

Michelin at the 2014 Paris Motor Show

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Press Kit



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At the 2014 Paris Motor Show, Michelin announces that...

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At the Paris Motor Show, Michelin is unveiling not only three new tires and a unique technology but also – and especially – an innovative initiative in research and development: the creation of a real-life laboratory for different kinds of road use.

In October 2014, Michelin is explaining the fundamentals of its MICHELIN Total Performance strategy at its stand at the Paris Motor Show. This strategy consists of delivering more performance in a single tire. The challenge is considerable, as it frees motorists from having to make impossible choices.

In October 2014, Michelin is officially creating one of the largest road-use laboratories. Deployed across Europe, it will make it possible to gather data in real time about how 2,800 motorists with different driving habits use their vehicles every day. The findings will be added to the knowledge already stored at the Michelin Technology Center with the goal of supporting the innovation process.

In October 2014, Michelin is presenting for the first time three new tires to the general public: the MICHELIN Alpin 5, the latest-generation winter tire; the MICHELIN Latitude Sport 3, a high-performance tires for SUVs; and the highly energy efficient, unusually sized MICHELIN Tall & Narrow tire. All three reflect the MICHELIN Total Performance design philosophy.

In October 2014, Michelin is demonstrating MICHELIN EverGrip™ technology for the first time in Europe. Unveiled initially in the United States last January, it will be adapted in the years ahead to the needs of different markets to equip passenger cars. This technology will deliver unique performance in that a worn tire will continue to provide excellent wet grip throughout its entire life.

In October 2014, Michelin is offering a quick look at the history of the automobile through the different tire innovations that have shaped the industry, as part of an adventure that is constantly on the move. In a new chapter, the first Formula-e race held last month in China kicked off the new FIA championship for electric sports cars, all of which are fitted exclusively with unique, highly innovative MICHELIN tires.

Michelin Total Performance, a global strategy

✓ **Key information**

While it may be true that all tires look alike, they're hardly the same when it comes to performance. Some of them sacrifice performance in certain areas to focus solely on delivering it in another. Michelin, however, has chosen a different strategy that consists of combining a variety of performance features so that drivers no longer have to make impossible choices.



Choosing one option often means abandoning another. Michelin doesn't accept this way of thinking and has focused its R&D teams on a different strategy, which is to deliver more performance in the same tire.

The challenge is to get around physical laws that, in theory, make it impossible to improve performance across the board. To do so requires not only innovation, but also advanced technologies that allow the solution to be duplicated on an industrial scale.

Researchers are faced with a large number of conflicts. Should they favor braking on dry roads or wet? Braking when driving on a straight or when cornering? Total mileage or fuel efficiency? Robustness or comfort? Michelin believes that users should not be required to make choices like these because such trade-offs make no sense to them. Instead, its strategy consists in pursuing an integrated approach and taking all user expectations into account.

Michelin's chosen mission is much more complex than it seems. The more Michelin expands its knowledge, the more it discovers unsuspected types of use and erroneous beliefs held by motorists. Developing the right tires means learning how they are used – with no preconceptions – and understanding them inside out so that research efforts can focus on finding the most appropriate solution. Two facts speak to the enormity of the task.

- Seven out of ten road accidents occur when driving on a straight.
- Nine out of ten accidents on wet roads occur on a very thin layer of water.

These two statistics compiled by the Road Accident Research Institute (VUFO) at the University of Dresden* (with whom Michelin partners) undermine preconceived ideas that are firmly entrenched in some people's minds. They also help make it easier to understand the strategy embraced by Michelin, which takes an approach devoid of preconceived ideas with the goal of providing motorists with meaningful solutions.

* Lehrstuhl Verkehrsunfallforschung [VUFO] an der Technischen Universität Dresden. A total of 12,000 accidents were analyzed in 12 years.

