

February 19, 2021
For immediate release

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Medium- and Long-Term Technological Development Vision for Passenger Car Tire Sensors

Tokyo—The Yokohama Rubber Co., Ltd., announced today the SensorTire Technology Vision medium- and long-term technological development vision for passenger car tire sensors.

The aim of the SensorTire Technology Vision is to support mobility for people from the ground up and contribute to lasting safety and peace of mind while addressing new changes in mobility demand by providing data obtained from SensorTires (Internet of Things [IoT] tires) fitted with sensing functionality to drivers and to diverse external enterprise operators.

Yokohama Rubber will categorize the services to be provided in reference to specific sensing functions and real-time performance. The company will build in stages sensing functions and data analysis and prediction technology suited to each service, and it will broaden the range of applicability of the sensing functions. An air-pressure alert service for individual vehicle owners and for vehicle operation management companies will be the initial trial, and a tread wear detection function will be added by 2023. This will allow for providing notifications when tire rotation is due and for providing fleet operators with proposals for efficient tire inspection plans.

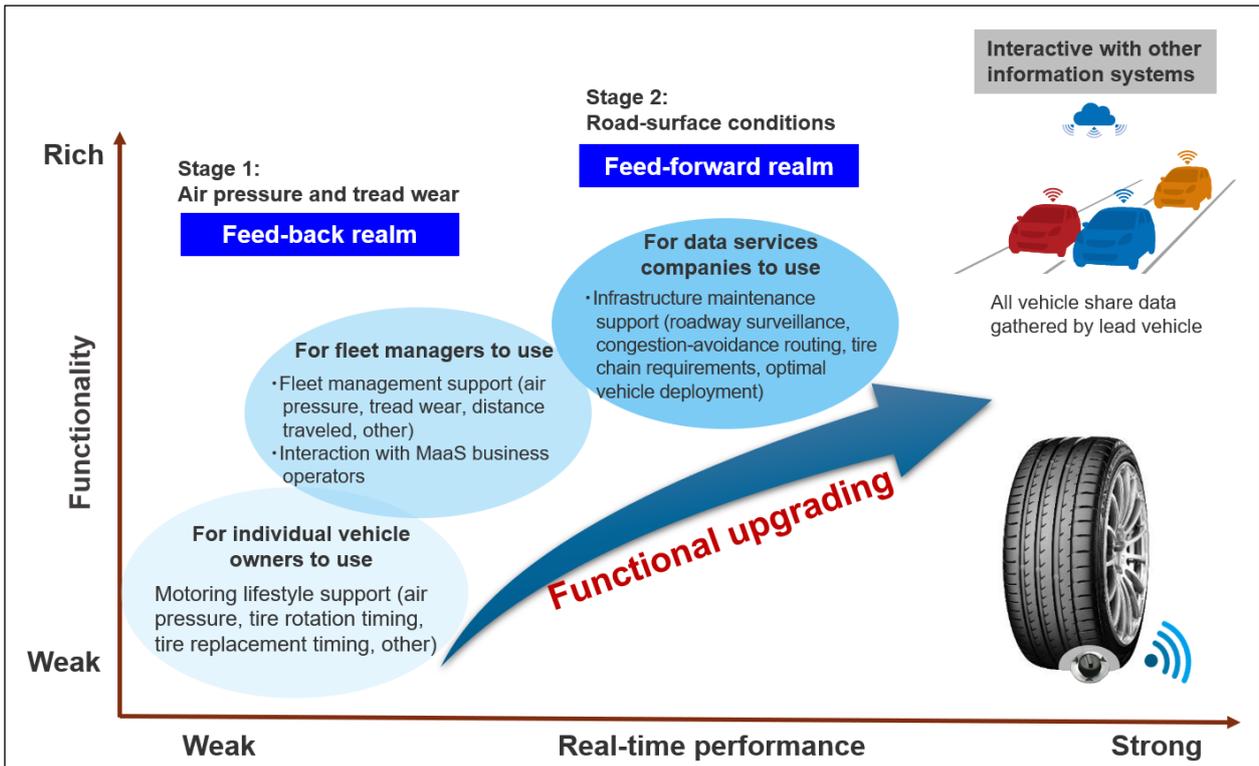
In the longer term, Yokohama Rubber will move to connect tire data with map data and with traffic-congestion, weather, and other data from vehicles in vehicles' destination areas to propose safe driving routes as the provision of new value-added information, and the company also aims to provide support for safe and peace-of-mind vehicle-operation management, as in autonomous-driving vehicles and at companies that provide services in connection with MaaS*.

