

RESEARCH AND DEVELOPMENT (R&D)

The Group aims to achieve the corporate mission of “Serving Society with Superior Quality.” It conducts R&D activities in accordance with the Mid-Term Plan (MTP) to establish a fiercely competitive business on a global basis through innovation in technology and business models, and by strengthening design capabilities that creatively link corporate activities with customers and society. Moreover, the Group promotes the optimization of its R&D structure on a global basis and proactively cooperates with external parties to further enhance the effectiveness of R&D activities.

– Tire

The tire segment operates based on the development philosophy of “safety and peace-of-mind” for stakeholders and seeks to create new added value through commitment to the environment, safety, and comfort.

The Group has developed the world’s first polymer, called “High Strength Rubber,” that bonds rubber and resins at the molecular level resulting in a polymer that is both pliable and strong. This new polymer opens possibilities for new kinds of tires that offer lighter weight, high durability, longer life, and increased fuel efficiency, and exceeds what has been expected of tires traditionally. It uses Bridgestone’s proprietary synthetic rubber technology and its features exceed those found in natural rubber. As a result, the Group believes that this new material will lead to the creation of products that are also environmentally friendly. Additionally, the Company, using its own ICT, is making progress in many fields including: the digitization of value chains, development of analytics, forecasting, high-precision processing, and sensing technologies. These efforts are leading to the implementation of the “smart factory concept” that will enable the Group to optimize its capabilities and speed and efficiency in providing customers with high-quality tires.

– Diversified Products

In the diversified products segment, the Group is advancing its development activities for the commercialization of a next-generation bicycle tire that adopts the “Air Free Concept,” a technology for creating tires that do not need to be inflated with air. The Group conducts R&D activities to deliver products that improve customer satisfaction by meeting constantly changing market needs and developing a business that supports social infrastructures. These activities include advancements in the commercialization of products, such as the “Smart Siphon” drainage system that contributes to improving the flexibility of water supply equipment placement in buildings, and a resin pipe called the “Raku-Raku corrugated coated pipe,” which boasts tangle-resistant features to improve work efficiency at construction sites and excellent scratch-resistant properties.

In collaboration with external parties, the Group aims to develop strong materials, going beyond the reach of current technologies. It participates in the “Impulsing Paradigm Change through Disruptive Technologies Program (ImPACT)” to develop a hybrid rubber material that could enable production of lighter and thinner tires that can achieve fuel efficiency while sustaining high strength. Meanwhile, research efforts continue on the diversification of natural rubber supplies. The Group is partnering with Italian company Versalis S.p.A. to drive R&D activities toward the commercial production of tires that are made from guayule natural rubber.

Additionally, the Group has reinforced its R&D activities to strengthen the competitiveness of its solutions business to deliver customer value and social value beyond the boundary of existing services. The Company combines technology from both the tire and diversified products segments, along with ICT, and packages them as a new service to our customers. In the fleet solutions business, the Group upgraded the “Tirematics” system sold in European markets, which is a real-time monitoring system of the air pressure and temperature of truck and bus tires, and released it in the Asia and Oceania regions as well. By operating the “Tirematics” system with “Toolbox,” the Company’s digital platform for managing information on tires, it is possible to monitor and analyze the full lifecycle of tires, and thereby contribute to customers’ business operations through improving productivity, increasing asset value, and optimizing costs.



Air Free Concept (Wheel)



Air Free Concept (Bicycle)