Michelin creates a real-life laboratory for different kinds of road use

✓ **Key information**

Every year, Michelin invests more than €640 million in its Research and Development programs, conducts 75,000 tests with consumers around the world and surveys approximately 11,000 tire buyers. Michelin is entering a new phase in the development of its knowledge by creating a laboratory to study how European motorists drive. Because Michelin has the deepest understanding of road use and an exceptionally powerful innovation base, it can pack more performance into each of its tires and thereby respond more effectively to the full range of customer expectations.

The Michelin Technology Center's mission is to constantly innovate with the goal of developing the best tires possible depending on identified, analyzed and detailed driver use habits. Michelin's 6,600 researchers, however, do not carry out this mission all by themselves. They also leverage the competencies of various organizations, universities and federations, all of which are experts in their respective fields. Michelin has forged partnerships with the Road Accident Research Institute (VUFO) at the University of Dresden in Germany, the International Automobile Federation (FIA) and automobile clubs like ADAC.

Michelin believes that understanding how motorists drive is the necessary prerequisite to developing better tires – tires that deliver performance in all areas that are meaningful for their users. Yet therein lies the problem: North American motorists don't drive like their counterparts in Europe or Southeast Asia. They don't have exactly the same cars, the same roads and the same driving habits. They are not subject to the same regulations. And they are not faced with the same weather conditions. Michelin is committed to taking into account all these specific features, because in the end, the idea is to ensure that Michelin tires offer the best contact between the vehicle and the road.

That's why Michelin has set up a unique driving laboratory that operates in real time and is equipped with special measuring devices that use the latest "Internet of Things" technologies. These devices have been installed on 2,800 vehicles throughout Europe, on cars that are part of automobile fleets or belong to individuals, ranging from beginning to more experienced drivers. The three-year study, which began last June, consists of monitoring each of the drivers every time they use their vehicle*. The data gathered will include the number of kilometers driven and the speed. The devices will record each time the driver accelerates or applies the brakes, both on straights and when cornering. Analyzed and cross-referenced with weather data and information about the roads' curviness and surface condition, the data will enable Michelin to further improve its understanding of driving habits so that its innovations will be ever more relevant.

*All data collected by the Michelin community of drivers, whether transmitted or gathered by telematics devices, will remain strictly confidential and be used only to compile statistics.

New technologies and new tires: Michelin's innovation capabilities are in gear

✓ **Key information**

MICHELIN EverGrip™ technology, which enables a tire tread to self-regenerate, is being unveiled in Europe for the first time.

Michelin is showcasing an originally-sized Tall & Narrow tire that reduces fuel consumption. The MICHELIN Alpin 5 and MICHELIN Latitude Sport 3 tires are also being presented to the general public.

These new MICHELIN tires all benefit future users by providing enhanced safety in all circumstances, as well as cost-savings and the ability to support the ever-more demanding performance features of the vehicles on which they are fitted.

More innovations in line with the MICHELIN Total Performance strategy.

MICHELIN EverGrip™ technology

Unveiled at the 2014 North American International Auto Show in Detroit, EverGrip™ technology is being presented to the general public in Europe for the first time at the Michelin stand. This technology delivers unequalled safety benefits as it provides excellent grip on wet roads, even when the tire is worn. Today, it is integrated in the MICHELIN Premier A/S tire for the American market. It will be adapted and modified to usage conditions in other markets.

MICHELIN EverGrip™ technology combines three technical features:

- Hidden grooves that emerge as the tire becomes worn so that the tread in contact with the road seems to “self-regenerate”. Placed along the tire’s shoulder, the grooves appear as the tire wears down. More than 150 additional grooves evacuate water and ensure solid grip throughout the tire's life.
- A unique rubber compound that improves grip, especially on wet surfaces.
- Expanding rain grooves, which get wider over time. On most tires, the shallower the rain grooves become, the less effective they are at dispersing water. With MICHELIN EverGrip™ technology, the opposite is true. Because the rain grooves’ special shape widens as the tire is used, the same amount of water is dispersed, even though the grooves are not as deep.

