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For immediate release

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Yokohama Rubber Advancing Tire Aerodynamics Technology **New advances reduce vehicle aerodynamic drag and lift**

Tokyo –The Yokohama Rubber Co., Ltd., announced today that it has made new advances in tire aerodynamics technology that control the air flow around tires in motion. The new development reduces vehicle aerodynamic drag and lift. Application of the new technology could lead to the development of new tires that will raise fuel efficiency and increase vehicle safety.

Following its successful research on rolling resistance, Yokohama Rubber has been focusing its research on aerodynamics technology on the reduction of vehicle air drag, including the use of aerodynamic simulation technology since 2010. In December 2012, Yokohama Rubber developed a technology for placing fin-shaped protuberances on the inner sidewall of the tire in a radial or spoke-like pattern to reduce the aerodynamic drag inside the wheel wells. The latest development seeks to control aerodynamic flow throughout the vehicle body by using a new fin shape and placement technique that places the fin protuberances at angles near the tire's shoulder. The fins on the tire's outer sidewall help to reduce vehicle aerodynamic drag when on the upper part of the tire during its rotation while suppressing vehicle aerodynamic lift when on the lower part of the tire. In addition, we conducted a large-scale parameter study in collaboration with a team led by Professor Shigeru Obayashi of Institute of Fluid Science, Tohoku University; this study used a Supercomputer "K" to run aerodynamic simulations at different parameter values to determine the impact of changes in the parameter values on a desired result. This study led to new knowledge about the optimal placement of fins on the tire surface in order to enhance tire aerodynamics.

To date, Yokohama Rubber's research on aerodynamics technology has to a number of new tire designs that contribute to vehicle fuel efficiency, including a dimple design that places small depressions on the side of the tire and the aforementioned fin tires, with fins located on the side of the tire. The latest breakthrough will enable more optimal placement and shaping of dimples and fins as Yokohama Rubber accelerates its research of tire designs that not only improve tires' fuel performance but also enhance performance in many other areas.

The aerodynamic tire with new fin pattern will be on display at the YOKOHAMA display at the 44th Tokyo Motor Show 2015, to be held from 28 October at the Tokyo Big Sight in Tokyo, Japan.

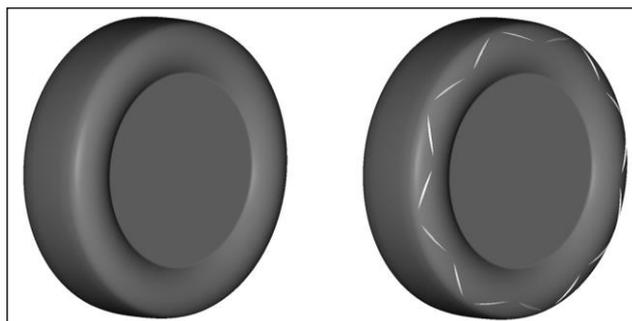


Image of normal tire (left) and aerodynamic tire with new fin pattern (right)

**Aerodynamic flow from normal tire and aerodynamic tire with new fin pattern
(Analysis based on aerodynamics simulation)**

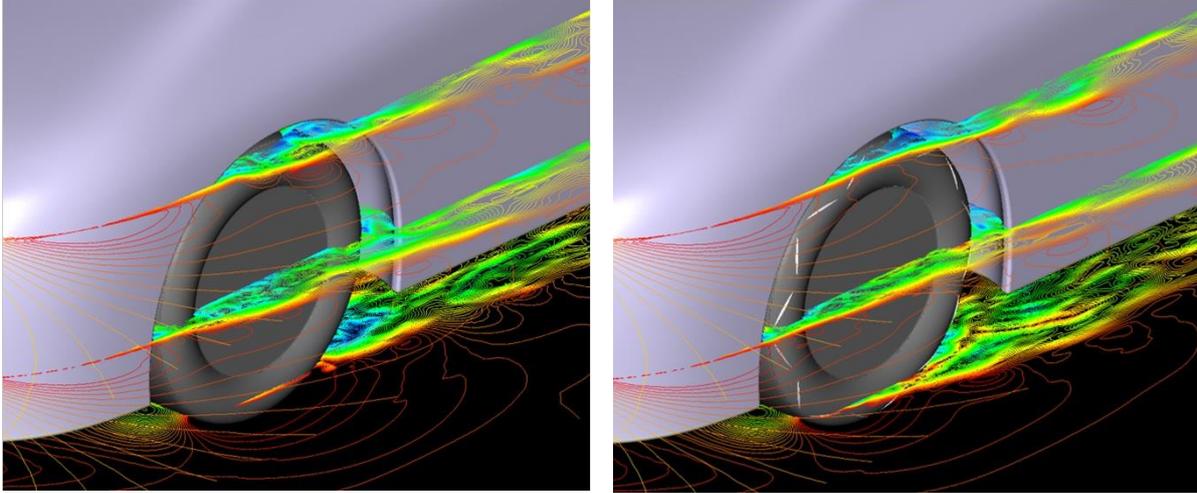


Image of aerodynamic flow patterns for normal tire (left) and aerodynamic tire with new fin pattern (right)

Aerodynamic flow from the upper part of the aerodynamic tire with new fin pattern (above right) runs along the side of the tire and car body while flow from the lower part of the tire spreads out from car body.