

# TIRE BUSINESS

- The Sumitomo Rubber Group manufactures and sells tires, mainly the Dunlop and Falken brands.
- The Sumitomo Rubber Group actively promotes the Dunlop brand lineup, which features fuel-efficient and long-lasting tires with greater value for users.
- The Group is stepping up marketing in Europe, the United States and Japan by leveraging its lineup of Falken brand tires with superior functionality and product quality.



51 sizes



10 sizes

## Fiscal 2016 Results

Sales revenue in the Tire business decreased 5% year on year to ¥648,445 million, while business profit\* fell 8% to ¥67,924 million.

In fiscal 2016, although there were moderate upturns in natural rubber and crude oil prices, overall market prices remained low. Sales prices for Group products were particularly impacted by the appreciation of the yen. Nevertheless, the Group pressed ahead with its efforts to further boost sales of such high-value-added products as fuel-efficient tires, expand into new markets and take measures aimed at driving growth and improving earnings capabilities across the entire Group.

As a result of these efforts and heavy snowfalls in eastern Japan, domestic winter tire sales were firm. However, overall sales revenue and profit in the Tire business decreased due to a decline in domestic automobile production volume and the impact

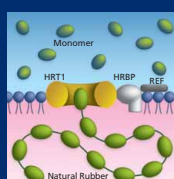
## Sumitomo Rubber Industries Wins Tire Technology of the Year

At the Tire Technology Expo 2017, we were granted the Tire Technology of the Year title. This title was awarded in recognition of our technological strengths as well as groundbreaking advancements in tire material development made possible by our ADVANCED 4D NANO DESIGN, a technology that enables the simultaneous enhancement of the three, often contradictory, tire performance requirements—fuel efficiency, wet grip performance and wear resistance—through the analysis of the inner structure of rubber constituent and large-scale simulation of tire performance.



## New Findings from Our Research on Natural Rubber Biosynthesis Published in *eLife*

Researchers at Sumitomo Rubber Industries have identified three distinct proteins that play key roles in the biosynthesis of natural rubber in a Para rubber tree. With relevant research findings featured in *eLife*, an open-access science magazine, this discovery has been widely recognized across the industry as significant as the details of such biosynthesis mechanisms were previously unknown.



Three proteins that play key roles in natural rubber biosynthesis  
 HRT1: Hevea rubber transferase 1  
 HRP: HRT1-REF bridging protein  
 REF: Rubber elongation factor

### Identification and reconstitution of the rubber biosynthetic machinery on rubber particles from *Hevea brasiliensis*

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**Abstract:** Natural rubber (NR) is stored in latex as rubber particles (RPs), rubber molecules surrounded by a lipid monolayer. Rubber transferase (RTase), the enzyme responsible for NR biosynthesis, is believed to be a member of the cis-prenyltransferase (CPT) family. However, none of the recombinant CPTs have shown RTase activity independently. We show that HRT1, a CPT from *Hevea brasiliensis*, exhibits RTase activity in vitro only when it is introduced on detergent-washed RPs (WRPs) by a cell-free translation-coupled system. Using this system, a heterologous CPT from *Lactuca sativa* also exhibited RTase activity, indicating proper introduction of CPT on RP is the key to reconstitute active RTase. RP preassembly and interaction network analysis revealed the formation of the protein complex consisting of HRT1, rubber elongation factor (REF) and HRP1-REF BRIDGING PROTEIN. The RTase activity enhancement observed for the complex assembled on WRPs indicates the HRT1-containing complex functions as the NR biosynthetic machinery.

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A paper featured in "eLife"



15 sizes



44 sizes

of the disadvantageous exchange rates on overseas operations.

