

## R&D Activities and Intellectual Property Strategies

Constantly targeting new value creation, the Sumitomo Rubber Group engages proactively in research and development (R&D). In addition to these efforts, the Group preserves the fruits of its research as intellectual property and has established structures to fully capitalize on its intellectual property rights.

### R&D Activities

With the Sumitomo Rubber Industries' R&D organization and facilities as its core, the Sumitomo Rubber Group promotes R&D activities in wide-ranging fields—the tire, sports, industrial and other product businesses—in close cooperation with its subsidiaries and affiliates around the world.

Total R&D expenses in the fiscal year under review amounted to ¥21,822 million, equivalent to 2.8% of consolidated net sales.

#### Tire Business

The ENASAVE 100, the world's first 100% fossil resource-free tire, was launched in fiscal 2013. In addition, the Company revealed a prototype for a premium runflat tire with the perfect mix of safety, driving comfort and lightness—the first tire produced using NEO-T01, an innovative tire manufacturing system. The Company also developed the ENASAVE EC203 tire featuring reduced rolling resistance and improved anti-wear performance as a second-generation standard tire under the ENASAVE brand. Regarding new materials technology development, the Company is currently developing ADVANCED 4D NANO DESIGN technology, with an eye to rollout in fiscal 2015. In fiscal 2013, R&D expenses in the Tire business totaled ¥18,976 million.

#### Sports Business

With R&D sections placed at both Dunlop Sports and Cleveland Golf Company, Dunlop Sports pursues the development, evaluation and verification of new technologies and products,

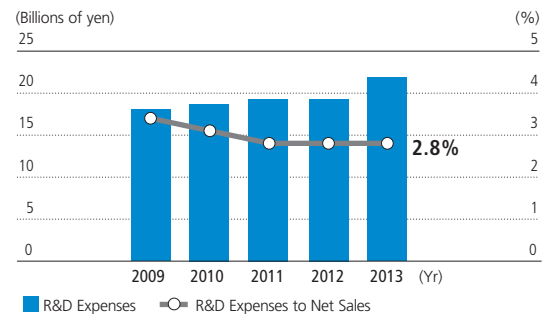
employing cutting-edge computer simulations. Reflecting these activities, during fiscal 2013, Dunlop Sports developed such products as the XXIO8 golf club series. R&D expenses in the Sports business amounted ¥1,337 million.

#### Industrial and Other Products Business

Sumitomo Rubber Industries develops products that meet consumer needs in each product field. In the vibration control system business, the Company expanded the product lineup of MIRAIE brand vibration control units for housing. In the field of medical rubber parts, the Company expanded its operations in the health care business, entering the market for highly specialized parts for medical appliances used in such areas as biopharmaceuticals. R&D expenses in the Industrial and Other Products business were ¥1,509 million.

### R&D Expenses and R&D Expenses to Net Sales

**¥21.8 billion** **+11.7%**  
Year on Year



**Tyre Technical Center**

Equipped with state-of-the-art testing and measuring machines, the Tyre Technical Center is the Group's main tire R&D facility.



**Inside-Drum Testing Machine**

A machine that monitors the key performance metrics of tires when cornering on dry, wet or icy roads

## Intellectual Property Strategies

### Basic Policy

The Sumitomo Rubber Group proactively carries out intellectual property activities that support its businesses. The Group has set forth a basic policy with regard to such activities in accordance with VISION 2020, a long-term vision established in 2012.

Specifically, the Group undertakes intellectual property activities focusing on three pillars, namely: 1) securing intellectual property rights with regard to such industrial properties as patents, utility models, designs and trademarks; 2) exercising such rights against the infringement of the Group's intellectual properties; and 3) eliminating risk by developing a structure to protect the Group's rights from violation by third parties.

### Current Status of Basic Policy Implementation

The current status of the basic policy is as presented below.

The Group submitted a record number of patents in fiscal 2012 thanks to the success of intellectual property training for employees and the introduction of a structure that connects technological development to patent application. Since then, the Group has continued to set new records with regard to the total number of patents held.

The Group seeks to effectively utilize the intellectual property rights that it has acquired, defending such rights against infringement worldwide. For example, in Europe the Group diligently files litigation against infringement while in Asia it is strengthening cooperation with national administrative bodies to ensure that products that infringe on the Group's rights, including imitations and copies, are seized by customs or, when possible, their production sites are identified and dealt with. To secure the competitive advantage of its products and earn greater trust, the Sumitomo Rubber Group will constantly reinforce the structure it has built to ensure the protection of its intellectual property rights against such infringement.

With the aim of furthering the utilization of intellectual property rights, the Group is engaged in licensing. The volume of royalty income that the Group earns from this business increases every year.

Needless to say, the Group also gives due consideration to preventing its own products from infringing on other companies' rights. Going forward, the Group will strive to further strengthen its intellectual property structure with an eye to eliminating such risks, which are anticipated to increase, especially abroad.

### Responding to Globalization

In step with the rapid expansion of its overseas operations, the scope of the Sumitomo Rubber Group's intellectual property activities is growing worldwide, encompassing not only Japan but also the United States, Europe and such Asian countries as China as well as Russia and countries in South America, the Middle East and Africa.

Reflecting this, efforts are now under way to nurture human resources and reinforce our structure for handling intellectual properties. In particular, the Group is providing training sessions not only for Intellectual Property department members but also for employees at every operational base with the aim of upgrading the competencies of the entire workforce. Such action is facilitating the development of a structure that ensures intellectual property activities are carried out smoothly and seamlessly on a Groupwide basis.

To reinforce the intellectual property structure, it is essential to cooperate with such external organizations as legal firms, patent offices, patent agents, research agencies and administrative bodies in Japan and overseas. With the aim of strengthening the connections between the Group and these organizations as well as across-the-board communication, the Sumitomo Rubber Group implements projects that involve internal and external collaborations.

Moreover, the Group renewed its in-house Intellectual Property Management System to improve operational efficiencies and ensure that information is shared globally. Through this renewal, the Group established a network that connects all of its operational bases and agencies around the world. Moreover, the renewal facilitated a switchover from paper-based to paperless operations that utilize a workflow system and database. This significantly accelerated the Group's operations with regard to intellectual property rights.

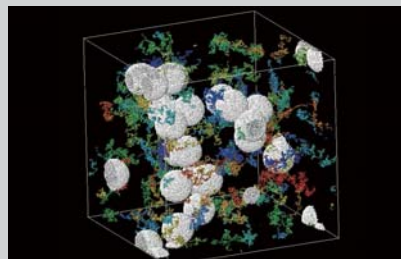
Focusing on the abovementioned three pillars, the Group will promote the more efficient implementation of intellectual property activities, encompassing all regions worldwide.



#### The K computer

To further the advancement of new material development technology aimed at creating high-performance and quality tires, the Company utilizes the K computer, one of the world's most powerful supercomputers.

Photo provided by RIKEN



#### A computer simulation showing a molecular-level view of the principal constituents of tires

(gray: silica particles;\* color: partially rendered polymers)

\* A filling material being compounded to enhance the strength of the rubber (particles approximately 10-20nm in diameter)



#### Golf Science Center (Japan)

With the ability to comprehensively measure, analyze and evaluate golf equipment, our Golf Science Centers boast a wealth of data covering wide-ranging subjects, including the relationships between the golf swing forms of various golfers and such equipment as clubs and balls.