

THE MICHELIN ROAD 5

**THE HIGH-TECH SPORT
TOURING TYRE**



PRESS KIT

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MEDIA CONTACT: FLORENCE MARCHAND +33 608 011 635
PAUL CORDLE +33 778 392 140



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▶ All the photos and illustrations in this press kit can be downloaded from:
<http://michel.in/2yIAfes>





THE MICHELIN ROAD 5: TAKING PERFORMANCE TO NEW LIMITS

Four years on from the launch of the MICHELIN Pilot Road 4, incontestably one of the most popular Sport Touring tyres available today with sales of 1.5 million units, Michelin has pushed the envelope further still with the MICHELIN Road 5.

Designed for road use and suited to most types of road bike, the fifth-generation **MICHELIN Road 5** comes in a choice of two versions (Standard and Trail) and has plenty of arguments in its favour in its bid to win over customers in the highly competitive Sport Touring tyre market.

To be sure of providing the most relevant response to the needs and demands of motorcyclists the world over, Michelin took a close look at how its customers used their motorcycles, from a means of travelling to and from work, to escaping the crowd for a weekend away. The result is a fundamentally new tyre in terms of its architecture, tread pattern and rubber compounds to deliver even more grip on wet and roads alike, along with enhanced agility and stability.

The **MICHELIN Road 5** packs recent innovations like MICHELIN ACT+, as well as optimised rubber compounds and MICHELIN XST Evo progressive sipe technology for improved water clearance capacity. Meanwhile, the use of metal additive manufacturing technology, which permits the making of highly sophisticated moulds, has allowed Michelin to not only deliver even better grip on wet roads but to keep ahead of the competition*, while at the same time offering long tyre life. Indeed, with 5,000 kilometres on the clock, the **MICHELIN Road 5** brakes as short as a new MICHELIN Pilot Road 4**, its predecessor, yet it still provides outstanding grip in dry conditions, as well as superior handling in comparison with its chief rivals*** and enhanced stability.

While not an end in itself, innovation is vital when it comes to moving forward in a way that is beneficial to customers and this is why it is such a core part of the Michelin Group's strategy. To be able to anticipate the needs of customers and address them with real solutions calls for innovation that is inspired by real-world usages, mobility practices and climatic conditions.

Michelin sees the launch of the **MICHELIN Road 5** as a means to reinforce its position as one of the radial Sport Touring tyre market leaders in Europe and North America.

(*) According to the results of an independently-certified in-house test organised at Michelin's test track in Fontange, France, in October 2017, which compared the performance of MICHELIN Road 5 tyres (front: 120/70 ZR 17 / rear: 180/55 ZR 17) with that of similarly-sized METZELER Roadtec 01, DUNLOP Road Smart 3, CONTINENTAL Road Attack 3, PIRELLI Angel GT and BRIDGESTONE T30 EVO tyres fitted to a Suzuki Bandit 1250.

(**) According to the results of an independently-certified in-house test organised at Michelin's test track in Ladoux, France, in October 2017 which compared a front MICHELIN Road 5 having travelled a distance of 5,636km with a new MICHELIN Pilot Road 4.

(***) According to the results of a Michelin-commissioned test performed by MTE Test Center in October 2017 which compared the 1) handling, 2) stability and 3) grip performance in dry weather of MICHELIN Road 5 tyres (front: 120/70 ZR 17 / rear: 180/55 ZR 17) with that of similarly-sized METZELER Roadtec 01, DUNLOP Road Smart 3, CONTINENTAL Road Attack 3, PIRELLI Angel GT and BRIDGESTONE T30 EVO tyres fitted to a Kawasaki Z900.



PACKED WITH TECHNOLOGY

To achieve the level of performance delivered by the new **MICHELIN Road 5**, Michelin combined three key breakthroughs:

■ All-new siped tread pattern

Michelin has taken its MICHELIN XST progressive sipe technology a step further with **MICHELIN XST Evo** which takes advantage of the scope allowed by metal additive manufacturing technology to make the necessary complex tyre moulds.

The tread patterns of tyres equipped with MICHELIN XST Evo technology combine sipes and wells to increase their ability to clear water and break through the film of surface water. The term progressive sipes refers to the fact that these sipes become increasingly wider as the tyre wears in order to increase the tread pattern's sea-to-land ratio and maintain its ability to clear water throughout the tyre's useful life and deliver high performance over time.

