

Semar UGM Efficient Car Into Action at Prambanan Temple

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Car designed by Semar team Universitas Gadjah Mada (UGM) was put in action at the *Energy Saving Car Contest (KMHE) 2016* at Prambanan Temple complex, Wednesday (2/11). This year, UGM sent three cars, Semar Urban Gasoline to contest in urban concept category, Semar Prototype Diesel and Semar Prototype Electric to join the prototype category. Facing this prestigious competition, UGM Semar team had envisioned the race thoroughly. In fact, the car is targeted to win overall championship.

"We have prepared for this event since last year and the result of test drive made us optimistic to win the race," said co-manager of Semar Team UGM, Naviga Widowati, on the sidelines of the race preparation.

Semar Urban Gasoline is a four-wheeled prototype car with the concept of smart city car and gasoline as the fuel. This car has very aerodynamic designs which made the air drag coefficient very small with small sized car as well with a capacity of one person. This car only weighs 80 kg because it uses carbon fiber that is stronger and lighter as car body material.

"From the test-drive, the urban car is able to cover 250 km/liter and we are targeting it to drive 300 km/liter of petrol," he said.



Meanwhile, the engine used in this car cylinder is of 125 cc capacity. It is equipped with new features of fuel injection and spark ignition timing which is controlled by a computer and can be programmed.

The second car is Semar Prototype Diesel which was developed with the concept of three-wheeled prototype with prime movers cylinder diesel engine capacity of 220 cc. It was specially designed with a sleek body car to generate low air drag coefficient.

The car body is designed with a monocoque systems with chassis and body integrated into one. Just like an urban car, the car was built from carbon fiber material that has a light weight.

"The target is it could be sped up to 400 km/liter," he explained.

The last car, Semar Prototype Electric, has a similar concept with Semar Prototype Diesel. The difference lies only on the drive system. This car type has electric motor brush less direct current (BLDC) with power up to 2 kW, powered by a 48 vol lithium battery pack with a capacity of 20 Ah. The car is targeted to speeding up to 250 km for every 1 kW of electricity.

Reyhandy Bayu, driver of Semar Urban Gasoline, mentioned that this competition is not easy, because, many tough teams will compete in the KMH2016. Nevertheless, he remains optimistic that the Semar car UGM can compete well in this competition.

"From the results of test-drive, I'm optimistic we can win," he said.

Admittedly, the toughest challenge in this competition lies in the relatively narrow race track, sharp bends, and uphill track.

"We've studied the terrain and the characteristic of the car; we hope we can get through this race well with maximum results," he said.

In this competition, the Semar team UGM is competing with the other teams to prove the vehicle is developed with the most efficient use of energy. This year KMHE is followed by 60 teams from 38 universities and polytechnics throughout Indonesia. This year, 27 teams competed in the category of urban, which consist of eight teams in urban petrol, 5 teams of urban diesel, 4 teams of urban ethanol and 10 teams of urban electricity. While the prototype category is followed by 33 vehicles, which consist of 12 teams in prototype gasoline, 4 teams in prototype diesel, five teams in prototype ethanol and 12 teams in prototype electricity.

All selected finalists have passed a series of selection which were design document selection,

monitoring, and vehicle manufacturing. They will compete for four days, from November 1st to 4th for the most efficient vehicle. (UGM/adelily)

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