New MICHELIN tires for 2014

The MICHELIN Tall & Narrow tire is already fitted on the Renault EOLAB prototype

Michelin has developed new tires that save energy while continuing to deliver excellent performance in terms of grip, longevity and driving enjoyment.

The words “Tall & Narrow” perfectly describe the innovative and highly efficient design of tires specially developed for the Renault EOLAB prototype.

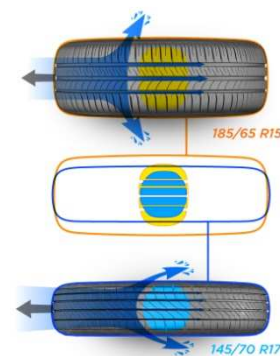
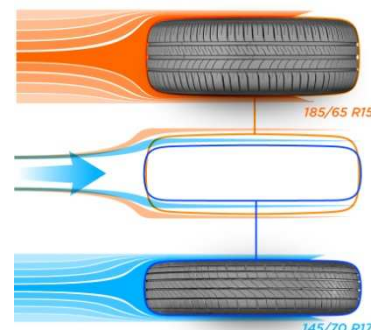


Michelin engineers designed an entirely new-sized tire (145/70 R 17) specifically for this concept car to provide it with outstanding aerodynamic qualities and energy efficiency.

A narrow tire with a long diameter simultaneously improves performance in several areas:

- Energy efficiency, first of all, thanks to the tire's lower rolling resistance and better aerodynamics.
- Aquaplaning resistance, due to the more pronounced bow effect created by narrow tires with a long diameter.
- Noise reduction, thanks to the tire's narrower, longer contact patch.

The tire's different size contributes to the overall aspect of the concept car, whose dynamic personality and performance is emphasized by new markings using Michelin Premium Touch technology. This technology creates a velvet effect that makes the markings stand out while also reducing the tire's aerodynamic drag.



New MICHELIN tires for 2014 (continued)

MICHELIN **Alpin 5**

The new MICHELIN winter tire, that delivers excellent grip on both wet and dry surfaces, as well as on snow¹.

The new MICHELIN Alpin 5 integrates two advanced technologies. One involves the tread design, namely the patterned blocks that comprise the part of the tire in contact with the road. The other concerns the composition of the rubber compound used for the tread.



- **The MICHELIN Alpin 5's new tread design delivers:**
 - **A “rack-and-pinion” effect that grips the snow and enhances resistance to aquaplaning**
Specifically, the new MICHELIN Alpin 5 features a deeply grooved, directional design, special tread blocks and a void ratio that is 17% higher than that of the previous-generation tire. The tire creates its footprint in the snow, activating the rack-and-pinion effect, thanks to the highly grooved directional design and special tread blocks. The re-positioned lateral grooves evacuate water and reduce the risk of aquaplaning.
 - **A “claw” effect for better traction on snow** The sipes act like thousands of little claws that grip the surface, thereby creating traction. This action is even more effective if the sipes are numerous and specially shaped. Compared with its predecessor, the new MICHELIN Alpin 5 has 12% more patterns, 16% more sipes and a void ratio that is 17% higher.

¹ On average, compared to its predecessor, the MICHELIN Alpin 5 (205/55 R16 91 H) tire brakes 5% shorter on wet pavement and 3% shorter on snow-covered roads. Outside tests commissioned by Michelin, conducted by TÜV Süd and IDIADA between November 2013 and January 2014.

- **A more rigid tread for more precise steering.** Stabiligrip technology provides specially designed, repositioned tread patterns that create a self-blocking function. The larger the footprint, the better the grip. Tires are deformed with each rotation of the wheel. That's why Michelin engineers focused on specially designed, repositioned patterns to create a self-blocking function. And that's what provides more precise steering.

