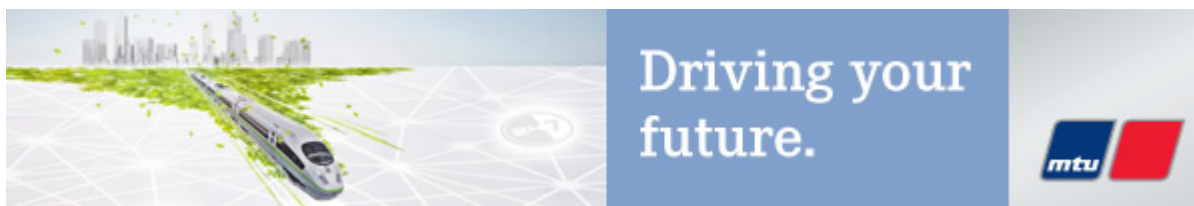


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Friday, 21st September 2018

## Problem solving with artificial intelligence



Sabina Jeschke, member of the management board of Deutsche Bahn AG for digitalization and technology would like to have a digital twin of DB. An exact physical reproduction would allow the use of experimental ways to identify solutions for Deutsche Bahn, explained Jeschke at the DB Innovation Forum. In Jeschke's opinion, railways are confronted with four major challenges. First, to create sufficient capacities for an increasing demand. Second, to reduce the complexity of a system whose technology dating from up to 120 years of technological history has to function together. Third, to find sufficient train drivers and skilled personnel in view of the declining numbers of school leavers. And fourth, the need to speedily implement the necessary changes. Railways – the brainchild and driver of the first industrial revolution – could potentially be leading regarding the fourth challenge. Jeschke imagines the new railway as “cognizant systems”, with sensors for monitoring, problem reporting, and automatic solution process triggering. Artificial intelligence (AI) has to be added to such data driven processes. AI is able to find creative solutions for everyday problems. The decisive precondition is that data is accessible and can be newly combined and evaluated thanks to common data storage (Data Lake). Currently, DB uses approximately 2,500 databases; this data has to be pooled.

## Collaboration in city rail traffic agreed



At InnoTrans, the German Railway Industry Association (VDB) and the China Association of Metros (Camet) signed a letter of intent to increase collaboration in the future. The objective is to share information and provide mutual support regarding questions of approval and establishing standards in city rail traffic. The letter of intent was signed by President of VDB, Mr. Volker Schenk and by the deputy CEO, Mr. Xiaoqin Zhou on behalf of Camet. Camet represents not only the manufacturers of rail vehicles for local traffic, but also the operating companies.

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## “Mobility Inside“ – First breakthrough in June 2019



The 11th Public Transport Forum held on Thursday was dedicated to digitization of public transport, in particular regarding information and booking. Facilitator Knut Ringat appealed: “Don’t surrender everything to the platforms.” For that purpose he is pushing the German-wide App “Mobility Inside” together with Rhein-Main-Verkehrsverbund (RMV) in the Association of German Transport Companies (VDV). We will reach a breakthrough before the next annual meeting of DVD, promised Jörg Puzicha from project consultants Mobilligence. Helge Haugk from co-host ETC encouraged transport companies and services providers to enter into digital collaborations, in order to set market standards. Futurologist Karlheinz Steinmüller deemed a public-law use of data necessary.

## Stadler presents new trains for local traffic



On Thursday Stadler presented no less than two new trains for traffic in agglomeration areas. Switzerland presented a metre-gauge four-unit train for regional transport Bern-Solothurn. In the future, fourteen units of this kind will operate on S-Bahn line S7 between Bern and Worb. With eight door pairs over a vehicle length of 60 metres the electrically powered train is designed for fast loading and unloading of passengers. Sensors for hands-free opening of doors are an additional help. For Glasgow Subway Stadler in a consortium with Ansaldo STS supply a total of 17 subway trains which are equipped for fully-automatic operation. The subway trains stand out by their remarkable slim profile which is required for the small tunnel width of 3.4 m with a track gauge of 1.22 m. Built in 1896, the Glasgow Subway is the world’s third oldest subway system.

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## ERTMS for the railway of the future



Rail operators and industry agreed on that: Quite often, projects cannot be implemented within the desired timeframe, but a swift implementation of digitization projects is imperative to allow for the required expansion of capacity in the European railway infrastructure. At the Dialog Forum organized by UNIFE (Association of European Rail Industry) high-level representatives from rail operators and from the industry yesterday debated about the topic ‘ERTMS: the backbone of the digital railway’.