\* Defined by Sumitomo Rubber Industries, Ltd. as its primary management indicator. Business profit = sales revenue – (cost of sales + selling, general and administrative expenses)

### Domestic Replacement Market

In the domestic replacement market, sales revenue exceeded the level of the previous fiscal year. With respect to summer tires, we expanded sales mainly of the ENASAVE series, which are long-lasting and fuel-efficient tires sold under the Dunlop brand, and LE MANS 4, which are long-lasting and fuel-efficient tires that boast superior driving comfort and are equipped with SILENT CORE, a special noise-absorbing sponge. We also expanded sales of high-performance tires, including the premium product AZENIS FK453 while making efforts to enhance brand awareness, such as through our co-sponsorship of Red Bull Air Race Chiba 2016 under the Falken brand. With respect to winter tires, shipments showed solid growth due to the nationwide early launch of WINTER MAXX O2 studless tires, which provide the best on-ice performance in Dunlop history and maintain a high

degree of both “long-lasting effectiveness” and “long life performance,” as well as the impact of heavy snowfalls in November in East Japan, including the Tokyo metropolitan area.

### Domestic Original Equipment Market

In the domestic original equipment market, sales revenue fell below the level of the previous fiscal year, as automobile production volume fell below the level of the previous fiscal year, despite our continued efforts mainly focusing on fuel-efficient tires to expand the volume delivered of high-value-added tires.

### Overseas Replacement Market

In the overseas replacement market, sales volumes increased in North America and Europe as well as in other regions, such as the Middle East, Africa, and Central and South America; however, sales revenue fell below the level of the previous fiscal year due to the effect of yen appreciation.

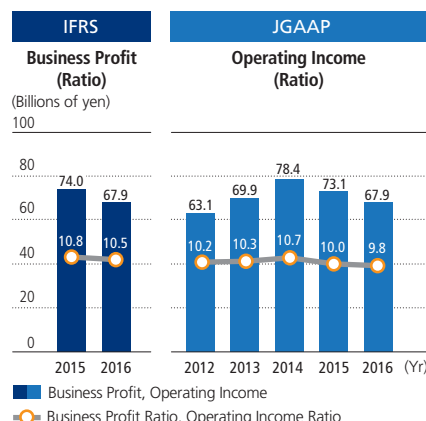
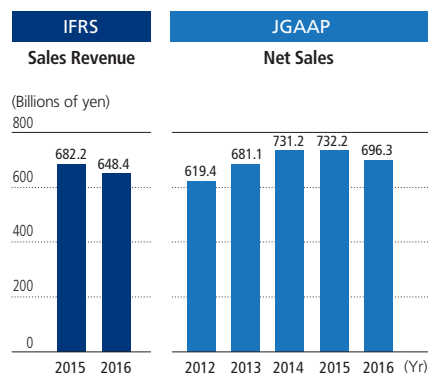
### Overseas Original Equipment Market

In the overseas original equipment market, sales volumes increased in Brazil—where we started to deliver our products last year—

Thailand and South Africa. Furthermore, in North America and Europe, deliveries, mainly to overseas automakers, continued to expand and therefore sales volumes exceeded the previous fiscal year levels. However, sales revenue fell below the level of the previous fiscal year due to the effect of yen appreciation.

### Fiscal 2017 Outlook

In the domestic market, we will continuously introduce new products to further increase our presence in the fuel-efficient tire field. In overseas markets, we will continue to seek sales expansion in emerging nations while striving to increase the presence of the Falken brand in the U.K. market by leveraging the capabilities of Micheldever Group Ltd., a British tire sales company that we acquired in February 2017. In terms of production, we will pursue investment aimed at boosting our manufacturing capacity in such countries as the United States, Brazil, Turkey and South Africa, thereby augmenting the Group’s supply structure.



	Year-on-Year Increase/Decrease in Tire Sales Volume	
	2015	2016
Domestic original equipment	-8%	-4%
Overseas original equipment	+1%	+5%
Domestic replacement	-7%	+1%
Overseas replacement	+6%	+4%
Total	±0%	+3%
Total sales volume (thousand of tires)	109,620	112,640

\* Business Profit = Sales revenue – (Cost of sales + Selling, general and administrative expenses)

\*\* From the fiscal year ending December 31, 2016, the Group voluntarily adopted the International Financial Reporting Standards (IFRS).