

# The Global Tyre Industry

Market analysis -2021-2023 Trends -  
Corporate strategies

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# 1. Summary



## Key trends 2021-2023

- The health crisis has had a significant impact on tyre sales (light and heavy vehicles) throughout the world, which contracted by 12% in volume in 2020, a far greater decline than during the 2008-2009 financial crisis. The demand for original equipment was affected by the shutdown of car assembly plants due to the lockdown measures implemented in many countries, which froze the automotive market, while the replacement market was affected by the decline in global car usage during the crisis. The value of the market fell by 15% due to a negative price effect linked to the fall in natural and synthetic rubber prices.
- Yet, in terms of value, the growth prospects for the global tyre industry remain encouraging thanks to the increase in motorisation rates and the number of cars in emerging countries, new regulations favouring the adoption of new generation, more efficient tyres, the growth prospects for certain specialised markets (mining, agriculture, construction) and the increasing demand for higher value-added tyres such as SUV tyres. By 2023, global sales should therefore return to more or less the same level as in 2019, as an annual average.
- However, until 2022, tyre demand will be adversely affected by the shortage of semi-conductors and the supply difficulties affecting the production of new vehicles. Original equipment demand will remain below its 2019 level, especially since the used car market is growing in several regions, and particularly in Europe. Car manufacturers and dealers are investing in vehicle reconditioning.
- The EBIT ratio of the tyre industry leaders analysed within this report deteriorated significantly between 2017 and 2020. The main reason for this is the strong pressure on prices from operators whose production facilities are located in countries such as China or Thailand, which are close to rubber supply basins and where labour costs are low. In fact, when the price of natural rubber soared between 2017 and 2018, operators did not have enough pricing power to be able to fully pass this increase on to their prices. As a result, the leaders of the tyre industry, led by Bridgestone and Michelin, accelerated the restructuring of their production facilities, significant exceptional expenses.
- Resisting pressure from low-cost manufacturers and restoring margins are the two main objectives of leaders' strategy, which mostly is centered around improving competitiveness, positioning themselves in higher value-added segments and diversifying away from tyres. Even the concept of eco-design is much more about economic purposes than environmental issues. Indeed, having the capacity to recycle tyre components and to not require neither oil nor the rubber extracted from Heveas for tyre production would allow operators to no longer depend on price volatility of these materials and South-East Asian countries. Thus, it becomes mandatory to invest in green chemistry. In addition, the energy consumption of production facilities' is a major factor for competitiveness.
- The context of soaring raw material and freight prices since the beginning of 2021 will linger and hinder the recovery of operators' margins. Additional mergers such as the one between the Americans Goodyear and Cooper Tire are to be expected in upcoming years.

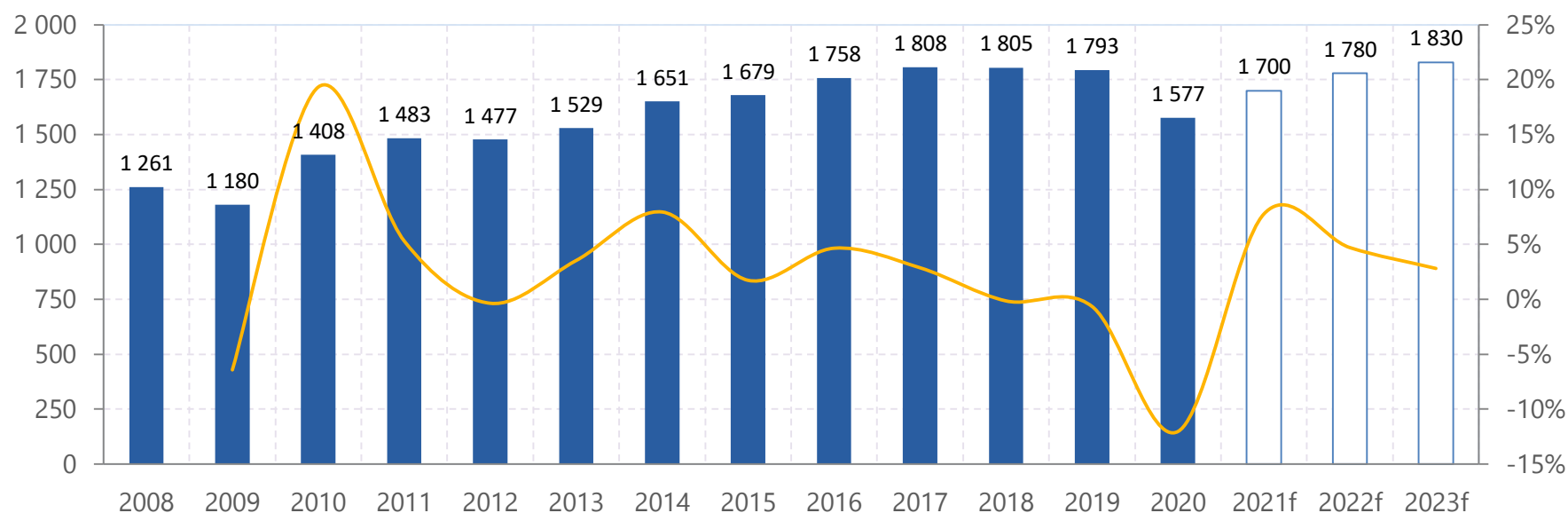




## The tyre market will return to pre-crisis levels by 2022

### *Sales of light and heavy duty tyres worldwide (2008-2023f)*

Unit: millions of tyres, share in % of global unit sales, compound annual growth rate (CAGR) in percent



Forecasts: Xerfi Global, primary data: Tires Business

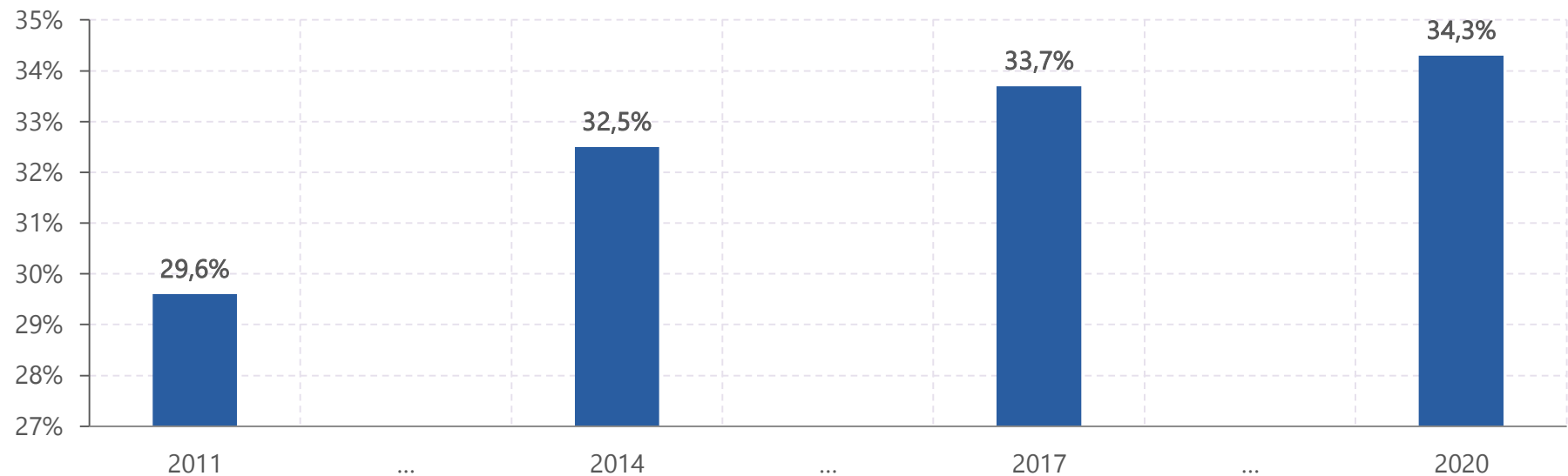
The tyre market will partially rebound in 2021 mainly due to the lifting of health restrictions, especially in Americas and Europe, which will lead to a rebound in road traffic. In addition, the strong global economic growth will result in a positive dynamic for road transport. Furthermore, the shortage of semi-conductors that has been affecting the automotive industry since the beginning of the year will have a major impact on global automotive production, which will only slightly rebound compared to 2020. In 2022 and 2023, the tyre market will continue to grow thanks to an increasing global automobile production, the definitive end of the health crisis and an increase in the size of the global automobile fleet, particularly in Asia, mainly due to demographic growth.



## Asia is the largest market for the tyre industry as well as its most important growth driver...

*Share of Asia (excluding India) in global tyre sales (trucks and light vehicles)*

Unit: share in % of total sales volume



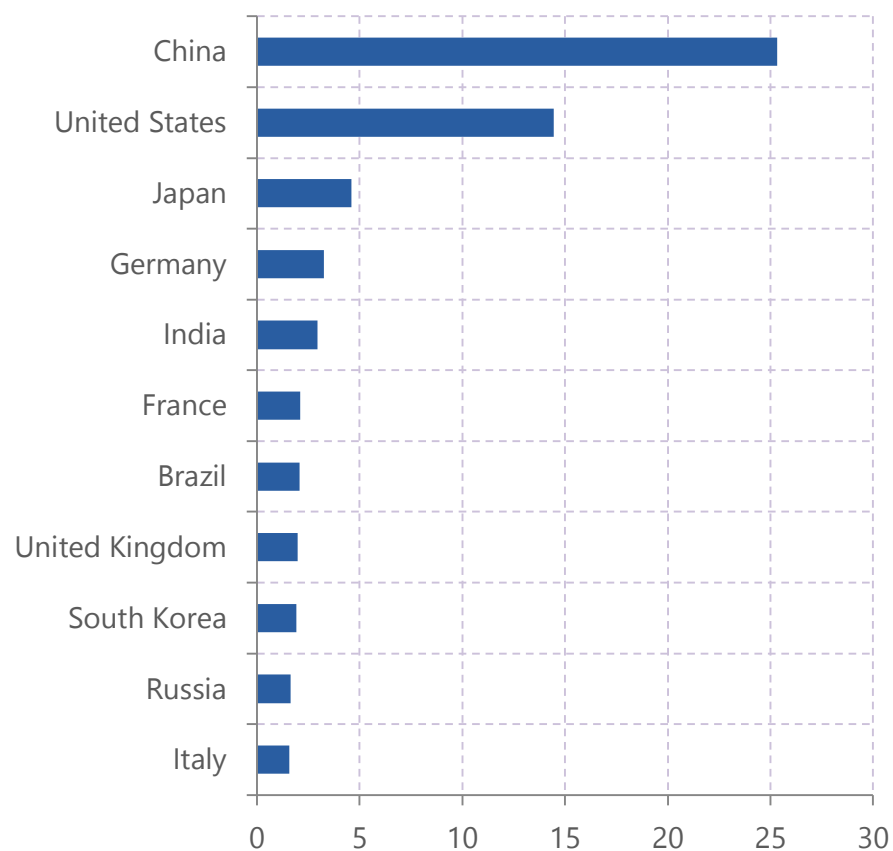
Source: Michelin



## ...mostly because of the size of Chinese automobile manufacturers

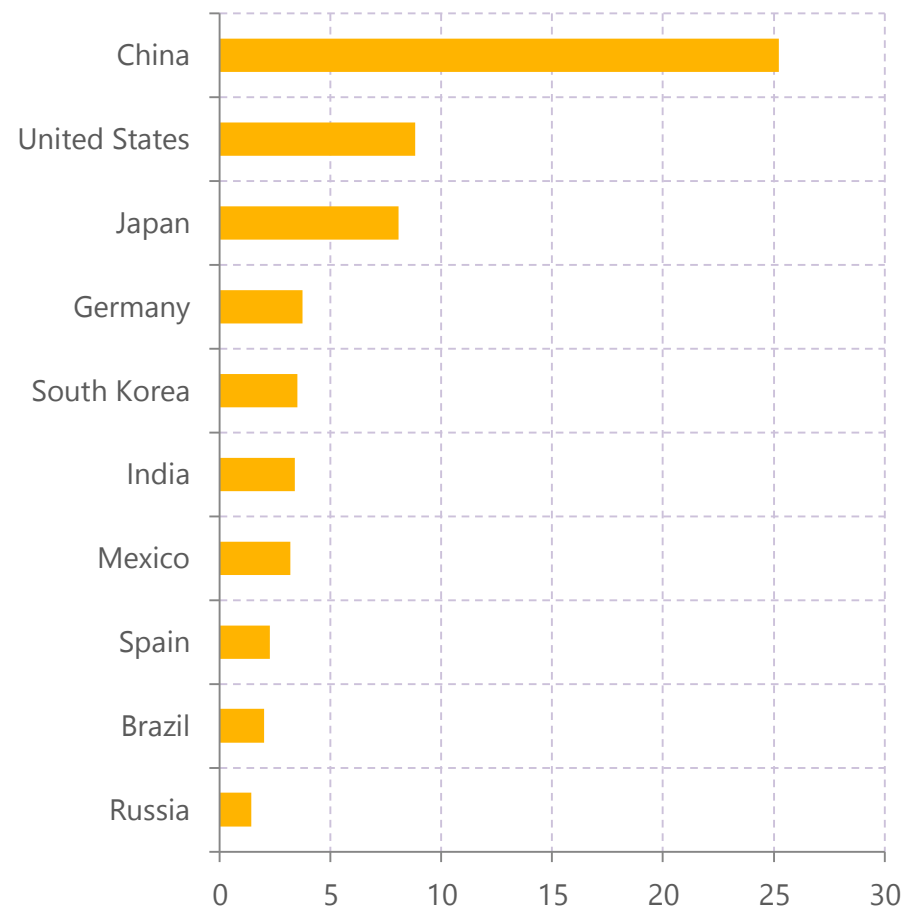
*Top 10 automobile manufacturing countries (2020)*

Unit: million vehicles (private and commercial)



*Top 10 automotive markets (2020)*

Unit: sales/registrations in millions of vehicles (private and SUVs)



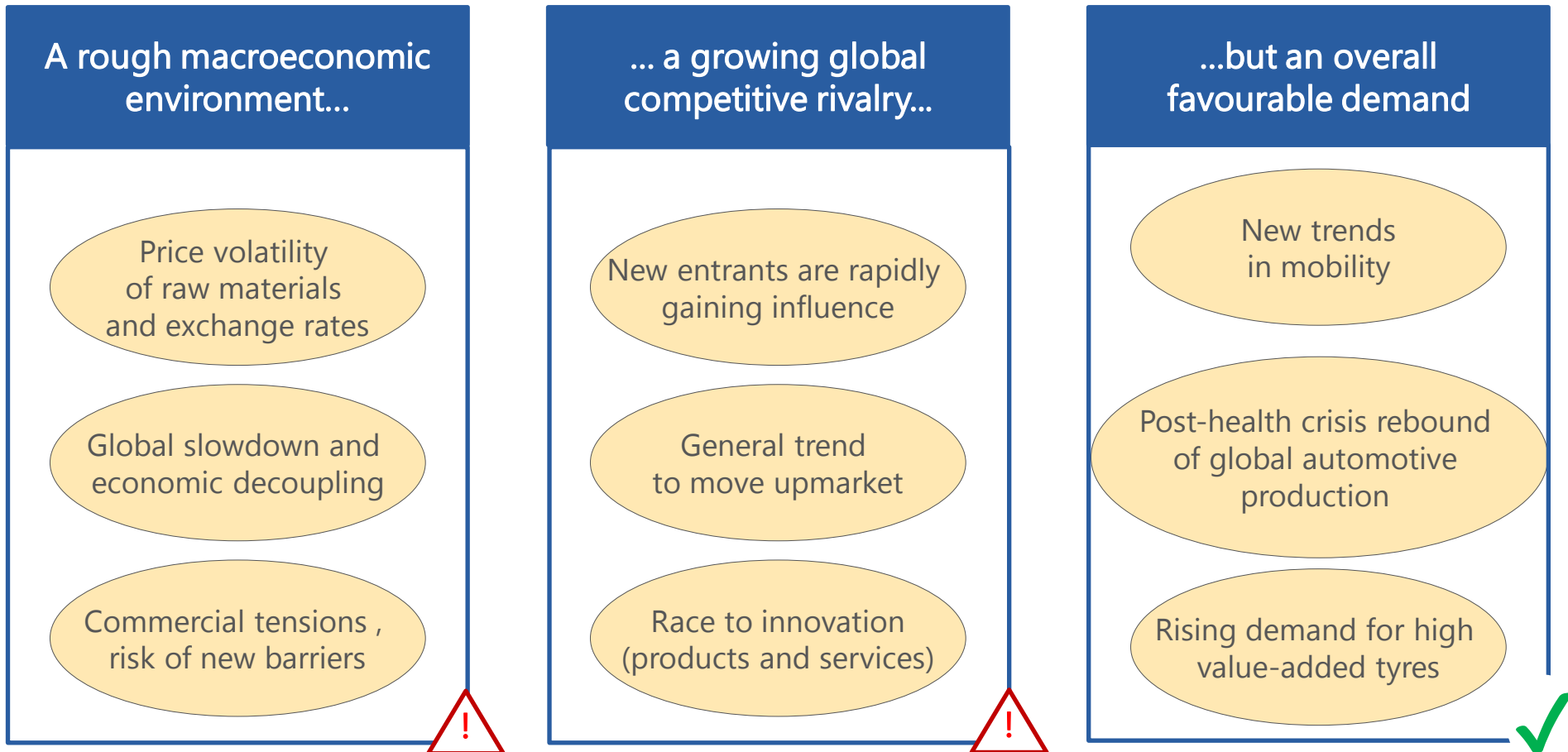
Source: OICA





## Despite several challenges, industry forecasts are favourable

*Main trends in the global tyre market environment*

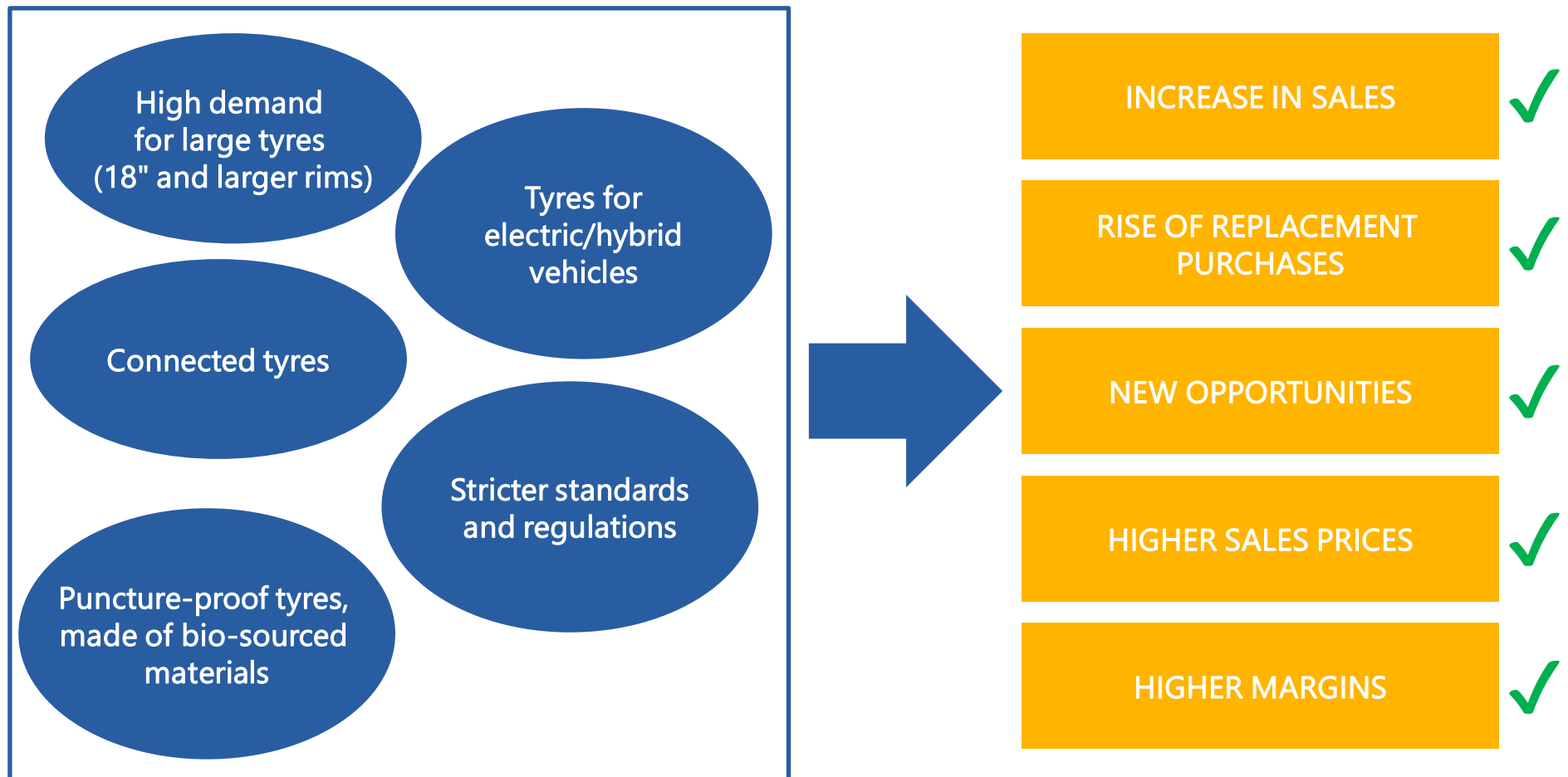


Source: Xerfi Global

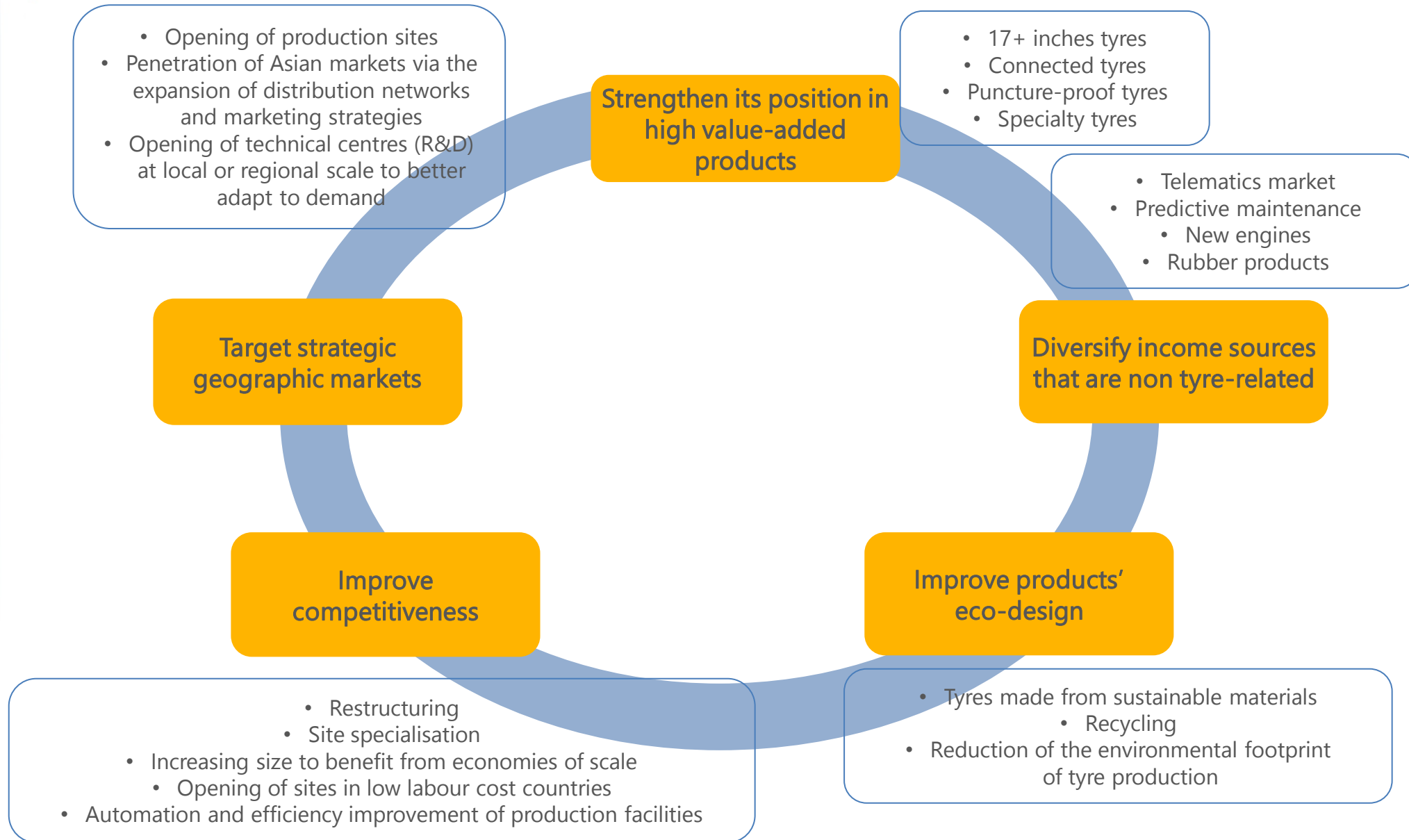


## The growing automotive demand encourages tyre manufacturers' to move upmarket

*Automotive demand trends favour tyre manufacturers*



Source: Xerfi Global

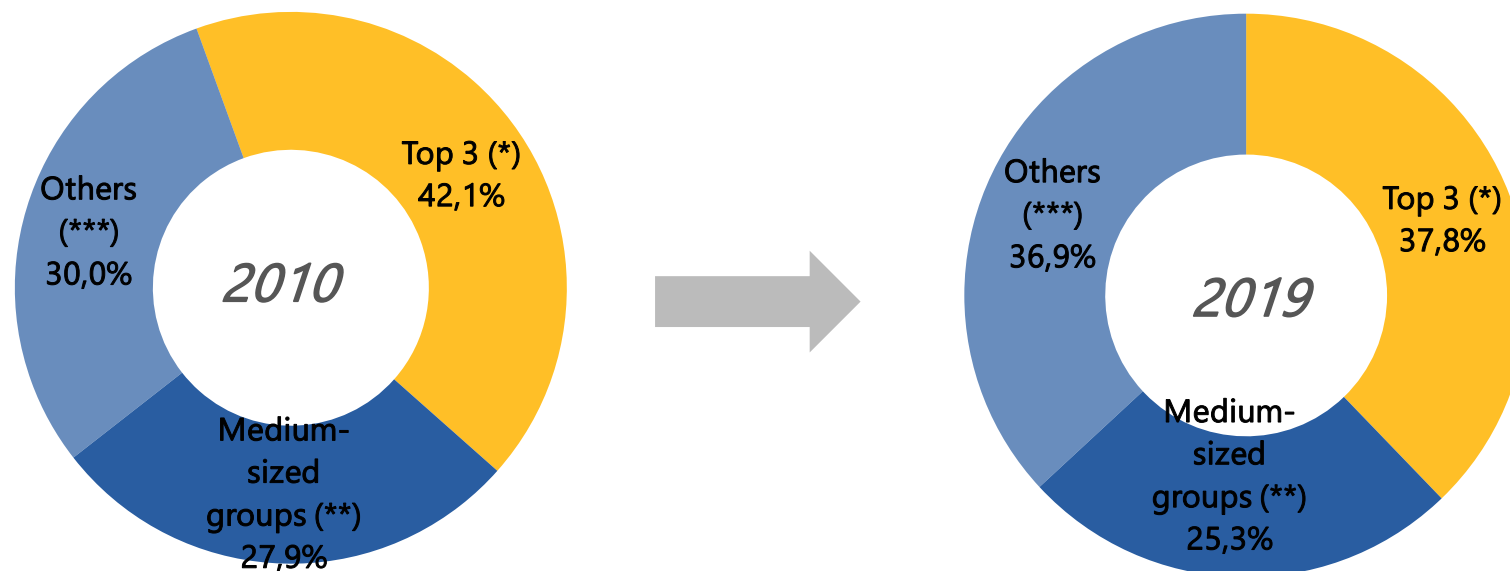




## Leaders' market share decreased with the rise of new local operators

*The global tyre market by type of manufacturer*

Unit: percentage share of global revenue



(\*) Top 3 : Bridgestone, Michelin and Goodyear / (\*\*) Operators whose market share according to the Tire Business ranking is between 2% and 7% / (\*\*\*) Players whose market share according to the Tire Business ranking is less than 2% / Source: Tire Business  
(\*\*) Operators whose market share according to the Tire Business ranking is less than 2% / Source: Tire Business

## 2. Market fundamentals



## 2.1. Scope of the report

### The tyre industry is a specialised business

#### A market which encompasses various segments...

Tyre manufacturers design, assemble and commercialise various ranges of tyres for all types of vehicles. The tyre market is divided into three main segments: light vehicle tyres (passenger vehicles and commercial vehicles), heavy vehicle tyres (trucks, coaches and buses) and speciality tyres (motorbikes and bicycles, construction and agricultural machinery, etc.). The light and heavy vehicle tyre segments represent the bulk of the market, accounting for about 60% and 30% of the industry's total revenues in 2019, respectively. Due to their expertise in the rubber industry, most tyre manufacturers also produce and commercialise a wide range of intermediate and finished rubber products for the industrial and consumer markets. For the purpose of this report, only the activities related to the manufacture and distribution of vehicle tyres (including speciality) will be covered.

#### ...mostly based on the replacement market

The customer base of tyre manufacturers mainly consists of private individuals (replacement market, about 75% of revenue in 2020) and car manufacturers (original equipment market, about 25% of revenue). The automotive industry as a whole (light vehicles, trucks, buses, etc.) represents the largest share of demand in volume (close to 90% in 2019). However, depending on their positioning, tyre manufacturers often also operate in a number of so-called speciality markets such as mining tyres, agricultural tyres, two-wheelers, civil engineering, aircraft etc.

#### An industry that is less and less concentrated...

The tyre industry is becoming less and less concentrated at the global scale. In 2019, the three largest tyre manufacturers (Michelin, Bridgestone and Goodyear) accounted for 37.8% of revenue in the industry, compared to 46.2% in 2008. US, Japanese and European operators are the largest tyre manufacturers thanks to their strong international presence, specialisation in mid to high end tyres, extensive distribution networks and historical relationships with the world's largest car manufacturers.

