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**'Sustainable mobility and innovation in Europe'**

*Check Against Delivery  
Seul le texte prononcé fait foi  
Es gilt das gesprochene Wort*

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***Excellencies ,***

***Ladies and Gentlemen,***

- It gives me great pleasure to welcome you today and to celebrate with you the cooperation between the university of TOHOKU, l'INSA de Lyon and l'Ecole Centrale de Lyon.
- East meets west, and as I can judge from the themes of your workshops, the meeting of minds will be most productive. The example of the cooperation between your respective institutions is a case in point. In a globalised world, innovation relies on networks and on the working together between researchers and research communities.
- My case in point is transport. As the vice president of the European Commission, entrusted with the transport portfolio, I am responsible for overseeing mobility in Europe, be it by air, road, water or train.
- Mobility is the essence of the single market. Without transport communications there is no exchange of goods, free movement of persons or ideas. The latter is even more important, since 10 Member States have joined the European Union, whose citizens were denied the right to travel for generations.
- Organising mobility on a continental scale for five hundred million citizens and millions of economic operators is not a slight task. Europe can boast of a comprehensive infrastructure network, but congestion still costs a rough 1% (one percent) of Europe's GDP. The Transport sector in itself is responsible for a good fifth of CO2 emissions. The dependence of the sector on fossil fuels is almost total 98% (ninety eight percent). 40.000 (forty thousand) people die on European roads each year. And to make the challenge even more difficult,

transport growth forecasts, expect a growth of 50% (fifty percent) for freight transport and 35% (thirty five per cent) for passenger transport for 2020.

- You may wonder why I am explaining all this to you. The reason is simple: For meeting all these challenges: environment, oil dependency, congestion, road safety there is only one answer: **innovation, innovation, innovation**.
- Innovation in the transport sector has always been at the forefront of economic development: just think about the American railroads that allowed to conquer the west. Despite its sometimes old-fashioned looks, transport policy in Europe – and in Japan for that matter- are among the most innovative government policies.
- There is no economic growth without transport growth. But there is no country in the world where there is unlimited space to built new infrastructures (ports, rails, roads, bridges, tunnels) to absorb this growth. Our Japanese colleagues know all about it. And even if there were enough space and enough money, we could not tackle the environmental impact of transport activities through new infrastructures. .
- Innovation and intelligent transport systems are our only option for a sustainable mobility.
- I would like to take you through four examples of European transport innovation. I would like to show how Europe identifies its needs (and added value) in terms of transport innovation and, how we organise innovation by bringing into play 27 (twenty seven) governments and industries from all member States.

### **First example: Green propulsion**

- Fossil oil dependency and global warming leave no choice but to replace current propulsion systems by more environment friendly systems.
- For that reason the European Research Framework Programmes have had a strong focus on clean and energy efficient technologies and foresee support for green propulsion technologies.
- European Technology Platforms bring together researchers from all quarters. Such platforms deal with biofuels, and hydrogen/fuel cells respectively. Hydrogen and fuel cells have also been supported with 300 M€ from the Sixth Framework Programme (2002-2006) of the European Union. I would like to mention in particular the CUTE project, which has put into operation buses running on hydrogen and has established a solid basis for the development of the market of this clean and innovative technology.
- Joint Technology Initiatives, go a step further and involve industry stakeholders in order to accelerate the market development. They will be public-private partnerships with participation from industry, Member States and the Commission.

### **Second example: ERTMS**

- Today we have more than 20 different signalling and speed control systems in Europe.. Only few locomotives or train sets can cross borders. The Thalys train that links several capitals in the North of Europe had to be equipped with seven (!) different signalling and speed control systems. Often expensive studies must be carried out for each combination of systems and for each type of train or train set.

