



INTERNATIONAL RAILWAY SUMMIT 2016 – IRJ/IRITS joint event

Railtech conference on Railways and the Environment

Keynote presentation: Is rail transport on the right track?

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Is rail transport on the right track? In view of your comments on COP21 and its relevance to rail transport, I think this would be a good chance for you to emphasise the important role which rail can play to help reduce CO₂ emissions, and the great opportunity this represents for the rail industry. Your presentation could be a rallying call for railways and would be a great way to start our conference.

As the Director General of the Union International Railway Association, UIC, it is my pleasure to address the International Railway Summit/Railtech conference on Railways and the Environment.

Whilst today's event is organised by IRITS-IRJ/Railtech, UIC has its own very active calendar of events. To further cooperation between the rail sector, UIC organizes over 85 conferences and workshops every year, to develop best practice and benchmark performance. I know that many of you have contributed to these – and for this I thank you.

UIC represents the entire global railway community, which effectively encompasses 1 million kilometres of infrastructure, 7 million members of staff and a significant volume of traffic, providing mobility for 7 billion people around the world. This grants us the somewhat privileged position of being observers as the major trends in mobility unfold in the 21st century. These trends have not necessarily been very favourable for the railways, which require significant long-term investments, more relevant for an international future. Yet our world is becoming more divided and is suffering the full force of an enduring economic crisis. However, it seems that rail is increasingly relevant and is recognised as a primary mode of mobility by those who decide on policy, by major investors and by the operators themselves, who are looking to develop ever further. This is linked to the intrinsic qualities of railway travel; it is a high-capacity transport mode, very safe and remarkably favourable for sustainable development, particularly since COP21.

The Paris agreement agreed at the UN climate Change conference COP21 took some people by surprise. I think many of us who remember Copenhagen were just hoping for an agreement on the much discussed 2 degrees – but now we have a clear, and to some unexpected, mandate to raise ambition to 1.5 degrees. This poses a challenge and also an opportunity to the transport sector and to the railways.

We know that rail is one of the most emissions efficient major modes of transport. But we also know that further improvement is necessary if we are to secure either the 1.5 or 2 degrees scenario.

Our members have responded to this and committed themselves to improve rail sector efficiency, per passenger-km and tone-km, by achieving a 50% reduction in energy consumption by 2030, and 60% reduction by 2050, relative to a 1990 baseline.

And to decarbonise power by achieving a 50% reduction in CO₂ emissions, per passenger-km and tone-km, by 2030, and 75% reduction by 2050. Again relative to a 1990 baseline.

In addition, to achieve a more sustainable balance between transport modes and leverage these improvements we aim to increase rail passenger market share by 50% in 2030 and then doubling in 2050, for freight we aim to equal road activity by 2030, and then exceed road volumes by 50% in 2050.

In addition to these global targets, for COP21 CEOs from 66 of our key members, representing the majority of the worlds rail activity, signed the UIC Railway claim responsibility pledge. This sets out four company level commitments to take action on climate change.

These very ambitious targets will be met through a modal shift, changes in professional practices and customer habits, but also through the implementation of new solutions for the supply and management of infrastructure energy towards trains, capacity improvement, energy efficiency of rolling stock, etc. The challenges are enormous, both in countries at the cutting edge of research in this field, and in those that are dealing with the issues of trade growth and the essential control of energy consumption.

Energy efficiency underpins our environmental leadership which in turn lays the foundations for rail as the backbone of sustainable transport systems. Since 1975, there has been a strong trend for improving energy efficiency, at world level specific consumption has reduced by 62% for passenger transport, and 42% for freight.

In Europe for example, the rail sector is responsible for just 2% of transport energy consumption, and only 1.5% of greenhouse gas emissions, but delivers almost 9% of transport activity. The figures are similar for air quality indicators, with rail contributing just 2% of PM2.5 and 1% of NOx of total transport emissions.

An important factor is that 80% of rail activity in Europe is powered by electric traction. The use of clean renewable energy by the rail sector increases every year, by 2010 this accounted for 28% of electricity consumption. Worldwide almost a third of railway lines are now electrified. This increases each year, improving efficiency, providing access to a range of energy sources, including renewables, and further reducing emissions.

When collecting and reporting environmental performance data we work with the German based NGO 'IFEU' for the European region and the International Energy Agency for the global level. These partnerships are essential to ensure that our data are robust and we can communicate the advantages of rail with the highest level credibility.

As we see with the recent diesel emissions scandal – it is vitally important to have credible data. Here I emphasise the point that the data we report is from the actual operations, not from laboratory tests. The whole sector benefits for these data and from the credibility of our partners. I must thank the International Energy Agency for their fruitful collaboration.

For all of these reasons – to which I would add significant fundamental and applied research into high speed, including high-performance locomotives, infrastructure capacity improvement, stations and interface management – rail transport is underpinned by major investment. **According to the OECD, 11 000 billion dollars is spent on transport, of which 40% is for the railway, and goes towards the**

renovation of existing infrastructure, the development of new infrastructure and better coordination between and within cities.

It is important not to forget the major corridors, in particular all of the Silk Roads, the trans-Siberian line and the trans-Middle East line, in order to ensure significant market share gains in East-West trade.

It is perhaps not surprising that in different parts of the world we see different challenges. Here in Europe the challenge is to provide more competitive and attractive services. In the developing world there is a challenge to simply meet the demand. The sustainable transport community has adopted the avoid-shift-improve paradigm as the overall strategy to mitigate climate change. But when we look to the needs of the developing world and the wider sustainable development agenda we should preface this with **provide**- avoid-shift-import. And we must take care to make sure that what we provide is sustainable.

Rail is thus very relevant and does not stand in complete opposition to other modes of transport. In the 21st century, during a period of growth in the mobility of goods and people according to the OECD figures, we can see growth multiplied **by 8 for freight transport between now and 2030 and by 12 for passengers. In anticipation of this growth, investments in mobility are substantial: + 4% per year.**

Rail is not alone, but is part of a modal synergy or a new “transport mix” which aims to provide society with the best added value from each mode, intelligently interfaced with other transport modes.

And this brings us to today’s key point: that of intelligently managing interfaces so as to lose as little time as possible and to ensure the synergy of this new transport logistics chain, providing the best response to customer requirements. This harmonisation of interface management will come from the digital revolution, which is no longer just a dream. It is already in progress and is being applied to other industries, even to the transport industry. Rail must rapidly integrate it into information sharing, delivery, security, maintenance, exportation and, of course, interconnectivity and interoperability with other transport modes.

This is especially pertinent as we live in a world where mobility is a key factor for economic development: in both developed and emerging countries. There are 2 billion people, half of whom live in China, who have no means of accessing any transport mode, 2 billion living on less than 1USD/day, and the world’s population is going to increase by + 2 billion inhabitants from 7 to 9 billion over the next few years. The development of mobility in large megacities is clearly a challenge for the coming years and will require the open and essential cooperation of all players in this market.

In the face of harmonised mobility requirements, rail forms the backbone of a new balance, thanks to its advantages, including environment, security, research, etc. It is definitely on the right track in its role as a catalyst for hoped for socio-economic development.