

Compact multipurpose scooter for crowded megacities

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VOI represents a two-wheel electrical multi-purpose scooter constructed to meet the challenges of megacities by scientists of TUM CREATE a joint research initiative of Technische Universitaet Muenchen and Nanyang Technological University at Singapore. Credit: TUM CREATE

TUM CREATE has unveiled an all-new multipurpose scooter prototype, codenamed VOI, at the 3rd Taiwan International Electric Vehicle Show.

VOI gets its name from the Vietnamese word for elephant—a symbol of a safe and intelligent mean of transport. It is a two-wheel concept vehicle jointly developed by students from Technische Universität Muenchen and Singapore's Nanyang Technological University, and was built in Singapore.

The design brief for the VOI was to develop a two-wheel transporter that is as agile and affordable as a scooter and, at the same time, as safe and comfortable as a car. With its compact size and [maneuverability](#), the two-wheel [electric scooter](#) is designed as a transporter for densely populated megacities and offers a comprehensive solution to metropolises where congested traffic is a major problem.

Positioning the rider behind allows for a compact design and the use of an enclosed passenger cabin that shields occupants from the elements. The enclosure also offers added rigidity and stiffness to the vehicle chassis, which provides additional passenger protection.

With the VOI, business people are able to commute quickly, comfortably and safely through the gridlocks to rush from one meeting to another. It can also address the 'First/Last Mile Problem', where it complements an existing metro railway and [public transport system](#), to offer commuters intermediate transportation between the stations to their destinations.

Furthermore, the VOI is not just limited to transporting passengers. Its modular front pod can be swapped for a cargo box or even a mobile kitchen – making it a multipurpose vehicle. It is not only a more efficient mode of transport; it also reduces pollution within a metropolis with zero [tailpipe emissions](#). Thanks to its lightweight design, the VOI is capable of reaching a nominal range of 80 km and has a maximum speed of 45 km/h.

Project VOI is an [urban mobility](#) concept developed by final-year students from both universities and is a Work-in-Progress prototype to demonstrate the possibilities of future mobility. This project is just one of many research and development works undertaken by over 100 scientists, researchers and engineers from more than 20 countries at TUM CREATE. The cutting-edge research covers topics ranging from molecules to [megacities](#) including areas such as: electrochemistry, electric vehicle battery packs, embedded systems, air conditioning, simulation and modeling, and infrastructure.

TUM CREATE will mark another significant milestone and set history later this year when it will present the electric taxi prototype, codenamed EVA, at the Tokyo Motorshow – Asia's largest and most important automotive trade show. EVA is a platform to showcase the research, development and innovations of TUM CREATE.

Provided by Technical University Munich

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