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## Singapore's First Flash-Charging Electric Shuttle Launched

BY TOBY MURPHY ON JANUARY 24, 2018

**Singapore's first flash-charging electric shuttle was launched by Nanyang Technological University, Singapore (NTU Singapore) and BlueSG Pte Ltd (a subsidiary of Blue Solutions owned by the Bolloré Group).**



**Developed by Blue Solutions, Bolloré Group, the shuttle undergoes quick charging at charging stations, while passengers board or alight (Image credit: Nanyang Technological University)**

The fully electric vehicle, named the NTU-Blue Solutions Flash Shuttle, takes just 20 seconds to recharge at charging stations, which are equipped for its rapid charging while commuters board and alight.

The 22-seater electric shuttle uses Bolloré's Bluetram vehicle, which aspires to be as efficient as tram systems, but comes with emission-free and fast-charging continuous operation.

Road trials have been planned for the electric shuttle, which will be between JTC's CleanTech One (part of the Jurong Innovation District where exclusive charging stations have been built) and NTU's Halls of Residence at North Hill.

BlueSG's Managing Director Mr Franck Vitté and NTU's Vice President (Research) Professor Lam Khin Yong launched the shuttle on 22 January 2018, witnessed by Ms. Frédérique Vidal, the French Minister of Higher Education, Research and Innovation.

*The move to introduce electromobility and cutting-edge transportation technologies is part of our vision to transform NTU into a Smart Campus. The use of electric vehicles in public transportation is rapidly expanding across the world, as it offers more efficient transportation systems and reductions in greenhouse gas emissions.*

*As a leading global university with deep expertise in sustainable technologies, the NTU Smart Campus is already a living testbed for various sustainable and energy-efficient technologies, and the perfect partner for BlueSG to test and develop electric shuttles for Singapore. We expect that the insights and innovations developed from this partnership will ultimately benefit Singapore and the world by enhancing the first-mile and last-mile transportation options.*

Professor Subra Suresh, NTU President

*We are very proud of our partnership with Nanyang Technological University (NTU), one of the most prestigious scientific institutions in the world. The launch of this very first Bluetram in Singapore, for the students and professors of NTU, further validates the technology and expertise of the Group in the field of electric battery. Our ambition is to make available innovative mobility solutions to the greatest number (individuals, states, communities and companies) that respect the environment.*

Marie Bolloré, Managing Director of Blue Solutions.

Supported by the Economic Development Board in Singapore, this research collaboration with BlueSG will run for a couple of years. As part of the research trials, NTU students will be able to travel on the electric shuttle from the mid half of 2018. Moreover, the association is the main initiatives under the France-Singapore Year of Innovation, which intends to strengthen the cooperation on innovation between France and Singapore in 2018.

### **Tram-Like Efficiency with Fast-Charging**

The Bluetram is different from other electric vehicles that operate only on batteries and emulates the efficiency of trams by continuously operating without the necessity for offline charging.

The shuttle is fitted with supercapacitors, as well as a LMP<sup>®</sup> battery developed by Blue Solutions, and it is designed to travel two kilometers on just a single charge, with backup power that offers an extra 30 kilometers.

In addition, when compared to tram systems, the costs of operating Bluetram is as much as five to ten times lower because it does not need any expensive infrastructure, such as catenary or rails, and an entire fleet can be deployed in just a matter of weeks.

The joint research team which includes scientists from BlueSG and NTU's Energy Research Institute (ERIAN) will study the Bluetram's real on-road performance in Singapore's tropical climate, including passengers' user behavior.

Professor Lam Khin Yong, NTU's Vice President (Research), said that partnerships with top industry players are vital to translate research into real-life applications.

*NTU has a strong culture of translational research, especially in the areas of electromobility and sustainability. Having worked with leading industry players such as Volvo and BMW Group in similar areas, we look forward to working closely with Bolloré to testbed the new electric shuttle at NTU, under Singapore's climate and traffic conditions.*

Professor Lam Khin Yong, NTU's Vice President

### **Electric Vehicle Car-Sharing in NTU**

In an effort to install electric vehicle car-sharing stations, the university is also in discussion with BlueSG as part of NTU's Smart Campus initiative. This move will also add to the current pool of electric vehicle charging stations located around the campus.

It will improve NTU's connections with nearby communities in Bukit Panjang, Choa Chu Kang, Jurong East, Jurong West and the rest of Singapore.

A BlueSG vehicle can be rented by staff, faculty or students, who can drive it around Singapore and return it to any BlueSG charging station. Using the flexibility and convenience of the BlueSG program, members of the public can also drive into NTU's campus.

The move is part of BlueSG's ongoing expansion of its charging stations island wide.