#### ...with the rise of new operators, in particular from Asia

Although they remain dominant in the mid to high end segments, the behemoths of the tyre industry are facing the rise of new operators, particularly from Asia. Benefiting from dynamic and low cost domestic markets, manufacturers such as China's Zhongce Rubber, Korea's Kumho Tire, Taiwan's Cheng Shin (Maxxis) and Singapore's Giti have specialised in the low end segment and are now expanding internationally and moving upmarket.

Source: Xerfi Global





## Asia is slowly becoming the biggest market for the tyre industry

-12.0%

Change in the number of tyres sold (light and heavy vehicles) in 2020 compared to 2019

90%

Share of light and heavy duty tyres sales in the industry.

€124.4bn

Estimated revenue of the global tyre market in 2020, down by 15% compared to 2019.

74.7%

Share of the replacement market in global tyre sales (light and heavy duty vehicles) in 2020. The replacement market is more profitable than the original equipment market and less subject to fluctuations in vehicle production.

31.7%

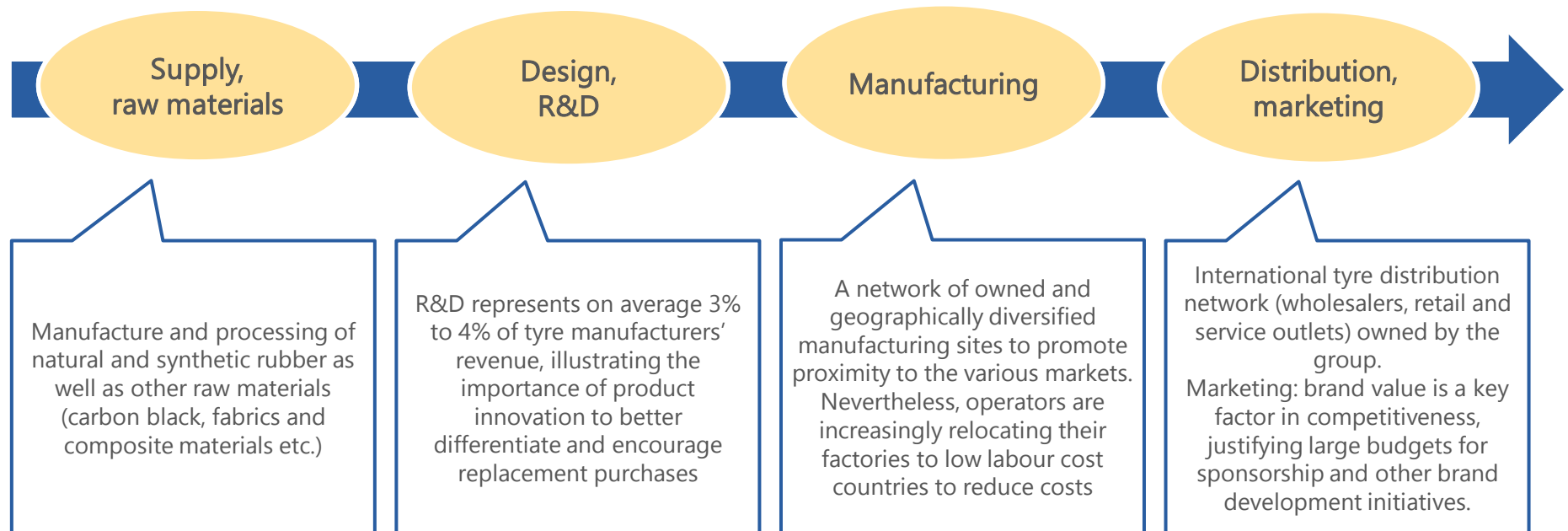
Asia's market share (excluding India) in global sales of light vehicle tyres in 2020.

Sources: Xerfi Global, Michelin, Tires Business and OICA



## Among the leaders of the tyre industry, vertical integration is rather common

*Simplified representation of the tyre manufacturers' value chain*



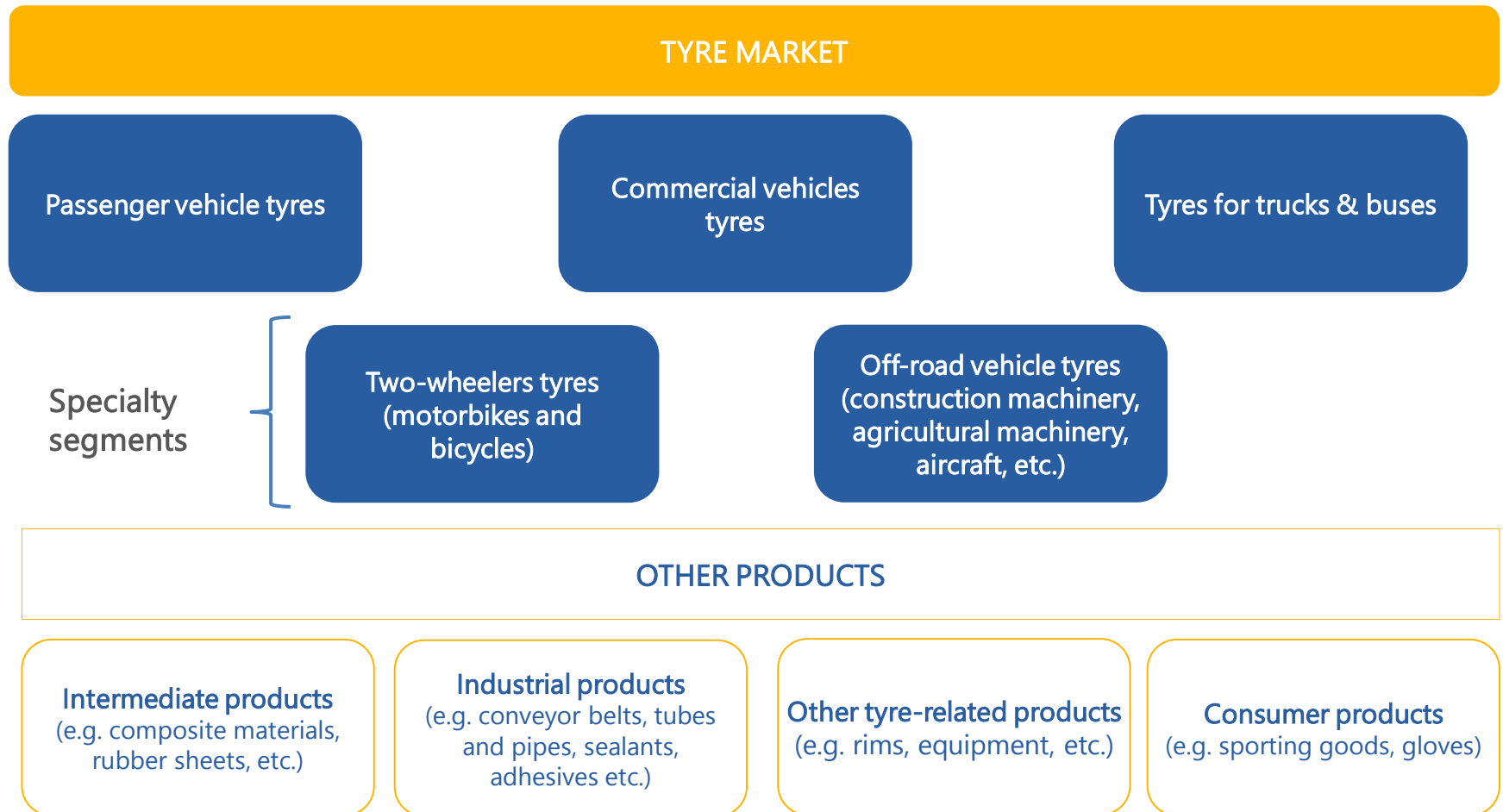
Source: Xerfi Global

The activities of tyre companies mainly include the design and manufacture of rubber tyres and related products (inner tubes, tyre treads, etc.) for all types of vehicles. While tyres represent the bulk of their business, many operators also diversified into the manufacture of other finished or intermediate rubber-based products to take advantage of their vertical integration. Indeed, most leaders (Bridgestone, Michelin, Goodyear, etc.) are also present upstream in the rubber chain (production, treatment, processing) in order to secure supplies and be less dependent on price volatility. Finally, operators often also have their own BtoB and/or BtoC distribution networks in order to better commercialise their products in their various markets. They may also form alliances with each other to share investments, as Michelin and Sumitomo did in 2018 when they created a 50/50 joint venture in North America for the wholesale distribution of tyres.



## Light vehicle tyres account for approximately 60% of the market

*Main product segments of the tyre market*



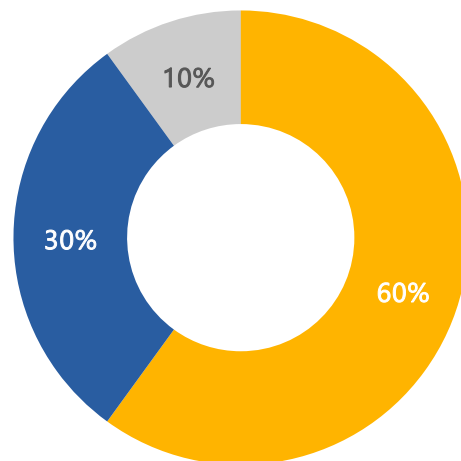


## Truck tyres are characterised by significantly higher prices

*Breakdown of sector revenue by segment (2019)*

Unit: percentage share

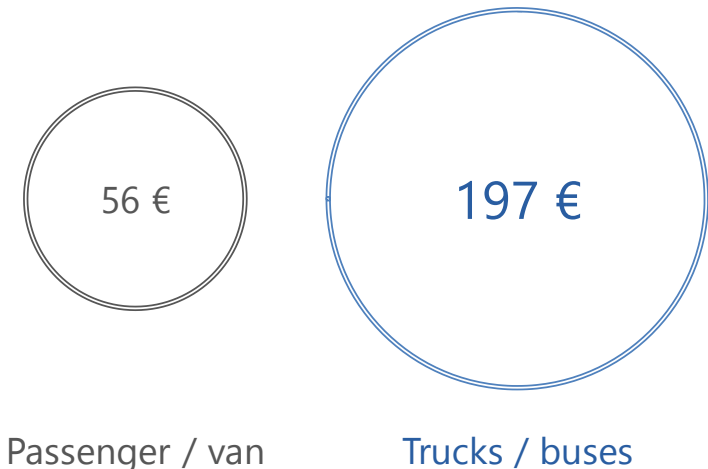
■ Passenger vehicle/Light truck tyres ■ Truck tyres ■ Specialty tyres



*Average selling price of tyres by vehicle type (2019)*

Unit: euros per tyre

*Average price per tyre :*



Xerfi Global processing / Source: Michelin

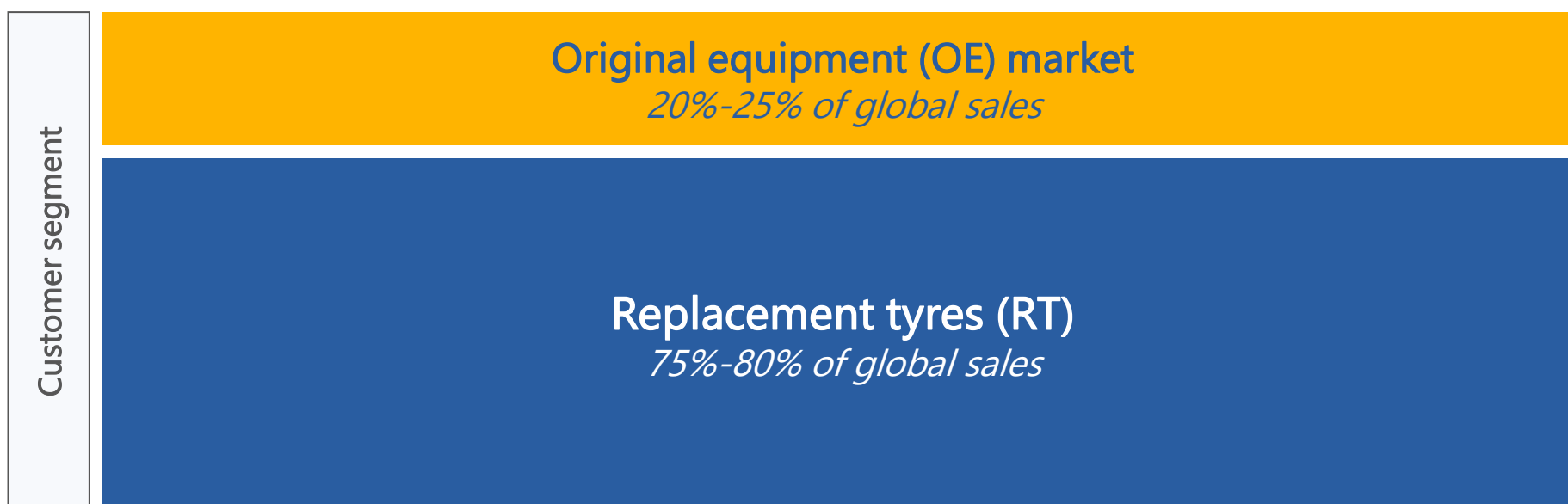
According to the data available for 2019, the light and heavy vehicle tyre segments accounted for around 90% of market revenue. While the share of light vehicle tyres (passenger vehicles and vans) amounted to almost two thirds of the market (60%), the heavy vehicle segment remains important due to significantly higher average prices (almost four times higher than light vehicle tyres). The other tyre categories, which include the speciality markets, accounted for around 10% of the sector's revenue in 2019, and are also characterised by generally higher average prices and margins.



## The replacement market prevails in volume, but the original equipment segment remains very important in terms of visibility

### *Global tyre sales by customer type*

Unit: percentage share of global sales by volume



Source: Xerfi Global estimates

Among the main customers of tyre manufacturers, a distinction is generally made between the original equipment segment (automobile manufacturers) and the replacement segment (end consumers via wholesalers and retailers). The main difference between "original equipment" tyres and replacement tyres lies in their technical characteristics: original equipment tyres are generally developed according to specific criteria selected by automobile manufacturers for a particular vehicle model, in order to match the desired characteristics of the vehicle as a whole (driving comfort, rolling resistance, grip, noise level, aesthetics, cost etc.). Conversely, the replacement segment groups together tyres that are more standardised according to technical criteria or range level, without necessarily being inferior, in terms of quality, to the original equipment tyres.

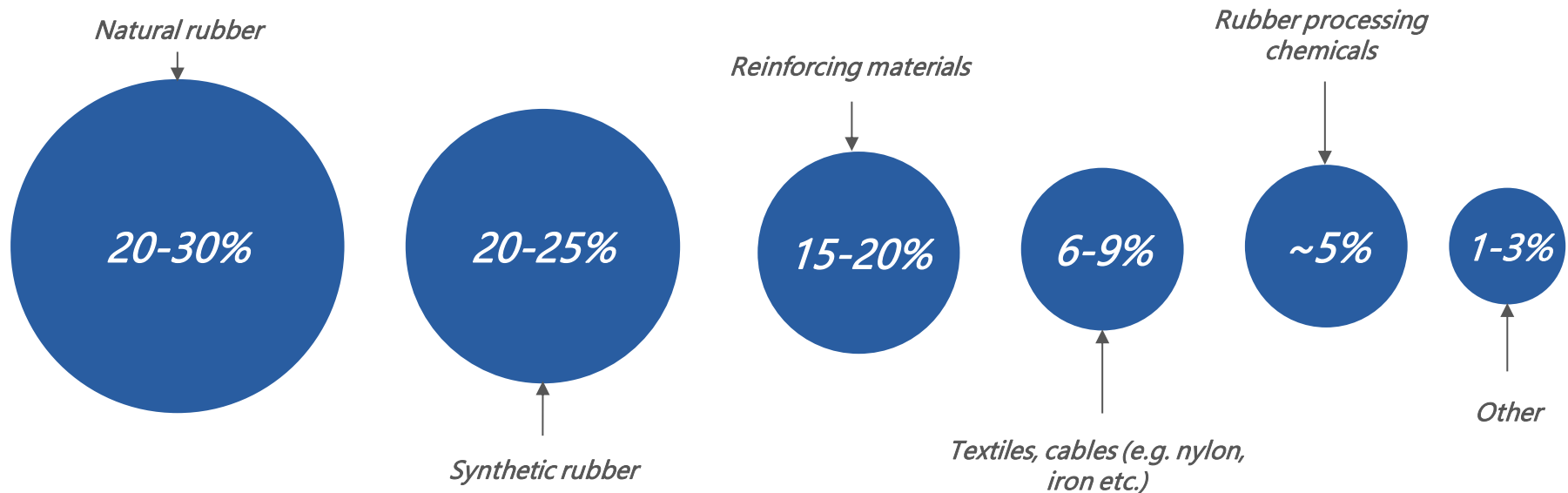
The majority of tyres sold worldwide (about three quarters) are distributed through tyre wholesalers and retailers, who in turn commercialise them to end consumers. The majority of tyre manufacturers are also adopting a downstream vertical integration model (either through partial or full ownership of service centres or through close cooperation - partnerships, joint ventures - with tyre wholesalers or retailers) in order to increase their share in the replacement market. Although the original equipment segment represents a much smaller proportion in terms of volume, it nevertheless remains crucial for the activity of tyre manufacturers in that it favours visibility and the enhancement of the brand. Indeed, automobile manufacturers will tend to replace their original tyres with the same brand if they are satisfied with it.



## The sector is heavily dependent on oil-based raw materials

*Estimated distribution of tyre manufacturers' raw material costs (2020)*

Unit: percentage share of total raw material costs



Estimates: Xerfi Global based on data from Tire Business, ATMA, Michelin, Goodyear

On average, modern car tyres will contain up to 25 components and 12 different rubber compounds. The main raw materials used by tyre manufacturers include synthetic and natural rubber, coal black, as well as various finished or semi-finished inputs (cords, fabrics, elastomeric materials, etc.). Overall, rubber accounts for between 40% and 55% of the value of a tyre and approximately 40% of its weight. Petroleum-based materials (including synthetic rubbers) represent almost two thirds of the raw materials used by tyre manufacturers, which shows how exposed they are to oil price fluctuations. A variation of \$1 in the price of a barrel of oil has an impact of \$9m in purchasing costs and a variation of \$0.1 per kg in the price of natural rubber has an impact of about \$90m.











Although some vertically integrated leaders are involved in the production or processing of certain raw materials, most tyre manufacturers source from a multitude of independent suppliers.





## Several Asian groups are present in the top of the rankings

*Overview of the tyre industry leaders analysed in this report*

Name	Country of origin	Consolidated sales (year)	Share of revenue from tyres (*)	Tyre brands
Bridgestone		24 962 M€ (2020)	81.1%	Bridgestone, Firestone, Dayton
Michelin		20 469 M€ (2020)	95.3%	Michelin, BFGoodrich, Kleber, Uniroyal, Taurus, Riken, Siamtyre, etc.
Goodyear		10 796 M€ (2020)	91.8%	Goodyear, Dunlop, Kelly, Debica, Sava, Fulda
Continental		37 722 M€ (2020)	26.7%	Continental, Barum, Uniroyal, Semperit, Viking, Matador
Sumitomo Rubber		6 494 M€ (2020)	86.0%	Falken, Dunlop
Hankook		4 797 M€ (2020)	97.9%	Hankook, Laufenn, Aurora, Kingstar
Pirelli		4 302 M€ (2020)	100%	Pirelli
Yokohama Rubber		4 686 M€ (2020)	81.4%	ADVAN, Geolandar, BluEarth, iceGUARD
Cheng Shin Rubber		2 863 M€ (2020)	100%	Maxxis
Toyo Tires		2 823 M€ (2020)	89.2%	Toyo Tires

(\*) Data corresponding to tyre-related sales in 2020 / Source: Xerfi Global according to operators



## Three types of operators dominate the global tyre market

*Rankings of leading tyre manufacturers by positioning and brand portfolio*

### VERTICALLY INTEGRATED MULTINATIONALS

**BRIDGESTONE**



**GOODYEAR**

**Continental**  
The Future In Motion

**PIRELLI**

**Sumitomo**

### CONSUMER MARKET SPECIALISTS

**Hankook**

**apollo**

**TOYO TIRES**  
driven to perform

**NEXEN**  
NEXEN TIRE

**YOKOHAMA**



**KUMHO TIRE**

**MAXXIS®**

### LOW-COST SPECIALISTS

**Giti**

**zc rubber**  
中策橡胶  
Hangzhou Zhongce Rubber Co., Ltd.

**TRIANGLE**

**DOUBLE COIN**  
TIRES

**LINGLONG TIRE**



**DOUBLE STAR**

**SAILUN**  
TIRES

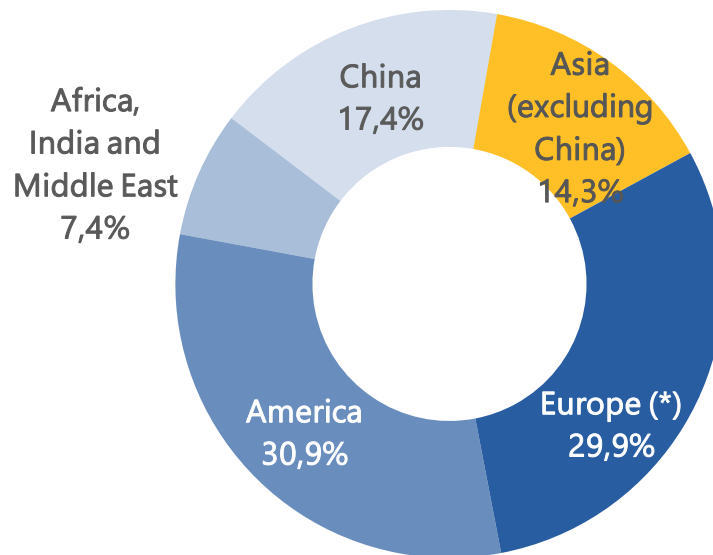
Source: Xerfi Global



## The Asian tyre market is the largest in the world...

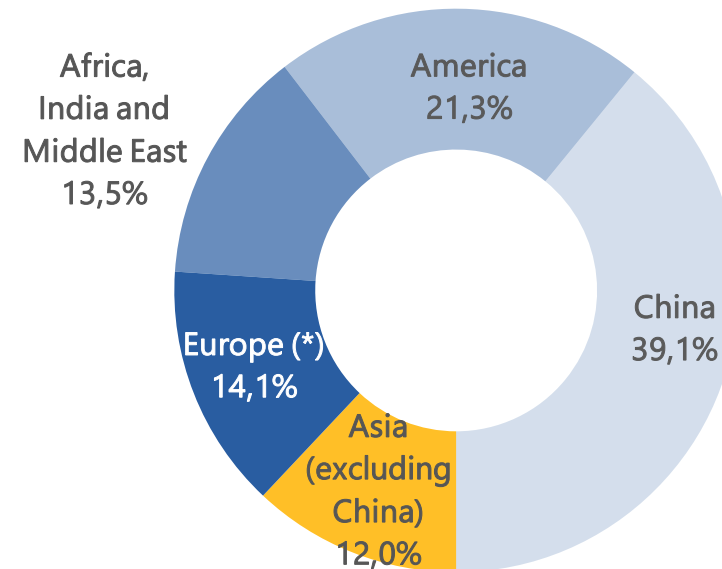
*Global market for light vehicle tyres by region (2020)*

Unit: share in % of total sales volume



*Global market for heavy vehicle tyres by region (2020)*

Unit: share in % of total sales volume



Source: Michelin / (\*) Including Turkey / Methodology: Michelin estimates the sell-in tyre markets (manufacturers' sales to distributors) by adding to the statistics published by local tyre associations, if they exist, its estimates of sales by tyre manufacturers who are not members of these professional associations. These estimates are mainly derived from import-export statistics and relate to the number of tyres sold.

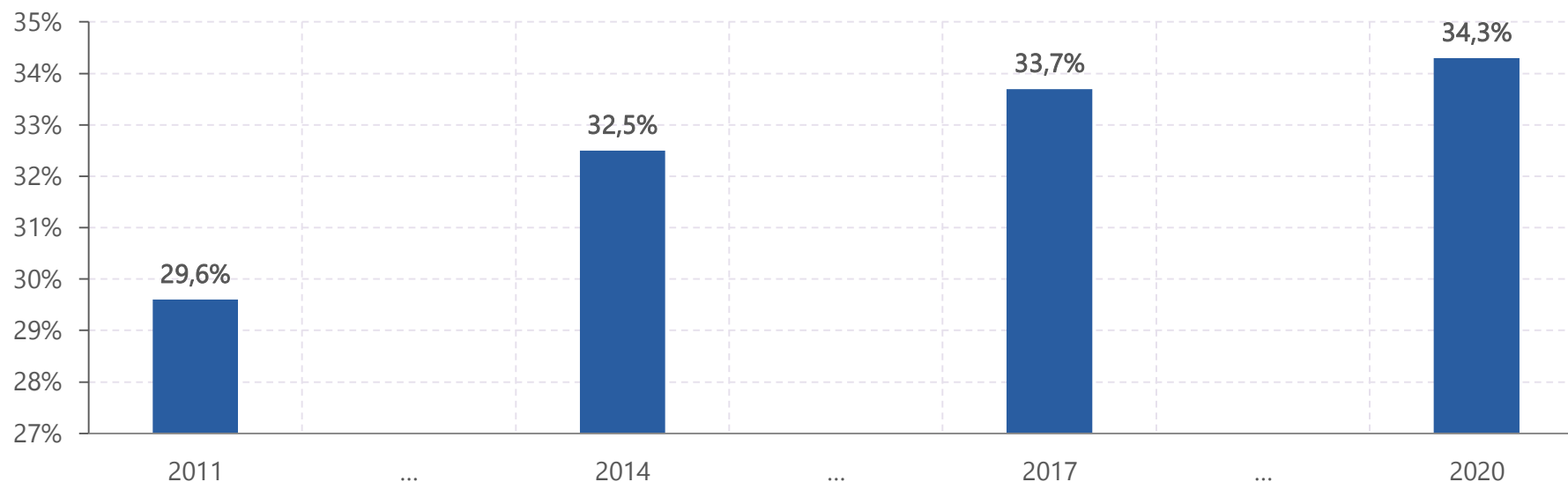
The American and European continents each account for around 30% of the light vehicle tyre market. Asia represents the largest market, accounting for about a third of the light vehicle tyre market including India and more than half of the truck tyre market. China alone accounts for about 17% of sales in this segment in terms of volume and, as the world's largest industrial country, for almost 40% of the tyre segment for heavy vehicles.



## ...and its weight is steadily increasing

*Share of Asia (excluding India) in global tyre sales (trucks and light vehicles) (2020)*

Unit: share in % of total sales volume



Source: Michelin / Methodology: Michelin estimates the *sell-in* tyre markets (manufacturers' sales to distributors) by adding to the statistics published by local tyre associations, where they exist, its estimates of sales made by tyre manufacturers that are not members of these associations. These estimates are mainly derived from import-export statistics and relate to the number of tyres sold.

## 3. The market and leaders' activity



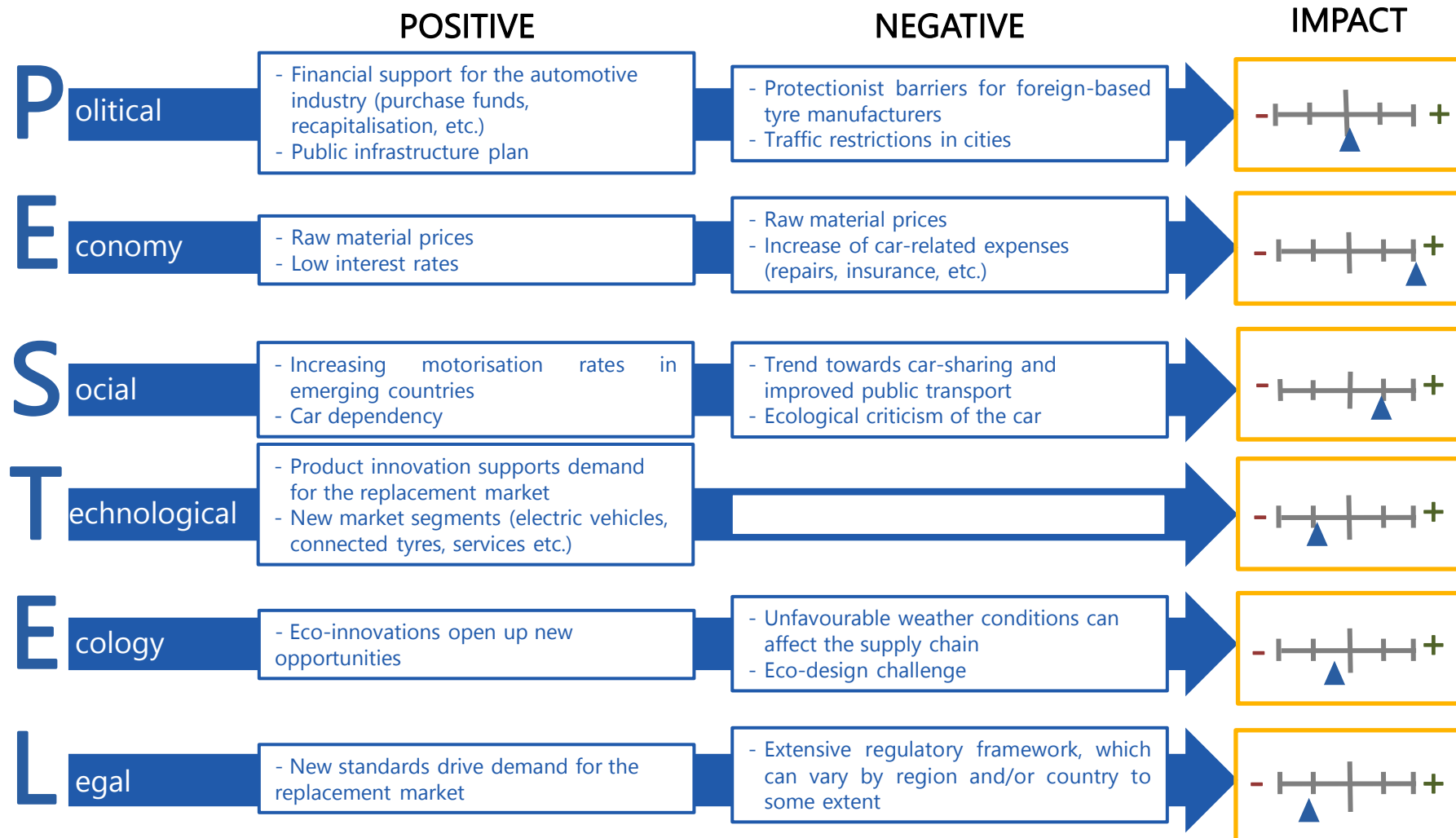
## 3.1. Sectoral environment





## A generally favourable environment despite recent economic challenges

### PESTEL analysis of the global tyre market environment





## Regulatory changes create new demand opportunities

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**The introduction of stricter standards is forcing tyre manufacturers to adapt their products...**

The tyre sector is subject to a vast regulatory framework covering many aspects in terms of product quality (performance standards, ecological impact, noise, etc.), consumer information (labelling...), the use of specific products or raw materials, or even the working conditions in manufacturing sites. Although standards and labelling systems vary from a region or country to another, recent regulatory changes have generally called for stricter requirements in terms of environmental impact (greener, better performing and more sustainable tyres), forcing manufacturers to adapt their products and modernise their production processes. Among recent trends, manufacturers have notably been focusing on developing tyres that use less polluting raw materials, such as coal black, and more components, such as silica, that reduce rolling resistance and enhance product durability.