Indeed, after being ridden for 5,000 kilometres, the **MICHELIN Road 5** brakes just as short as a new MICHELIN Pilot Road 4.

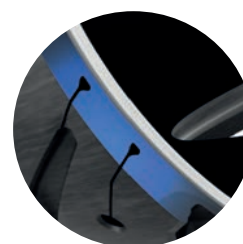
metal additive manufacturing technology



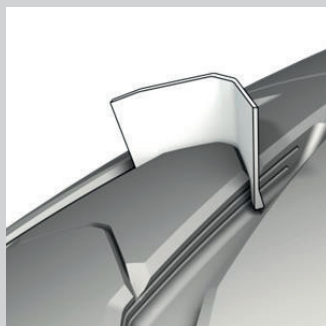
BRAND NEW



AFTER 3,500 MILES



PROGRESS ENABLED BY METAL ADDITIVE MANUFACTURING



Michelin seeks to expand the Group's knowhow by constantly taking advantage of advanced innovative technologies, including – since 2006 – metal additive manufacturing. Michelin has acquired unique expertise in the design and production of the complex components used for the moulds that make the MICHELIN Road 5's siped tread pattern.

In April 2016, Michelin – a pioneer in the field of metal additive manufacturing – joined forces with the world-renowned production tool engineering specialist Fives to create a new joint venture, namely AddUp. Based near Clermont-Ferrand, France, AddUp has every intention of becoming a key player in the world of metal additive manufacturing, a form of 3D printing.

Although a common practice already in the plastics industry, 3D metal additive manufacturing is a recent but rapidly expanding activity. Aimed initially at the production of one-off, high-added value parts, its use is currently enjoying spectacular growth.

This high-precision, fully-digitalised and therefore highly-flexible process allows Michelin to produce the complex forms required to make the moulds for its siped tyres. The technique also facilitates assembly, results in weight savings, reduces raw material wastage and provides limitless personalisation opportunities. After the introduction of car and truck tyres like the MICHELIN CrossClimate, the MICHELIN Premier A/S and the MICHELIN X LINE ENERGY D2, the new MICHELIN Road 5 is the first motorcycle tyre to benefit from metal additive manufacturing technology.



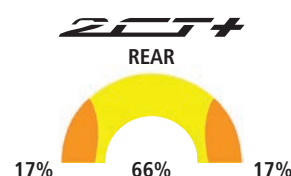
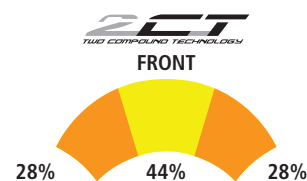
■ Latest-generation rubber compounds

To improve grip performance in wet and dry conditions with no detriment to wear, the rubber compounds developed for the **MICHELIN Road 5** employ new elastomers and formulations compared with those of its predecessors.

The way these compounds are laid across the MICHELIN Road 5's tread is the fruit of two Michelin technologies: **MICHELIN 2CT** and **MICHELIN 2CT+**.

FRONT TYRE (2CT): The front tyre features two types of all-silica compound, one for the crown and the other for the shoulders in order to ensure outstanding handling in all situations and combat understeer.

REAR TYRE (2CT+): The rear tyre combines an all-silica compound for the crown (with a higher silica concentrate than that used for the front tyre for greater resistance to wear) with an all-carbon black compound for the shoulders. The result is superior dry weather grip and riding enjoyment with no detriment to grip in wet weather, since the shoulders of the rear tyre rarely come into contact with the road surface in wet conditions.



■ MICHELIN ACT+ technology

While the **MICHELIN Road 5**'s grip performance on dry roads is essentially due to the latest-generation compounds it employs, **MICHELIN ACT+** technology (Adaptive Casing Technology) is a revolutionary technique that provides the tyre's shoulders with varying degrees of rigidity to ensure outstanding stability, plus enhanced straight-line and cornering performance.



Michelin's latest Sport Touring tyre range squares the circle by delivering lasting performance, notably in difficult wet conditions. In contrast to manufacturers in a wide range of industries who are tempted to dial programmed obsolescence into their products, Michelin is actively pursuing the opposite by instead promoting 'programmed longevity'. Given that safety depends on a tyre's overall characteristics and is not merely a function of the depth of its tread pattern, this policy fits perfectly with Michelin's resolve to provide motorcyclists with increasingly safe solutions that allow them to feel more confident and enhance their riding enjoyment, as illustrated by the high number of technologies that the **MICHELIN Road 5** packs.

