trend is the relationship with the city: a new way of designing the city. With increasing pedestrianisation, city dwellers aspire to lead less hectic lives. The quality of city life is becoming linked to moving more slowly: the pedestrian, the bicycle, the tram. We must take account of this new aspiration, so different to what has preceded it. I want to share something with you which Le Corbusier, the great French

© 2007 Guillaume Pepy SNCF
architect, wrote in 1932. I'm not going to read the entire slide. *The train should be a street with its squares. Why not set up a station library in the train, [...] the coffee terrace and the bar*, and, especially for you *"the club smoking room"*. 

Finally, we are also seeing a **new way of moving around**. We are in the process of creating a wireless connected life; anything centred around mobility and the mobile phone. The new equivalent of the Swiss Army knife is the MP3 telephone and tomorrow it will be the iphone. What consequences might this have on our service package? What about continuity of the mobile telephone network: how accepting will customers be of areas where there is no telephone coverage?

In these references to mobility, I would like to point out some new and interesting offers. First of all, Deutsche Bahn's "call a bike" service, which means a rail traveller can be provided with a bicycle in almost all stations immediately on leaving the train. There are also courtesy car offers. Hertz has developed this service on university campuses. In addition, there is the TFL Oyster Card "Pay As You Go" offer. What these offers all have in common is that they have been requested by customers and that they encourage new patterns of behaviour in our movements and may bring new customers onto our trains.

I hope that I have not been too long-winded, but I wanted to share with you some of the customer aspirations which will structure our future business.

**Second question: how should the high-speed business model develop?**

At the start of the 1980s, the **TGV** took air transport as its economic model: a package which was somewhat business-oriented and rather selective. Clearly a pricing strategy, even if the TGV was built to be twice as cheap as the plane and twice as fast as the car. In 1992, we began to introduce the yield management principle, based on the Sabre application adopted from American Airlines. However, we were insufficiently prepared and we experienced a real breakdown in our customer relations and in the public’s opinion of us in general. At that
time, I was director of group strategy. This wake-up call led me to change the model and to adopt the only strategy which seemed to us to be tailored to the specific features of our industry: a volume policy. In 1997, I became director of the passenger business. We took what might have seemed to be a fairly crazy gamble by putting 200 million pounds of price reductions on the table at a stroke in order to implement this new strategy.

This was a real winner. At the end of the first year, we had increased our customer base by 12% and we had improved our margin by 8%. The TGV model is based on simple convenience - a low price with a broad pricing range both for first and second-class passengers. You journey the 750 km between Paris and Marseille at 186 mph from a starting price of 17 pounds. The highest price is 87 pounds in 1st class.

Nowadays, two thirds of passengers are travelling for leisure purposes. The mean occupancy rate of the 680 TGVs which run each day is 71%.

If we look at the TGV cost model, we can see that the major item is track access, which represents 30% of operating charges.

A word about the Eurostar model, with which you are all familiar. This operates along different lines. Operations are merged between Eurostar UK Limited, which is a consortium formed by LCR, National Express Group and SNCF and, on the other side, SNCB and SNCF. The more complex the organisation, the greater the risk of failure. Eurostar's success today clearly belongs to the Eurostar team, and it is therefore also the success of Richard Brown, who manages the group with such flair. The second key success factor is the unified management structure set up with Rob Holden. A sort of Airbus which, despite its current challenges, has historically been truly integrated and without "nationalist" considerations. This unified management is an absolute necessity for a 100% international product. Finally, it goes without saying that the Eurostar team has an unrestricted right to draw on the technical expertise of our entire SNCF group, something which is sometimes extremely relevant in areas such as fleet maintenance or yield management.

Returning to the Eurostar model. We have set up a combination of a volume strategy on the standard offer, where ticket prices start from £55 for a London-Paris return ticket, and a business offer in first class,
where prices rise to £450. This is in line with the structure of our competitors for each of these market segments. Once again, the major cost centre is that of tolls, which specifically includes the journey through the tunnel and represents 54% of overheads.

Finally, let's take a look at the ICE model used by Deutsche Bahn. This product was designed right from the start on the basis of providing a far superior level of comfort. Truly a superb product! One major difference of the ICE model is that maintenance charges are 30% higher than for the TGV. In the long term, this gives us a major competitive edge. The differentiating element is the marketing policy; ICE does not offer reservations and therefore does not operate yield management. The immediate consequence is a higher mean price per kilometre and a mean ICE occupancy rate of under 50%.

Over and above these economic elements, the TGV service offering is the remaining essential parameter. On this point, I have strong views and am going to point to three fundamental success factors:

1. A good combination of conventional lines and high speed lines which serve a large catchment area and provide a seamless service. This is complemented by connections between TGV and regional trains, so that high speed stock is only used for those cities which allow profitable use of such an asset. This is completely different from the Maglev technology and the Shinkansen model.