**...but also creates demand opportunities**

Despite the additional costs of adapting to new standards, regulatory changes also represent new demand opportunities for tyre manufacturers. Indeed, stricter rules and more stringent requirements in terms of performance and quality generally benefit the new generation of tyres, which have a higher added value and are on average more profitable. This notably benefits to the market leaders (Michelin, Goodyear, Bridgestone etc.), who are better positioned in the mid to high end segments as opposed to their low-cost competitors.



## The market is very sensitive to the changes in automobile production and road traffic

### An industry dependent on automobile production...

By its nature, the original equipment market, which represented about 25% of global tyre sales in 2020, is very strongly correlated with global automobile production. While the recovery of the global automotive industry between 2015 and 2018 has been a boon for tyre companies, the contraction of production that has been observed since 2018 partly dampened this momentum.

### The growing motorisation rates, particularly in emerging countries, is fuelling the growth of the replacement market in the medium term

The replacement market, which is much more important in terms of volume, accounting for about 75% of global tyre sales in 2020, is dependant on road traffic and the size of the global vehicle fleet. Indeed, demand in the replacement segment traditionally depends on the number of vehicles on the road, tyre wear, average tyre life and, to a lesser extent, regulatory and/or seasonal factors. The increase in the number of vehicles on the road observed in all regions until at least 2015 (latest data available) as well as the sustained increase in motorisation rates in major emerging countries (China, India, Brazil, etc.) represent two key factors that support demand in the medium term.

### The market in value is highly dependent on rubber prices and exchange rates

The price of rubber (natural and synthetic) represents between 40% and 55% of the raw material cost of a tyre and raw materials themselves represent between 25% and 35% of tyre manufacturers' operating expenses. Due to their strong internationalisation, tyre manufacturers are also subject, to a varying extent, to exchange rate fluctuations which can influence their results in foreign markets. Even though they mitigate these risks through hedging contracts, the increased volatility of raw material prices and exchange rates has a tangible impact on the results of most operators, partly offsetting the growth in volume.

### However, in the longer term, new mobility trends could slow down growth

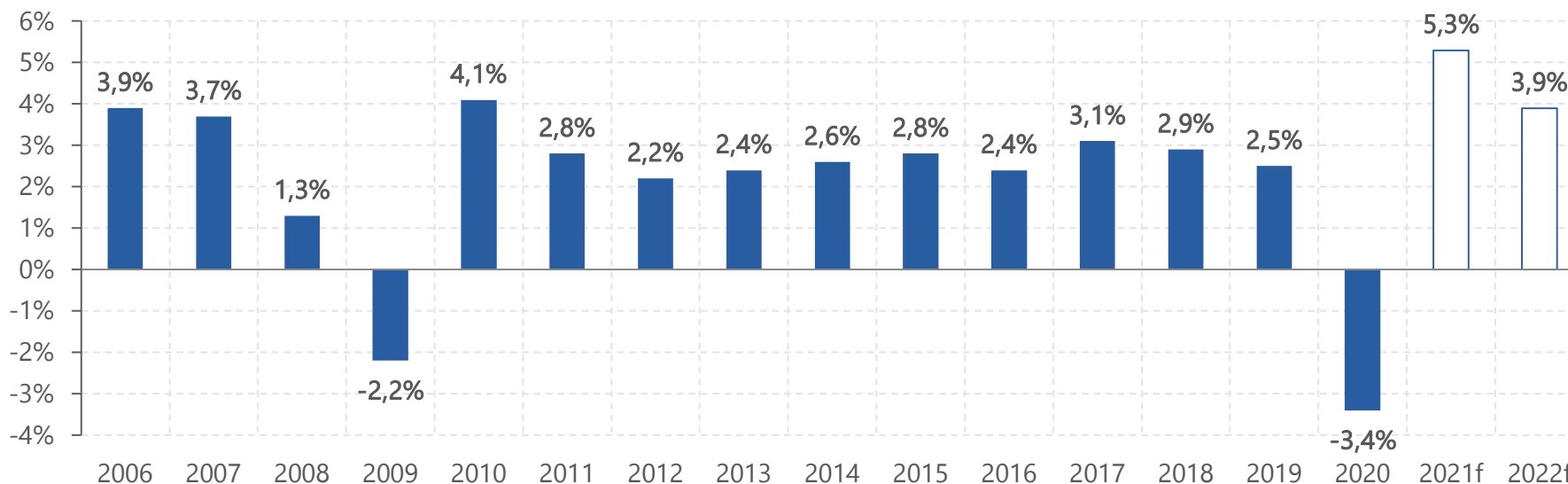
In the longer term, the evolution of transport habits worldwide represents a challenge for the tyre industry. On the one hand, the structural increase in urbanisation observed throughout the world, and particularly around large conurbations, should result in a trend decline in the motorisation rate of urban populations in favour of public or alternative means of transport. On the other hand, new consumer habits (car sharing/VTC, self-service car sharing, car pooling, etc.), encouraged by the growth and increasing adoption of new technologies, are reinforcing the shift away from car ownership towards more flexible transport solutions.



## The biggest decline in Global GDP happened in 2020

### *Evolution of global GDP (2006-2021f)*

Unit: annual % change (global GDP at constant prices and exchange rates)



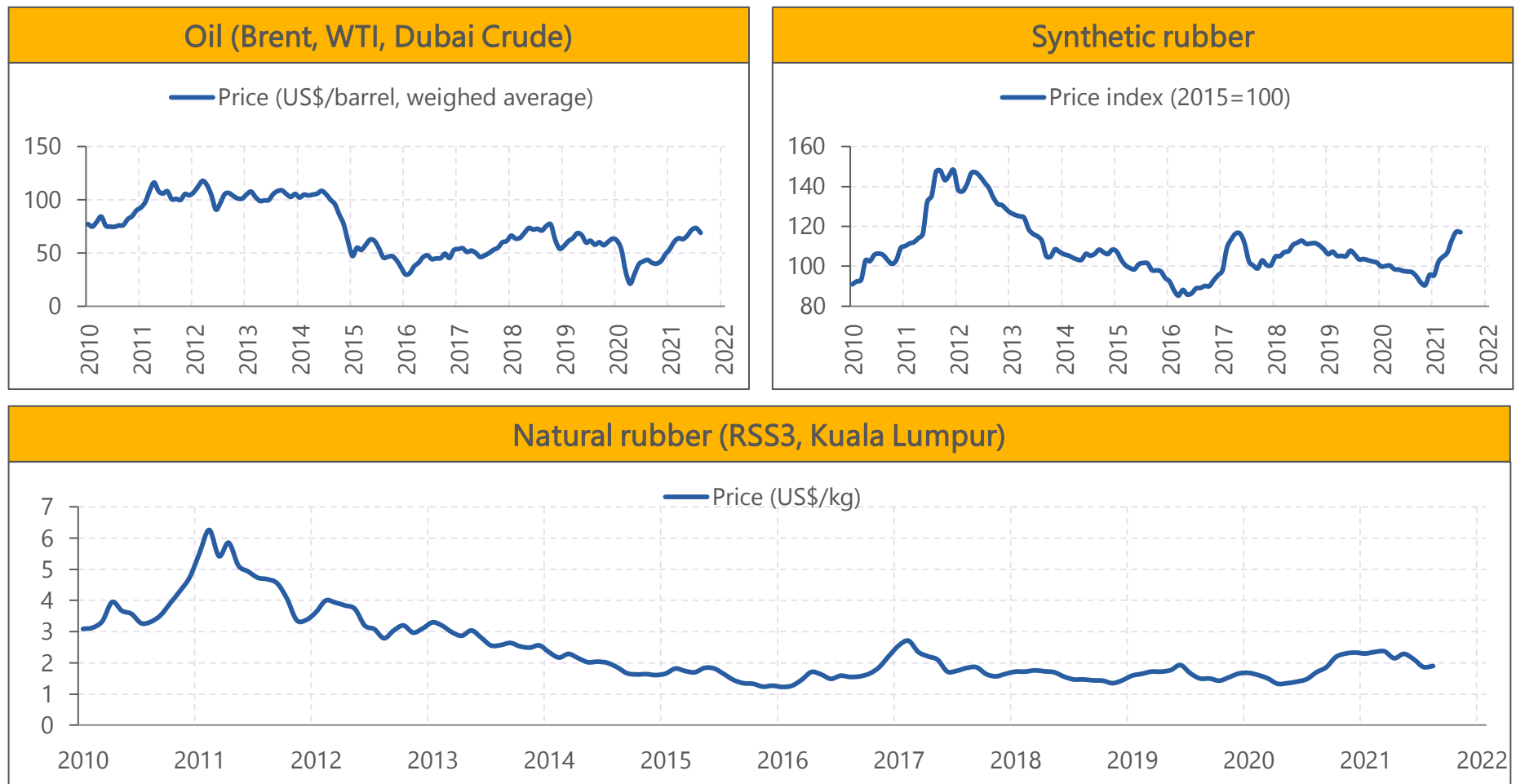
Sources: Feri (historical data), World Bank, Xerfi Global (forecasts)

In 2020, global GDP contracted by 3.4% due to the impact of the restrictive measures implemented by governments throughout the world to address the Covid-19 crisis. This represented the largest decline since the Second World War and was the first time this indicator went below 0% since 2009 and the financial and economic crisis following the collapse of the US banking system. These two mishaps were separated by a period of economic development with an average annual GDP growth of 2,8%.



## The increased volatility of raw material prices impacts tyre production costs

*Price variations of the main raw materials used in the tyre industry*



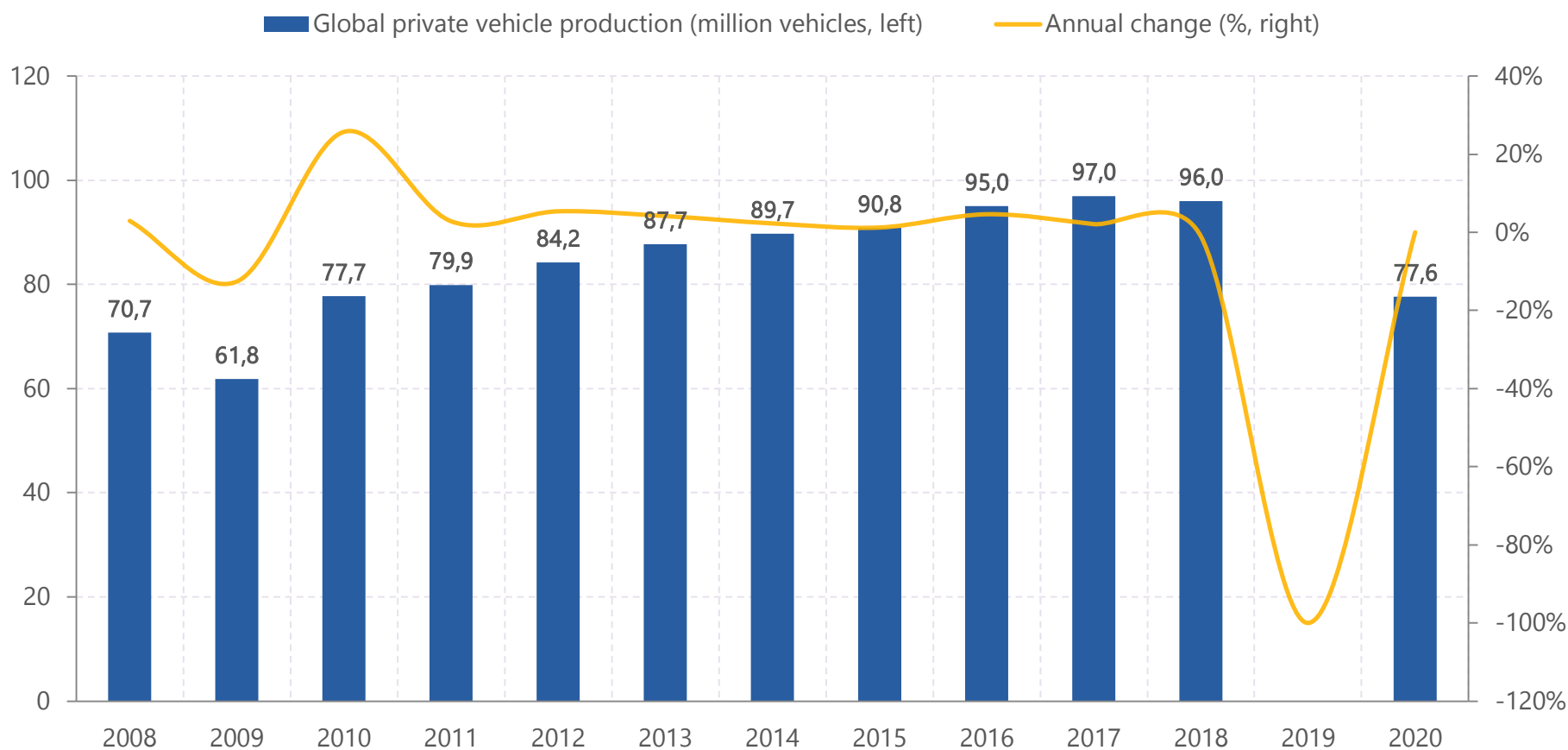
Sources: Singapore Exchange Ltd, World Bank, Federal Reserve Bank of St. Louis



## Global private vehicle production fell by 17% in 2020

*Global private vehicle production (2008-2020)*

Units: million vehicles, annual change in %



Source: OICA

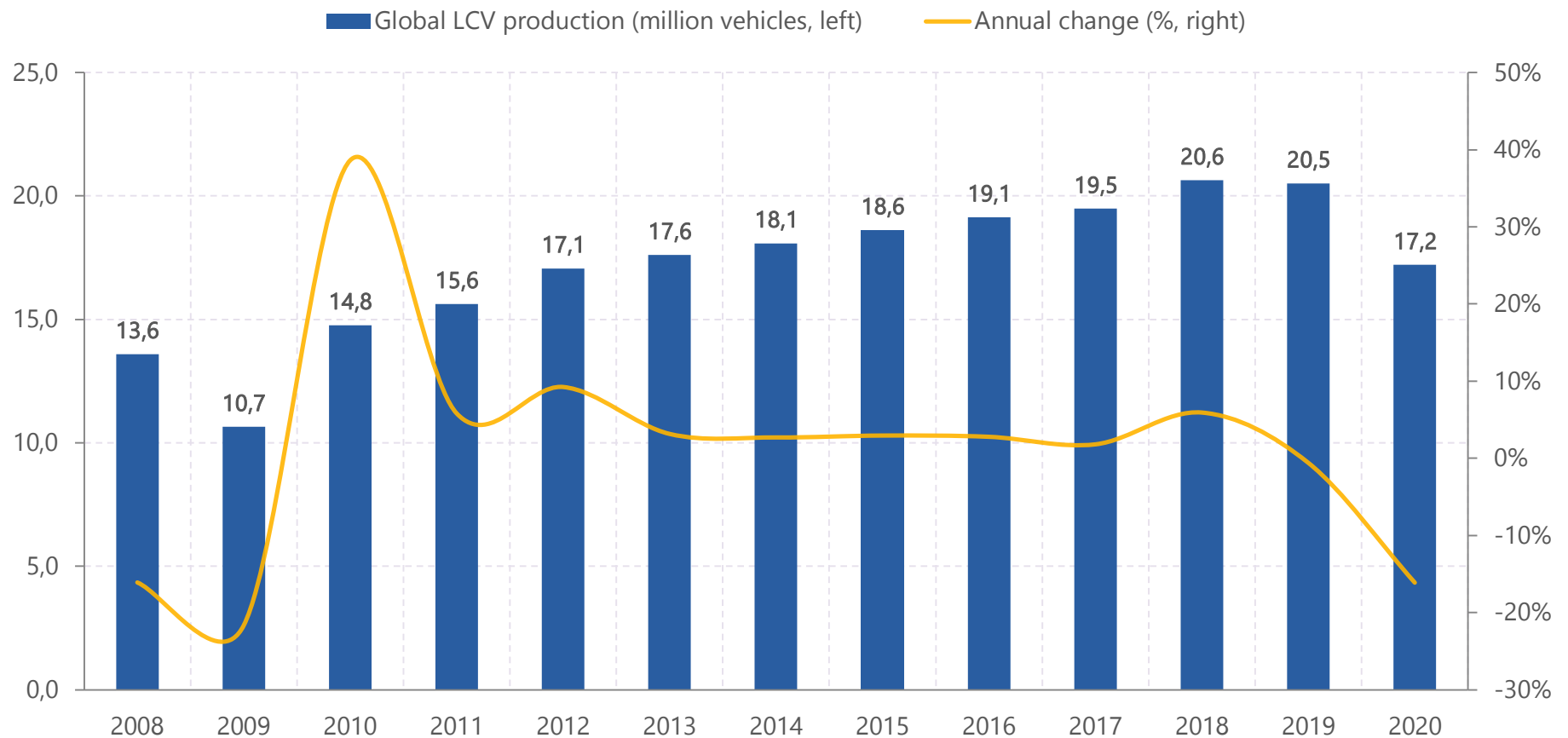




## Global commercial vehicle production fell by 16% in 2020

*Global production of light commercial vehicles (2008-2020) (\*)*

Units: million vehicles, annual change in %



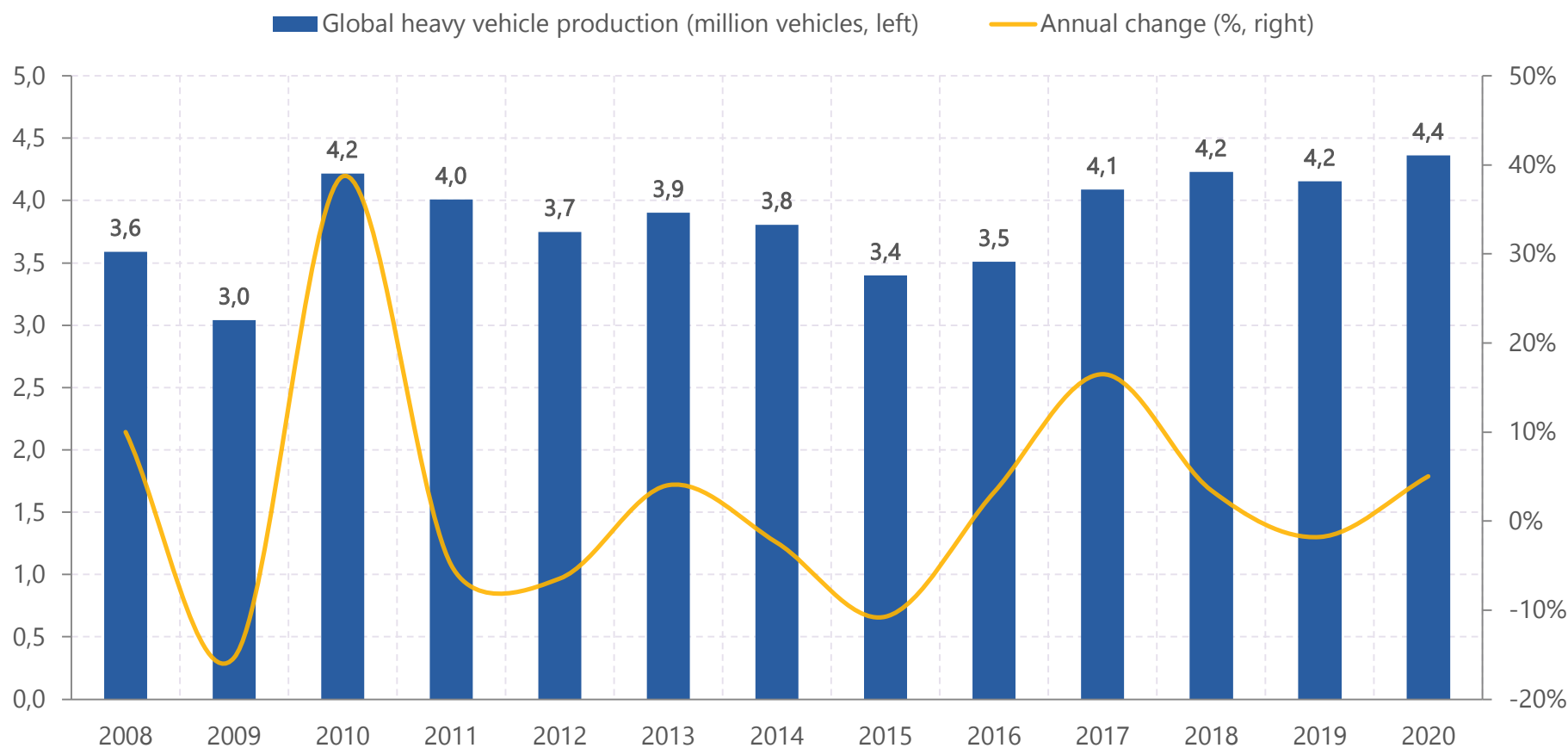
Source: OICA / (\*) Including pick-up trucks in the USA



## Global heavy vehicle production went up by 5% in 2020 thanks to the resilience of road freight transport during the crisis

*Global heavy vehicle production (2008-2020)*

Units: million vehicles, annual change in %



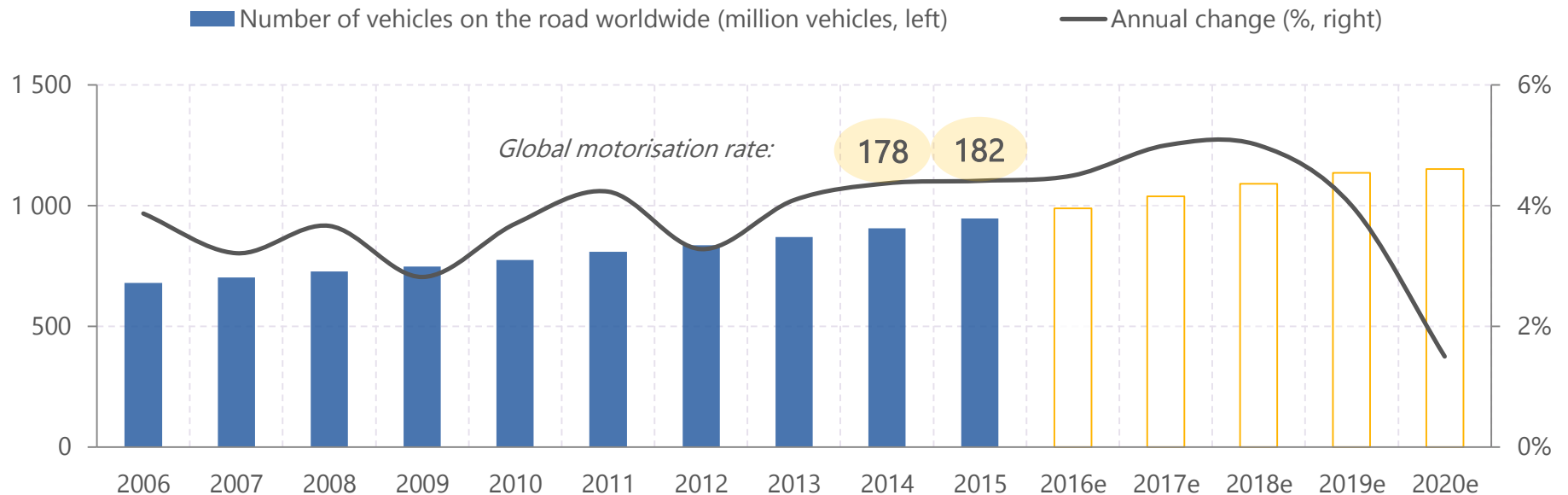
Source: OICA



## ...but the motorisation rate continues to rise

### *Number of vehicles on the road worldwide (2005-2020)*

Units: million vehicles, annual change in %, motorisation rate (number of vehicles/1000 inhabitants)



Source: OICA (latest available data: 2015), Xerfi Global estimates

Although the challenges facing the automotive industry (global economic slowdown, protectionist risks, new mobility trends, etc.) are likely to slow its growth, the outlook for demand remains overall positive in the short term thanks to a set of favourable factors at the global scale (replacement purchases, consumer interest in innovation, regulatory changes - particularly towards environmental impact - etc.), and in emerging countries particularly (low motorisation rates, growing middle classes, etc.). Between 2013 and 2018, the number of vehicles on the road throughout the world increased by almost 20%, while the global motorisation rate (expressed as the number of vehicles per 1,000 inhabitants) rose by about 10%, to 195 in 2018. As this trend in car ownership is expected to continue, the tyre industry is overall growing (especially on the market for replacement tyres).



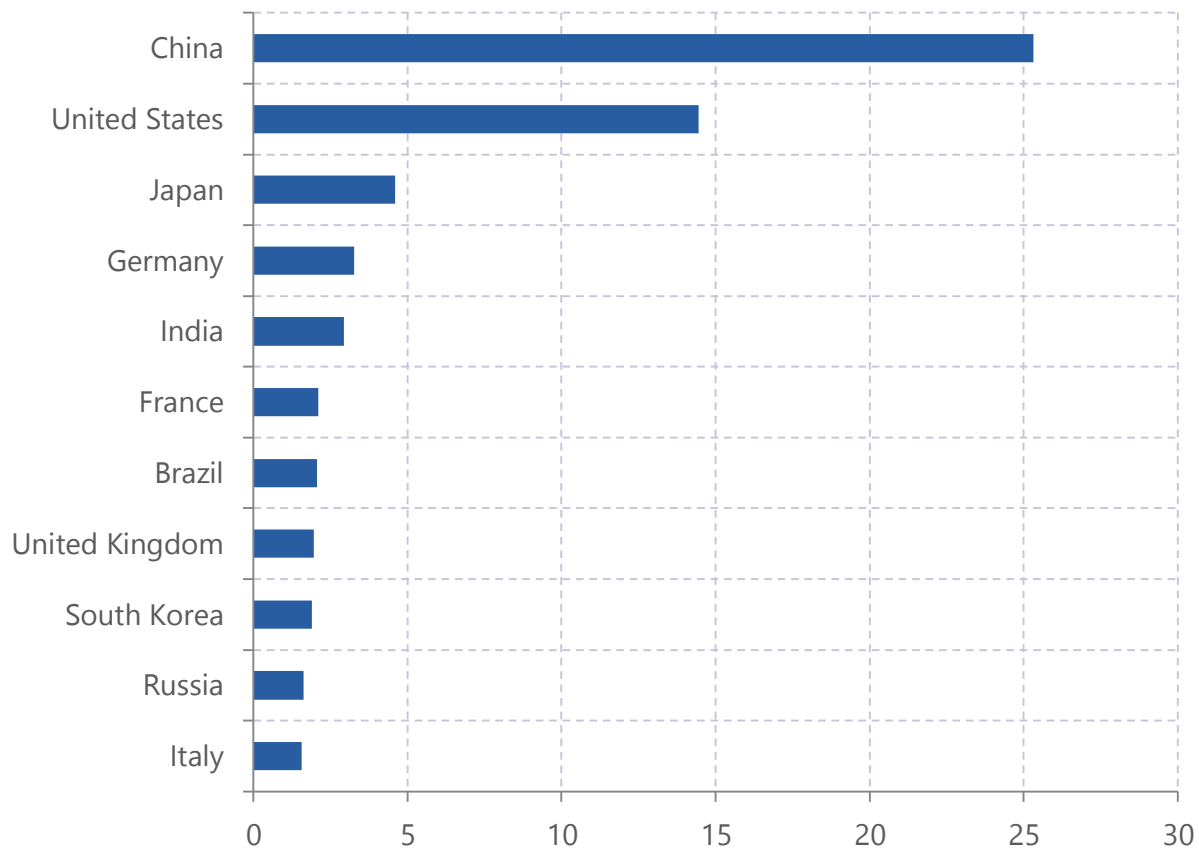
## China is very important for tyre manufacturers as it is the largest market for the automotive industry

China accounted for nearly 33% of global vehicle sales in 2020, making it a key region for tyre manufacturers. The size of the Chinese market, barriers to imports and lower production costs made China central to tyre manufacturers' expansion strategies as they continue to invest in the expansion of their local production capacities, including on the Asian market as a whole.

However, more mature markets such as the United States, Japan and Germany also remain important sources of revenue due to the size of their automotive markets (in terms of sales) and the importance of the respective automotive industries in these countries.

