Research & Development

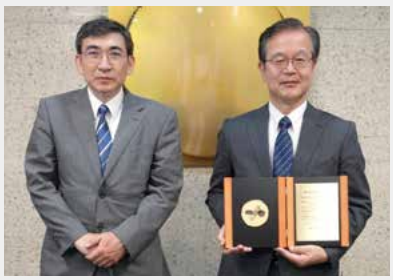
Yokohama Rubber engages in multi-faceted and comprehensive research and development activities from material design to product design, testing and evaluation along the themes of ingenuity, application and greater sophistication of technologies, and has pursued the possibilities of various technologies and products, including rubber polymer technologies.

In the development of tires, which play a vital role in safeguarding people's lives, we always adopt a "people" perspective and engage in diligent research that accounts for every aspect, including safety, drivability and comfort. An enormous volume of data is obtained from testing facilities maintained by Yokohama including the Daigo Proving-ground and Research Center (D-PARC) comprehensive tire test course, Tire Test Center of Asia, the Tire Test Center of Hokkaido course for WINTER tires, and the Yokohama Test Center of Sweden. This data is instantly transmitted to the Research and Development Integrated Center (RADIC) within the Hiratsuka Factory located in Hiratsuka City, Kanagawa Prefecture, where it is used to improve tire performance and develop next-generation tires. In addition, outside the field of tires we use innovative ideas unconstrained by conventional thinking and cutting-edge technologies to pursue the development of new materials and the design of products with a view toward the next generation.

Major R&D Achievements of Recent Years

Winning an Award from the Society of Rubber Science and Technology, Japan (SRIJ) for Research and Development of Rubber Materials Using Sustainable Resources

In May 2022, two engineers from Yokohama won the 34th SRIJ Award from the Society of Rubber Science and Technology, Japan for research and development of rubber materials using sustainable resources. The research resulted from the Ultra High-Throughput Design and Prototyping Technology for Ultra Advanced Materials Development Project organized by the New Energy and Industrial Technology Development Organization (NEDO). In January 2022, the research was adopted under Development of Technology for Manufacturing Plastic Raw Materials Using CO_2, a Green Innovation Fund Project and development of the technology is ongoing.



Hiromu Saito, President of SRIJ (professor of Tokyo University of Agriculture and Technology; pictured left) presents the commendation plaque to Yokohama employee Misao Hiza

Development of a New Technology to Estimate the State of Wear Based on In-Tire Sensing Waveforms

In April 2022, we developed a new technology that detects the state of wear in a tire based on sensing waveforms in the tire while running. Visualizing the state of wear in a tire enables tire maintenance that takes into account safety, economy and the need to reduce environmental impact. The technology works by taking sensing waveforms obtained from a sensor affixed to the inner surface of the tire that was jointly developed with Alps Alpine Co., Ltd. and performing analysis using proprietary signal processing technologies.

In February 2021, Yokohama announced its SensorTire Technology Vision, its medium- and long-term technological development vision, and has conducted practical testing with various industries as a part of those activities.

Image of a sensor attached inside a tire (being developed with Alps Alpine)

Sensing image generated by tire sensor