## Career Award - Ten students from five countries



Messe Berlin’s award is impressive: an InnoTrans visit with all-inclusive service package. Messe Berlin has presented the Career Award since 2016; it is jointly organized by associations from Germany and abroad. This year, ten students from Australia, Canada, Germany, Italy, and the US accepted the invitation. They were commended by their respective domestic associations for special achievements in their study programs relating to rail traffic and public transport. On the opening day they accepted the award from the fair. The InnoTrans will provide them with an excellent overview of the industry and will allow them to establish outstanding contacts for their professional careers.

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## Challenges and goals in tunneling



On the second and third day of the fair, the German research association for tunnels and transportation facilities (STUVA) headed by Dr. Roland Leucker hosted the International Tunnel Forum. The first event focused on long-term goals in tunneling. The topics around digitization and the European Train Control System (ETCS) were most prominent in the panel discussion. “The future of railways will be digital”, underlined Prof. Dr. Dirk Rompf of DB Netz AG, stating the successful example of the first German ETCS line between Berlin and Munich, because the achieved effects even surpassed the expectations.

Leucker opened the second Tunnel Forum with the following words: “A modern infrastructure is a significant factor for quality of life and the basis of a reliable transportation network”. The series of lectures focused on the current challenges that we find in tunnel planning and construction. The speakers had a closer look at international projects and presented the problems we are facing. All of the speakers agreed that there was a planning backlog rather than an investment backlog and that this was mainly due to the difficult approval procedures and the shortage of specialists. Dr.-Ing. Stefan Deges called for an efficient use of the rare resources. Chris Dulake from Mott MacDonald underlined that it may be helpful to take a glance at other industries.

## Bombardier: Battery-powered Talent makes 40 km




On the occasion of the InnoTrans fair Bombardier presented the first Talent with battery-powered accessory drive at the Hennigsdorf factory. On this three-part vehicle, battery packs with a capacity of 300 kWh are accommodated on the middle car. The manufacturer specifies the range in battery-powered operation as 40 km. The battery is charged via the current collector beneath the catenary in about seven to ten minutes, as well as by regenerative braking. The vehicle will be approved for 140 km/h for both operating modes. Bombardier expects approval to be given by mid-2019 when the vehicle is planned to be tested at DB Regio in the Ulm region.

## A solution – not the problem



“Are electric buses in public transport the solution to keeping the air clean in urban traffic?” was the question asked by the Association of German Transport Companies at the International Bus Forum held yesterday at the InnoTrans. However, the discussion was no longer about “whether” but rather about “how”, because an electrification of bus transport alone will be costly. It is possible to reach this target but it will be “extremely expensive”, said BVG CEO Sigrid E. Nikutta and stated a total of €2.5 billion. The point is that this is not only about the buses, but about the entire infrastructure. Managing director of the bus division of Münchner Verkehrsgesellschaft, Ralf Willnett, complained that the electric buses that are currently on offer are not suitable for a continuous conversion of the bus fleet. This will still take time that we should use for expanding the offer.

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## Vossloh promotes DM 20 dual-mode locomotive



At the 2010 InnoTrans, Vossloh Locomotives for the first time presented a model of a potential dual-mode locomotive based on the existing platform. In the meantime, this project has seen concrete developments. According to Vossloh, all of the components have been defined and are now available on the market. The electrical rating as continuous rating at the wheel is 2,100 kW vs diesel drives 600 kW (engine rating at 900 kW). A striking feature is the big driver's cab. It is necessary to accommodate the high-voltage equipment on its roof. After presenting the latest DM 20 at an in-house customer event this summer, Vossloh is now looking for a launch customer. More concrete steps have also been taken to complement the DE-18 locomotive by a battery-powered accessory drive. There is no intention to mix various types of drives; the choice will be between either all diesel or all battery operation. The 150 kWh battery pack merely serves for shunting, for instance in a shed. It is meant to extend the idle times of the diesel engine, which will reduce its maintenance costs. The battery drive can be retrofitted, but will reduce the size of the diesel tank.

## New forms of mobility will supplement the old forms



In the opinion of politicians, platforms and transport companies, new types of mobility are a sensible addition to public transport, provided that information, booking, and offering will converge digitally. Since DB benefits per se from an increase in public transport, Berthold Huber (DB) is not afraid of new competition. He says that DB is open for additional sales partners in long-distance traffic. Roland Werner (Uber) promises municipalities to provide aggregated data for demand-oriented service offer concepts. Eva Kreienkamp (Mainzer Mobilität) predicts that the "old" players will collaborate with the "new" players. But she also thinks that an enhancement of the current infrastructure is indispensable. Ole Herms (VW Moia) recommends a swift flexibilization of the German passenger transport act (PbefG): Ultimately, all players will have to gain experience. Thorsten Herbst (Member of the Bundestag, FDP) pleads for four different types of passenger transport from taxi cabs to private car pools. His colleague Thomas Jarzombek (CDU) predicts resistance from coalition partner SPD against a reform.