*New vehicle registrations or sales by country (2020)*

Unit: millions of vehicles (cars, vans and trucks)



Source: OICA

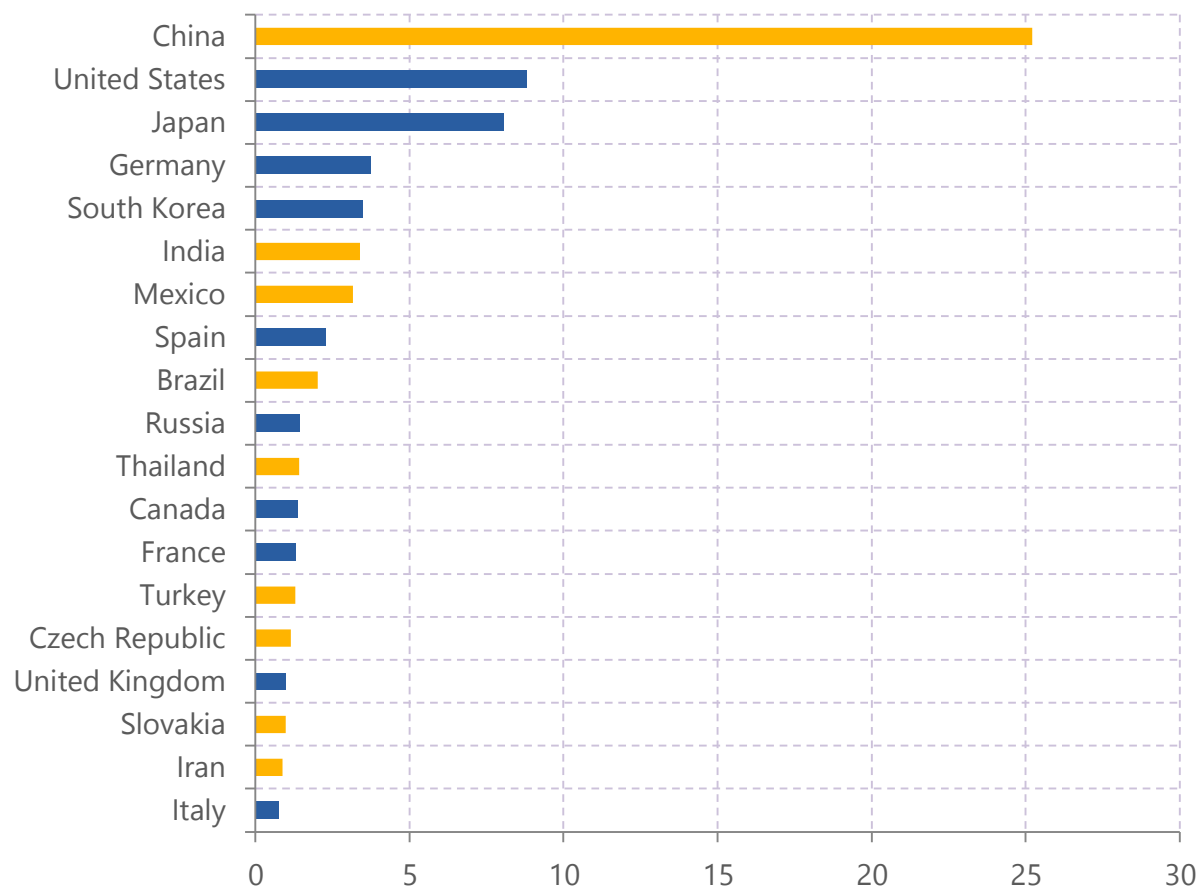


## China, USA and Japan are key markets for OEMs

In addition to being the largest automotive market in terms of sales, China is also by far the largest car manufacturing country. Indeed, Chinese car production reached 25 million units in 2020, or about 33% of global production. This is more than the combined production of the US, Japan and Germany (20.6m vehicles). The barriers to imports on manufactured goods that favour local production and the transfer of technology from foreign firms contributed to the strong growth of the Chinese automobile industry. Facing the growth of the Chinese automotive sector, tyre manufacturers therefore strengthened their presence in China in order to get closer to manufacturers on the one hand, and to better respond to the particularities of the Chinese market on the other.

*The 20 largest car producing countries in the world (2020)*

Unit: millions of vehicles (NB: low cost production countries in yellow)



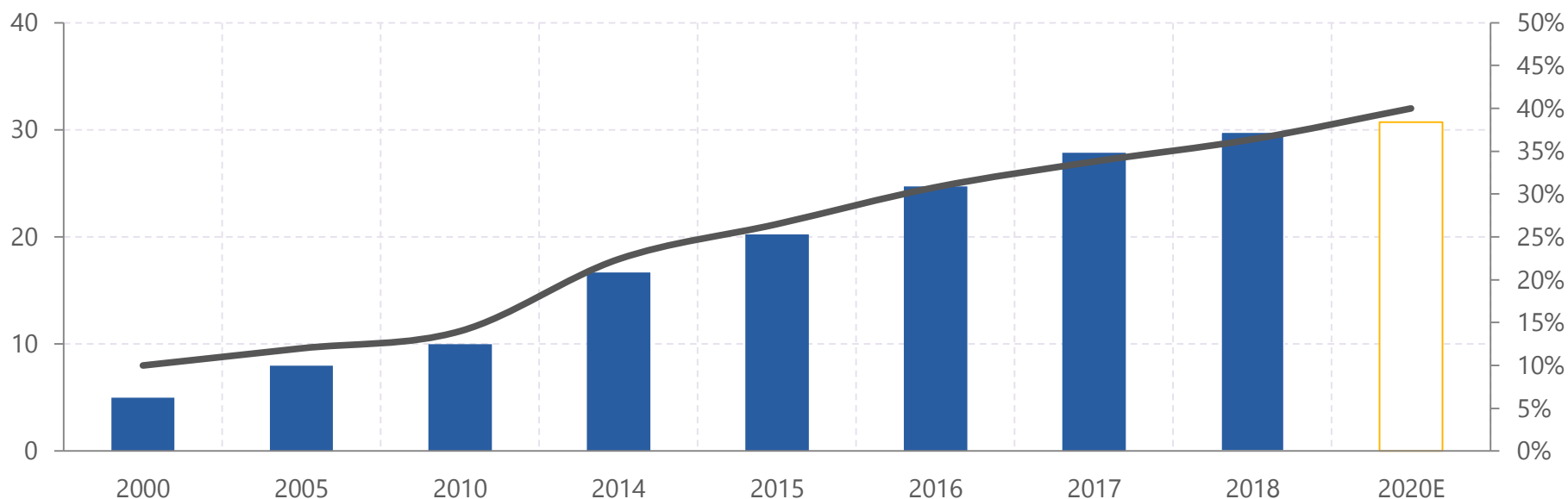
Source: OICA



## The growing popularity of crossovers and SUVs throughout the world leads to a positive product mix effect

*Global SUV sales and market share (2000-2020)*

Units: million vehicles (left); % share of total world sales (right)



Sources: Jato Dynamics and Pirelli

With the increasing popularity of crossovers and SUVs in recent years, sales of large size wheels increased over the years. This category of vehicles has been steadily gaining market share worldwide and accounted for almost 40% of global car sales in 2020. While most tyre manufacturers adapted towards large size wheels, the growth and prospects of this segment are also prompting them to dedicate an increasing share of their innovation and product development budget to this market.





## The demand for large size rims is growing strongly...

### *Benefits of the trend towards larger tyres*

The increasing adoption of larger diameter (17"/43cm and above) and wider (20cm and above) wheels has been one of the main demand trends and key growth driver of the tyre market in recent years. The popularity of this type of wheel is mainly linked to the popularity of larger, more powerful and heavier vehicles, which require larger tyre sizes to maintain consistent performance levels. While most car manufacturers are now fitting wider tyres as standard, demand is also driven in the replacement segment by performance factors (handling, lower rolling resistance and therefore lower fuel consumption) or aesthetics, despite the higher average price of these tyres. For tyre manufacturers, this trend represents a windfall that allows them to commercialise products with higher added value and greater profitability.

With the increasing popularity of private vehicles and the evolution of models (new designs), the demand for larger tyres is growing strongly...



*Up to 17 inches*



*17+ inches*

#### BENEFITS

##### Price

Higher selling price (up to 40% more expensive than smaller tyres)

##### Margins

More profitable (~30% margin compared to ~15% for smaller tyres)

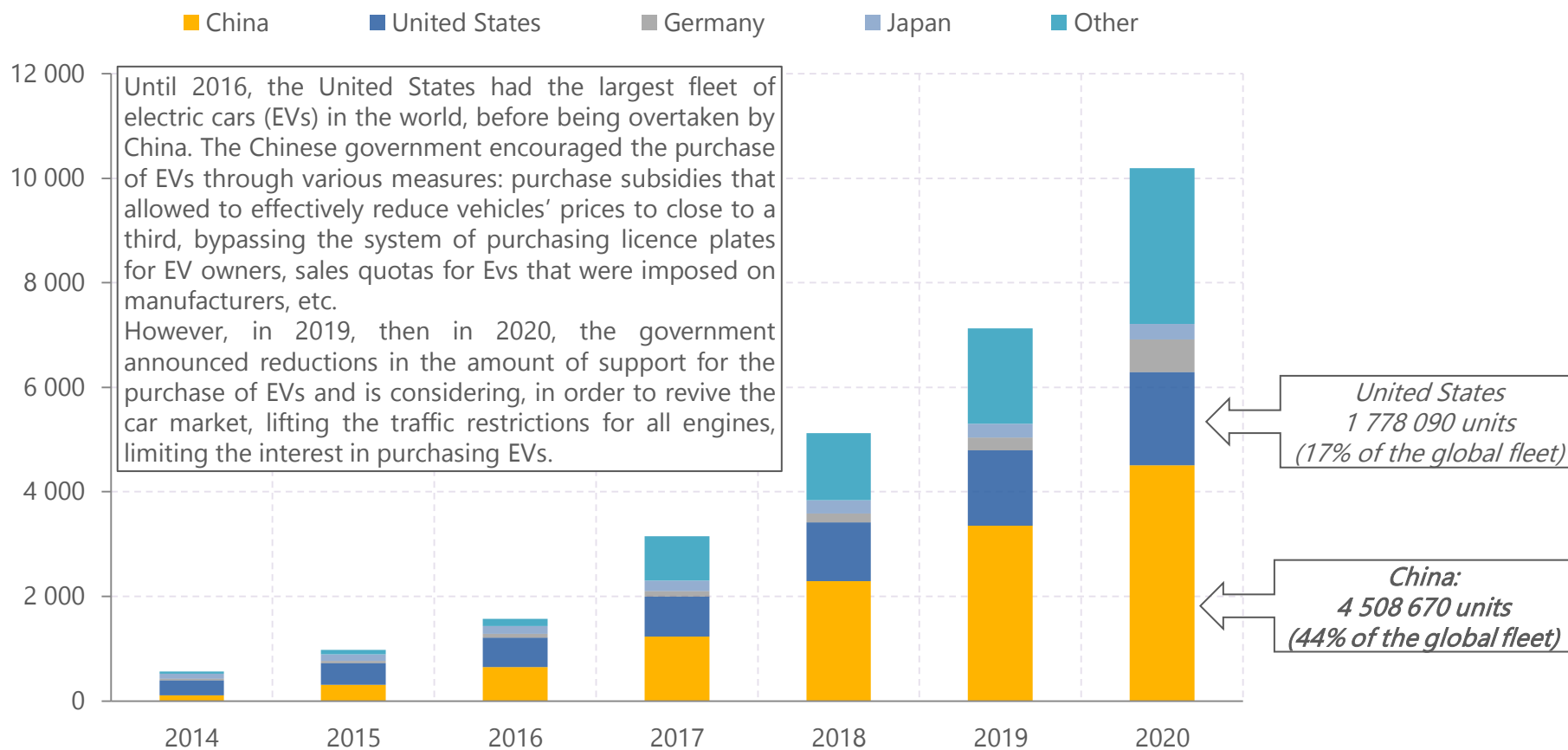
Sources: Xerfi Global, trade press, Michelin, Goodyear (market growth estimates)



## The booming electric vehicle market is very promising for tyre manufacturers

*Number of light electric vehicle (BEV and PHEV) by country (2014-2020)\**

Unit: thousands of vehicles

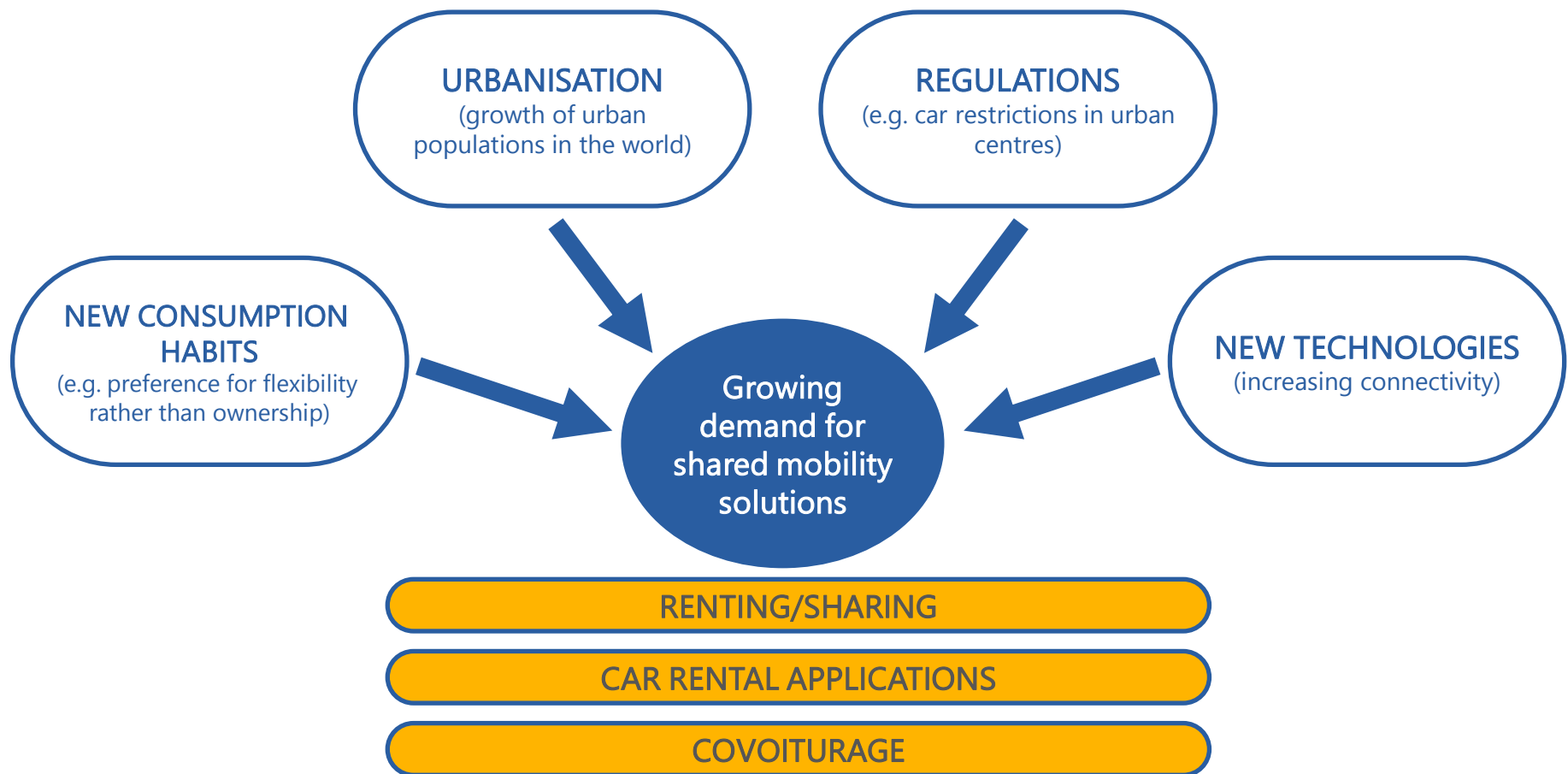


(\*) BEV: 100% electric, PHEV: hybrid / Source: IEA



## The rise of shared mobility solutions hampers long-term prospects

*Factors favouring the adoption of shared mobility solutions*

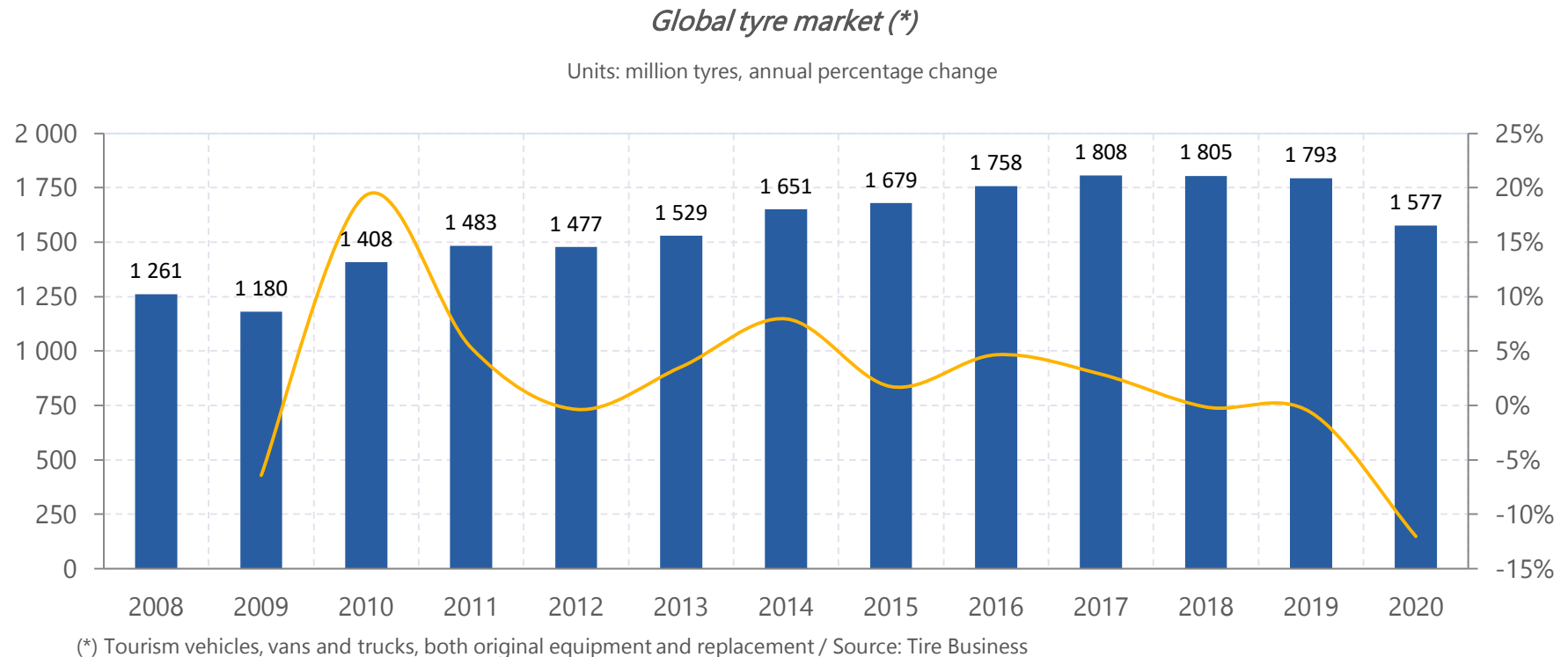


Source: Xerfi Global

## 3.2. The Global Tyre Market



## Due to the health crisis, the global tyre market sharply declined in 2020



The global automotive tyre market grew by 48% in volume between 2009 and 2017 to peak at 1.8 billion tyres sold. This favourable development was due to the recovery of global automotive production after the 2008-2009 financial crisis, global economic growth and the overall increase in the number of vehicles worldwide.

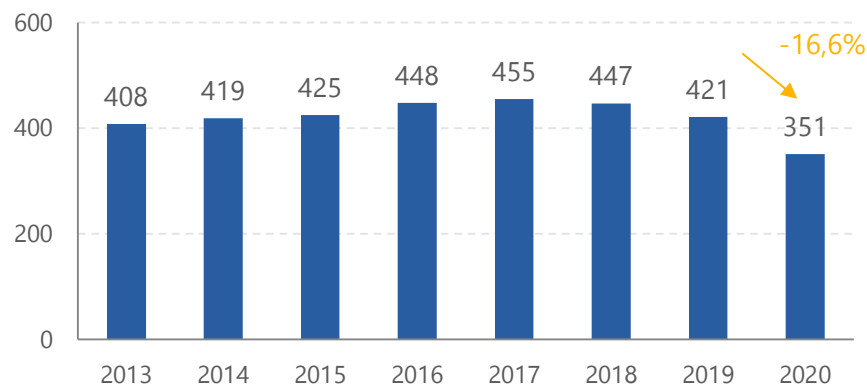
However, in 2018 and 2019, the market slightly contracted mainly due to the downturn in automotive production in China and, to a lesser extent, the drop in demand for replacement truck tyres. In 2020, the health crisis had a strong impact on the market, which fell by 12%. Only the segment for original equipment truck tyres grew thanks to the high level of truck production in Asia. This decline is much more significant than in 2009 (-6.4%). In 2009, the market for original equipment was most impacted, while in 2020, due to the travel restrictions and the recourse to remote work, the replacement market took the blow.



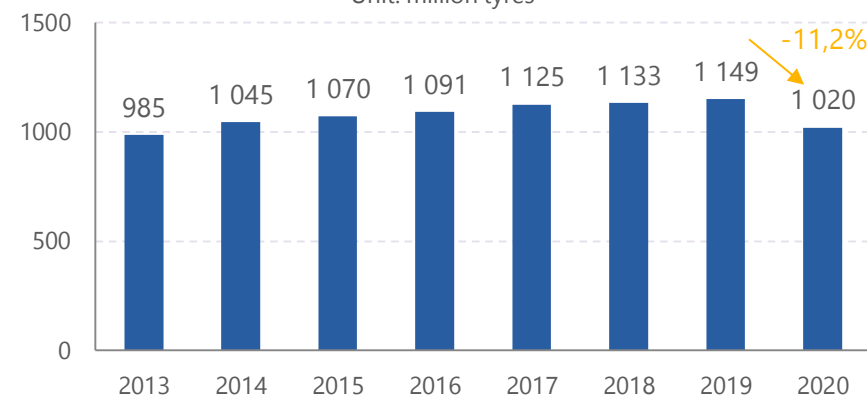
## The market for light vehicle tyres was particularly affected by the health crisis in 2020

*Global original equipment market for light vehicles tyres*

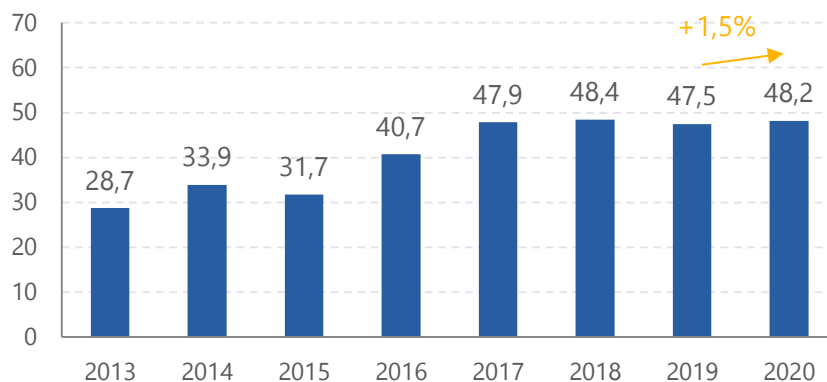
Unit: million tyres

*Global replacement market for light vehicles tyres*

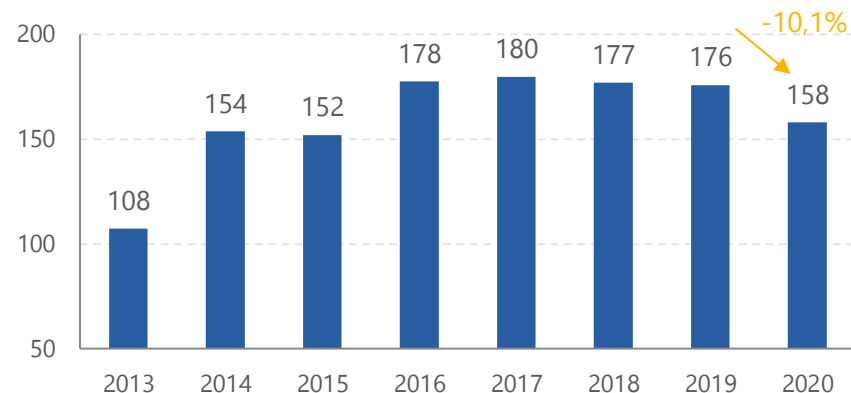
Unit: million tyres

*Global original equipment market for truck tyres*

Unit: million tyres

*Global replacement market for truck tyres*

Unit: million tyres



Source: Michelin

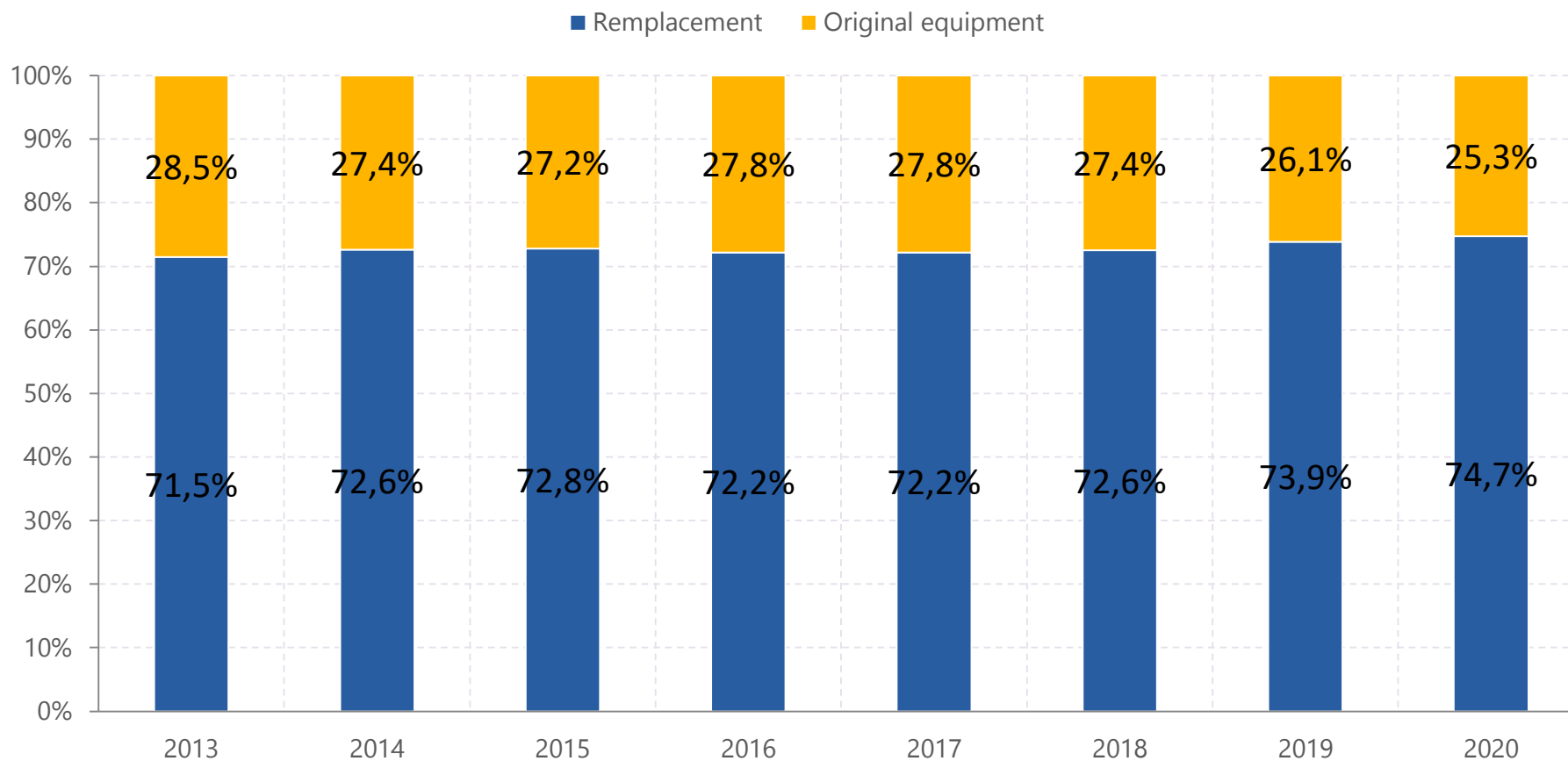




The share of the replacement market tended to increase over the average period thanks to the growth of the overall amount of vehicles

*Light and heavy vehicle tyre sales by market segment (2013-2020)*

Units: worldwide unit sales (light and heavy vehicles), percentage share



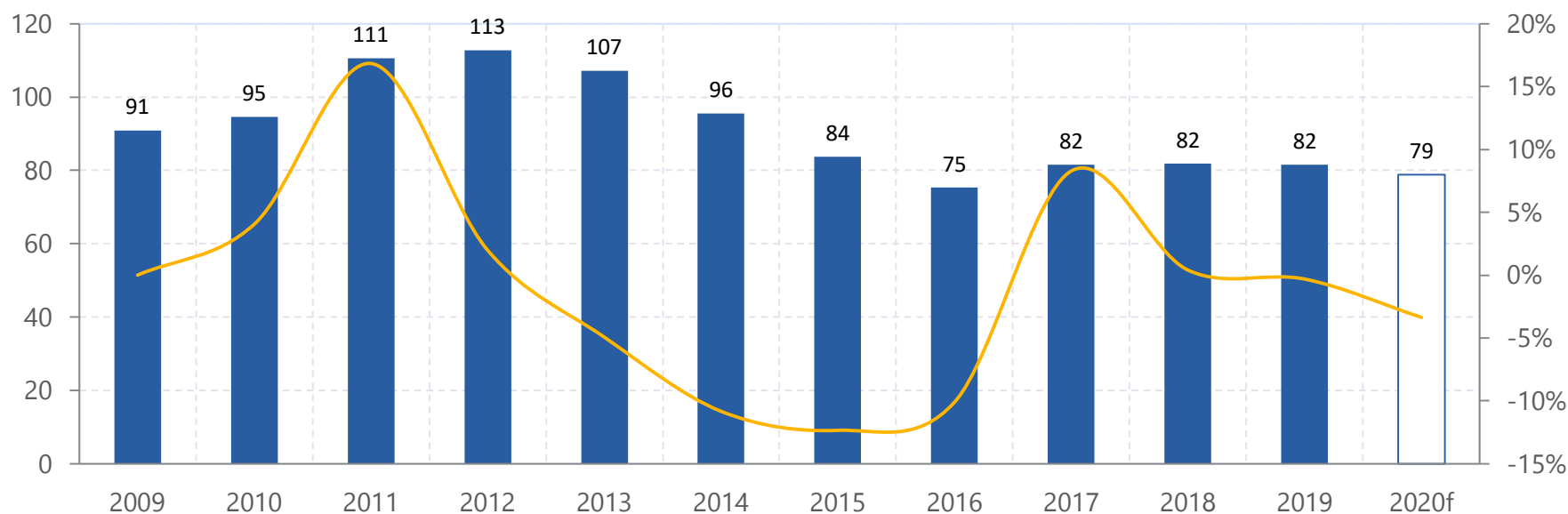
Source: Tire Business



## Pressurised tyre prices

### Average price of tyres (\*)

Units: price per tyre in euro, annual change in %



(\*) Passenger cars, commercial vehicles and heavy goods vehicles, original equipment and replacement / Source: Tire Business / Estimate: Xerfi Global

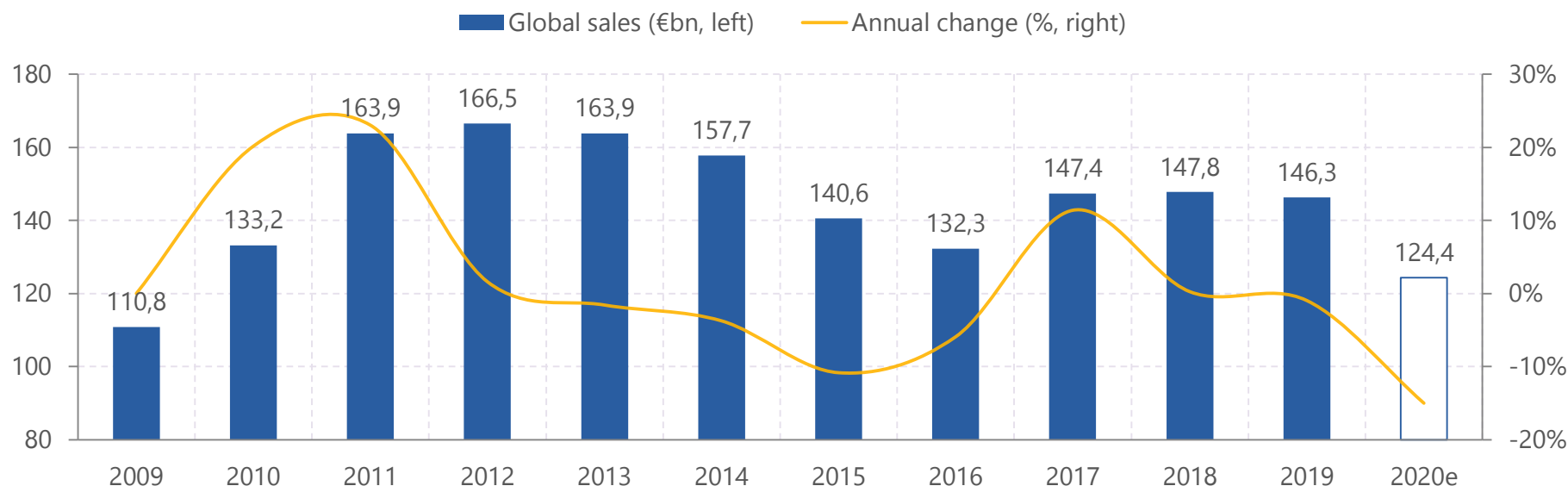
The average price for tyres declined continuously between 2012 and 2016 (-33%) as a result of the fall in natural and synthetic rubber prices and pricing pressure from low labour cost countries which captured a growing share of tyre production. In 2017, the average price rebounded due to the surge in the price of rubber, but stabilised thereafter. According to Xerfi, the price of tyres contracted by 3.4% in 2020. The price of rubber went down and manufacturers renegotiated prices. Thus, tyre manufacturers agreed to cut prices in order to sustain their business.