➤ **A new rubber compound adapted to all types of winter roads**



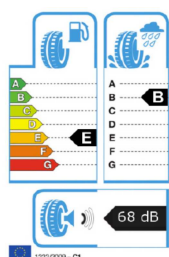
To ensure grip on cold, wet roads, the rubber compound must contain a high proportion of silica. Michelin has for the first time added functional elastomers to the tread compound of a winter tire in a new process called **Innovative Tread Compound Technology**.

- The purpose of these elastomers is to make the rubber compound more uniform with a higher proportion of silica. That's how we have been able to improve grip on wet and snow-covered surfaces while continuing to deliver superior energy efficiency.



The new rubber is based on Michelin's fourth-generation Helio Compound technology. It contains sunflower oil that allows the tire to function effectively at low temperatures.

Thanks to all these innovations, the MICHELIN Alpin 5 is rated B for wet grip under the European tire labeling system, whereas its predecessor was rated C.



The MICHELIN Alpin 5 exists in 42 different sizes, ranging from 195/65R15 to 225/55R17.

New MICHELIN tires for 2014 (continued)

MICHELIN LATITUDE SPORT 3

The new Michelin tire designed exclusively for on-road use is already certified on prestige SUVs.

It's barely on the racks, and already the brand new MICHELIN Latitude Sport 3 SUV tire, designed for entirely on-road use, is earning rave reviews for its safety and exciting drivability.

What's more, although it's been on the European replacement market only since the first half of 2014, the new tire has already been certified on some of the category's most prestigious models. Among them is the new Porsche Macan, which went on sale in April 2014. As a result, its 18, 19, 20 or 21-inch wheels can be fitted with the latest MICHELIN SUV tires. The MICHELIN Latitude Sport 3 is also featured on the new Porsche Cayenne, for 19 and 20-inch wheel sizes.

The same choice has been made by BMW for its X5 model, which can be fitted with MICHELIN Latitude Sport 3 tires in three specific sizes.

The reason why the new tire has been selected by the world's most admired carmakers to factory-equip their flagship models is because it combines all of the features demanded by the SUVs' dynamic performance and appreciated by their users.

Among these, the most important is safety, which is Michelin's fundamental demand for every one of its tires, a prerequisite for users and a performance-critical factor for carmakers. In this highly scrutinized performance factor, **the new MICHELIN Latitude Sport 3 tire stops an amazing 2.70 meters shorter on wet pavement than the previous generation tire.* Plus, it offers superior mileage and helps to improve fuel efficiency.**



*Comparison with the previous generation MICHELIN Latitude Sport conducted by TÜV SÜD in 2013 on 235/65 R 17 tires on wet pavement. On the new European tire labels, most sizes of the MICHELIN Latitude Sport 3 tire are rated A in wet braking.

In line with the carmakers' vision for their SUVs, which are intended for on-road use, the MICHELIN Latitude Sport 3 is engineered to run on asphalt pavements. In its first year on sale, it is being offered in 41 separate size/SKUs to equip the widest possible number of SUVs already on the road or soon to roll off the assembly line.

As the third generation of Michelin's on-road SUV tires, the new MICHELIN Latitude Sport 3 has inherited all of the expertise and capabilities acquired over the past 12 years, in particular through the close development partnership with Porsche.

MICHELIN and on-road SUV tire expertise: a rich heritage forged with Porsche

2002 – The MICHELIN Diamaris line equips the first-generation Porsche Cayenne.

2007 – The MICHELIN Latitude Sport line equips the Porsche Cayenne MY2007.

2010 – The MICHELIN Latitude Sport line equips the Porsche Cayenne MY2010.

2014 – Launch of the new MICHELIN Latitude Sport 3 to equip the new Porsche Macan and Porsche Cayenne.



Technologies designed to enhance performance in different areas

Among the technologies deployed is the Innovative Tread Compound, which allows the MICHELIN Latitude Sport 3 to deliver superior performance in the areas of safety, total mileage and energy efficiency.