- A safe European signalling system became a matter of urgency!.
- In response, EU funded research produced the European Rail Traffic Management System, known as ERTMS. This big industrial project brought together the relevant industry for its development. ERTMS is based on information technologies applied to rail signalling and automatic train speed control. It allows a technological breakthrough and will gradually replace more than twenty ageing and incompatible systems coexisting today by a modern and interoperable system using digital technologies.
- ERTMS is a key component of the strategy for revitalising the railway industry. This is a precondition for the railways to absorb part of transport growth ( in particular on the long continental distances.
- The cost of the equipment and its maintenance will decrease because of standardisation. The project has helped to secure 15,000 highly qualified jobs
- Several ERTMS projects are exported into other markets such as India, China, Korea, Taiwan and we expect ERTMS to develop into a world standard

### **Second example: SESAR**

- Air transport is an important aspect of European cohesion. It ensures rapid and efficient movement of people and goods and it provides access to remote regions.
- Projections for the development of air traffic in Europe show that it should more than double in the next 20 years, or even triple in some regions, particularly in the new Member States.
- Developing air transport capacity and infrastructure is essential for European growth, competitiveness and employment.
- The Single European Sky Air Traffic Management Research programme, known as SESAR, develops the new generation air traffic management system in order to sustain this expected traffic growth.

- The challenge is to develop technologies, methods of organisation and industrial components both on the ground and in the aircraft that are capable of ensuring the safety and fluidity of air transport worldwide over the next 30 years. Optimising air movements through enhanced air traffic control will save time, money and fuel.
- SESAR is a major industrial programme led by the European Union and involving the European Community, EUROCONTROL (the air traffic control agency for Europe) and the industry.
- Driven by industry since 2001, the first phase of the programme was initiated in 2004. The organisation of the project is based on the following three phases:
  - The definition phase (2004-2007) involves all industrial actors and a wide number of partner countries.
  - The development phase (2007-2013) will produce the required new generation of technological systems and components as defined in the definition phase. For this phase a joint undertaking is under way. It will federate public and private funds and guarantee a single management structure for the project and it will associate all actors involved (public and private).
  - The deployment phase (2013-2020) will seek to build the new infrastructure at a wide scale both in Europe and in partner countries, relying only on private investments.
- Europe is building a Single European Sky in which the routes and structures of the airspace will no longer be constrained by national borders. SESAR is the technological and industrial component of the Single European Sky.

### **Third example: GALILEO**

- The European Union is building a global navigation satellite system called GALILEO which will provide a set of positioning, navigation and timing services.
- GALILEO is being developed by the European Commission and the European Space Agency and has a strong research component because it is based on cutting-edge technologies.

- The benefits of this technology have already been demonstrated by the US Global Positioning System (GPS). The Galileo system is specifically designed to meet the growing needs of civilian users in particular.
- GALILEO is based on a constellation of 30 (thirty) satellites which broadcast a set of very high quality signals. The first satellite was put into orbit in 2005, and the launch of a second one is planned for the end of 2007. Galileo will be built and used in public private partnership with the private sector.
- Compared to GPS, Galileo will offer a guaranteed continuous signal. It will also offer positioning accuracy to within two metres, whereas GPS is accurate to around ten metres. This level of precision will allow existing services to be improved and, in particular, new applications to be developed. Availability of services will be provided as of 2011.
- All sectors of modern economies are affected by the development of satellite navigation technologies. The market for products and services is growing at an annual rate of 25% (twenty five percent). Some 3 billion satellite navigation receivers should be in service by 2020.
- Applications of radionavigation span a large range of sectors, not only in transport and communication but also in other markets such as land survey, agriculture, scientific research, tourism and others. Receivers are now found in all kinds of electronic devices for everyday use such as mobile phones, personal digital assistants, cameras, portable PCs or wristwatches. Mobile telephony is a promising market with over 2 billion mobile phone subscribers. Half a billion units are sold every year, with a prospect of 1 billion a year by 2020, allowing for fast market penetration of satellite positioning-based services.

### **Conclusion**

- These were four examples of how the transport sector takes forward innovation. There is no choice but innovation, if Europe wants to sustain economic growth and the resulting transport growth in a sustainable manner.
- As European commissioner for transport, I have the tools to identify the needs for innovation in transport policy in Europe. But such innovation is necessarily

a collective effort of the research community, of Governments, of the European Commission and of industry. We must all work together.

- Transport policy has been at the forefront of developing governance models that involve all stakeholders and provide for multi-source funding.
- I am proud to say that transport has "shown the way" on innovation at a European scale. Citizens and companies alike have benefited.
- Innovation keeps Europe moving!

**Thank you for your attention – arigato gozaimas**