

Speech by Henrik Hololei

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EUROPEAN COMMISSION

Dear Carlo,

Ladies and Gentlemen,

- I am very pleased to be here with you today to exchange the views on the strategic evolution of railway research, innovation, development and demonstration of projects.
- Let's look together at the opportunities related to the market opening, harmonisation, digitalisation and of course automation. And let's make full use of them for the sector's further development.
- Under Horizon 2020, Shift2Rail has clearly shown the value of getting the whole industry – manufacturers, infrastructure managers, rail operators and regulators – working together in a coordinated manner.
- This is a huge step forward, compared to the very fragmented rail research projects developed under the previous Framework Programmes.
- With S2R we are now entering next stages and starting to see concrete benefits and results coming out of its work – a real proof of institutionalised public-private partnerships' value.
- We have together made a real positive difference and we need to make sure S2R2 will become a reality.
- Let me now make a step back to underline the reasons why we need innovation and digitalisation in order to enhance EU rail performance.
- The transport and mobility sector as a whole has a big challenge ahead. We need to meet the growing demand for

mobility in a sustainable manner and helping Europe to achieve its ambitious climate goals.

- Railway sector is very well placed to play a major role in reducing the environments footprint of the transport sector. A sector that is responsible for 1/4th of all carbon emissions and which remains as the most difficult sector to decarbonise!
- Rail sector is very energy-efficient and largely electrified. This is the reason why the European strategies for CO₂ **reduction** see a lot of potential in supporting the further development of railways.
- However, rail sector will have to become much more efficient and increase its market share. We need stronger and better-integrated rail sector, in order to act as a backbone within a **smoothly connected, interoperable** single EU transport, to
 - achieve our overarching goal of transport decarbonisation as part of the reduction of the environmental footprint of the sector;
 - improve the efficiency of the EU logistic and supply chains,
 - tackle congestion through moving more freight to rail, but for that we need much more reliability and predictability of the sector.
- In order to be able to achieve all that we need to focus even more on innovation and research and reap the benefits of the digital solutions and better management of available data. Here Shift2Rail has a big role to play through providing a wide range of innovative features for railway systems of the future.
- Fully digitalised railways will be based on the state-of-the art radio communication, in an ecosystem where intelligent locomotives will continuously exchange data with responsive traffic management systems in order to optimize capacity in real time.
- In addition to better use of capacity, we can optimise speed, reliability and safety by knowing any moment where a train is, at which speed it is going, what is its braking performance and its integrity!

- For these reasons there are high expectations – and high stakes – towards the “Game Changers” developed under Shift2Rail (IP2):
 - **ERTMS level 3** will allow us to add capacity, improve reliability, speed and enable satellite positioning;
 - **on-board train integrity function** will allow for a major saving and simplification for track-side equipment;
 - solutions allowing to use **5G** potential as innovative communication system with high performances (capacity, availability, low latency);
 - **the on-board intelligence** will allow adding **Automatic Train Operation** functions – an important element for railways energy efficiency (20% energy saving expected),
 - and last but not least **intelligent sensors** will be able to prevent down time and lead to predictive maintenance for both trains and infrastructure, thus reducing related dysfunctions by as much as 90%
- All these “game changers” will be mainstreamed in the future **Regulation for Train Control** (command and signalling) as early as in **2022** – **it is a major step forward, perhaps even a positive disruption and it is coming soon!**
- I must stress that all of this is important not to show case fancy new technologies, but because collectively these technologies will mean higher capacity, greater flexibility and reliability, lower costs and energy use. In other words much better services for passengers and freight uses.
- But the work goes beyond that as S2R is looking **at the other future developments** as well. For example virtual coupling, where a series of trains is controlled by one (as for truck platooning), could allow more frequent services to a wider range of destinations.
- So there is a lot going on and we need to be there to support these developments and internalise and mainstream the new digital solutions to the rail world.

- One of the areas where I am expecting significant improvement is rail freight. Current share of rail freight is very modest and in the last years, it has not increased at all. This is definitely not sustainable and must be addressed by both – innovative solutions and potentially further regulatory action.
- On the innovation side, technologies developed under the S2R are crucial for supporting rail freight – a good example is Intelligent Video Gate that is able to identify the content in freight wagons as they go.
- This and other developing solutions will eventually lead to automation of freight terminals, which would support the rail freight! We just need to be there to support these developments and make sure that the deployment is smooth and fast.
- I would also like to focus on the opportunities that innovation can bring to the passenger services. Mobility as a Service is developing fast in many smart urban centres and it is crucial that the railways would be seamlessly integrated to this concept.
- S2R's development of an interoperability framework to exchange data among all transport operators, across modes will support the rapid roll out of Mobility as a Service with rail as a key mode.
- Another important development we are bringing about for passengers mobility is the Multimodal Travel Information Service, which will be complemented by S2R, testing a **European-wide travel companion** – an easy tool for any traveller to find multimodal information, choose transport services, process payment and get e-tickets.
- The travel companion will also allow people to compare the carbon footprint of each transport mode, favouring rail and sustainable transport – that's what the green deal calls for!
- I expect it to become a breakthrough that will allow planning, booking and purchasing multimodal trips across Europe with a click! I am looking forward to the next INNOTRANS to test it.

- If successful, such a data exchange mechanism [*Interoperability Framework*] and passenger tool [*Travel Companion*] will make it much easier to travel by train, build up through-tickets, and complement the journey with other transport modes – a major opportunity to boost Railways market share.

Ladies and gentlemen,

- I am very pleased that there are already many positive developments, innovation and smart solutions that S2R has been and will contribute to.
- But for that we need to make sure there is the continuation of S2R and that we all here and all stakeholders engage in shaping it.
- One thing is clear the focus will be in promoting further the development of new digital solutions and contribute effectively to the reduction of environments footprint of the transport sector.
- Let me remind you that a public consultation has been opened to get the views of the stakeholders in order to set the right framework for the future partnership and we count on the proactive participation in it from all of you.
- Thank you for your attention!