## In 2020, revenue in the tyre industry fell by 15%

*Estimated revenue of the global tyre industry (2008-2020)*

Units: billion euros, annual percentage change



Source: Tire Business / Estimate: Xerfi Global

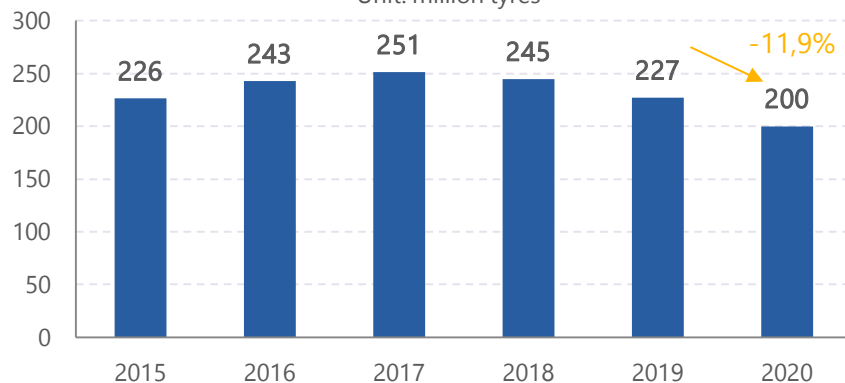
Despite the growth in tyre sales volume between 2009 and 2017, the market in value terms contracted by more than 20% between 2012 and 2016 due to the negative price effect. After a rebound in 2017, the market has broadly stabilised until 2019 at around €147bn. In 2020, the market fell to around €124bn, down 15% year-on-year, due to a strong volume effect (-12%) and the negative price effect (-3.4%). This contraction was much greater than in 2009, when it reached 10%.



## Thanks to China, Asia, Africa and the Middle East outperformed in 2020

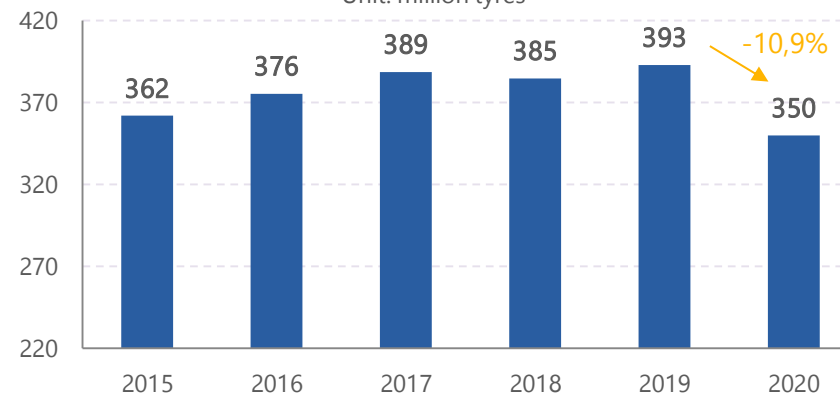
*Global original equipment market for light vehicles tyres in Asia, Africa and the Middle East*

Unit: million tyres



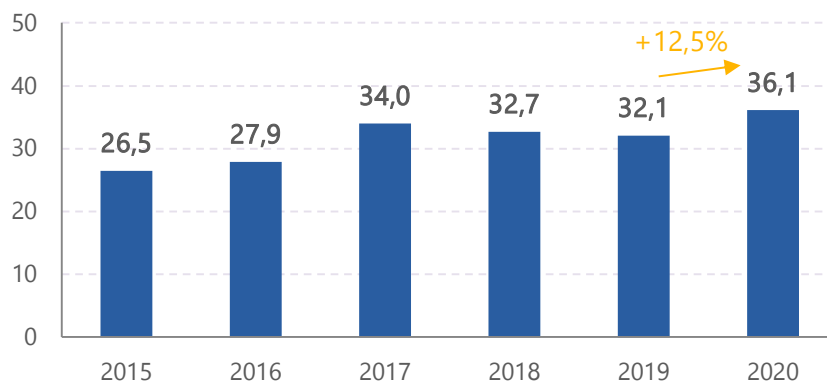
*Global replacement market for light vehicles tyres in Asia, Africa and the Middle East*

Unit: million tyres



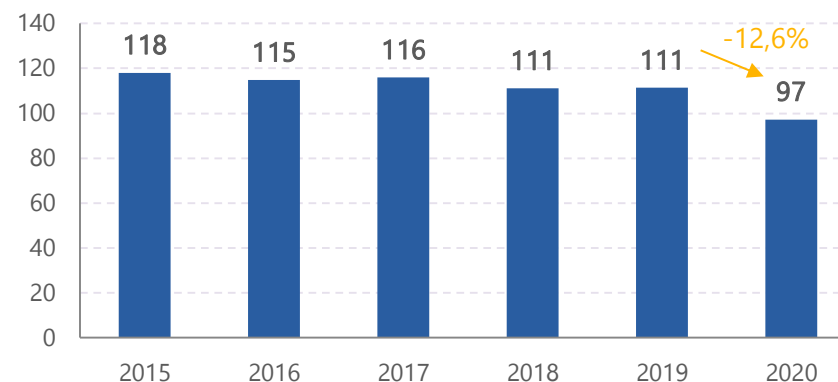
*Global original equipment market for truck tyres in Asia, Africa and the Middle East*

Unit: million tyres



*Global replacement market for truck tyres in Asia, Africa and the Middle East*

Unit: million tyres

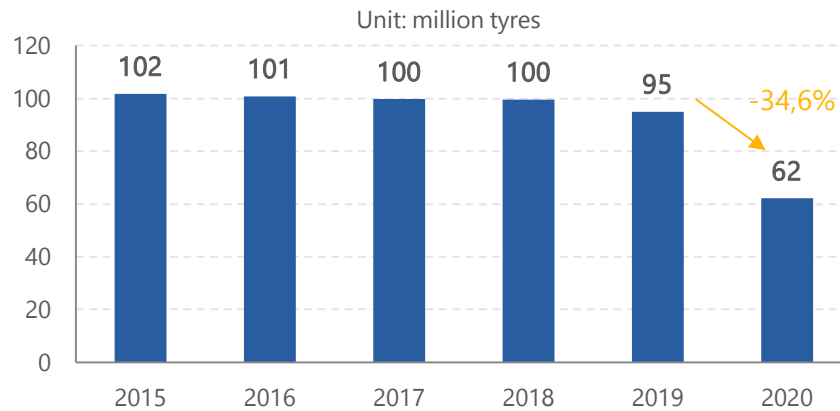


Source: Michelin

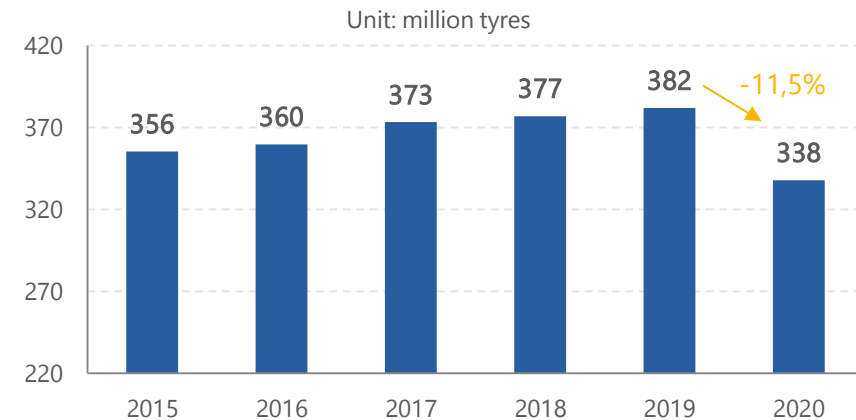


## The US tyre market has been the most affected by the health crisis

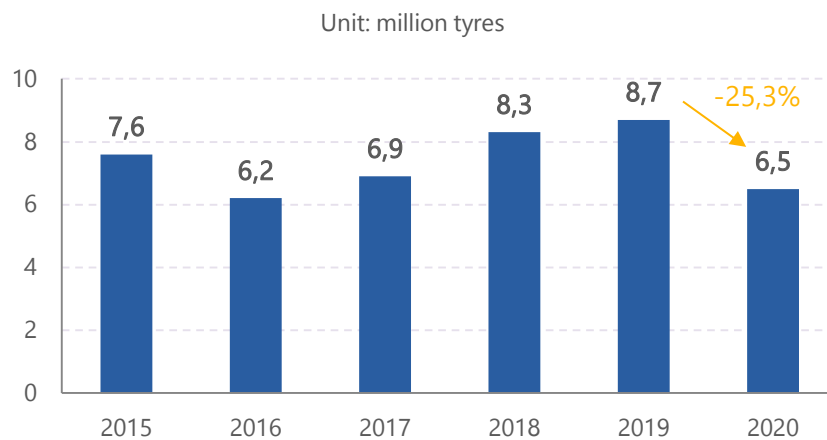
*Global original equipment market for light vehicles tyres in America*



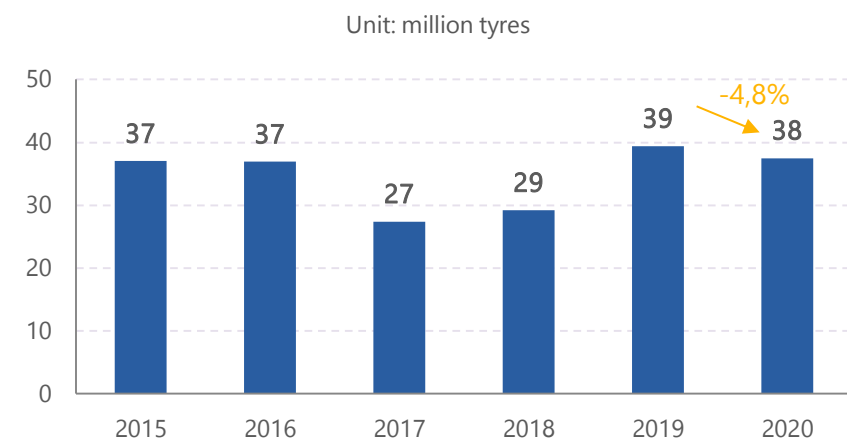
*Global replacement market for light vehicles tyres in America*



*Global original equipment market for truck tyres in America*



*Global replacement market for truck tyres in America*

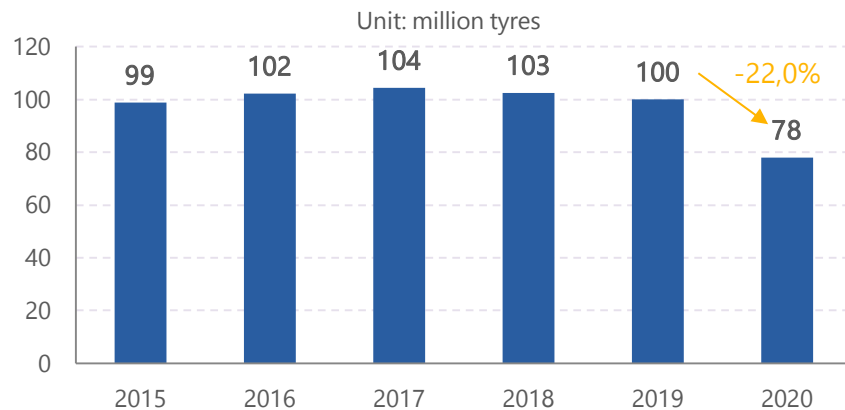


Source: Michelin

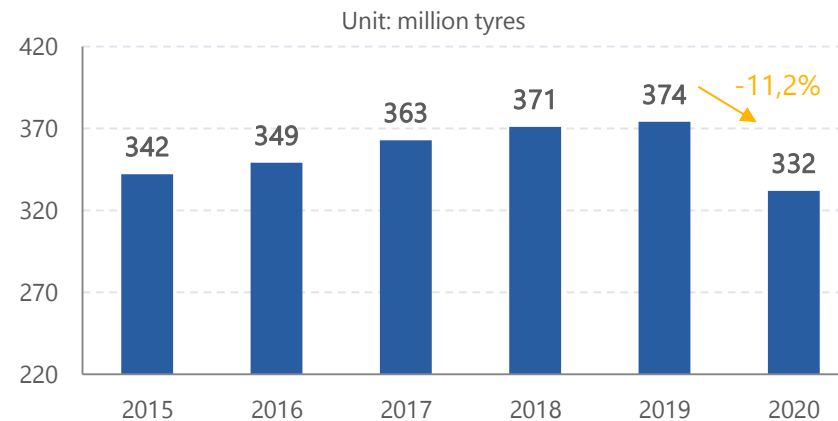


## In Europe, the market for original equipment fell sharply in 2020, while that of replacement tyres held up better

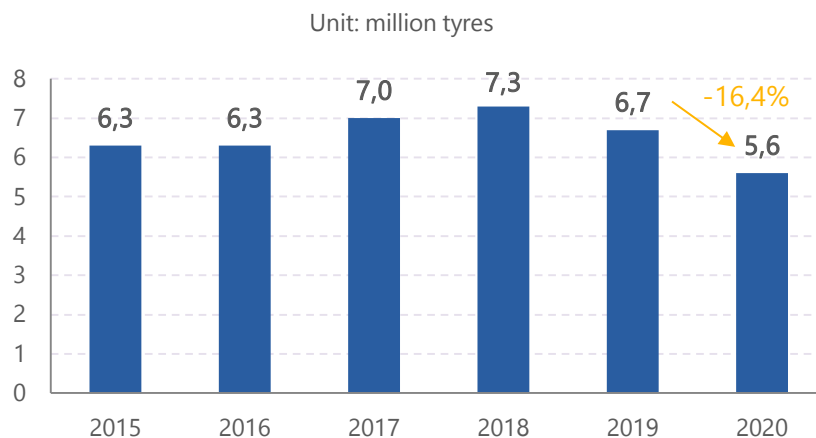
*Global original equipment market for light vehicles tyres in Europe*



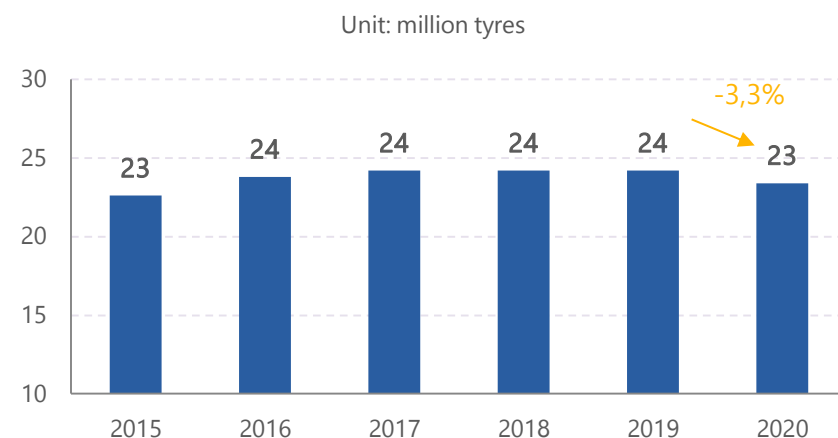
*Global replacement market for light vehicles tyres in Europe*



*Global original equipment market for truck tyres in Europe*



*Global replacement market for truck tyres in Europe*



(\*) Western, Central and Eastern Europe / Source: Michelin

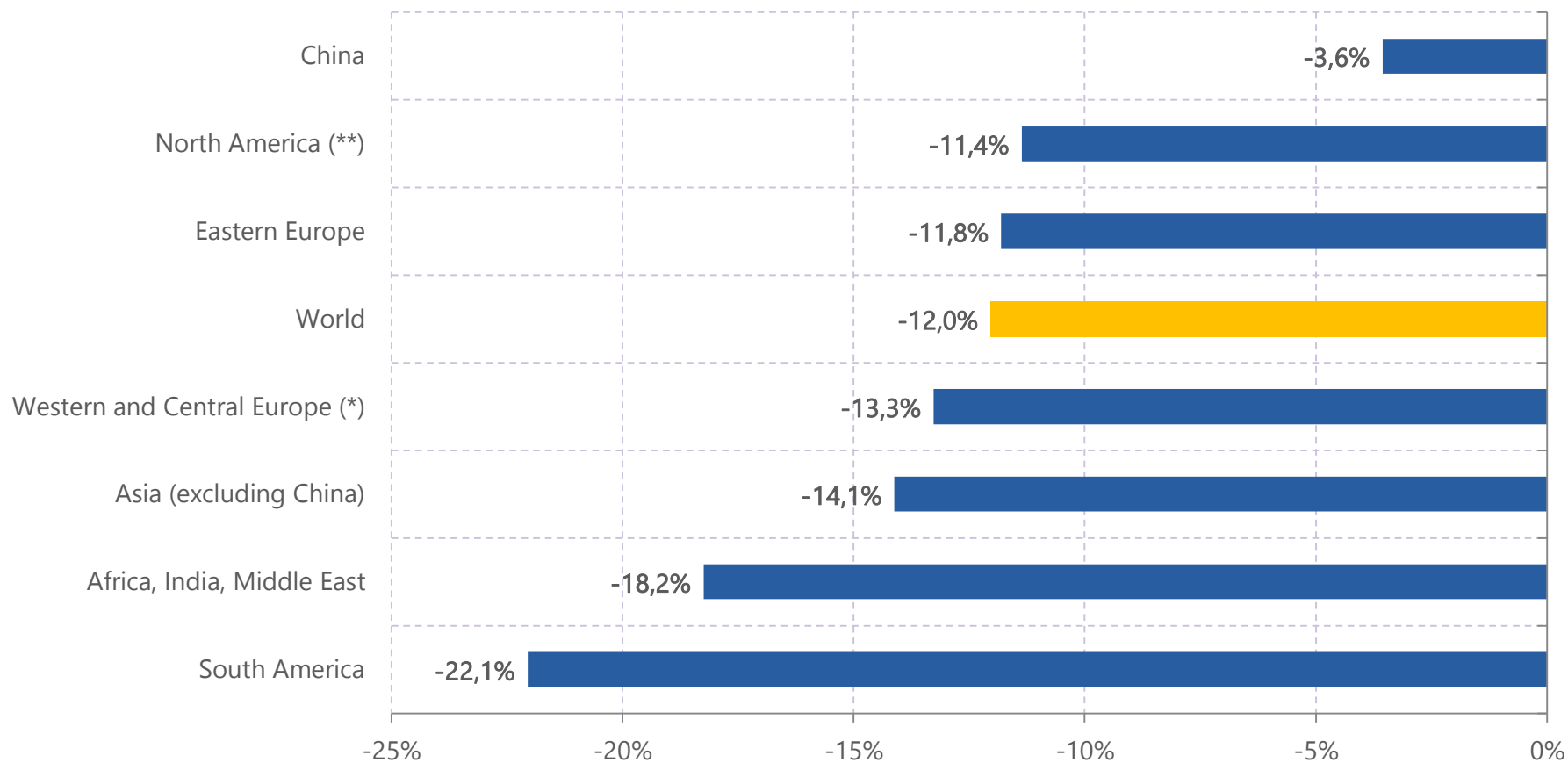




## The Chinese market held up best in 2020

*Change in the tyre market by region (2020)*

Unit: annual change in %



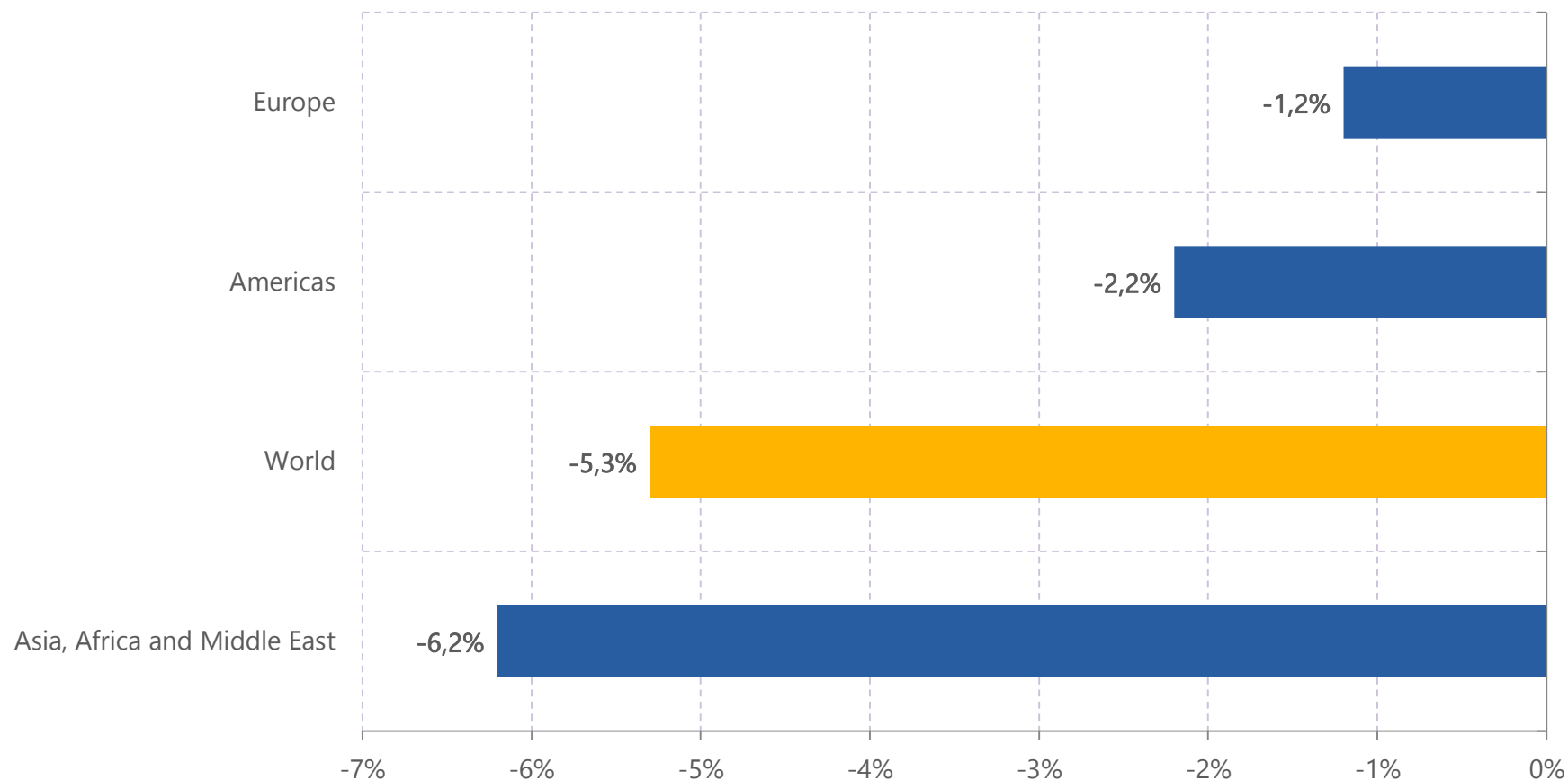
Source: Michelin



On average over the period, the Asian market underperformed due to the contraction of demande for original equipment in China

