

C2X Intelligent Infrastructure Enables Self-Driving Electric Bus in Seestadt Aspern

Self-Driving vehicles have the potential to make roadways both safer and less congested. As such, cities around the world are preparing for a future where autonomous vehicles are commonplace. In Seestadt Aspern, Siemens Mobility is working with consortium partners to provide the car-to-X (C2X) technology to ensure the autonomous electric bus effectively communicates with the infrastructure and roadways around it. This project is the first time that Austria successfully implemented C2X technology with an autonomous vehicle. The vehicle communicates with traffic lights, the intelligent infrastructure detects pedestrians and cyclists in the roadway and alerts the self-driving vehicles of real-time roadway dangers.

Working with project partners AIT, KfV, TUV and Navya, Siemens Mobility, a leader in connected vehicle technology worldwide, is responsible for further development of sensors and the deployment of systems that allow the bus to communicate with its surroundings. The autonomous electric bus manufactured by Navya and holds up to 10 passengers and one operator who is onboard for passenger safety. In Aspern, the test track runs from the U2 station "Seestadt" to the technology center of the Aspern Smart City Research (ASCR) and back again.

C2X Technology: A Closer Look

Siemens Mobility's C2X technology is a cooperative traffic management system that allows vehicles to connect with infrastructure and can also connect with traffic control centers. The C2X technology includes both Sitraffic Road Side Units (RSU) that connect vehicles with time-critical data – such as pedestrian information, traffic light timing, and roadway obstruction – and Onboard Units (OBU) which continuously report a vehicle's position, speed and direction of travel.

The traffic control center can use the data coming from both the RSU and OBU to ensure more efficient traffic control and guidance. The Sitraffic RSU integrates all international C2X communication standards, high security standards to ensure protection of data and full hardware and software compatibility with all C2X solutions.

The system can decrease congestion and optimize traffic flow by rerouting before stop-and-go traffic occurs, prevent accidents and reduce emissions, which improves quality of life and boosts economic growth in cities around the world.

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