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Press

**Siemens Mobility GmbH**

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# Driverless train operations: Siemens Mobility upgrades signaling for entire S-bane network in Copenhagen, Denmark

- **Migration to the highest grade of automation (GoA4)**
- **Delivery of onboard equipment for 226 new trains**
- **Project will be commissioned in five phases; fully automated by 2033**
- **Total order volume of approximately 270m Euros**

Siemens Mobility will upgrade the entire 170 kilometers long S-bane network in Copenhagen to the highest grade of automation (GoA4 technology) to enable unattended train operations starting with the first phase in 2030. Respective contracts have been signed with Banedanmark (BDK) and DSB recently including the necessary signaling equipment for trains and wayside. GoA4 will allow the operator to run more trains in the entire system, enhance the level of passenger experience, secure the current punctuality rate and will future-proof the network. The new contracts have a total volume of about 270m Euros and build on the original contract from 2011 to equip the Copenhagen S-train network with the Communications-Based Train Control System (CBTC).

**Michael Peter, CEO of Siemens Mobility, said:** “We are very proud to continue and enhance our successful collaboration with Banedanmark and DSB to position the thriving city of Copenhagen as a model for modern rail infrastructure among European capitals. By implementing our best-in-class signaling technology by 2033, trains will be capable of operating automatically and driverless. This will make the new S-bane the world's largest automatic urban railway.”

**Jürgen Müller, Director Strategy & Train Equipment at DSB, said:** “We are happy to conclude this contract for the CBTC GoA4 upgrade which is a very important element of our programme “Future S-bane”. The Copenhagen S-bane is

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already today a well performing railway system serving the greater Copenhagen area and with implementation of the “Future S-bane” programme it will evolve into one of the world’s largest and most complex fully automated mass transit systems which will provide an even better service to our passengers. This comes not only via higher frequency for increased capacity and improved train services during off-peek operations, but also faster recovery from disturbances and better possibilities to adapt the traffic services to the demand on short term. DSB looks forward to continuing the successful relationship with Siemens Mobility which has been developed over the last twelve years to make the Copenhagen S-Bane CBTC GoA4 upgrade as successful as the original CBTC deployment.”

**Peter Jonasson, Director of Construction at Banedanmark, said:** "We are pleased about the prospect of Banedanmark and DSB continuing our work with Siemens to improve Copenhagen’s S-bane network. The CBTC system has already shown its merits and we hope that this project can lift the S-bane even further."

The CBTC GoA4 technology upgrade will be carried out in five phases with very limited downtimes of the operation, ensuring that train services in Copenhagen are not interrupted. The first phase will cover the F-Line between stations København Syd and Hellerup, with the trial run scheduled for mid-2030 leading to the start of passenger operations by the end of 2030. Throughout this phased approach, a mix of existing GoA2 trains and new driverless GoA4 trains will operate until 2038. By then, the last new driverless GoA4 train will be delivered and supported by hybrid wayside technology capable of accommodating both GoA2 and GoA4.

Additionally, the new agreements involve equipping the two depots in Hundige and Høje Taastrup with radio-based communication systems, thereby extending the reachability of all trains. Furthermore, the train management system will be expanded to include new flexible disposition functions, ensuring an even more smooth operation in the future.

The S-bane's core network has the capacity to handle up to 84 trains per hour, transporting over 100 million passengers annually across a total of 88 stations on seven lines. Copenhagen's S-bane system plays a crucial role in the city's public transportation network, serving around 350,000 daily commuters. This number is steadily increasing as the metropolitan area around the Danish capital expands, now

housing over one fifth of Denmark's population. Upgrading the network to support unattended train operations will effectively cater to this growing trend.

Siemens Mobility's Rail Infrastructure business unit is market leader offering intelligent mobility solutions and a diverse product portfolio for various markets, including mainline, mass transit, and freight railways. Siemens Mobility's CBTC solution Trainguard MT enables 50 operators across five continents, spanning 25 countries and serving a total of 47 cities, to optimize their metro systems and operate them more efficiently, sustainably, and economically. The CBTC solution is the most widely deployed train control system globally, currently being utilized on 93 metro lines with a daily passenger volume of more than 30 million people. This demonstrates the capability to maximize performance in both new and existing systems, ultimately leading to fully automated train operation.

This press release is available at https://sie.ag/3korUV

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