*Evolution of the tyre market by region (2015-2020)*

Unit: average annual change in %



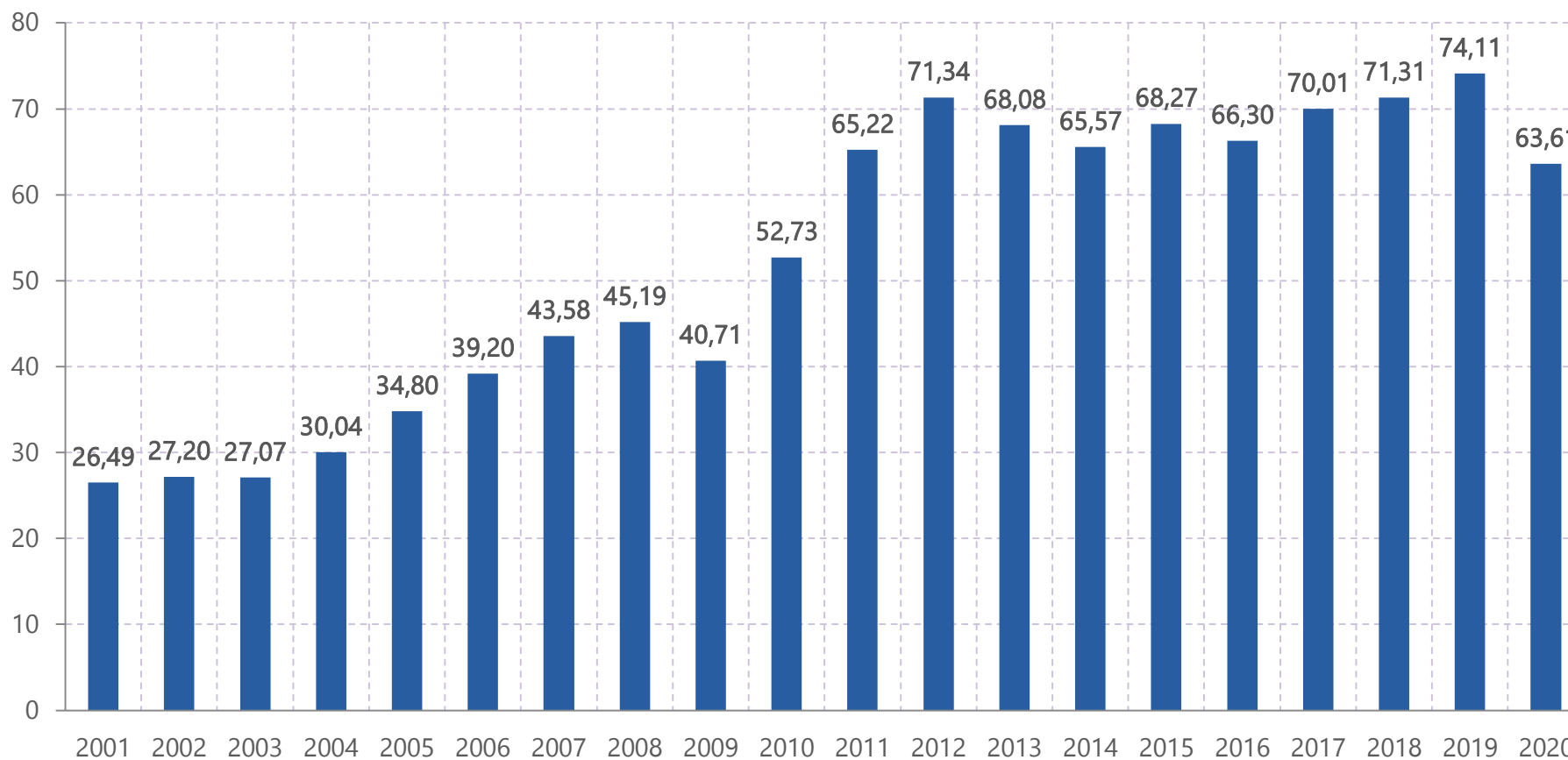
Source: Michelin



## Global tyre exports have been growing overall since the 2000s due to market growth and relocation

*Value of global tyre exports (2001-2020)*

Unit: billion euros



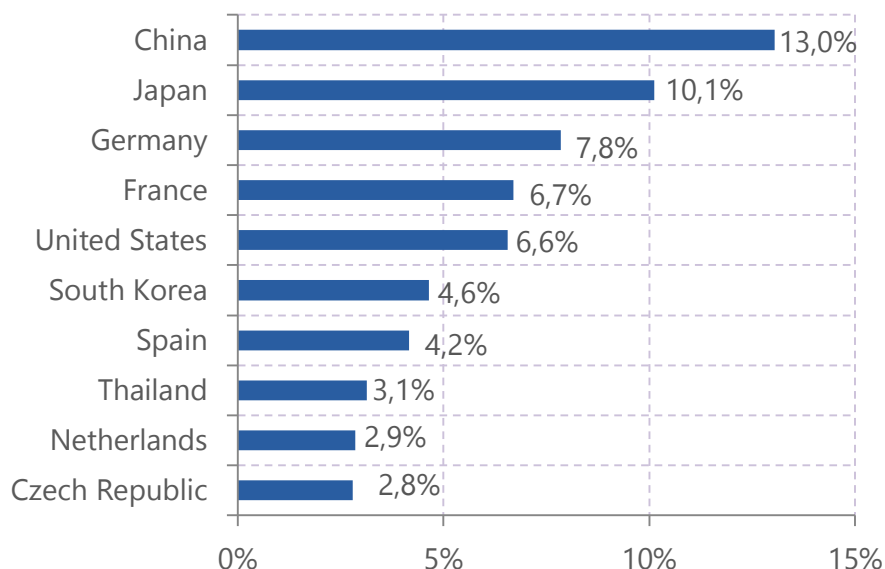
Source: ITC



## China and Thailand now concentrate most of the tyre production from high labour cost countries...

*Main tyre exporting countries (2008)*

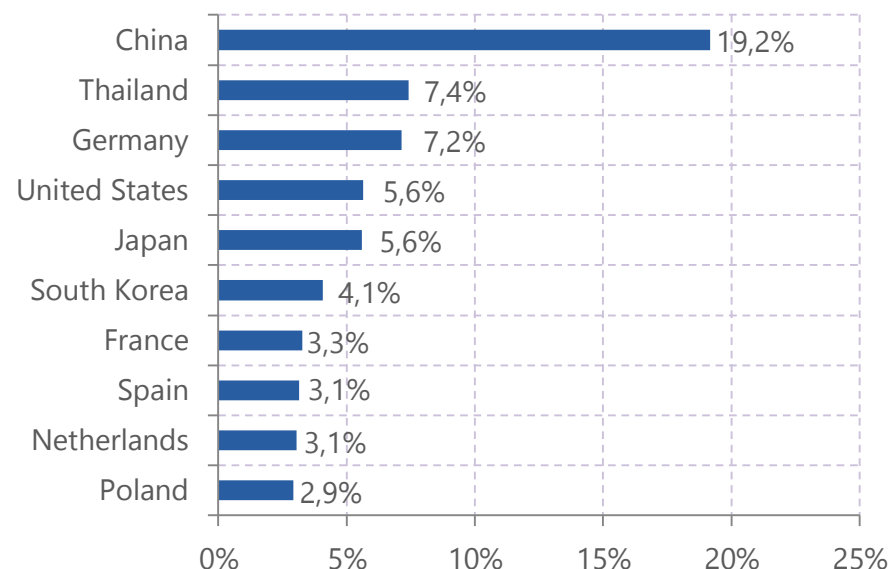
Unit: share in global exports



Source: ITC

*Main tyre exporting countries (2020)*

Unit: share in global exports



Source: ITC

Over the last decade, there has been a shift in tyre production from high labour countries to low cost countries, in particular to China and Thailand. The share of these two countries in global tyre exports increased by 6.2 points and 4.3 points respectively. Conversely, Japan and France are the countries whose share of exports declined the most, by 4.5 and 3.4 percentage points respectively. Only Germany held up well, as it maintained its share in automobile construction.

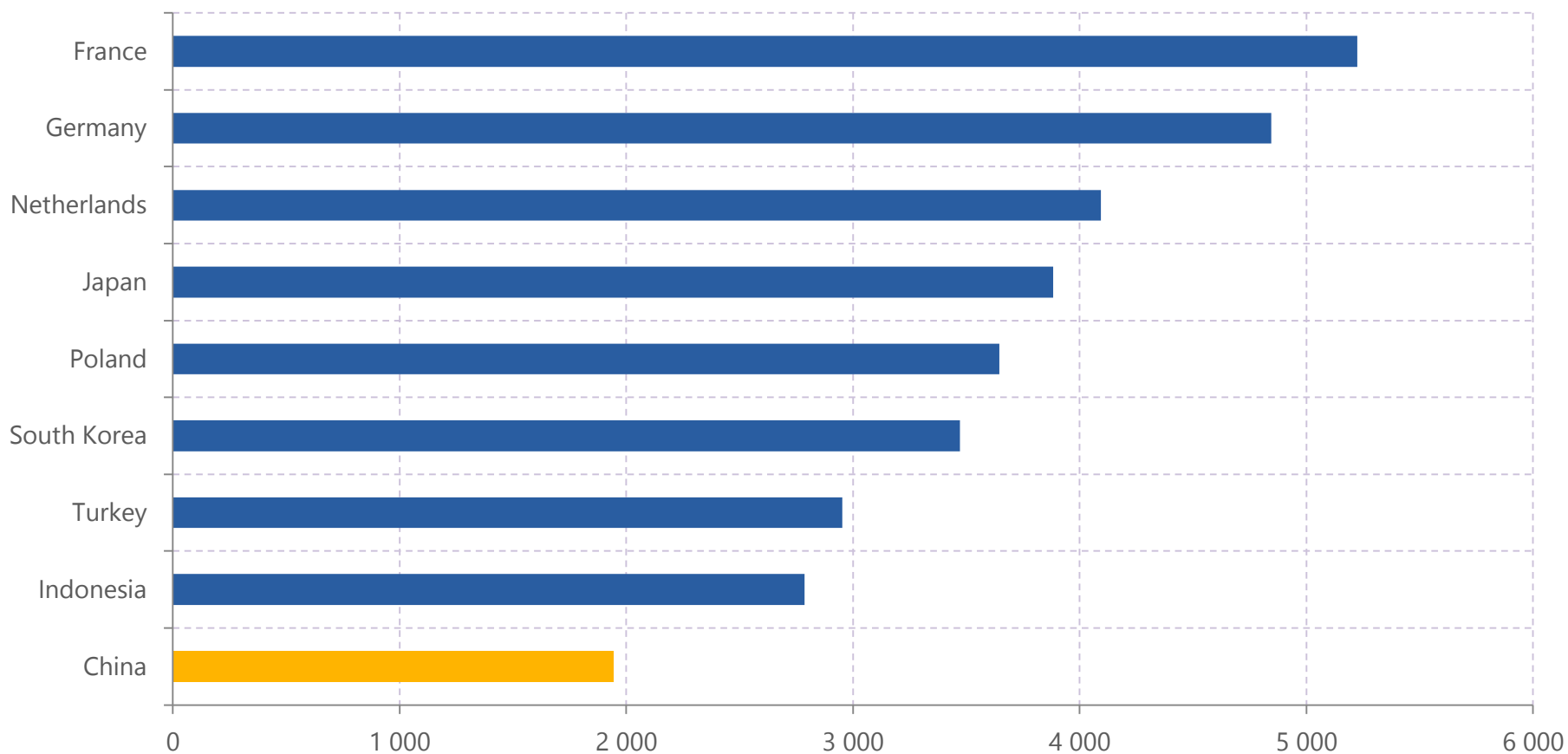
This is due to the premium tyre manufacturers themselves. First, the goal was to follow car manufacturers who relocated their production facilities to low-cost countries. Thus, it was about keeping up with the local development of the automobile industry. Furthermore, the implementation in China was strategic given the size and growth of the local market. Finally, facing the competition from national manufacturers in low-cost countries, premium tyre manufacturers' profitability in the low end segment was no longer good enough. In order to maintain their competitiveness, they decided to benefit from lower labour costs. Besides, Thailand also allow operators to be close to the rubber supply.



## ...thanks to their specialisation in low-cost tyres

*Average value of tyre exports by exporting country (2020)*

Unit: euros per tonne



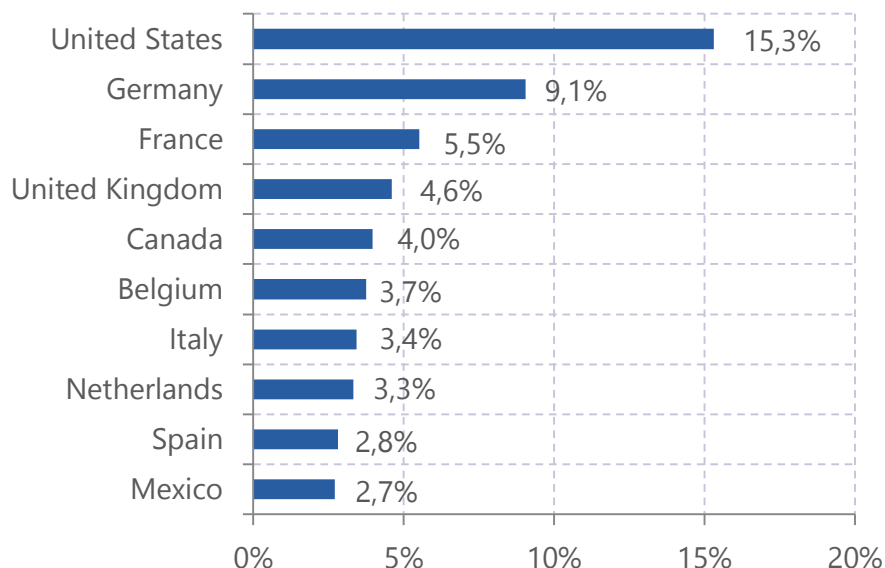
Source: Xerfi Global, ITC data



## The United States is trying to limit its tyre imports, but has been unsuccessful so far

*Main tyre importing countries (2008)*

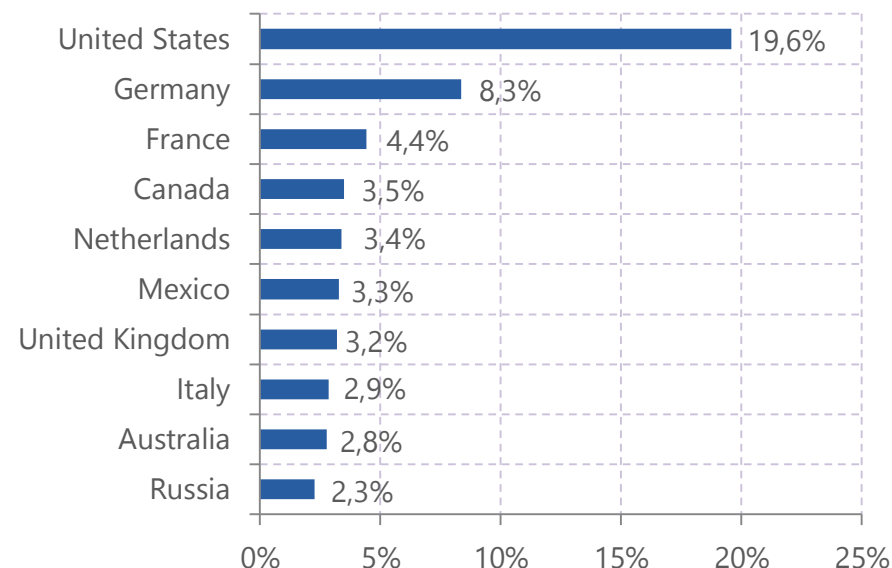
Unit: share in world exports



Source: ITC

*Main tyre importing countries (2020)*

Unit: share in world exports



Source: ITC

Over the past decade, the top 10 for tyre importers barely changed. With the exception of Mexico, most of the operators include Western countries. The most notable evolution is the strong increase in the United States' share of imports from around 15% to 20%. The tyres imported into the USA come mainly from Thailand, South Korea and Canada. Besides, US imports of Chinese tyres went up in 2020 due to the anticipation of the introduction of additional customs duties. The first measure of this kind was taken in 2009 on light vehicle tyres by the Obama administration for a period of 3 years at 5% the first year, 30% the second and 25% the third.

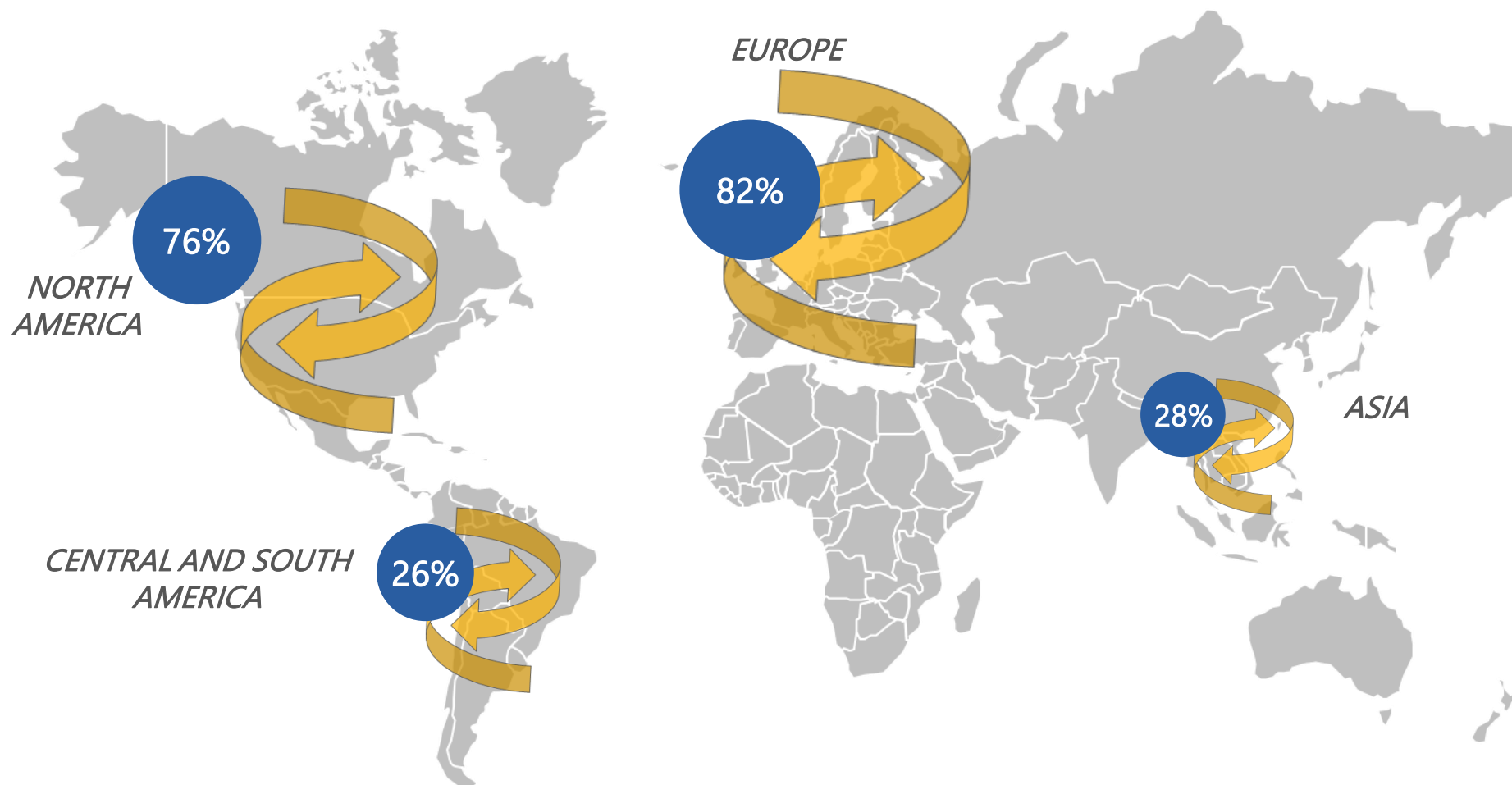




## Low labour cost regions mostly export to other regions

*Share of intra-regional trade in new tyres (2020)*

Unit: percentage share of intra-regional trade in new tyres by value



Source: Intracen

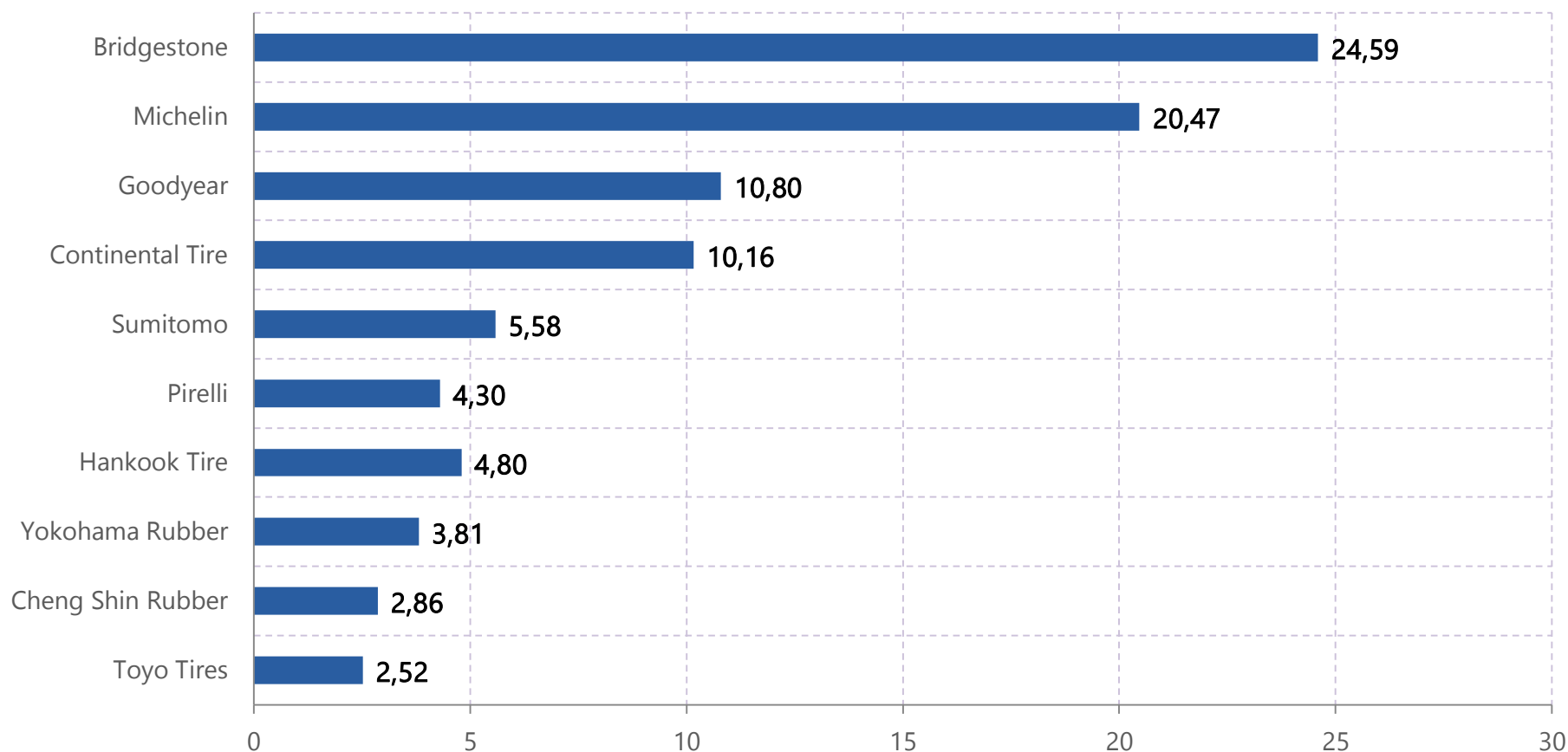
## 3.3. Leaders' activity and performances



## Bridgestone and Michelin are at the top of the rankings

*Rankings of tyre manufacturers by revenue (2020) (\*)*

Unit: billion euros



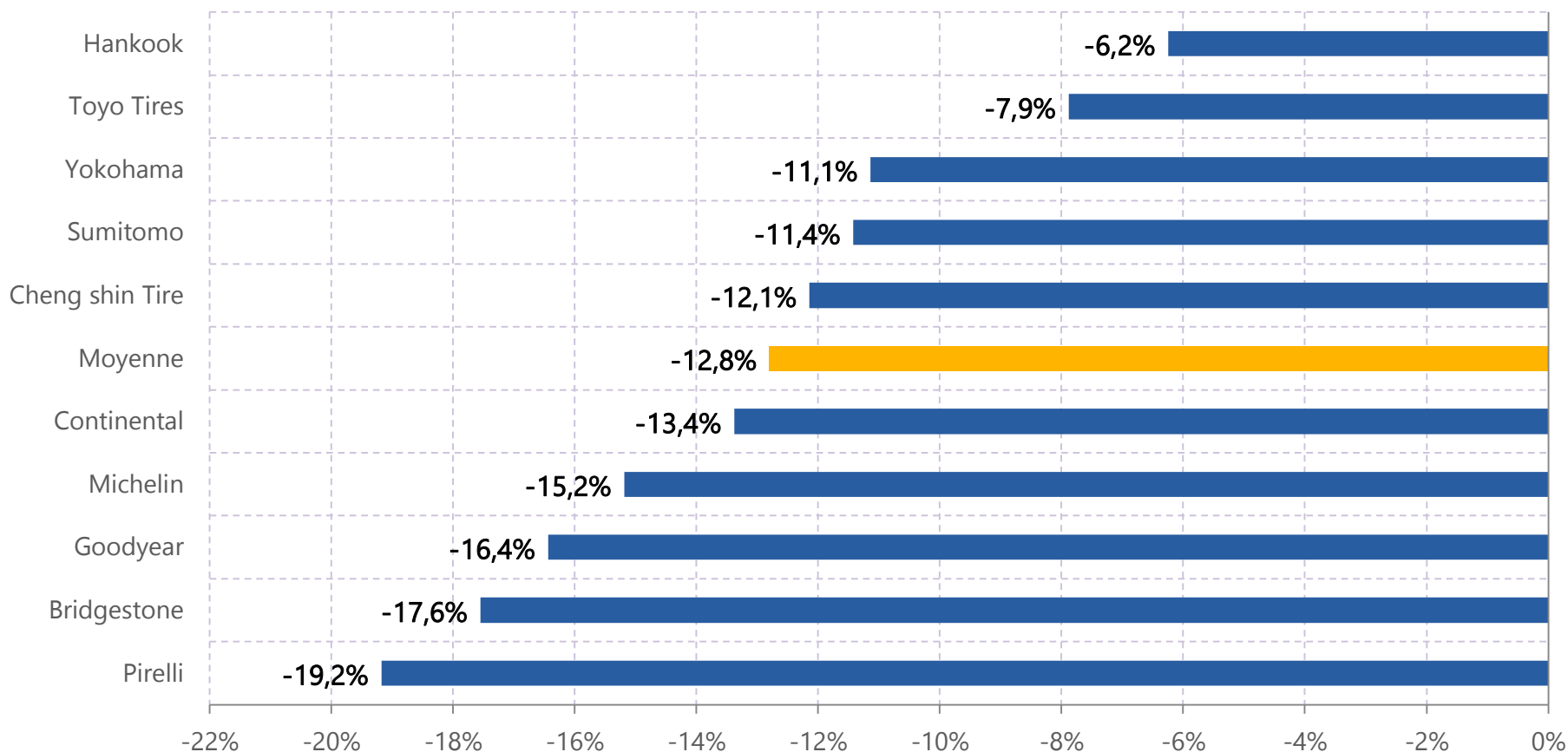
(\*) Revenue linked to the tyre activity / Source: Xerfi Global based on operators' reports



## Groups that are mainly exposed to the Asian market better sustained the impact of the health crisis

*Ranking of tyre manufacturers by change in revenue (2020) (\*)*

Unit: annual change in revenue in %.



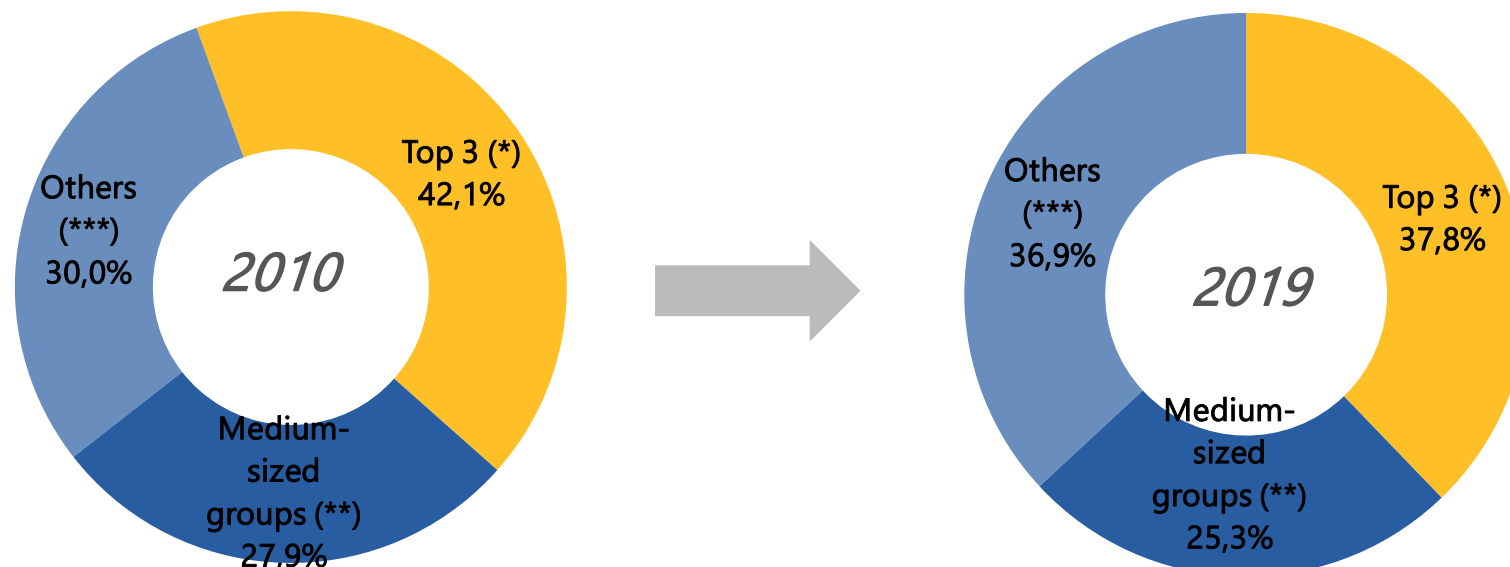
(\*) Revenue linked to the tyre activity / Source: Xerfi Global based on operators' reports



## Leaders' market share decreased with the rise of new local operators

*The global tyre market by type of manufacturer*

Unit: percentage share of global revenue



(\*) Top 3 : Bridgestone, Michelin and Goodyear / (\*\*) Operators whose market share according to the Tire Business ranking is between 2% and 7% / (\*\*\*) Players whose market share according to the Tire Business ranking is less than 2% / Source: Tire Business

(\*\*\*) Operators whose market share according to the Tire Business ranking is less than 2% / Source: Tire Business

Bridgestone, Michelin and Goodyear historically dominated the tyre market. However, over the last decade the combined share of this top three has declined. Between 2010 and 2019, this share fell by 4.3 percentage points, to 37.8% according to Tire Business data. This is the result of the rise of manufacturers from low-cost countries that managed to penetrate many markets around the world. This is the case, for example, of Zhongce Rubber, the leading Chinese manufacturer and 9th largest in the world, or of Thai producers who benefit from local rubber supplies. The emergence of Chinese manufacturers is linked to the rise in power of the automobile industry in China but also to the repositioning of manufacturers in mature countries for whom it was no longer profitable to manufacture low end tyres. To face this competition, the United States introduced an *ad valorem* tax of more than 35% for three years in 2009 and imposed new anti-dumping customs duties in 2015.



## The profitability of the tyre industry has been declining since 2017

### 2012-2016

Between 2012 and 2016, the financial performance of the groups analysed within this report gradually improved, to reach a record EBIT ratio of 14.2% in 2016. During this period, aggregate operating profit increased by 27%, which can be explained by several factors.

First, price of natural and synthetic rubber sharply declined during this period, which considerably reduced the impact of raw material purchases. In addition, the share of the more profitable 18+ inch tyres increased.

