

ÖBB and Siemens develop battery-powered train

- **Service on non-electrified rail lines**
- **Passenger tests planned in second half of 2019**
- **Eco-friendlier operation with up to 50 percent less CO₂ emissions than with diesel engines**

Austrian Federal Railways (ÖBB) and Siemens Mobility are jointly investing in the future of passenger transport and are developing an electro-hybrid battery drive for trains. Today, both companies presented in Vienna the first result of this innovative pilot project, the prototype of the Desiro ML Cityjet eco. Operating as a battery-powered train, the Cityjet eco is an alternative for non-electrified rail lines primarily served at present with diesel-powered passenger trains. Battery operation can reduce CO₂ emissions by up to 50 percent compared to diesels. Following extensive testing of the train, it is expected to first be used in passenger service in the second half of 2019. The prototype will be presented on track 1/400 in the outdoor exhibition area at the InnoTrans 2018, the leading international trade fair for transport technology, being held in Berlin on September 18-21.

“Climate protection is especially important at ÖBB. We’re always looking for ways to improve our products and make them more environmentally friendly. As part of this quest, ÖBB will continue to focus on replacing diesel vehicles in the future. As Austria’s largest climate protection company, ÖBB is spearheading a further initiative in the fight against climate change with the Cityjet eco,” said Evelyn Palla, member of the Management Board of ÖBB Personenverkehr AG.

“Alternative and ecofriendly drives such as batteries, hydrogen and hybrid systems

are becoming increasingly important in our portfolio. There are many winners with the Desiro ML OBB Cityjet eco: For comparatively low investment costs, our customer gets a train fleet that is far more flexible to use and their passengers are happy about the additional travel comfort," said Sabrina Soussan, CEO of Siemens Mobility.

Siemens is developing an electro-hybrid battery drive that enables the train to charge its newly installed batteries via the pantograph on electrified rail lines. This energy is then available for powering the train on non-electrified stretches. As soon as the train leaves the electrified line, its batteries feed the train's power supply system. Siemens and ÖBB will now thoroughly test this technology in a pilot project over the coming months and develop the system to series maturity.

In the joint project with Siemens, ÖBB is one of the first European railways to secure valuable know-how in this field and thus be able to further expand the quality of its services for passengers as well as the sustainability of its fleet. The pilot project will be conducted with a train taken from the series of Siemens Desiro ML trains currently being produced for ÖBB. The train's design enables it to accommodate additional roof loads. As a result, the usual industry-wide production and delivery time of up to 36 months for a new train can be reduced to less than half.

The battery system located on the middle car of the converted trainset is comprised of three battery containers, two DC/DC controllers, a battery cooler and other electronic components. The system uses lithium-titanate batteries (LTO technology). Compared with conventional lithium-ion batteries, these modified batteries allow significantly higher charging currents for fast charging. Thanks to a special thermal concept for the battery containers, it's expected that external weather conditions will have no influence on battery life and their charge status. When the batteries are ready for series production, they should have a lifetime of around 15 years, which means they will have to be replaced only once over the entire service life of the train.

This press release, press photos and additional material are available at:

www.siemens.com/press/Desiro-Oebb

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Austrian Federal Railways (ÖBB): Austria's largest mobility service provider

As a comprehensive mobility service provider, the ÖBB Group brings 459 million passengers and 115 million tons of goods to their destinations every year in an ecofriendly manner. 100 percent of the traction current comes from renewable sources. ÖBB was one of the most punctual railways in Europe in 2017, with around 96 percent punctuality. Group-wide, 41,107 railway and bus employees (plus around 1,900 apprentices) ensure that roughly 1.3 million passengers safely reach their destination every day. The Group's strategic parent company is ÖBB-Holding AG. www.oebb.at

Siemens Mobility is a separately managed company of Siemens AG. As a leader in transport solutions for more than 160 years, Siemens Mobility is constantly innovating its portfolio in its core areas of rolling stock, rail automation and electrification, turnkey systems, intelligent traffic systems as well as related services. With digitalization, Siemens Mobility is enabling mobility operators worldwide to make infrastructure intelligent, increase value sustainably over the entire lifecycle, enhance passenger experience and guarantee availability. In fiscal year 2017, which ended on September 30, 2017, the former Siemens Mobility Division posted revenue of €8.1 billion and had around 28,400 employees worldwide. Further information is available at: www.siemens.com/mobility.