Available for sale since January 2018, the **MICHELIN Road 5** will eventually come in a choice of 11 different sizes, including four different sizes for the Trail version.

MICHELIN ROAD 5

	Width	Ratio	Diameter	Load index	Speed index	TL/TT	Launch date
FRONT	120	60	ZR 17	55	(W)	TL	January 2018
	120	70	ZR 17	58	(W)	TL	January 2018
REAR	150	70	ZR 17	69	(W)	TL	January 2018
	160	60	ZR 17	69	(W)	TL	January 2018
	180	55	ZR 17	73	(W)	TL	January 2018
	190	50	ZR 17	73	(W)	TL	January 2018
	190	55	ZR 17	75	(W)	TL	January 2018

MICHELIN ROAD 5 TRAIL

	Width	Ratio	Diameter	Load index	Speed index	TL/TT	Launch date
FRONT	110	80	R 19	59	V	TL	January 2018
	120	70	ZR 19	60	W	TL	June 2018
REAR	150	70	R 17	69	V	TL	January 2018
	170	60	ZR 17	72	W	TL	June 2018

INNOVATION AS A DRIVING FORCE

Michelin registers some 400 innovations every year

Innovation-led differentiation has long been a cornerstone of Michelin's success but it calls for rigorous protection of intellectual property.

Having been at the origin of the chief technical breakthroughs that have transformed its industry, Michelin naturally endeavours to defend the technological lead it has forged. As a consequence, it actively protects its innovations by means of patents or in the form of trade secrets. The **MICHELIN Road 5** is no exception, since it is covered by three patents and two design patents.

The MICHELIN® brand name and its celebrated ambassador, the Michelin Man, are both treasured assets which represent an estimated value of **€7.9 billion***. To manage and grow the high differentiating power its brands have across the world, Michelin is extremely vigilant, including at the very highest level of the company.

The Michelin Group, which owns some **16,000 brands** and **3,100 domain names**, registers around **400 new innovations** every year and plans to maintain the same sort of rate in the future. Indeed, between 2005 and 2015, the number of registrations it filed increased threefold and the company currently has a portfolio of approximately **11,700 active patents** which protect **3,400 different innovations**, three-quarters of which cover tyre design and materials (rubber compounds, polymers, reinforcing fillers, cables).

(*) Source: BrandFinance® Global500, 2017.

72 percent of MICHELIN tyres are the fruit of groundwork carried out in Ladoux, France

> Michelin Research and Development

Innovation plays an essential role in the Michelin Group's strategy and forms an integral part of its activity and methodology.

- **6 000** R&D staff worldwide in 2017
- Annual R&D budget: **€718 million** (2016)
- **416** patents filed in 2017 and **11,700** patents applicable worldwide

> The Group's Research and Development strategy puts it in a unique position that enables it to develop solutions that address today's constantly shifting markets and customer needs

Situated near Clermont-Ferrand, France, Michelin's Ladoux facility is the hub of its Research and Development activities

- A staff of **3,500**
- Specialists in more than **350** fields

The 450-hectare site includes:

- **380** hectares given over to test tracks
- Access areas and cultivated fields
- **81** buildings
- **21** different test tracks

> R&D Campus, Ladoux

- The biggest building in France's Rhône-Alpes-Auvergne region
- **68,000** square metres
- **75 x 300m²** work spaces
- **1,800** work stations
- "Rue de l'Innovation" (**300 metres long**)





TIMELINE: A 125-YEAR HISTORY OF INNOVATION

1891

For the first time, Michelin repairs a bicycle which arrives on the back of an ox-hauled cart. Its owner is exhausted after trying to repair a puncture. Edouard Michelin spends one day and one night repairing the tyres but discovers the added ride comfort they provide. **The revelation sparks the start of a long saga.**

1896

Michelin buys 200 Léon Bollée voitures and 100 De Dion-Bouton-engined tricycles and has them fitted with the firm's tyres.

1897

The word 'motorcycle' appears in Michelin's promotional vocabulary for the first time. It tends to apply to the motorised vehicles made by De Dion-Bouton.

1899

Michelin tyres win a number of motorcycle races, including the Nice-Castellane and Paris-Roubaix road races, as well as the Critérium des Motocycles and the Coupe des Motocycles.

1905

Michelin publishes its first price list exclusively for motorcycle and bicycle tyres.