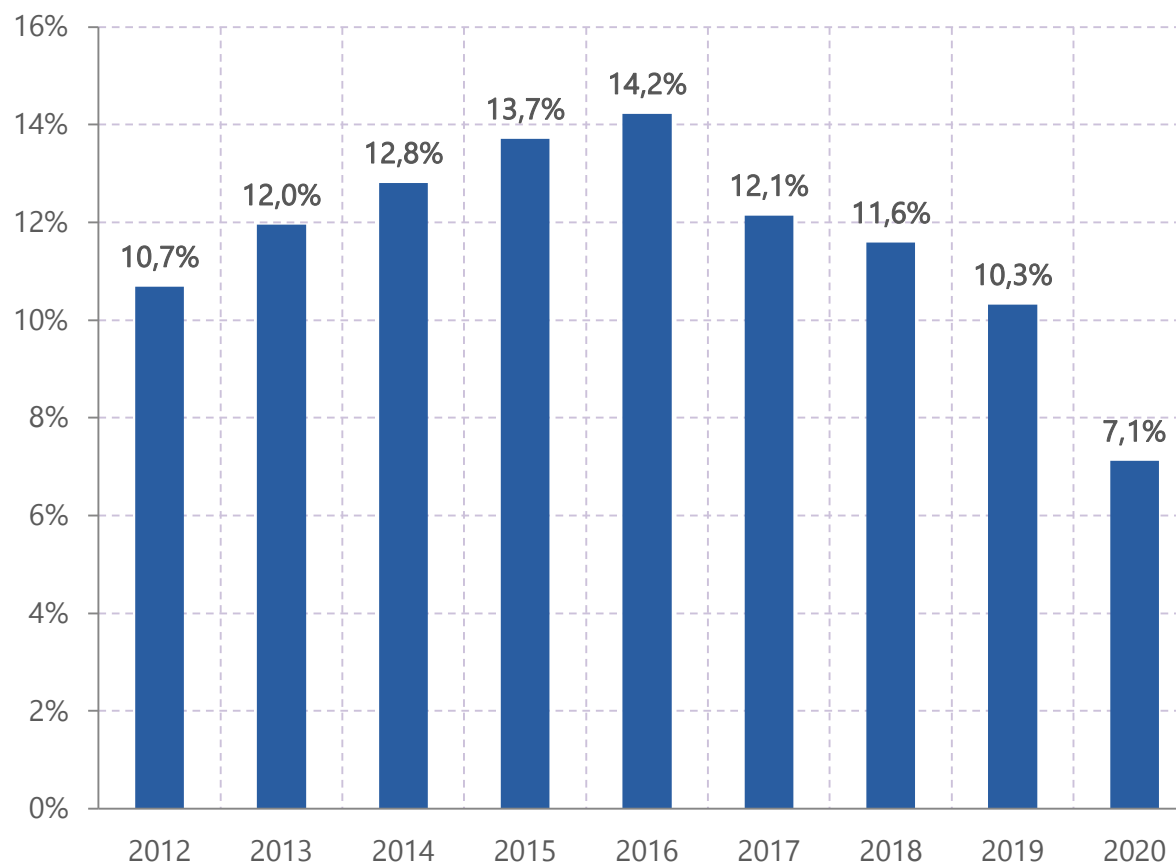
### 2017-2020

In 2017, the EBIT ratio of our panel deteriorated by 2 percentage points, linked to the surge in the price of rubber between mid-2016 and mid-2017 due to major floods in Thailand, which led to a halt in harvesting. Then, from 2018 onwards, the tyre market contracted in volume, due to the pressure on prices from low-cost Asian manufacturers. In response, leaders such as Bridgestone and Michelin started restructuring their production facilities, which resulted in heavy restructuring and asset depreciation charges. Meanwhile, their R&D efforts intensified in order to innovate and reinforce their competitiveness. They also multiplied mergers and acquisitions over the period, incurring additional expenses.

In 2020, the EBIT ratio of the operators analysed was almost halved due to the drop in activity amidst the Covid-19 pandemic.

### Aggregate EBIT ratio of analysed groups' tyre business (\*)

Unit: % of aggregate revenue



(\*) Cumulative figures refer to the divisions included in the scope of the report.

Xerfi Global processing / Source: group financial reports





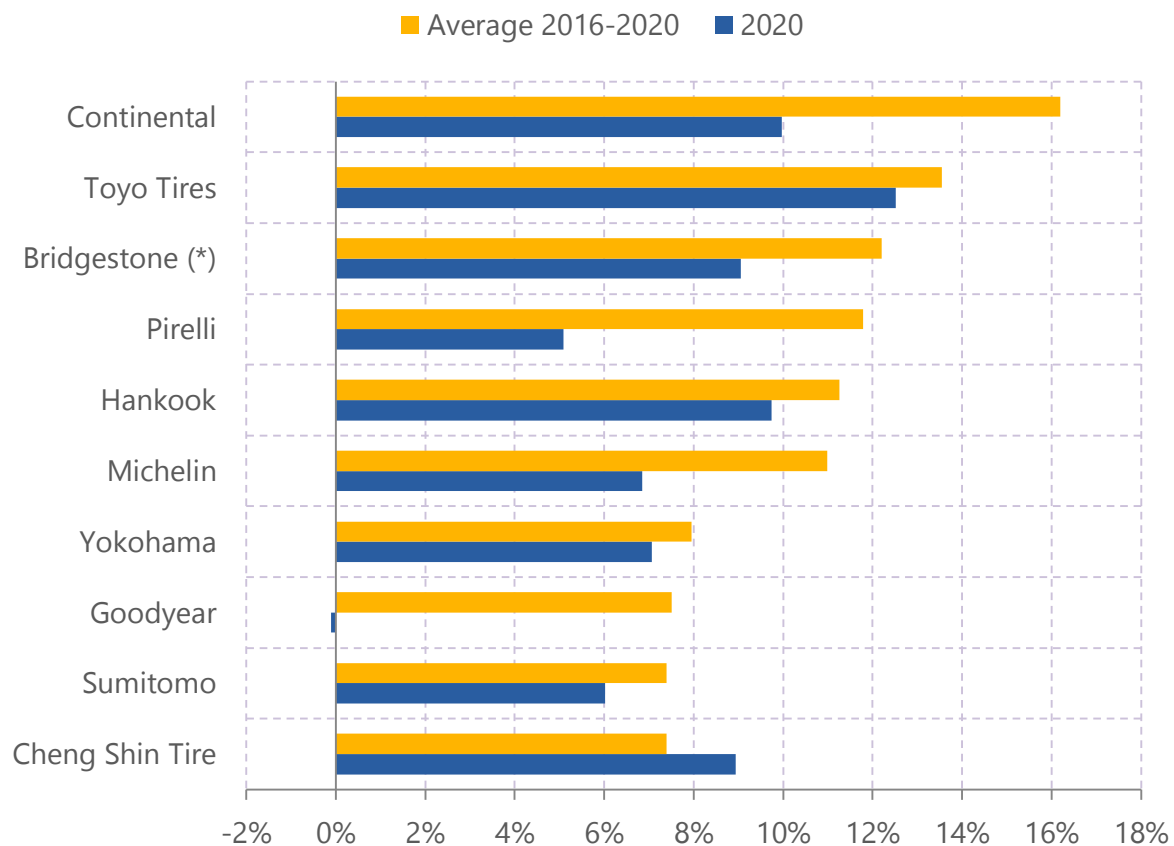
## Premium tyre manufacturers top profitability rankings

The rankings by average EBIT ratio over the 2016-2020 period reflects the positioning of operators' offer. The top 5 includes the so-called premium tyre manufacturers who aimed to move upmarket, position themselves in the 17+ inch tyre market and improve the productivity of their production facilities over the last few years.

Leaders' financial performance also depends on regional dynamics. Thus, in 2020, the profitability of tyre manufacturers with greater exposure to the Asian market, which was less affected by the health crisis, did not deteriorate as much as the others. Taiwanese Cheng Shin Tire even managed to improve their EBIT ratio. However, the financial performances of operators that were most exposed to the North American market, such as Goodyear and Bridgestone, deteriorated significantly. Indeed, these operators suffered from the destocking strategies of low cost Asian tyre manufacturers on the American market. In the second half of the year, tyres imported from South-East Asia drove demand in the region, with distributors anticipating the application of customs duties in 2021 for products from Vietnam, Thailand, South Korea and Taiwan.

*Rankings of the leaders by EBIT ratio*

Unit: % of revenue



Xerfi Global processing / Source: group financial reports / (\*) Adjusted EBIT ratio





## North American and Asian markets are key

### Repartition of the main tyre manufacturers' revenue by region (2020)

Unit : ● = 10% of total sales; ◐ = 5% of total sales; yellow colour for the group's largest geographic market

Operator	Country	Europe	Africa/ Middle East	North America	South America	Asia-Pacific
Bridgestone		●●		●●●●●●		●●●
Michelin		●●●●●		●●●●◐		●●●◐
Goodyear Tire & Rubber		●●●		●●●●●●◐		◐●
Continental Tire		●●●●●●◐	◐	●●●◐		●●
Sumitomo Rubber		●●◐	◐	●●	◐	●●●●●●◐
Hankook Tire		●●●●●		●●●◐	◐	●●●
Pirelli		●●●●●●●		●●	●	●
Yokohama Rubber		◐	◐	●●◐	◐	●●●●●●●
Cheng Shin Rubber		◐		●		◐●●●●●●●●●
Toyo Tires		◐		●●●●●●◐		●●●●

Source: Xerfi Global on data from company reports;



## Bridgestone and Goodyear are struggling over the medium term

### Key performance indicators and main growth drivers of the tyre companies analysed in the report

Units: million euros, compound annual growth rate (CAGR) of revenue in percentage, operating profit in percentage of revenue

Colours are relating to the average performance of the sector (green: above average; orange: average; red: below average)

NAME	CONSOLIDATED SALES (*)	CAGR (2016-2020)	EBIT RATIO 2020	AVERAGE EBIT RATIO (2016-2020)	Key drivers of growth and profitability
BRIDGESTONE	19 933 M€ (2020)	-4.7%	9.1%	12.2%	<ul style="list-style-type: none"> <li>• <b>Bridgestone's sales declined by 17.6% in 2020</b> due to its high exposure to the US and European markets. All of the segments were affected, especially specialty tyres (-19.3%);</li> <li>• <b>The EBIT ratio fell by 7.2 percentage points compared to 2019</b> due to the sharp contraction of revenue and pressure on prices. The group had a negative EBIT ratio in EMEA-India (-3.1%). The biggest contraction in profitability by segment was in specialty tyres (-8.8 points).</li> </ul>
MICHELIN	20 469 M€ (2020)	-0.3%	6.9%	11.0%	<ul style="list-style-type: none"> <li>• <b>In 2020, Michelin's sales fell by 15.2%</b>, hindered by its exposure to North America (-20.2%), where the group had to face the increase in market share of low-cost Asian tyre manufacturers, and to the European market (-13.6%);</li> <li>• <b>The group's operating profit rate significantly deteriorated (-4.3 points)</b> but still outperformed the average thanks to the growth in the segment for tyres over 18 inches. Despite a cost reduction plan, profitability was affected by exceptional costs (restructuring, sanitary equipment, etc.).</li> </ul>
GOODYEAR	10 796 M€ (2020)	-5.4%	-0.1%	7.5%	<ul style="list-style-type: none"> <li>• <b>Goodyear's revenue fell by 16.4% in 2020.</b> In volume, sales fell by 18.9%, particularly in the market for original equipment (-23.1%). However, the group benefited from a favourable product mix which limited the decline;</li> <li>• <b>The EBIT ratio sharply deteriorated (-6.5 points) and fell into negative territory (-0.1%).</b> This was notably due to several exceptional charges (asset depreciation, plant closures, etc.).</li> </ul>

Xerfi Global processing / Source: operators / (\*) Turnover linked to the tyre activity



## Premium tyre manufacturers (Michelin, Continental, Hankook and Pirelli) surpass expectations thanks to a positive product mix effect

### *Key performance indicators and main growth drivers of the tyre companies analysed in the report*

Units: million euros, compound annual growth rate (CAGR) of revenue in percentage, operating profit in percentage of revenue

Colours are relating to the average performance of the sector (green: above average; orange: average; red: below average)

NAME	CONSOLIDATED SALES (*)	CAGR (2016-2020)	EBIT RATIO 2020	AVERAGE EBIT RATIO (2016-2020)	Key drivers of growth and profitability
CONTINENTAL (*)	10 159 M€ (2020)	-0.2%	10.0%	16.2%	<ul style="list-style-type: none"> <li>• Revenue of Continental's tyre division fell 13.4% in 2020, hurt by negative currency effects and its exposure to the European market, which underperformed compared to the rest of the world;</li> <li>• The division's EBIT ratio fell by 4.1 percentage points but remains the highest of the tyre leaders.</li> </ul>
SUMITOMO (*)	5 583 M€ (2020)	0.3%	6.0%	7.4%	<ul style="list-style-type: none"> <li>• Sumitomo's tyre sales fell by 11.4% in value in 2020, and 12.5% in volume. The group outperformed the industry thanks to a policy of destocking in the US market in Q4, during which sales remained stable year-on-year;</li> <li>• The tyre division's operating profit rate remained stable, at 6% of revenue in 2020, which is a remarkable performance given the decline in activity.</li> </ul>
HANKOOK TIRE	4 797 M€ (2020)	-0.9%	9.7%	11.3%	<ul style="list-style-type: none"> <li>• Hankook's revenue showed resilience in 2020 (-6.4%) compared to other manufacturers. The group benefited from a strong product mix effect. Sales of +18 inch tyres increased by 3% and accounted for around 35% of total sales (up from 32% in 2019).</li> <li>• The operating profit rate recovered by 1.8 percentage points, to 9.7% of sales, despite the decline in business in the context of the Covid-19 pandemic. Hankook benefited from its premium positioning, a segment that performed really well. The group is one of the few analysed leaders whose margin rate increased.</li> </ul>

Xerfi Global processing / Source: operators / (\*) Turnover linked to the tyre activity



## Despite their competitive advantages, the performance of Asian manufacturers remains mixed in the medium term

### *Key performance indicators and main growth drivers of the tyre companies analysed in the report*

Units: million euros, compound annual growth rate (CAGR) of revenue in percentage, operating profit in percentage of revenue

Colours are relating to the average performance of the sector (green: above average; orange: average; red: below average)

NAME	CONSOLIDATED SALES (*)	CAGR (2016-2020)	EBIT RATIO 2020	AVERAGE EBIT RATIO (2016-2020)	Key drivers of growth and profitability
PIRELLI	4 302 M€ (2020)	-1.6%	5.1%	11.8%	<ul style="list-style-type: none"> <li>• Revenue fell sharply (-19.2%) in 2020 for Pirelli, hampered by its standard segment (-28.7%). The premium and prestige segments held up better (-14.4%). In addition, Pirelli's activity was affected by negative exchange rate effects (-5.1%);</li> <li>• The group's operating profit rate significantly deteriorated (-8.9 percentage points) due to expenses related to the drop in activity, adaptation to the health crisis and the restructuring plan.</li> </ul>
YOKOHAMA RUBBER	3 813 M€ (2020)	-1.1%	7.1%	8.0%	<ul style="list-style-type: none"> <li>• Yokohama's sales in 2020 went down by 11.1%, outperforming the average for the industry. The group benefited from its exposure to the Asian market but also to the truck tyre market, for which revenue only fell 9%;</li> <li>• The deterioration of the EBIT ratio was limited (-0.8 points) thanks to an adaptation of the group's cost structure.</li> </ul>
CHENG SHIN	2 863 M€ (2020)	-3.6%	8.9%	7.4%	<ul style="list-style-type: none"> <li>• Cheng Shin's business fell by 12.1% in 2020. Sales in China fell by 8% but by more than 18% in foreign countries (excluding Taiwan and the USA). Sales in volume for the private car and truck tyre divisions fell by 9% and 8% respectively, but rose by 6% and 8% for bicycle and motorbike tyres;</li> <li>• Thanks to a cost-cutting plan and the innovation policy that enabled the group to win certain contracts, its EBIT ratio rose by one percentage point.</li> </ul>
TOYO TIRES	2 518 M€ (2020)	-1.0%	12.5%	13.5%	<ul style="list-style-type: none"> <li>• Toyo Tires' revenue fell by only 7.9% in 2020 despite its exposure to the North American market. The group benefited from an expansion of its production capacities;</li> <li>• The group's EBIT ratio stagnated at 12.5%. Toyo Tires was able to keep its cost structure under control during the limited contraction of its business.</li> </ul>

Xerfi Global processing / Source: operators

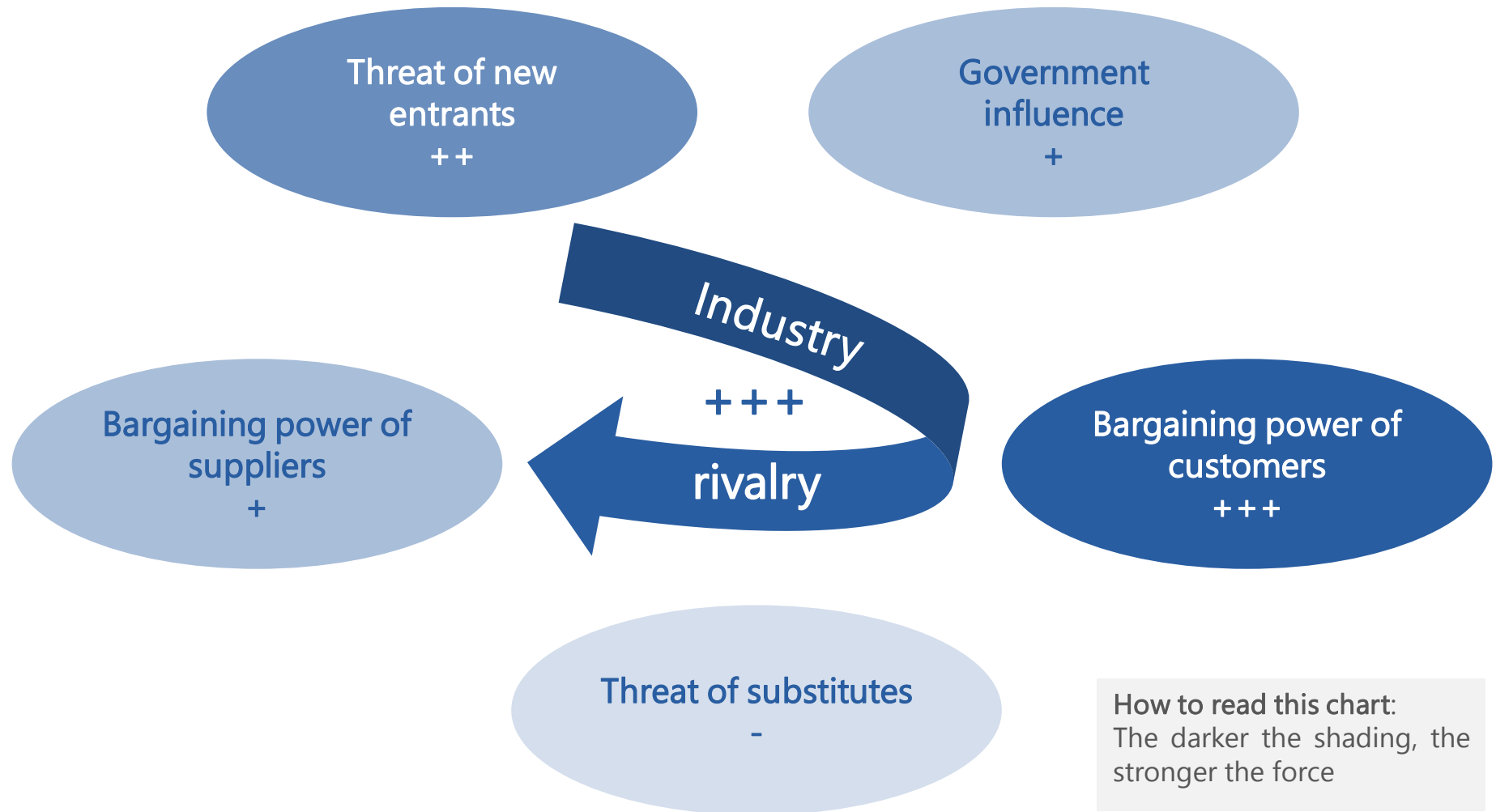
The background of the slide features a large, stylized globe on the left side, rendered in shades of blue and white. The globe is overlaid with a complex network of lines and dots, suggesting a global network or data flow. The right side of the slide is a solid light blue color.

## 4. Competition and leaders' strategies



## The arrival of new entrants increased competitive intensity

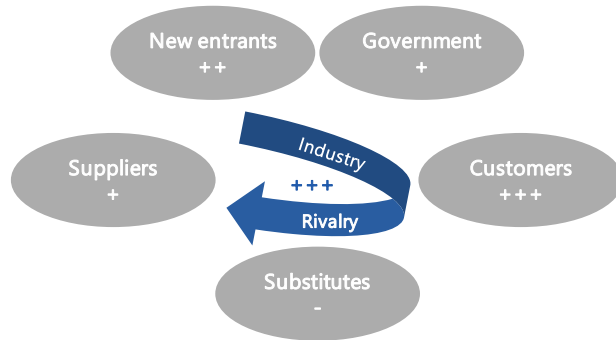
*Competitive forces in the global tyre industry*







## Industry rivalry is based on many factors other than price...



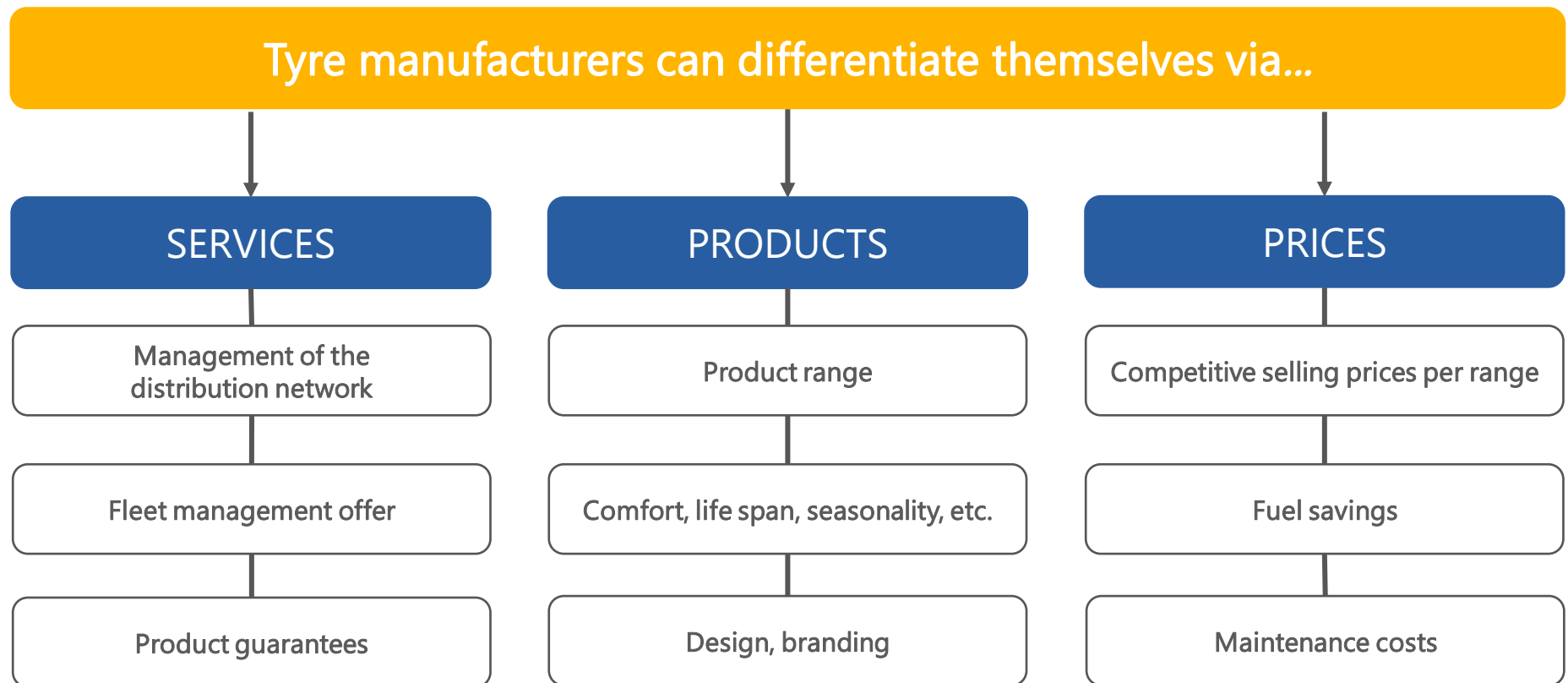
- Despite the solid growth of the market, the rivalry between the leaders of the tyre industry is quite intense and mainly comes from product positioning. While the general increase in demand and the trend towards more expensive and profitable premium tyres prevented manufacturers from engaging in a price war, competition is mainly based on performance and quality criteria, production scale, size and efficiency of distribution networks, service range, ancillary services provided to customers, and brand value. These criteria are all the more important for the original equipment and wholesale distribution segments, where operators are competing for multi-year supply partnerships with manufacturers and wholesalers.
- As a sign of the growing rivalry in recent years, the global market share (by value) of the three leaders (Bridgestone, Michelin, Goodyear) fell from 42% to around 38% between 2010 and 2019, implying market share losses in all of their key markets.
- Amongst leading tyre manufacturers, second tier operators (Hankook, Maxxis, etc.) gained significant ground on the behemoths by pursuing ambitious strategies of upmarket and international growth. Furthermore, South East Asian manufacturers, notably Chinese ones, also gained ground by aggressively strengthening their position on the segment for low-cost tyres, flooding the global market with low-priced tyres.





## ...notably product and service quality

*Main areas of differentiation within the tyre sector*


















Source: Xerfi Global



## Tyre manufacturers operate various brands based on market segment

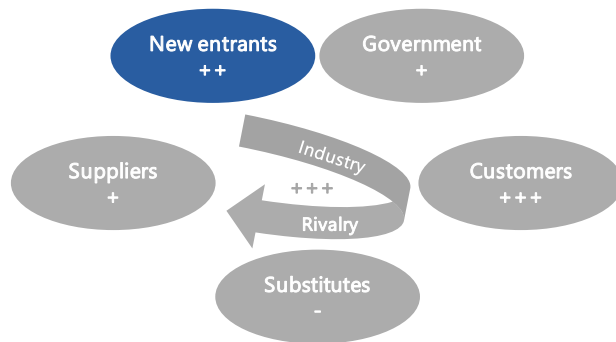
*Examples of market segment positioning of major tyre manufacturers*

OPERATOR	PREMIUM SEGMENT	MASS MARKET SEGMENT
		-
		 
		 
		  

Source: Xerfi Global



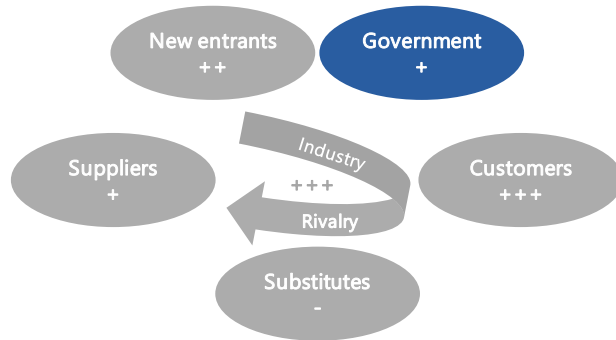
## Facing the threat of new entrants, leaders are moving upmarket



- Despite high barriers to entry (capital requirement, large investments needed to establish a manufacturing base, high fixed costs, importance of economies of scale) and other relatively high additional expenses (distribution networks, R&D, marketing), a series of new operators entered the tyre industry in recent decades. Indeed, since the beginning of the 2000s, Asian manufacturers (first Korean, Singaporean or Indonesian, and then Chinese for a few years now) benefited from the significant cost advantages and strong growth of their local markets to pursue aggressive strategies on the segment for low end products. Others relied on the acquisition of foreign technologies and know-how, such as with the acquisition of the Italian company Pirelli by the Chinese conglomerate ChemChina in 2015. Thus, these new entrants were quickly able to reach their break-even point and position themselves on a large number of export markets, acquiring increasing shares in most of the major tyre markets (Europe and North America in particular).
- While established leaders partially felt the impact of the new entrants in their key markets, the damage from this new competition remained relatively moderate. The general increase in demand, especially for higher value-added products, partly compensated for the loss of volumes through a more profitable product mix. Besides, most leaders abandoned the low end segments to refocus on the premium tyre ranges and differentiate themselves through technological innovation, higher added value services and the image of their brands (sponsorship, original equipment contracts with premium car manufacturers, etc.).



## Political intervention forces tyre manufacturers to adapt

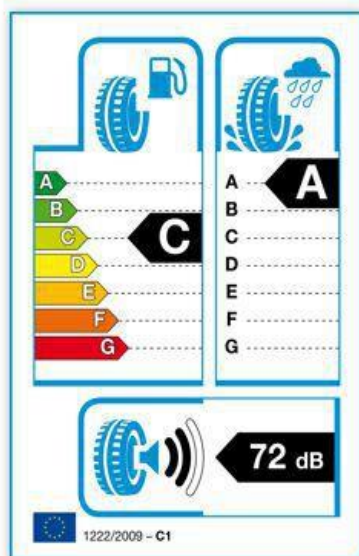


- While the role of the government remains overall moderate in the tyre industry, the intervention of political authorities has been more marked over the last decade. For instance, the sharp rise in imports of cheap tyres from China prompted the United States to introduce safeguards measures in 2009 (through an increase in import tariffs on Chinese tyres from 5% to 35%) to limit the impact on the US tyre industry. Similarly, the European Union increased tariffs (in the form of a fixed duty per imported tyre) for a number of Chinese manufacturers in order to compensate for dumping and government subsidies from which these manufacturers benefit.
- In order to circumvent these higher duties, manufacturers can locate their sites in countries that are not affected by these increases.
- Furthermore, regulations, notably through the new standards relating to performance thresholds for tyres, have a direct impact on competition in that they modify the performance criteria, and therefore competitiveness, of the various ranges of tyres produced. Thus, the introduction of new labels intended to provide consumers with better information on tyres' quality or technical performance generally favoured manufacturers with higher added value (low rolling resistance, better ground grip in difficult conditions, environmental impact, noise levels, driving comfort, etc.). In EU countries, labelling (in the form of standardised labelling) was enforced as early as 2012, and then reinforced in 2016. As of 1 May 2021, tyre labelling has changed in Europe. New information is provided to consumers such as the name of the manufacturer, tyre reference, dimensions, load, speed rating and class. According to Brussels, this new labelling system could lead to a reduction of 10 million tonnes of CO<sub>2</sub> emissions and an increase in revenue of €9 billion for the industry. During the same period, other key markets such as Japan and South Korea also adopted similar labelling schemes for passenger vehicle and light truck tyres. More recently, the US introduced a set of new regulatory thresholds and consumer information systems in 2018. The introduction of standardised labelling and performance thresholds in several emerging countries (China, Brazil) is currently in discussion.