➤ **Technological innovations to improve safety**

The new MICHELIN Latitude Sport 3 enhances safety performance in two ways. This performance is provided by enhanced grip and by a very robust tire capable of supporting SUVs, which weigh more than sporty sedans.

- Safer on wet roads*:

The tire's enhanced wet-road grip comes from the rubber compound, as well as from the design of the tread, which is in contact with the road.

Thanks to a void ratio that is 10% greater than that of the previous generation tire, water dispersal is improved.

The continuous central rib ensures maximum torque when braking or accelerating and improves steering precision.

- More robust (to improve safety)

The double layer casing (not available for some sizes) makes the tire more robust for SUVs used on the road.

➤ **Technological innovations to increase total mileage**

The Innovative Tread Compound combines silica and latest-generation elastomers. Together, they ensure excellent total mileage while improving safety and fuel savings.

➤ **Technological innovations to improve fuel efficiency**

Variable thickness sipes reduce tread deformation, which increases a tire's rolling resistance.

Integrating silica into a compound made of latest-generation elastomers reduces energy-consuming heat build-up. In this way, the tread compound helps to increase fuel efficiency.

Michelin innovations: milestones in the world of the automobile and mobility

✓ Key information

Michelin's development has been built on innovation. Indeed, the Company's modern industrial history began in 1891 with the invention of a tire that could be removed from the wheel. Since then, Michelin's innovations have not only shaped its own history but have also – and particularly – marked the history of improvements in the mobility of people and goods.

1946

MICHELIN invents the radial tire

MICHELIN invents the radial tire, which simultaneously enhances safety, triples longevity and improves energy efficiency by 30%, while providing unequalled comfort at the time.



1983

MICHELIN invents the first siped winter tire

MICHELIN invents the first siped winter tire, which simultaneously provides enhanced safety on snow-covered and wet, cold roads and greater traction on snow.

1992

MICHELIN invents the “green tire”

The first MICHELIN green tire simultaneously reduces fuel consumption while improving grip on wet roads and tire longevity by integrating silica in the tread.

2003

MICHELIN reinvents the sports tire

Introduced in 2003, the MICHELIN Pilot Sport 2 simultaneously provides more grip and enhanced safety thanks to its road-holding ability while delivering unparalleled driving enjoyment at all speeds.

2014

MICHELIN invents the self-regenerating EverGrip™ tire

MICHELIN EverGrip™ technologies improve grip throughout the tire's life. Integrating a self-regenerating tread and innovative rubber compounds, the tire offers superior wet grip, mile after mile.

Michelin and the Formula-e championship: innovating in motorsports

✓ **Key information**

The Formula-e Championship addresses an issue that has always been central to the Michelin Group: enhancing mobility. “A better way forward,” the Group’s corporate baseline, has been Michelin’s leitmotif since the beginning. That’s why Michelin is clearly the logical partner for Formula-e racing. Michelin got involved in Formula-e to share its message that when it comes to sustainable mobility, all improvements are important.



As with all the sports in which it is involved, MICHELIN intends to test technological solutions in Formula-e and gather technical feedback that will support the development of series-produced tires of the future, with one important difference: Formula-e is a new championship in which everything has yet to be invented. What’s more, the rules were designed to create a real technical challenge for tires because each car is allowed just one set of tires per weekend, which must be used for both the trials and the race, and in all weather conditions.

The competition represents an exciting technical adventure. The Michelin Motorsport engineers had to start from scratch when developing the MICHELIN Pilot Sport EV at the same time that the racecar was being developed. This approach made it possible to design the ideal tire for the single-seat cars and to foresee future developments. A joint project, it highlights the need for tire manufacturers to work very closely with their carmaker partners.