2. A very selective stopping policy. Each stop must be genuinely profitable. Each stop brings in receipts from the customers who are using the service, but at the same time is detrimental to the total journey time and hence overall receipts. It is essential to manage this trade-off. Political pressure is constant. This must also be resisted.

3. Use both stations in city centres and new stations on the outskirts. Stations on the outskirts play a major role in the development of the suburbs of major conurbations. Growth at these stations is twice as fast.

© 2007 Guillaume Pepy SNCF
Would any one model be better than the others? A sound model is undeniably the one that bonds best with local customer needs and thus with the geography of a country, while at the same time maximising the occupancy rate. For me, the occupancy rate is "The KPI". It measures both the profitability of the railway operator's assets and at the same time the correct use of public funds invested in the railway infrastructure.

**Third question: what regulation should govern this "open access" market?**

The opening up of the markets from 2010 for international passenger services will be a fantastic opportunity for all those who have a profitable model and who may then be tempted to export their model beyond their own borders. I have observed with interest how the major British groups, National Express, Arriva or First Group, have established themselves gradually on the continent.

So, open access or franchise? The next few months will be interesting, as we watch how Grand Central will establish itself. How will this affect GNER and bidders' offers? Our perception in France is that competition will come through open access and at SNCF we are preparing for this.

The important thing is **to establish fair conditions for competition**. On this topic, I am concerned at the diversity of the tolls levied in Europe. There are considerable differences in these tolls, varying by a factor of 13.

These tolls reflect very varied national policies. Here in the UK, I am given to understand that tolls reflect past investments and a usage charge, which may lead to higher tolls on the West coast than on the East coast, although the traffic speed there is lower. In France, the Government has adopted the principle of using revenues generated per line. And, as the toll is paid for each movement independently of the type of train, this is a very strong incentive to use Duplex trains. The toll to seat ratio is 30%. One thing is certain; train operating companies investing more than 700 million pounds in rolling stock, depots and stations - as we do for TGV Est European - are entitled to demand commitments on track access charges in return. Tolls must pay for the
use of the infrastructure and must not be used to run organisations or administrations.

My own belief is that it will be essential to establish European regulation governing at least international passenger traffic on the open market.

I think the UK’s regulation system from the Office of Rail Regulation is very interesting: this balance between economic regulation, on the one hand, and technical and safety regulation, on the other, deserves particular attention from other European countries.

I personally believe that there is room for European regulation governing tolls. I say “no” to any technocratic and restrictive policies. I say “yes” to control over the discriminatory and anti-competitive character of tolls. I am in favour of anything which will contribute to establishing fair competition conditions in Europe.

**Fourth question: can high speed rail truly be an alternative to air travel or is this a pipedream?**

In 2007, world petroleum reserves were estimated at 43 years. Whatever the accuracy of this figure, we all know that we shall have to make fuel changes due to the increasing cost of its extraction.

At the same time, awareness of environmental imperatives and Al Gore's crusade in the USA illustrate once more the new status of environmental issues. This is no longer the prerogative of a "peace & love" eco-friendly fringe group.

This also has a detrimental impact on our countries’ economies. In 2010, the level of traffic congestion will destroy annually 1% of Europe’s entire GDP, or some £60 billion every year. This represents a complete waste of productivity.

In this environment, we have already demonstrated our ability to move market share from the airlines to the train. The construction of a high speed line increases rail's share of the market by a factor of 3, both in France and in Spain.
We are undoubtedly in a situation of face-to-face competition with the short haul airlines which will increase still further as soon as we can show competitive journey times. Up until now, the threshold has been 3 hours and it is gradually moving in our favour to between 4 and 4.5 hours. When a journey by train is less than 4.5 hours, our share of the market is over 50%.

The host of security measures post 9/11 on a global level and post 7/7 in the UK has made a major contribution to increasing this competitive edge.

To gain further market share, we launched our latest gem two years ago, which we have called iDTGV, a second brand name for the TGV! We designed this product as a niche offer to grow the overall market and also to increase penetration in the Paris - Marseille share of the market. We have simultaneously eliminated all avoidable production costs and invented a new approach to service. Production costs have been reduced via sales exclusively over the Internet and by using Ryanair's yield application. On the services side, we have created the different Zap and Zen ambiances, introduced relaxation, massage, games and DVD rental incentives, opened a wine bar for the French and laid on draught beer for our English friends. Our objective is to create a new spirit of travel. The result has been a gain of 3 percentage points in market share and a real generation of traffic. And all this with superior occupancy rates for IDTGV.

Be this as it may, we already have a genuine European high speed railway network, largely interlinking the major cities in Northern Europe. It will continue to grow in the coming years, with 4,000 km of new lines between now and 2020.

Most of our customers remain unaware of this network. We have a duty to promote it to European rail users: there is certainly an alternative to air travel. It is up to us to sell it, to give it visibility, to simplify travel. This is why, in 2006, I set up the foundations of a European high speed alliance and named it Railteam.

