

## **SHELL ECO-MARATHON ASIA 2015: OFF-TRACK AWARDS WINNER LIST**

### **COMMUNICATIONS**

Anubis, Team CUT Eco-Racing UC  
Cairo University Faculty of Engineering, Egypt

Team CUT Eco-Racing UC understood the strategic value of media engagement and was able to get to the heart of it by approaching the Egypt Prime Minister to support their initiative. They organised the country's biggest engineering festival and succeeded in getting not only the Prime Minister but also six other ministers to attend the event. They also participated in other publicity events and made the news in broadcast and print. This jumpstarted their story to take a life of its own. Their campaign caught the attention of six sponsors who helped them raise a total of almost USD 230,000 which will be used to fund future engineering projects.

### **VEHICLE DESIGN**

CD04-evo, Clean Diesel Team  
Hyogo Prefectural Tajima Technical Institute, Japan

Clean Diesel Team won for their ingenious vehicle design that successfully integrated ergonomic, aesthetic, material, technical and eco-friendly elements. The vehicle design allows sufficient space for the driver's comfort, is aerodynamically optimised and visually pleasing. The team efficiently used a structure made of carbon fibre of just the right thickness, turned a conventional approach into creative implementation with their power train and engine management system to improve overall driving efficiency, and utilised recyclable materials reducing the car's environmental footprint.

### **TECHNICAL INNOVATION**

Nanyang Venture IX, Team Nanyang E Drive  
Nanyang Technological University (NTU), Singapore

Team Nanyang E Drive impressed with the application of a novel steering mechanism which included stepper motor control. As a result, the vehicle was able to lean when turning corners to maintain its speed. An electronic control circuit was designed to determine the optimum leaning angle as a function of vehicle speed and corner radius. The same team is also the winner of this year's Safety award.

## **PERSEVERANCE AND SPIRIT OF THE EVENT**

Team Alfaisal

Alfaisal University, Saudi Arabia

Team Alfaisal showed great resilience despite a delay in receiving their car onsite. They remained positive and chose to move forward amidst challenges, and focused on preparing whatever they could in advance for when their car was delivered to their garage. Despite precious time lost, it did not stop them from sharing their materials and resources to neighbouring teams. They donated their spare engine to a competing Philippines team which faced sudden challenges with their engine. The team has demonstrated that the event is not about winning, but is about reaching a common goal – driving innovation to achieve sustainable mobility.

## **SAFETY**

Nanyang Venture IX, Team Nanyang E Drive

Nanyang Technological University (NTU), Singapore

Team Nanyang E Drive wins the Safety award alongside the Technical Innovation award for displaying strong awareness of potential hazards, and for putting in control checks and measures to ensure that such incidents are prevented. Each team member has consistently displayed adherence to safety practices—a good sign that safety is truly ingrained and embedded in the hearts and minds of the entire team.

## **SHELL HELIX TRIBOLOGY**

Symmetry V3.0, Team TIP Mileage Proto

Technological Institute of the Philippines

Team TIP Mileage Proto from the Technological Institute of the Philippines diligently thought about quantifying the effect of lubricants on friction, and used lubricants with varying viscosity to minimise fuel consumption. By testing different oils available in the market, they were able to understand its effects on fuel economy and took advantage of the benefits of low viscosity synthetic oils.

The team also thought about lubricants in all parts of the engine. They incorporated a chain drive lubricated with a brush type oil dispenser with an automatic timer that also kept the chain clean. Lastly, they looked at the impact of different materials and used wheel bearings with a plastic retainer to improve energy efficiency.