Formula-e adds another component to Michelin’s research structure: the relationship between performance and energy efficiency. This is a fundamental path for developing the tires that will equip the cars of the future. For example, the Exagon Furtive e-GT, a fully electric French sports car, and the Porsche 918 Spyder, an exceptional new hybrid vehicle with a fully electric operating mode, already demand that their Michelin tires deliver outstanding performance while also helping to increase battery range.

Michelin Lifestyle Ltd

More performance thanks to MICHELIN technologies

✓ **Key information**

At the 2014 Paris Motor Show, three series of accessories developed under license by Michelin Lifestyle Ltd. are being presented at the Michelin stand.

Two are automotive accessories (windshield wiper blades and snow chains), while the third involves footwear.

Since 2001, Michelin Lifestyle has supported the MICHELIN brand with licensed products that showcase innovation, performance, safety and environmental protection.

➤ **MICHELIN automotive accessories**

For more than a century, Michelin has been committed to enhancing the mobility of people and goods, making travel safer, faster, more comfortable and more pleasant while also minimizing its environmental impact. As a result, Michelin – in addition to its offer of tires and travel-related services – also markets a wide range of vehicle accessories. These accessories are aligned with Michelin’s mission and values and integrate the tiremaker’s knowledge and expertise to provide consumers with more performance. Today, Michelin accessories are distributed under license in more than 84 countries around the world and over 16 million items are sold each year.

The Michelin stand at the 2014 Paris Motor Show is presenting:

- **MICHELIN windshield wiper blades**, which because of their superior contact with the windshield provide better visibility in extreme weather conditions.
- **The MICHELIN Easy Group snow chain**. Made of composite materials, the chain fits well with MICHELIN winter tires. It is a very lightweight, easy-to-mount product designed to help motorists in emergency situations.



➤ **MICHELIN soles**

MICHELIN tires are known around the world for their performance on all surfaces and in all conditions of use. Whether off-road in the mud, on snow or slippery ice, on wet winding roads or dusty, dry tracks, MICHELIN tires deliver maximum grip and traction that enable motorists to drive safely, economically and comfortably. These characteristics can also be applied to shoe soles. Michelin has expertise in managing contact between the ground and the vehicle, so why not between the ground and a shoe as well?



MICHELIN soles benefit from tire-related technology and expertise. These soles will be presented on third-party brand shoes with the goal of delivering performance that provides real benefits for the user.

Babolat tennis shoes and TCX motorcycle boots are being presented at the 2014 Paris Motor Show stand. Both feature a special MICHELIN technical sole that enhances their performance in terms of grip, durability and comfort.

Michelin key figures

Company founded: 1889

Production facilities: 67 plants in 17 countries

Number of employees: 111,200 worldwide

Technology Center: Over 6,600 people working in Research and Development in Europe, North America, South America and Asia

Annual R&D budget: More than €640 million

Annual output: More than 171 million tires produced, over 13 million maps and guides sold in more than 170 countries, and 1.2 billion itineraries calculated by ViaMichelin

2013 net sales: €20.2 billion

An extensive portfolio of brands covering all market segments: MICHELIN, BFGoodrich, Kleber, Uniroyal, Warrior, Kormoran, Riken, Taurus, Tigar, Pneu Laurent, Recamic and MICHELIN Remix.

More than 3,500 proprietary and franchised outlets in 29 countries.

Michelin, the leading tire company, is dedicated to sustainably improving the mobility of goods and people by manufacturing and marketing tires for every type of vehicle, including airplanes, automobiles, bicycles/motorcycles, earthmovers, farm equipment and trucks. It also offers electronic mobility support services on ViaMichelin.com and publishes travel guides, hotel and restaurant guides, maps and road atlases. Headquartered in Clermont-Ferrand, France, Michelin is present in more than 170 countries, has 111,200 employees worldwide and operates 67 production plants in 17 different countries. The Group has a Technology Center in charge of research, development and process engineering, with operations in Europe, North America and Asia. (www.michelin.com)