

InnoTrans 2022, September 20-23, 2022, Messe Berlin, hub27, booth 230

Siemens Mobility presents the future of rail at InnoTrans 2022

- **Siemens Mobility presents Siemens Xcelerator, the open digital business platform**
- **Fair highlights: Next-generation hydrogen train Mireo Plus H; infrastructure in the cloud; 100% system availability with Railigent X; unique software portfolio Mobility Software Suite X**
- **Motto of the company's show: "Destination Digital"**

Siemens Mobility is presenting its new digital business platform Siemens Xcelerator at InnoTrans 2022. Siemens Xcelerator is an open digital business platform with the ambition to create a powerful ecosystem of partners who can jointly accelerate digital transformation and sustainability in mobility at scale. By opening interfaces for all participants of the mobility ecosystem, Siemens Xcelerator helps connect the real with the digital worlds – a first-of-its-kind innovation in the rail industry.

"With Siemens Xcelerator, we create open interfaces to enable continuous data exchanges between the different sub-systems of the railway network. Our digital technologies, services and innovations allow for up to 100% system availability, greater punctuality and better utilization of trains, which benefits both operators and passengers and creates a new level of comfort and efficiency", said Michael Peter, CEO of Siemens Mobility.

Siemens Xcelerator – from ego systems to eco system

Siemens Xcelerator comprises a comprehensive, curated portfolio including digital and IoT-enabled offerings (software, services and connected hardware) for industries, buildings, grids and transportation; a continuously growing, powerful ecosystem; and a marketplace to explore and educate, alongside a community of customers, partners, and experts. Siemens Xcelerator also holds the architectural

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promise to bring modular software into the cloud. Siemens Mobility will open and connect parts of the existing portfolio, namely from the Mobility Software Suite X and the Railigent X application suite. This includes train planning, reservation and ticketing, inventory management, Mobility-as-a-Service (MaaS), digital services and infrastructure. By opening interfaces horizontally and vertically, both operators and passengers will profit from an interoperable and connected ecosystem. Different participants of the mobility ecosystem such as trains, infrastructure, operators, passengers and external partners will be virtually connected via Application Programming Interfaces (APIs) to work together seamlessly, cloud based, open and easy to integrate.

Siemens Mobility at InnoTrans

Under the motto “Destination Digital” at InnoTrans, Siemens Mobility is presenting four crucial levers for supporting its customers in providing sustainable, comfortable, and cost-effective rail transport: lifecycle cost-optimized rail infrastructure and rolling stock; 100% system availability; maximized network capacity; and optimized customer experience and processes.

Lifecycle cost-optimized rail infrastructure and rolling stock

Rolling stock platforms like the Mireo, Vectron or Velaro, reduce overall lifecycle costs and offer customers a variety of advantages. The technical core of a train, such as engine, bogies, and transmission system, can be used in several train variations, while other parts can be adapted to the specific needs of a customer. Features like the full digitalization package including WiFi access and windows optimized for perfect mobile phone reception, or a particularly spacious and efficient interior design can be added to existing vehicle platforms.

Siemens Mobility trains and infrastructure solutions come with built-in connectivity and services that help reduce costs, enhance reliability, and provide greater value from rail assets. Train IT Remote Software Updates is a cutting-edge solution to deploy new software while trains are operating, so they spend more time on the tracks and less in the depot. The software update can be rolled out to individual trains or to an entire fleet, while state-of-the-art cybersecurity measures keep operators and passengers safe.

100% system availability

The IoT- and AI-based application suite Railigent covers the entire digital value chain for 100% system availability through the intelligent use of rail asset data. Railigent enables predictive maintenance, efficient operations and digital asset management in order to optimize whole life costs by balancing performance, cost and risks through the entire lifecycle. As part of Siemens Xcelerator, Siemens Mobility is taking the next step to further open Railigent to become Railigent X and enable customers and partners to develop their own digital solutions and use them securely through standardized APIs.