* Mobility as a Service. The provision through packaged search, reservation, payment, and other related functions of optimal combinations of public transport and other mobility services for addressing the mobility needs of local residents and of travelers

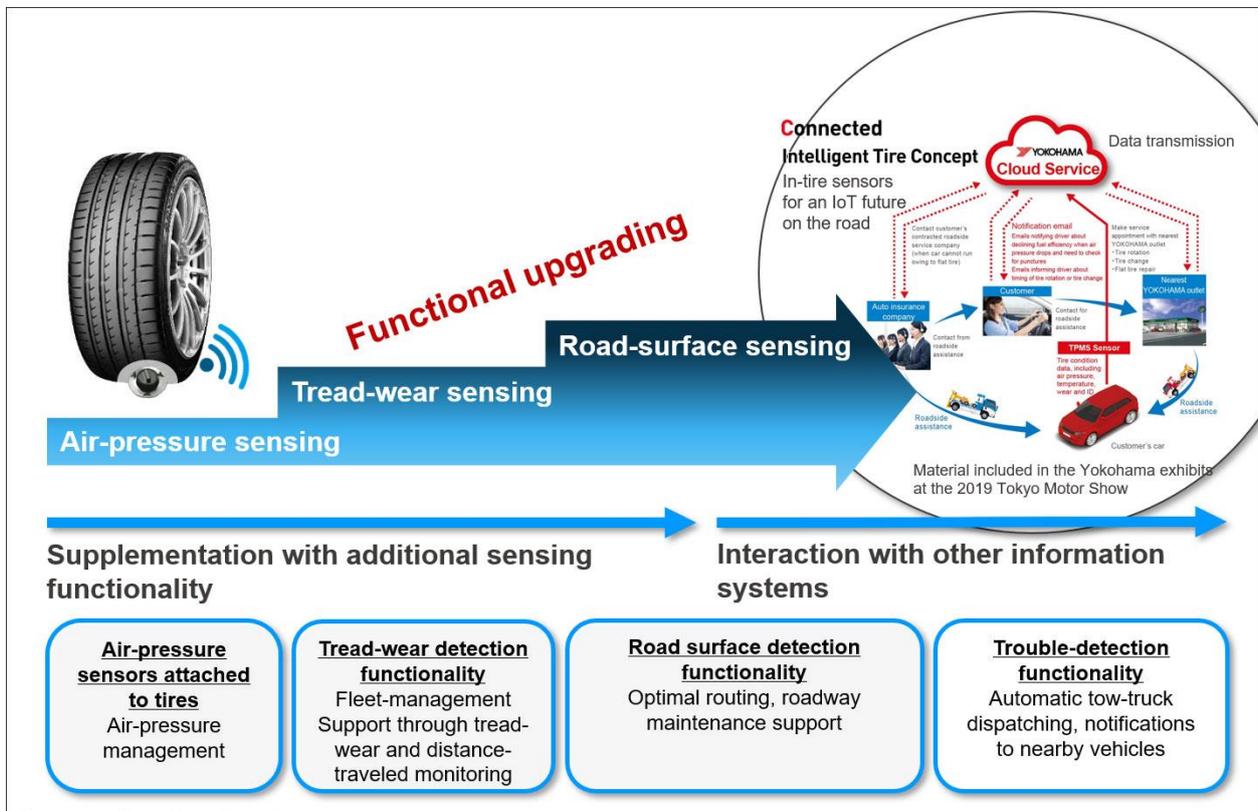
Yokohama Rubber, in advance of the formulation of the SensorTire Technology Vision, announced the joint development with Alps Alpine Co., Ltd., of an advanced passenger car tire sensor at a press conference at the 2019 Tokyo Motor Show. In recognition of the need for accommodating CASE* and for advancing the IoT, Yokohama is pressing ahead with development work on new technologies for accommodating CASE and, in the CASE realm of "connected," it is conducting joint research and development with Alps Alpine with an eye to undertaking solution business that will include supplementing the established function of tire air pressure detection with that of detecting tread wear and road-surface conditions and processing and managing the data obtained with those functions.

* The first letters of "connected", "autonomous", "shared" and "services" (sometimes only "shared"), and "electric"

Concept



Upgrading Scenario of functionality and real-time performance



About the Partners

Alps Alpine, established in 1948, is an electronic components and automotive infotainment manufacturer that develops, manufactures, and sells information & communications components used in smartphones and other devices, in-vehicle audio equipment, and information & communications equipment. In addition to sensor development, Alps Alpine has system design and software development capabilities that we expect will deliver a synergistic effect to our new tire business model.

In 2004, Yokohama Rubber became the first tire maker in Japan to develop a tire pressure monitoring system (TPMS) for passenger cars. Sales of the system, dubbed "AIR watch", began on a limited basis in 2005. "Air watch" received a Good Design Award in 2004, and in 2006 it was named a winner in the "Functional Goods & Accessories" section of the "Nikkan Jidosha Shimbun Car Accessory Awards 2006" sponsored by the automobile industry newspaper the Nikkan Jidosha Shimbun (English version is the Japan Automotive Daily). In addition, since 2003, Yokohama Rubber has been selling its HiTES system as a TPMS to transportation and transport companies that require strict tire management to ensure that their trucks and buses operate more safely with greater running efficiency and lower fuel consumption that helps protect our environment. Linking tire operation history and other vehicle data with Yokohama Rubber's tire management system (TMS) will enable users to analyze vehicle operation trends and receive notification of the proper timing for tire inspection, thereby raising their comprehensive vehicle operation management to a new level and promoting the use of retread tires.