

MICHELIN INNOVATIONS AT THE 2011 CHALLENGE BIBENDUM

At the Challenge Bibendum in Berlin, Michelin unveiled five types of tyre innovations and other breakthrough technologies, all of which maximise overall efficiency in transportation.

Rahul Basu took a peek at some of these radial innovations

Since 1992, Michelin has developed five generations of fuel-efficient tyres for cars and three for trucks. Together, these tyres have reduced fuel consumption by nearly 14 billion litres and CO2 emissions by over 35 million tonnes worldwide.

At the 11th edition of the Challenge Bibendum, we got a glimpse of not just some promising future tyre prospects being developed by the French tyre maker, but also some ingenious engineering breakthroughs that will very soon make Michelin's tyres much more than high quality rubber radials.

SELF-REPAIRING TYRE

Developed largely for the emerging markets like India and China, Michelin is in the process of bringing to its production line one of the world's first self-repairing tyres, that can be driven over nails without losing a single gram of pressure.

What makes these energy saving self-repairing tyres different from ordinary run-flat tyres is that they are made from a unique rubber compound that immediately repairs holes in the tread. In addition, they perform on all fronts like a fully functional tyre, such as safety, total mileage and fuel efficiency.

THE EILISUP PROJECT: MOTORISED TRUCK TYRE CONCEPT

Normally trucks are fitted with 22.5-inch tyres. The new truck concept tyre of just 17.5 inches has been specially developed by Michelin as part of its EILISUP Project. The project's purpose is to develop a



hybrid bus and an electric bus, both of which can be charged quickly. More broadly, the goal is to promote the electrification of buses and demonstrate that this type of public transport is economically viable.

MICHELIN'S MOTORISED WHEEL AND ACTIVE WHEEL CONCEPTS

The most significant highlights of Michelin's research based prototypes at the 2011 Challenge Bibendum were its Motorised Wheel and Active Wheel concepts.

A highly innovative concept, the Motorised Wheel is a tyre that eliminates the need for an engine under the front or rear hood of a car, transmission components and even a gearbox. The Active Wheel on the other hand, is an intelligent wheel that can propel cars electrically, while integrating suspension and braking functions all into its limited circumference, thus giving drivers unrivalled road handling and comfort

on the road.

What makes the Michelin Motorised Wheel and the Active Wheel valid prospects is the use of a technologically advanced compact traction motor, that in the case of the Michelin Active Wheel, features an integrated electric suspension system. Its energy output is said to be three times that of an internal combustion engine. Looks like the world of wheels is the next avenue for motor-tech revolutions!

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