Maximized network capacity

Siemens Mobility is showcasing how innovative digital technologies enable maximized network capacity and efficiency gains for operators by moving existing rail infrastructure into the cloud and virtualizing signaling components, for example implemented by 5G. By remotely controlling an entire country's or city's rail operations from one central data center, many hardware components such as signals or interlocking stations can be virtualized to reduce maintenance costs. Automatic train operation (ATO) in conjunction with ETCS can further reduce train intervals to a minimum so that up to 30 percent more trains can run on the same line. At the same time, punctuality is increased by 15 percent.

Optimized customer experience and processes

Siemens Mobility enables customers to offer a seamless travel experience to their passengers: Mobility-as-a-Service (MaaS) systems have been successfully implemented by Siemens Mobility across the world, including Dubai, Denmark, Luxembourg, the Netherlands and Andorra, and are planned in Spain. Digitally orchestrated on-demand transport services cover the first and last mile, providing passengers with real door-to-door options. Thanks to innovative ticketing solutions, riders always pay the cheapest fare, and with a single swipe. Besides enhancing the passenger experience, security-certified software solutions improve availability, interoperability and the utilization of resources such as reservation and inventory management, occupancy analytics, or network and capacity planning. Recent acquisitions such as Sqills and Padam Mobility enrich the portfolio and underscore the company's clear focus on software solutions for transforming mobility. These solutions are an integral part of the booth at InnoTrans for the first time.

The Siemens Mobility booth: hub27 and outdoor exhibition area

This year, Siemens Mobility is showcasing its products and solutions, including turnkey rail solutions, in hub27, booth 230 and in the outdoor exhibition area. In addition to the highlights mentioned above, the company will also be showing the following vehicles outside:

- **Desiro HC for ODEG:** The Desiro HC (high capacity) will easily handle increasing passenger volumes along the new Elbe-Spree rail network. The train is configured with two powered single-deck end cars and two double-decker unpowered middle cars, saving valuable energy resources. It features specially coated windows for improved network reception, on-board WiFi and power sockets throughout the train, numerous TFT monitors, real-time occupancy displays, and a special passenger safety comfort system.
- **Mireo Plus H – H2goesRail:** Siemens Mobility is presenting the next generation of hydrogen trains, that combines innovative design and the latest sustainable technology. Mireo Plus H is equipped with a fuel cell drive and a lithium-ion battery that delivers traction power and uses regenerative braking. In a joint project, Deutsche Bahn and Siemens Mobility are testing a brand-new complete system consisting of a newly developed train and a newly designed filling station.
- **Vectron Dual Mode:** The dual power locomotive unites the advantages of full-featured diesel locomotives with those of electric locomotives. The combination of a powerful diesel drive and equipment for using the overhead contact line enables operators to respond flexibly to changing route requirements.
- **Vectron MS for 230 km/h:** With a maximum operating speed of 230 km/h, this locomotive is suitable for operations on conventional as well as high-speed lines in fast cross-border passenger traffic.
- **Metro “X-Wagen” Vienna:** 34 six-car metro trains will ensure even more comfortable and convenient travel across Vienna, including the fully automated U5 line. The trains feature a lightweight design and a recycling ratio of more than 90 percent and will enter passenger service on lines U1 to U4 in 2022 and operate fully automated on the new line U5 as of approximately 2026.
- **Avenio Nuremberg:** The four-car Avenio streetcars will successively take up

passenger service on the Nuremberg tramway network, which has five lines and covers an operating length of approximately 40 km. Spacious boarding areas and wide passageways improve passenger flow and comfort.

- **eHighway truck with cocreation trailer:** The eHighway technology developed by Siemens Mobility is a dynamic charging system that supplies heavy-duty trucks with electricity from an overhead line via a pantograph. The system reduces local air pollution and contributes significantly to the decarbonization of the transport sector. The trailer of this specific truck will be used at InnoTrans as a cocreation space to showcase the digital world of Siemens Mobility's Rail Infrastructure business to customers.

This press release, press dates and further material are available at

www.siemens.com/press/innotrans22

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For further information about Siemens Mobility, please see:

www.siemens.com/mobility

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 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 2021, which ended on September 30, 2021, Siemens Mobility posted revenue of €9.2 billion and had around 39,500 employees worldwide. Further information is available at: www.siemens.com/mobility.