

The ITB Group Paves The Path In Its Upcoming Report “Intelligent Aerodynamics”

The ITB Group's upcoming report "Intelligent Aerodynamics" explores cutting-edge aerodynamic technologies.

([PRWEB](#)) November 11, 2015 -- The free-flowing world of active aerodynamics is constantly burgeoning with new technology. From active grille shutters to active spoilers, suppliers and OEMs are working to fine tune strategies and develop components that will ultimately reduce the drag coefficient (Cd) and improve the drivability of the car. Each percent reduction matters and this year, it has been a race to the top to show off the best products at innovation showcases. The leaders with the largest impacts have been Toyota and Mercedes-Benz with the Prius and concept coupe cars, respectively. Both of these vehicles have included cutting-edge aerodynamic technologies that will be discussed in The ITB Group's upcoming report on “Intelligent Aerodynamics.”

At the Las Vegas World Premiere event in September 2015, Toyota unveiled the 2016 Prius that attains a .24 Cd and has a new body style design. It also is the first Toyota vehicle based on the Toyota New Global Architecture (TNGA) platform. The design of this platform is meant to substantially lower the center of gravity of the vehicle and includes aerodynamic features such as the lowering of the rear spoiler, lowering the hood, and adding dynamically changing active grille shutters. Some of these features have already begun to seep into the rest of the automotive world, but by having Toyota show this feature off with their world-leading hybrid car, it's compelling other manufacturers to follow suit.

At the 2015 Frankfurt Motor Show, Mercedes-Benz unveiled its concept coupe car that allowed it to reduce the drag coefficient from .25 to .19. That's a reduction of nearly 21%! Mercedes-Benz did this by having its car detect when it needed to activate itself into aerodynamic mode. Once activated, rear carbon-fiber-reinforced plastic panels extends the length, front flaps extend the front end and cover the wheel arches. There are also active wheel rim covers that allow it to change from a five-spoke design to a flat-disc variation.

Other types of aerodynamic innovations that are being developed include active suspension. By being able to dynamically raise and lower the height of the suspension, the air resistance below the underbody is reduced, thus lowering the drag on the car. Typically, this would be done at highway speeds; however, as Tesla found out with its Model S, there is a limit to the amount the vehicle's suspension can be lowered without catching on material on the highway and thus having the possibility of the vehicle catching on fire. This lowering will also be beneficial to the safety aspect of the cars since it will assist in the prevention of rollover accidents.

Updates to reduce a vehicle's drag do not necessarily need to be active. Parts as simple as underbody shields are being incorporated and researched in the vast majority of the automotive market. This past May, Plastic Omnium and PSA Peugeot Citroën both received innovation awards for their practical development of a thermosetting resin floor reinforced with fiberglass. This new underbody will weigh 8 kg less and will replace the more traditional steel underbody. First seen at the Paris Motor Show in 2014, the groups aim to have applications for this new underbody in 2020.

These and other leading industry trends will be part of the research and analysis in The ITB Group's upcoming report “Intelligent Aerodynamics.” The report will make educated deductions on the impacts that will be the most pertinent to future product development. Currently this includes active grille shutters, active spoilers, and

underbody shields. These not only have the obvious effect of a reduction in drag, but also allows manufacturers to have a reduction in CO2 emissions and MPG; aspects that the typical consumer will relate to more easily during their purchasing decisions.

The “Intelligent Aerodynamics” report will also assist companies to delve into the details of current industry trends and make company decisions based on state-of-the-art research by The ITB Group. This research will include future legislation and regulations that would assist with earning CO2 credits that will be available with active aerodynamics. There will also be an estimate on the future active aerodynamic market size with respect to North America, Europe, and Asia. For a full listing of the project’s scope and to see a prospectus, please contact The ITB Group directly.

About The ITB Group:

The ITB Group, Ltd. is an international automotive technical/business consulting firm headquartered in Novi, Michigan, USA. It provides technical and business advice to OEMs, component and material suppliers in North America, Europe, and Asia. The company is a leading expert in the use of polymer materials for automotive applications including under-the-hood, interior, and exterior applications. The firm further provides guidance for various forms of supplier transactions.

Further background can be found at <http://www.itbgroup.com>.

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