NTU and NXP Semiconductors launch Smart Mobility Consortium to test and develop smart mobility technologies

By Wong Chung Wee on 18 Jan 2017, 16 hours 2 min ago

NTU and NXP Semiconductors have launched the Smart Mobility Consortium. The NTU-NXP Smart Mobility Consortium currently includes 12 industry partners, with the common aim of testing and developing smart mobility technologies.
The consortium makes use of the NTU campus as a test bed; for a start, the campus plays host to an exclusive wireless wide area network (WAN), which is based on vehicle-to-everything (V2X) communication technology. This special wireless WAN “runs on the IEEE 802.11p and 1609 standard”, and according to Associate Professor Guan Yong Liang, this specialized Wi-Fi standard is very similar to our consumer Wi-Fi ones; however, the former is tailored for high throughput communication for moving vehicles, even when the vehicles are traveling at high speeds. In a nutshell, the V2X communication technology makes use of a specialized Wi-Fi signal that is robust and reliable.
With the use of 35 roadside units, equipped with video cameras, the entire NTU campus is blanketed by this Wi-Fi signal. The entire wireless communication backbone is built and secured by NXP Semiconductors. The V2X network provides vital communication link among cars, traffic lights and other infrastructure components throughout the NTU campus. One of the large-scale test projects, the NTU-NXP Smart Mobility Test Bed, comprises 50 vehicles that are equipped with a “smart on-board unit”, linking them to the V2X network.
The smart on-board unit can be thought of as a "modem" that allows the vehicle to communicate with the network; in some instances, it can also communicate directly with other network nodes.

One of the main applications of the **Smart Mobility Test Bed** is to enhance traffic management. With accurate real-time information, the test bed’s command center can broadcast information to connected vehicles, as well as control attached nodes, like traffic lights, to ensure smooth traffic flow. In one of its use cases, a **V2X-linked** emergency vehicle can be given priority to move ahead at a similarly-linked traffic light. On a larger scale, the **NTU-NXP Smart Consortium** wants to garner more partners, and avail like-minded companies to the current test bed for developing their smart mobility systems. At the same time, those companies will be able to enjoy cost-sharing benefits on the test bed, “which is funded and supported by the Singapore Economic Development Board.”

(Source: Nanyang Technological University, Singapore)