Railteam combines 8 operators, including Eurostar, Thalys and Deutsche Bahn and, from 2007, will offer integrated timetables, coordinated services (business lounges, loyalty cards) and end-to-end sales.
This is clearly an alternative to airline alliances. We should also ask ourselves if there is room for a second alliance, in the same way as we already have Skyteam, One World and Star Alliance? From a competition point of view, this would be healthy.

**Fifth and penultimate question: How will our world partners in the railway construction industry move forward?**

It is not for operators to dictate changes to constructors. However, at the same time we have this dependency, or even inter-dependency, to which we must pay due attention.

When we announced our choice of Bombardier last October for the delivery of 372 Transilien motor coaches for the Ile de France, a contract of £3 billion pounds, the political pressure from Alstom was very strong indeed. In fact, they were on the point of suing their main customer!

In the high speed rolling stock business, there are five major players: Alstom, Siemens, Bombardier Talgo and the Japanese consortia, including Hitachi, which will be supplying 29 Class 395 trains for the Southeastern franchise operated by Govia. However, we could soon see the arrival on the scene of new Korean constructors, since Alstom has sold them the technology under the KTX agreement. It is also highly likely that we shall see Chinese constructors in the longer term.

A crucial question is which of these constructors will have the **resources to invest** the 200 million pounds needed for the development and production start-up of a new generation of high speed trains.

From our perspective as a customer, a split of the market along the lines of the Airbus vs Boeing model can only have advantages.

We have already tested the idea of a group approach to bring down the purchase price of new rolling stock. In 2004, we worked with Deutsche Bahn and Trenitalia on a project called HTE, meaning High Speed Train for Europe. However, we failed to have a simple specification which could combine the imperatives and constraints of each of these three operators. From my point of view, the search for economies of scale in
such a group approach is a pipedream. I don't believe in the Airbus model for the rail industry and prefer to let standard market competition play its role.

However, if only the railway construction industry would learn from the aeronautical industry! I expect that that they will improve the reliability of their trains at the factory gate. Frequently, the railway industry passes on to us, the operators, the burdens of breaking in or even finishing their products. As of today, the reliability of a Duplex train is on average 6 incidents per million km, which is good! But 60 times worse than Shinkansen reliability.

I also expect that I shall not have to bear the costs of development unaided. When Airbus invested in the A380, its first customer, Singapore Airlines, received a rebate for accepting the risk of being the first customer. The development costs were spread over later customers. In the rail industry, the absence of a “wholesale” product means that the first customer pays all the development charges, as the probability of selling the same train to another customer remains low. Moreover, there is no choice exclusivity: the Duplex TGV is available off-the-shelf!

So, can the railway industry adopt the aeronautical industry's performance standards?

**Finally, my last question for you: how fast is fast enough?**

Of course, speed has always been a critical factor for the railways, all the way back to the time when Stevenson's famous “rocket” train smashed the 5 mph barrier!

Reducing journey times is almost an obsession for the TGV. Any saving in time is accompanied by overall growth in the market and, for the train, a gain in market share.

This is exactly what happened for the London-Paris route and it will happen again with the completion of HS1: there will be a generation of new traffic of around 30%.
Increasing speed is also a lever to improve the profitability of the existing infrastructures. Paris-Lyon is now almost at saturation point. In future, we will be able to increase the number of tracks slightly and move to 13 trains per hour in each direction. However, we should ask the question of how to double line capacity in the next 20 years. On this route, a new track at 224mph would allow a time saving of some 25%, thus moving from 2 hours to 1.5 hours. We would clearly be generating new traffic and new exchanges.

To increase speed is also to contribute to the country's economic growth. I have noted in the report that Sir Rod Eddington published last December that a 5% saving in journey times for all business travellers in the UK would allow a saving of £2.5 billion - in other words, approximately 0.2% of the United Kingdom's GDP.

So, where are we now? We have already made significant progress, moving from 168 in 1981 to 200 mph in 2007 with the East European TGV and we are currently carrying out research and development to test a commercial speed of 224 mph. For their part, our Japanese competitors are travelling at 186 mph and are also carrying out tests at 224 mph with two prototype trains called Fastech. Perhaps you have seen them: they are characterized by having air brakes resembling a cat's ears.

And this speed issue leads to other questions relating to the imperatives of safety, motorization and energy consumption: Must we stick to the principle of the articulated train, which has demonstrated its reliability? What is the best choice in terms of motorization: distributed motorization or not?

Other equally essential questions concern market prices for new high speed stock.

So is the next step 224 mph? Perhaps. And after this, will there be another possible increase in the range of 224 to 310 mph, the estimated speed for the Ultraspeed project?
You have probably read in the specialist press that, together with RFF and Alstom, we are going to tackle the speed record challenge in the early Spring. Our previous record is 320.26 mph. Our objective is to surpass this record by 10%. This is a formidable resource for testing extreme traffic conditions - it is a laboratory to prepare for the future.

Ladies & Gentlemen. I would be very interested in hearing your reactions, your comments, your suggestions and in discussing the topics I have raised with you.

Thank you for listening