

Polish Smart Car Built in Kraków

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A group of students from Krakow's Technological University have developed an innovative hybrid car for their dissertation project.

At first sight the Bombus, as the prototype is known, looks like an extended scooter, but it is much more than that.

"The name Bombus is taken from Latin and means 'Bumblebee.' We chose it because our car not only resembles that beneficial insect, but is also aimed at people who need fast and efficient transportation during their working hours," said Tadeusz Gwiazdoń, one of the three-person team who took more than a year to engineer the vehicle.

"We did not want to produce just another theoretical dissertation, but rather a practical project presenting our engineering skills. After consulting with our supervisor we chose a narrow track vehicle as our topic," said the young engineer.

Narrow track vehicles are intended for use in areas where space is at a premium and access is restricted, such as city centres. The Bombus is smaller and lighter than any vehicle of its kind in Poland. At about 2.5m long and 1m wide it is certainly easy to find parking spots for the Bombus. It is also very light, just 240kg, which means it can be swift and economical.

The Bombus can carry two people. The passenger sits behind the driver and a clever door system allows easy entry and exit. There is also a crumple zone for enhanced safety.

As a hybrid, the Bombus has two engines that complement each other. The petrol, scooter engine can accelerate the vehicle to 28mph in six seconds, and the electric motor running from lithium batteries can propel it for at least 19 miles. Recharging takes only three hours from a standard, domestic electrical outlet.

"Unlike a regular scooter, you don't have to wear a helmet to drive a Bombus. You can use it no matter what the weather and transport a child safely," said the designers.

They have no doubt that the Bombus is the vehicle of the future. "In Western Europe such solutions are appreciated, because city centre access regulations are very strict. In Poland there's no such demand since city centres are open to all cars without fees," said Prof. Witold Grzegożek, the project's supervisor.

And what about plans to commercialise the Bombus? Krzysztof Oleksy from the Technology Transfer Centre of the Krakow Technological University said: "Initial talks have been held and we hope that, in the near future, we can increase the pace of our co-operation with the project team. Our specialists will help them search for potential partners and prepare a prospectus for investors. In my opinion, it would also be wise to patent the vehicle."

The Bombus' designers claim that a petrol-only production version could be on the market for less than 10,000 złoty (ca. 2,500 euro). A hybrid or electric-only version would be more expensive at up to 20,000 złoty (ca. 5,000 euro).

Photo: The Bombus and co-designer Tadeusz Gwiazdoń (By: David McGirr)