

Strategic Session 6

Industry 4.0 and the Green Revolution in the railway sector

A panel discussion between Paolo Guglielminetti (Advisory Global Rail and Road Transport Leader, PwC Italy), Sergey Kobzev (Deputy Managing Director, Chief engineer RZD “Russian Railways”), Stefan Geisperger (Senior Vice President Sales, Deutsche Bahn Fahrzeuginstandhaltung), David John (CTO, TMH International AG), Michele Molinari (CEO, Molinari Rail), Helmut Schreiner (CTO Zillertaler Verkehrsbetriebe AG), Hannes Pichler (Head of Innovation, Innofreight)

➤ *Introduction*

With great opportunity comes great responsibility. This is especially appropriate when considering the possibilities that the digital world holds for the railway sector.

Due to the increasing impact that climate change has on our globe, sustainability gains in significance day-by-day. The transportation sector, in particular, holds great responsibility when it comes to this topic. Therefore, it does not come to surprise that it is of significance to the industry to discuss the global outlook in this respect. Digital tools can and should be used for increasing sustainable processes within the railway sector. The so-called fourth industrial revolution and all its incorporated opportunities should serve as a driving force to rapidly increase sustainability-related progress in the industry. Visions for the future are closely tied to the megatrends that emerged in the age of globalization: digitalization and sustainability.

Industries wish to grow sustainably and continuously but acknowledging the fact that customers of services are not willing to carry forward to support undertakings that involve a high amount of climate-damaging emissions.

➤ *Executive Summary*

All discussion participants decided to enlighten the topic of sustainability from a different perspective. Mr. Kobzev of RZD chose to address the subject through the demonstration of the efforts of his company to produce climate-friendly energy through the commissioning of rolling stock that can undertake the task of sustainable energy production. Two of the panelists, David John and Michele Molinari emphasized on the fact that trains are long-term investments on the side of the industry and that digital tools can and should be used for maintenance purposes to prevent unsustainable buying behavior. There is mutual consent amongst the panelists that the life-cycle of assets in the railway sector is extensive. Therefore, the right managerial, technical, and financial decisions have to be made to guarantee a secure and reliable product on one side and an asset that remains in operation for as long as possible. Moreover, new technological advancements can be a helpful tool to guarantee sustainable progress within rail.

1. Paolo Guglielminetti, Advisory Global Rail and Road Transport Leader, PwC Italy

“We need new regulations that adapt to our modern world.”

“Any transport solution in the future should address the topic of sustainability.”

“Intermodality has to function not only physically but also digitally.”

2. Sergey Kobzev, Deputy Managing Director, Chief engineer JSC “Russian Railways”

“The Moscow Digital Circle is using a technology where the trains themselves have the ability to produce electricity.”

“We will continue our efforts to make green energies an increasing factor in our undertakings.”

3. Stefan Geisberger, Senior Vice President Sales, Deutsche Bahn Fahrzeuginstandhaltung

“No one wants maintenance, because maintenance is taking away operational hours, therefore, the best maintenance is no maintenance at all.”

“Our program, Colibri transfers data from the train to land on a modular basis. Used for diagnosis data, passenger data, and wifi-supply on trains.”

4. David John, CTO, TMH International AG

“The usage of old vehicles in the industry is still being pursued by the larger part. Sustainability also means to keep the trains alive instead of permanently investing in new ones.”

5. Michele Molinari, CEO, Molinari Rail

“The investment into old vehicles has to be taken into account when making executive decisions.”

“In the rather conservative railway industry, it is more unlikely to easily apply new technologies since they have to be proven and approved first.”

6. Helmut Schreiner, CTO Zillertaler Verkehrsbetriebe AG

“Our newly developed Hydrogen train will save up to 800 000 liters of diesel per year.”

“The Hydrogen train, which will go into business in 2020 will be charged during the nighttime and can run continuously during the daytime.”

7. Hannes Pichler, Head of Innovation, Innofreight

“The asset life-cycle is a huge topic within the railway industry. “