

Paving the Way for the Next Generation of Vehicles

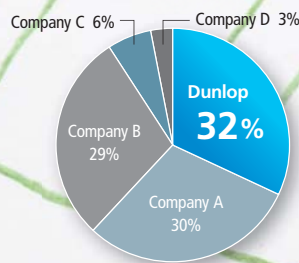
In its pursuit of more advanced, environment-friendly automobile-related technologies, the Sumitomo Rubber Group's tire-related development focus is on "innovative materials," "fuel efficiency" and "resource saving."

Today, nearly 60% of the materials used to produce common passenger car tires are derived from such fossil resources as petroleum oil. In fact, total annual worldwide consumption of petroleum oil for tire production amounts to approximately 5 million kiloliters. At the same time, most spare tires see no appreciable level of use before they are disposed of.

With these statistics in mind, the Sumitomo Rubber Group has made addressing environmental issues a top management priority. Pursuing R&D focused on innovative materials, fuel efficiency and resource saving, the Group constantly works toward the preservation of the global environment. As a case in point, more than 80% of replacement-use summer tires sold under the Dunlop brand are fuel-efficient tires,* a fact that has placed Dunlop in top position in terms of sales volume in this category** for four consecutive years. This record is largely attributable to the Group's forward-looking approach toward the development of fuel-efficient tires.

Going forward, the Sumitomo Rubber Group will leverage the unique strengths in rubber technology it has accumulated over its more than 100 years of operations to further develop environment-friendly products. In this way, the Group will contribute to the next generation of vehicles and thereby achieve lasting benefits for society.

* Tires that meet criteria for rolling resistance and gripping performance as stipulated by the Japan Automobile Tyre Manufacturers Association, Inc. (JATMA)
 ** Based on surveys carried out by JMA Research Institute Inc. covering total fuel-efficient tire sales by Japan's two top automobile goods store chains in the 2010-2013 period.



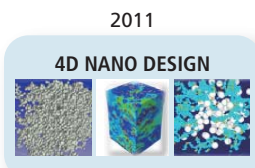
Domestic market share in terms of sales volume

Progress of 4D NANO DESIGN toward developing highly functional tires with superior quality

Nano-level structures



Spring-8 (a large-scale synchrotron radiation facility)



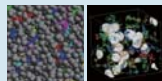
2011

4D NANO DESIGN



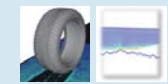
2015

ADVANCED 4D NANO DESIGN



2020

NEXT 4D NANO DESIGN



Material simulation



The Earth Simulator



Photo provided by RIKEN

The K computer

Substance behavior, such as cohesion and dispersion at the molecular level

More accurate analyses of the behavior of tire constituents

Simulation of tire performance based on materials used