

## RESEARCH AND DEVELOPMENT

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 Management 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 in 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 tires segment is 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 succeeded in the development of a technology that strikes an expert balance between safety, economical efficiency, and quietness of the product, based on a combined technology of the “active foam rubber 2” and new “asymmetric patterns,” which deliver high-gripping performance on icy roads. The Group has also worked on the tire design technology at the molecular level using its unique technology called “NanoPro-Tech” (Nanostructure-Oriented Properties Control Technology). In addition, the Group provides customers with high-value-added, high-quality products by implementing the tire-assembling system “EXAMATION,” which combines Artificial Intelligence (AI) with proprietary ICT, at the Hikone Plant in Japan and the Tatabánya Plant in Hungary.



Exterior of EXAMATION system unit



Air Free Concept (Wheel)



Air Free Concept (Bicycle)

### Diversified Products

In the diversified products segment, the Group has developed a next-generation bicycle tire as an effort to realize practical application of the “Air Free Concept,” a technology for creating tires that do not need to be inflated with air. In addition, the Group continues to advance the commercialization of the “Smart Siphon” drainage system that contributes to improving the flexibility of water supply equipment placement in buildings. 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.

As a part of its efforts to collaborate with external parties, the Group participates in the “Impulsing Paradigm Change through Disruptive Technologies Program (ImPACT),” to develop a hydraulically operated, high-power artificial muscle. It is one of the keys to the creation of “tough robots” that can be used in extreme conditions at disaster sites.

Additionally, the Company has reinforced its R&D activities to strengthen the competitiveness of its solutions business to deliver value to customers beyond the boundary of existing services. The Company combines technology from both the tire and diversified products domains, along with ICT, and packages them as a new service to our customers. The Pilbara Mining Solution Centre, the new mining solution business base, utilizes digital solution platforms developed by the Group, including the “B-TAG” (Bridgestone Intelligent Tag), which delivers real-time information on running tires to operation managers, and tire and rim management software called “TreadStat,” to accumulate and analyze data. The Company thereby contributes to customers’ business operations through improving productivity, increasing asset value, and optimizing costs.