

Vectron receives ETCS Baseline 3 approval

- **ETCS approval for Baseline 3 in Germany and Sweden**
- **Improved availability thanks to intelligent infrastructure**
- **Approval for other countries to follow**

Germany's Federal Railway Authority (EBA) has approved the Vectron locomotive for operating in Germany with the European Train Control System (ETCS) Baseline 3. Approval for Sweden has already been received. Additional countries will follow.

"The approval for operating with ETCS Baseline 3 marks an important milestone for our locomotive business. Siemens Mobility is pioneering the system's early implementation in the rail industry. By driving digitalization, we are enabling our customers to make their infrastructure and their trains intelligent and to guarantee availability," said Sabrina Soussan, CEO of Siemens Mobility.

ETCS enables the standardization of train control systems in place of many different national systems and provides the basis for interoperability between trains and trackside infrastructure. ETCS has in the meantime become the global standard in the industry. ETCS Level 2 enables continuous communication between the locomotive and rail route. With the system, train drivers receive their driving commands, such as permitted speed, targeted speed and distance, directly on their display rather than from trackside signals as in the past. All data required for operation is transmitted to the locomotive from the rail line's control center – the Radio Block Center (RBC) – via the GSM-R digital railway radio system and is monitored. The train's speed, position and direction are provided by the locomotive's computer and continually reported to the control center.

Compared to ETCS Baseline 2, which is currently used in most countries, ETCS Baseline 3 has many new features, including a universal braking curve model. This will simplify the deployment of an ETCS on-board equipment throughout Europe.

To date, Siemens Mobility has sold over 980 Vectron locomotives to a total of 48 customers. The locomotives have already covered more than 260 million fleet kilometers in service and are currently approved for operation in Austria, Bulgaria, Croatia, the Czech Republic, Finland, Germany, Hungary, Italy, the Netherlands, Norway, Poland, Romania, Serbia, Slovakia, Slovenia, Sweden, Switzerland and Turkey.

This press release and other material are available at:

www.siemens.com/press/vectron

Contact for journalists

Eva Haupenthal

Phone: +49 89 636 24421; E-mail: eva.haupenthal@siemens.com

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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 2019, which ended on September 30, 2019, the former Siemens Mobility Division posted revenue of €8.9 billion and had around 36,800 employees worldwide. Further information is available at: www.siemens.com/mobility.