## Share of women in EU Commission management to increase



Elisabeth Werner, Director of Land Transport at DG Move, Brussels, was misquoted in the Thursday edition of the InnoTrans Daily. She said: "The share of women in (management of) the European Commission is to increase from currently 22 % at present to 40 % in 2020".

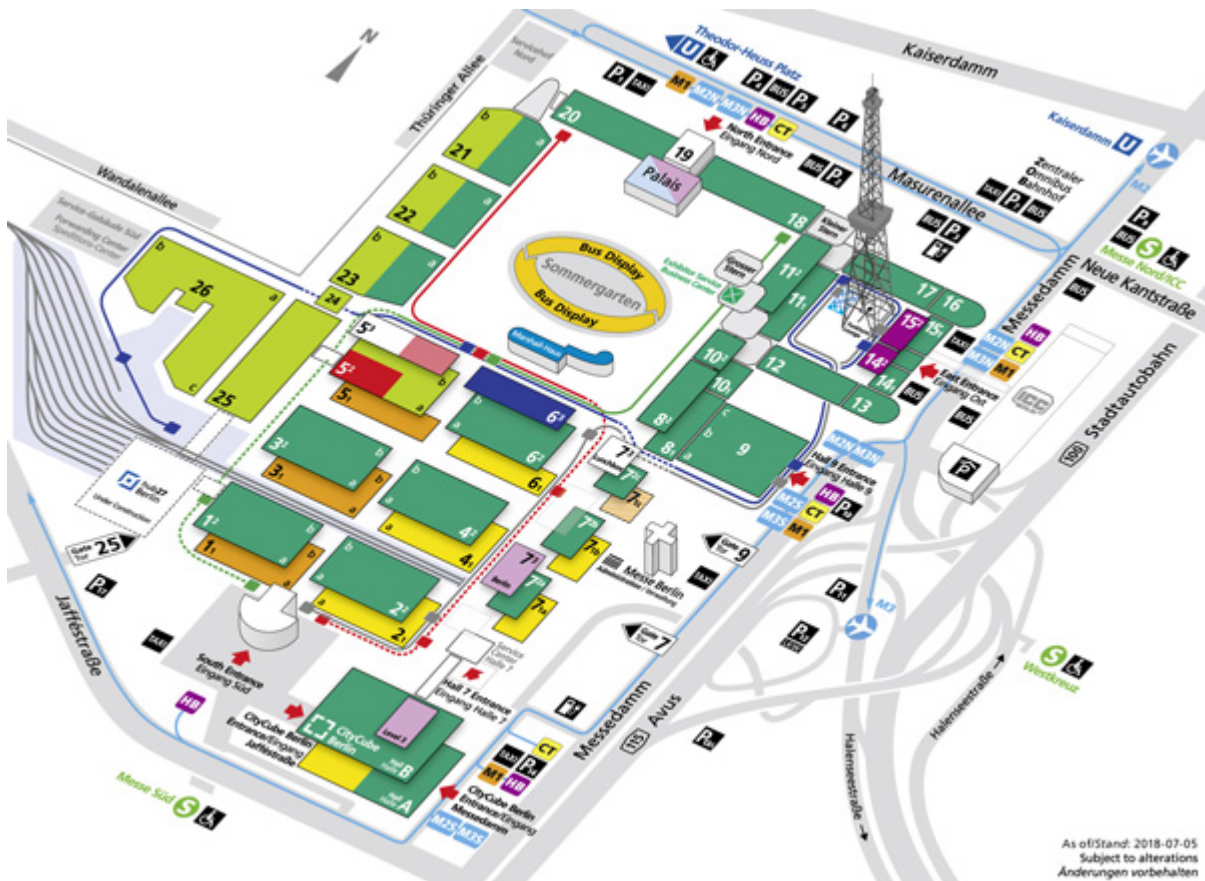
## Important dates on 21.09.2018

- **10.00 - 12.00** Innovation Paths 4.0 - VDB Future Workshop, VDB, Palais am Funkturm
- **11.30 - 12.30** How does the train get on track - the role of project logistics in global markets, BMVI, Speakers' Corner Hall 14.2
- **11.30 - 12.30** Would you know if you were hacked? Cyber Security for Safety-Critical Systems in Railways and Metro, Cylus Cybersecurity Ltd, Speakers' Corner Hall 15.2
- **13.30 - 14.30** Powerful railway systems and asset management services with a stimulating impact on the local economy, Downer Group, Speakers' Corner Hall 14.2
- **13.30 - 14.30** FAO (fully automatic operation) system in China - the current situation and new trends, Traffic Control Technology, Speakers' Corner Hall 15.2

## InnoTrans Daily on the road

The InnoTrans Daily is also available for download in the InnoTrans Report app and online at [www.innotrans.com](http://www.innotrans.com).

## InnoTrans Exhibition Grounds



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