1911

The latest edition of Michelin's guide for cyclists entitled "Conseils Michelin pour les Cyclistes" includes a chapter dedicated to motorcycle tyres.

1926

Michelin launches a robust anti-skid motorcycle tyre.

1928

Launch of the **MICHELIN Confort-Bibendum tyre**. Michelin publishes a 1:200,000-scale map of France for cyclists and motorcyclists.

1933

Michelin launches the **MICHELIN Skid-proof**

1935

Launch of the **MICHELIN Flèche d'Or** and **MICHELIN Zigzag** tyres.

1950

Michelin develops tyres for the new, -popular post-war **scooters** and **50cc mopeds**.

1960

Michelin launches **Rapido** and **ACS** tyres which are reputed for their grip, comfort and safety. They are designed for small- and medium-engined motorised bicycles and small motorcycles.

1973

Jack Findlay wins the Senior Tourist Trophy to earn Michelin's first victory in the premier 500cc class.

1974

Michelin launches **the first slick tyre** for grand prix racing.

1976

Barry Sheene (Suzuki) and Michelin win the **GP500 world championship**.

1977

Michelin wins all five motorcycle racing world titles (50cc, 125cc, 250cc, 350cc and 500cc).

**1982**

Michelin launches the Désert, an off-road motorcycle tyre for cross-country rally use. After winning the Rallye de l'Atlas and the Rallye des Pharaons, it collects its first Paris-Dakar victory.

1984

Michelin launches **the first radial GP500 tyre**.

1987

Launch of the first road-going radial motorcycle tyre, the **MICHELIN A59X / M59X**.

1992

Introduction of the first GP500 tyre to feature a silica-reinforced rubber compound, another Michelin innovation.

1993

The International Motorcycle Show sees Michelin present two tyres for the latest generation of scooters: the **MICHELIN Reggae** and the **MICHELIN Dexter**.

1997

Michelin introduces its new **ZR technology** at the International Motorcycle Show.

1999

Launch of the **MICHELIN Pilot Sport** for road-going hypersport bikes.

2005

The **MICHELIN Power Race** becomes the market's first tyre to feature dual-compound technology (**MICHELIN 2CT**).

2008

Michelin and Harley-Davidson sign a landmark agreement covering the development of the **MICHELIN Scorchers** range. These jointly-developed, co-branded original-equipment and replacement tyres are suitable for the majority of the models made by the American manufacturer.

2010

Launch of the **MICHELIN City Grip**, the first siped scooter tyre, which delivers outstanding grip on wet roads.

2011

The new **MICHELIN Pilot Road 3** features **MICHELIN XST** sipe technology which marks a significant breakthrough in terms of safety on wet roads.

2013

The **MICHELIN Anakee III**, developed in conjunction with BMW, equips the BMW R1200 GS, the world's best-selling bike in its class.

2014

Launch of the **MICHELIN Pilot Road 4**. The MICHELIN Pilot Road 4 GT version incorporates revolutionary **MICHELIN 2AT** Dual Angle technology.

2016

Michelin returns to MotoGP™ racing.

2017

Launch of the **MICHELIN Power RS**, a sport road tyre which features a radical improvement in grip performance on dry roads with no detriment to wet weather performance.

2018

Michelin uses metal additive manufacturing to make the sipe moulds for the **MICHELIN Road 5**. This major innovation allows the tyre to maintain its grip performance on wet roads as it wears.





MICHELIN IN NUMBERS

FOUNDED

1889

PRODUCTION FACILITIES

68 FACTORIES IN 17 COUNTRIES

STAFF

114,000 WORLDWIDE

RESEARCH AND DEVELOPMENT

**MORE THAN 6,000 RESEARCH AND DEVELOPMENT
STAFF WORKING ON THREE CONTINENTS
(NORTH AMERICA, EUROPE AND ASIA)**

R&D BUDGET (2017)

€641 MILLION

REVENUE (2017)

€21.96 BILLION



Michelin's mission is to promote the sustainable mobility of people and goods. Michelin designs, manufactures and markets tyres for all types of vehicle. Michelin also markets a range of innovative digital services, including vehicle fleet management systems and tools designed to aid mobility. In addition, it publishes a portfolio of travel, hotel and restaurant guides, as well as maps and atlases. Based in Clermont-Ferrand, France, Michelin is active in 170 countries, employs

a staff of 111,700 and operates 68 production facilities in 17 countries. The Group has Research and Development Technology Centres in Europe, North America and Asia. (www.michelin.com)