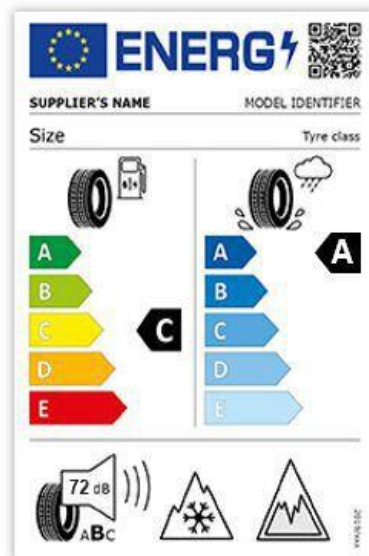
## Towards an ever more accurate labelling to inform consumers

*Examples of tyre labels from around the world*

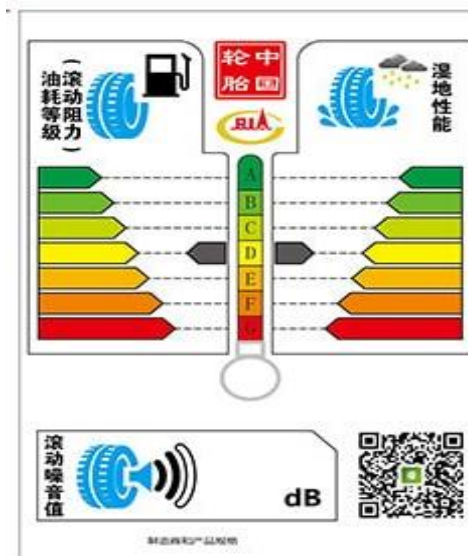


11/2012

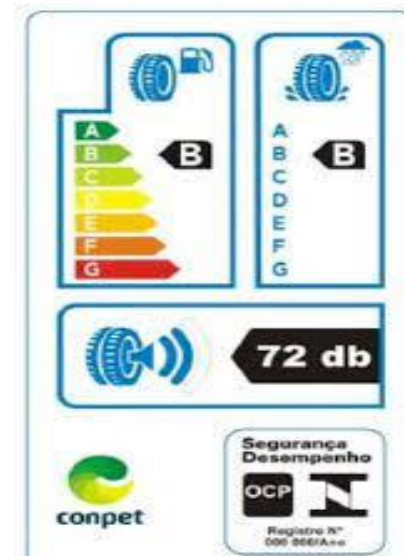
Change of labelling in the European Union in May 2021 for more precision and readability with the addition of data on performance on snow and ice. A QR code has been integrated to scan the label and access the EPREL database (European Product Register for Energy Labelling)



05/2021



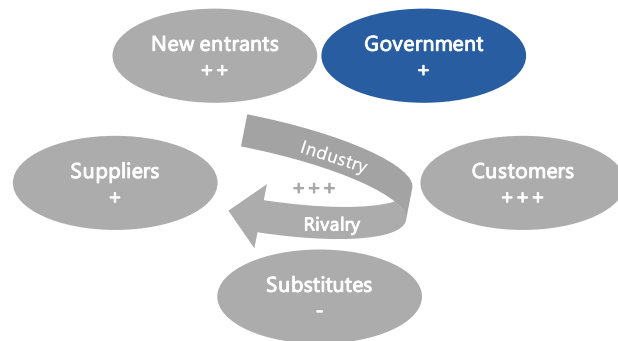
Optional label introduced by the China Rubber Industry Association (CRIA) in 2017



Tyre label available in Brazil since April 2015 and made mandatory since October 2016

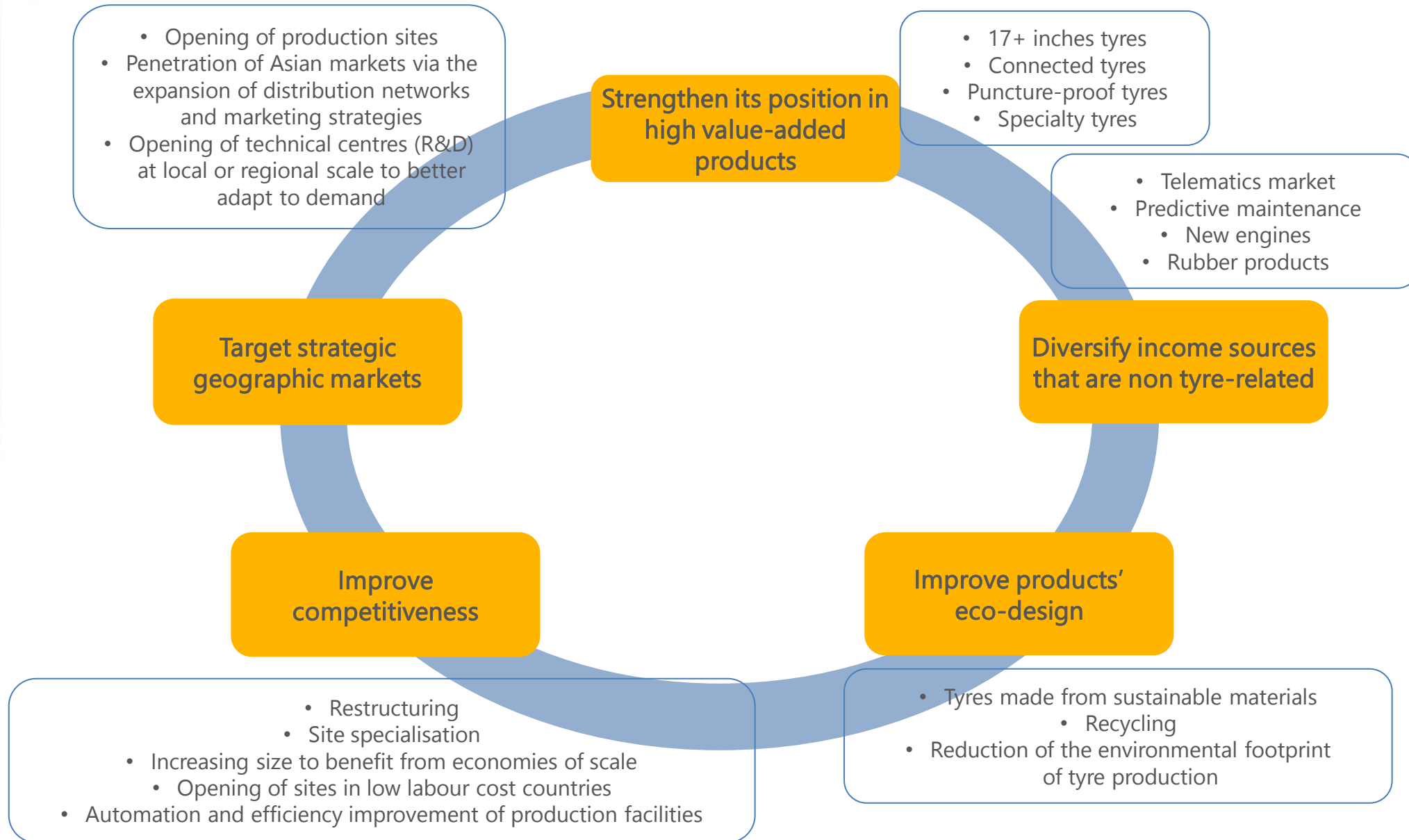


## Despite a diversified customer base, tyre manufacturers value their customer relations



- Original equipment manufacturers (effectively automobile manufacturers) account for about a quarter of total tyre sales, and are strategic customers for tyre manufacturers as they enable them to enhance the visibility or image of their brand depending on the vehicle models equipped. However, automobile manufacturers' bargaining power remains overall moderate. Indeed, taken individually, they only rarely represent a significant part of the revenue of tyre manufacturers, who generally work with several operators depending on product ranges or geographical markets.
- However, the consolidation of the global automotive sector and the increased competition in certain niches (high value-added or premium car models with stricter specifications) are prompting tyre manufacturers to enter into multi-year partnerships in order to reduce competitive pressure.
- In the replacement market, which is more important in terms of size, manufacturers operate mainly reach final consumers through wholesalers or retail chains. These have bargaining power relative to their size or the range of products they offer. In addition, the use of internet services, such as online comparators or retailers, offer more choice to consumers and lower switching costs between different brands. Nevertheless, the trend towards more powerful vehicles resulted in a increase of demand for higher value-added tyres, reducing the importance of the price criteria for consumers. For several years, tyre manufacturers have also been aiming to increasing the density of their own distribution networks (opening of sales outlets, acquisitions or strategic partnerships with retail chains, new distribution concepts, etc.) to reinforce their presence and better differentiate themselves (new services, after-sales service, etc.). In August, Michelin finalised the purchase of the remaining 60% of the capital it lacked in Allopneus, the French leader in online tyre sales.









## The pressure on prices and margins from low-cost manufacturers forces the other tyre manufacturers to improve their competitiveness

### *Tyre manufacturers' main strategies to improve competitiveness*

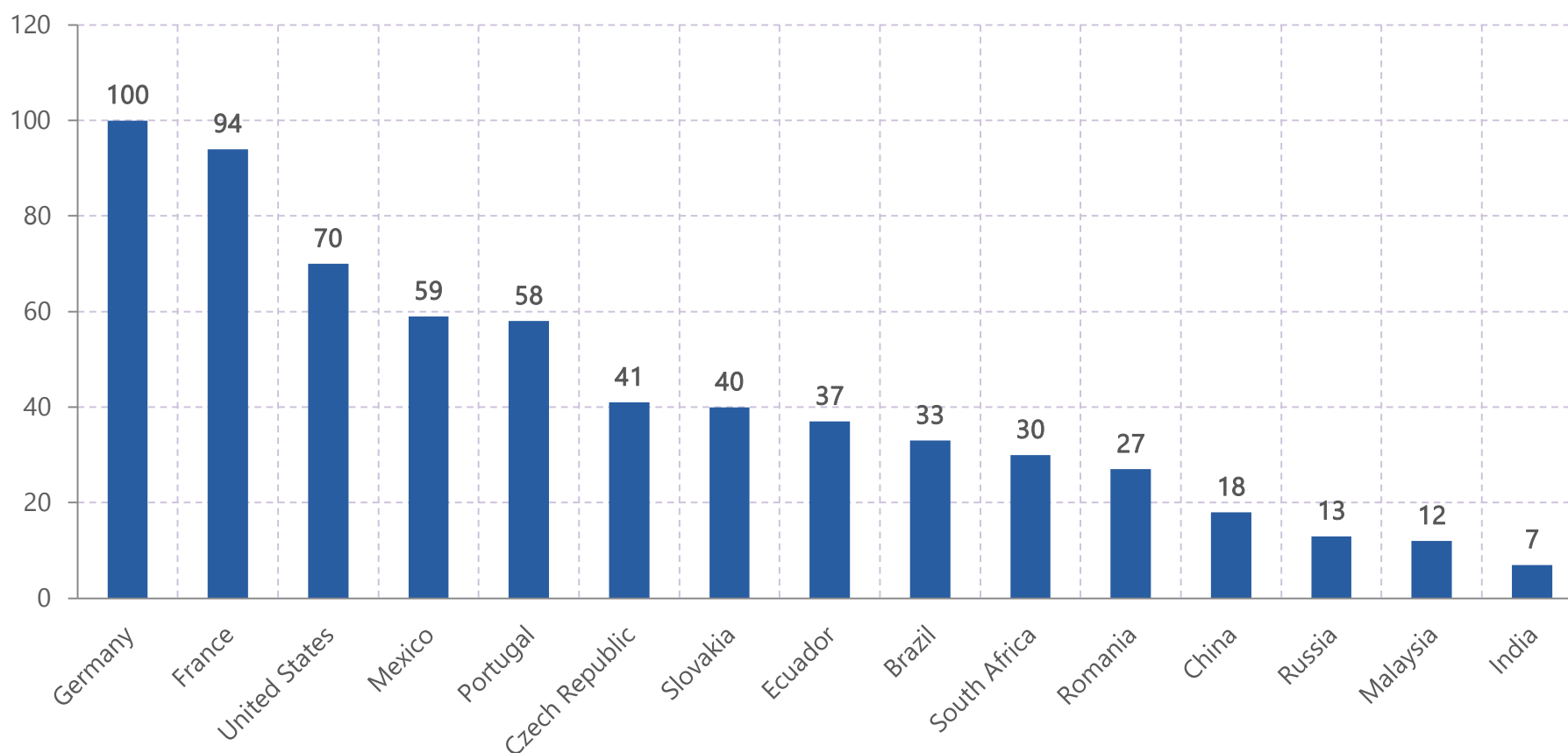
Modernisation	Opening of sites in low-cost countries or close to regions with high demand	Generation of economies of scale, cost synergies	Rationalisation and restructuring of existing sites
<ul style="list-style-type: none"> <li>Automation</li> <li>Modernisation of equipment</li> </ul>	<ul style="list-style-type: none"> <li>Open new sites in emerging countries to reduce costs</li> <li>Get closer to high-demand areas</li> </ul>	<ul style="list-style-type: none"> <li>Reach critical size through operations of external growth                             <ul style="list-style-type: none"> <li>Increase sites' size</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Staff reduction</li> <li>Simplification of production processes</li> <li>Closure of sites deemed unprofitable</li> </ul>
 <p>As part of its cost reduction plan launched at the end of 2019, Pirelli intends to save €160m by optimising production processes, rationalising components and optimising product ranges. The group expects to save €90m through the digitalisation of processes</p>	 <p>Continental is building a light vehicle tyre factory in Thailand in Rayong. It will be operational in 2022, have a capacity of up to 4 million tyres and will require a €250m investment.</p>	 <p>In June 2021, Goodyear completed the acquisition of Cooper Tire &amp; Rubber for \$2.5bn, strengthening its position as the world's third largest tire manufacturer. This allowed Goodyear to expand its brand portfolio. Goodyear expects to achieve €165m in cost synergies within 2 years</p>	 <p>Between 2009 and 2020, 11 factories have been closed, representing more than 6,100 job cuts. The latest closures are the plants in La Roche sur Yon in France (March 2020) and Bamberg in Germany (December 2020). In January 2021, the group announced a plan to cut another 2,300 jobs in France, i.e. 10% of the workforce in the country.</p>
 <p>In April 2021, Michelin announced its will to invest in a new process called Osiris, which allows to combine tyre manufacturing and finishing processes within a single step. This will enable the group to reduce energy consumption by 57% and increase the site's productivity by a factor of 2.5.</p>	 <p>At the end of 2020, Yokohama launched the construction (about \$500m investment) of a 2<sup>nd</sup> off-road tyre factory in India, Visakhapatnam, which will be operational at the beginning of 2023</p>	 <p>The share of Michelin's factories with a capacity of more than 100,000 t/year increased from 49% in 2012 to 60% in 2019, with a target of 70% in 2023 for a minimum capacity utilisation rate of 90%.</p>	 <p>In May 2021, Bridgestone closed its only plant in France, in Béthune. It was considered to be the group's least competitive plant in Europe.</p>



## Investments in emerging countries allow operators to benefit from a better cost competitiveness

*Labour cost index by country (2018)*

Unit: Labour cost index (based on 2018 average annual exchange rates), Germany=100

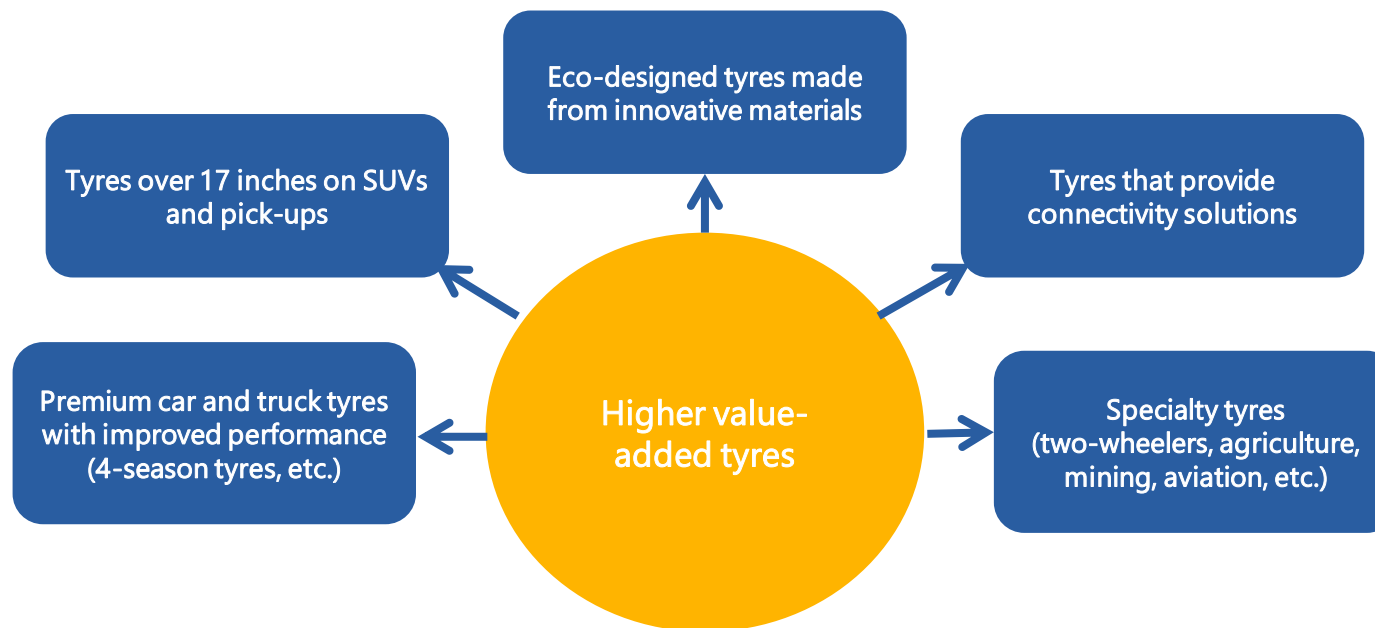


Source: Continental



## Higher value-added tyres enable operators to escape from price pressures...

*The different types of high value-added tyres*

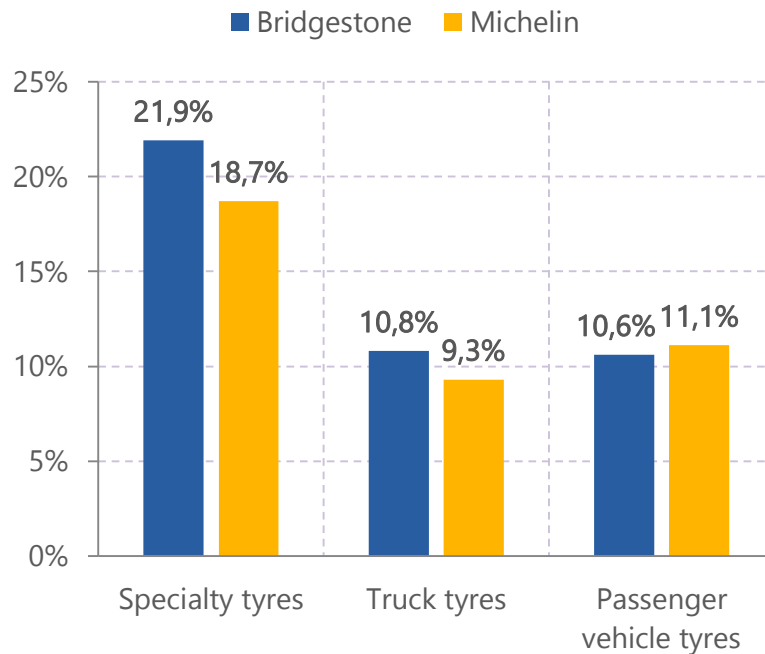


Although the development of tyres with higher added value requires greater investment in R&D, their profitability is clearly higher than that of standard tyres. In order to escape from price pressures and declining margins in the low and mid end segments due to the offensive by low cost manufacturers, the leaders in the sector are reinforcing their innovation efforts in order to position themselves on high end tyres.

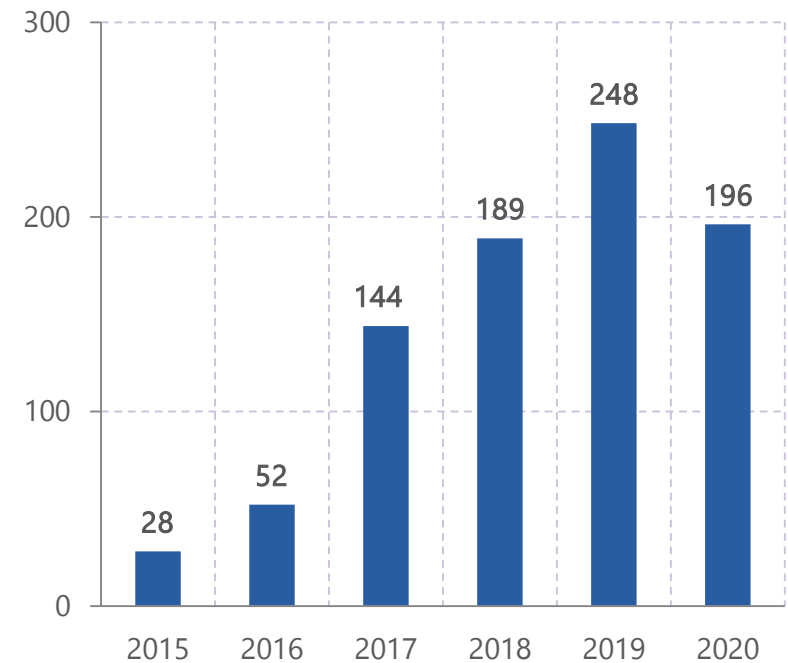


...thanks to the positive product mix they offer and their higher level of profitability...

*Adjusted EBIT ratio by segment in 2019 (% of sales)*



*Product mix effect at Michelin (million euro)*





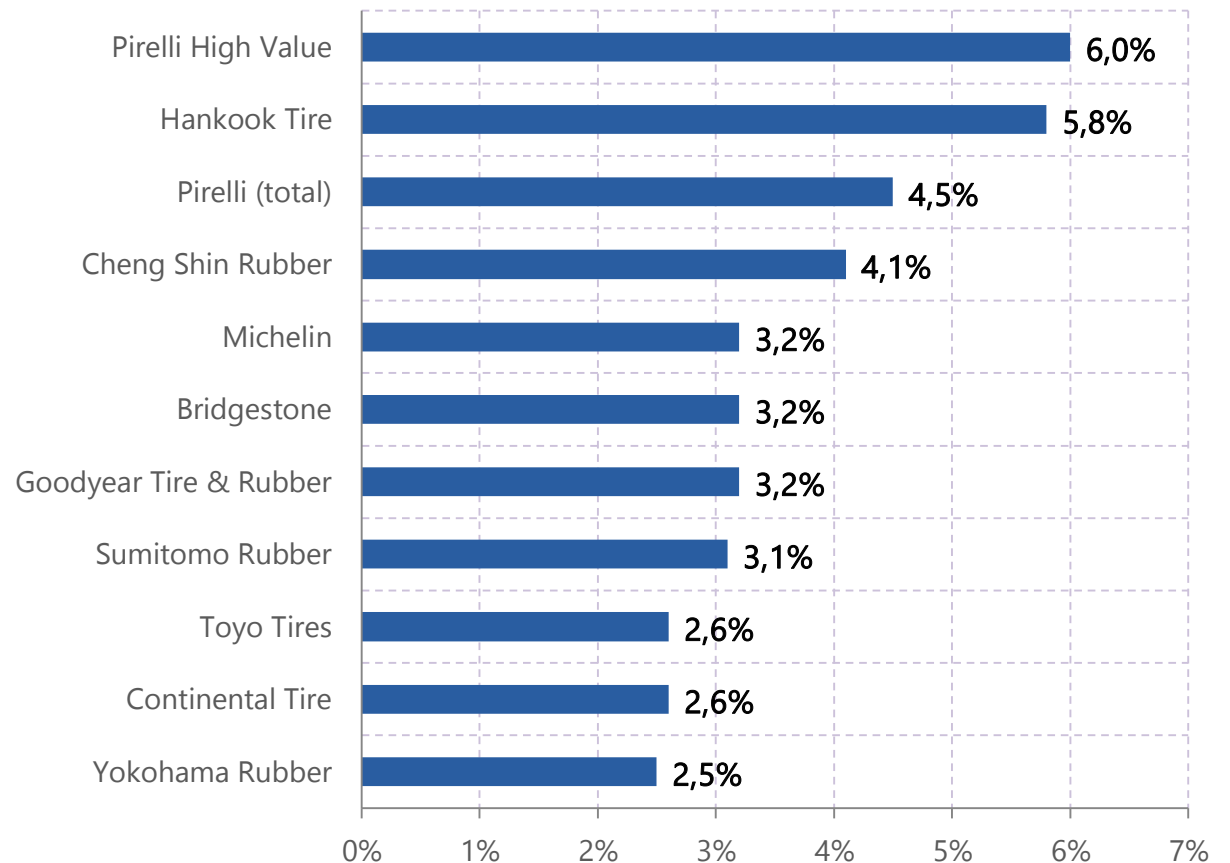
## ...but require significant R&D investments

Reflecting their strong positioning in the premium/top of the range tyre segment, the Korean Hankook and the Italian Pirelli had the highest R&D ratio among the main tyre manufacturers in 2020 worldwide. The R&D investments of Pirelli's High Value division even peaked at 6% in 2020. Nevertheless, the leaders in the industry as a whole have relatively high R&D ratios, which increased significantly in recent years.

Indeed, innovation is no longer leaders' focus. In 2020, the Chinese company Cheng Shin Rubber - which specialised in low-cost tyres for a long time - exceeded the world's biggest manufacturers (Michelin, Bridgestone, Goodyear) in terms of innovation efforts, illustrating its strategy of moving upmarket to strengthen its position on foreign markets.

*R&D ratios of major tyre manufacturers (2020)*

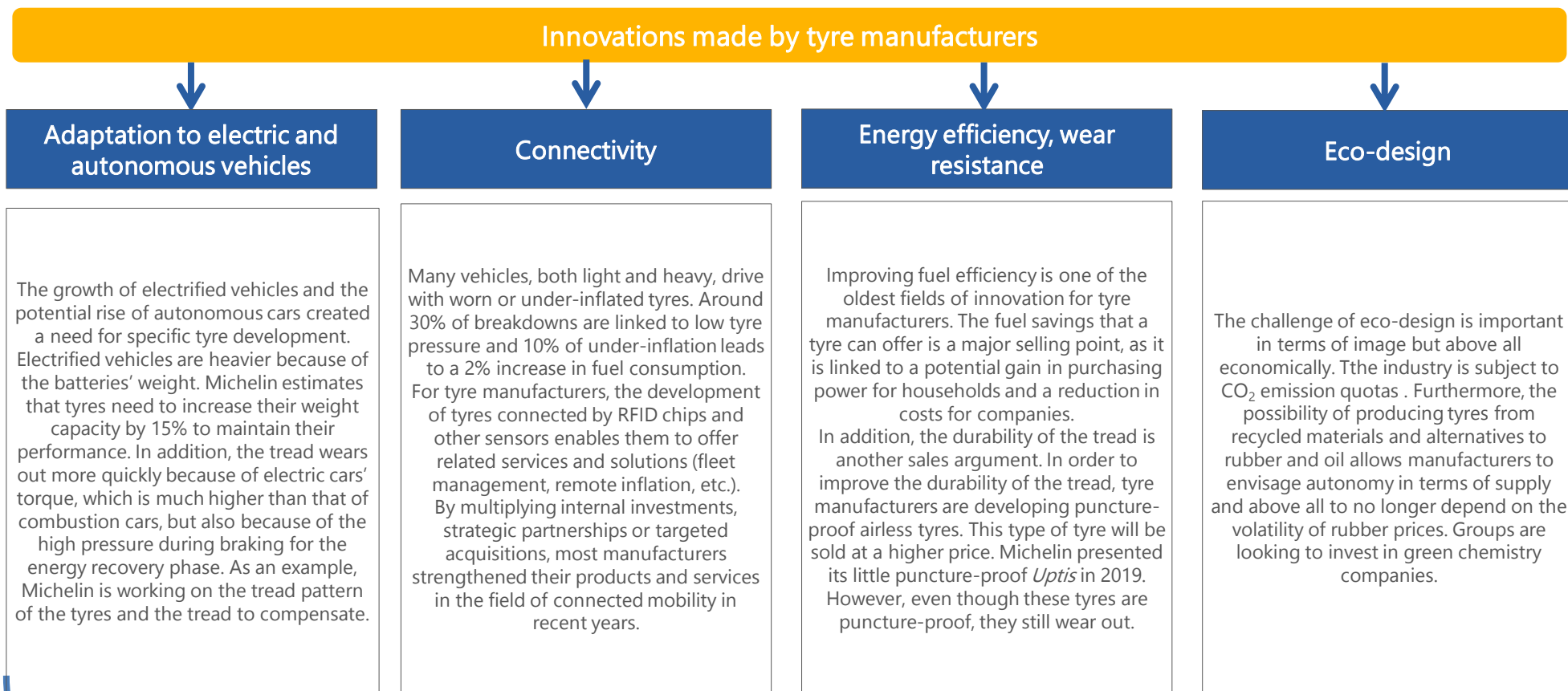
Unit: ratio of R&D expenditure to revenue in percent



Source: Xerfi Global on data from annual reports



## Innovation efforts respond to new technological and environmental challenges



### The Michelin Vision concept: the ideal synthesis of the tyre of the future

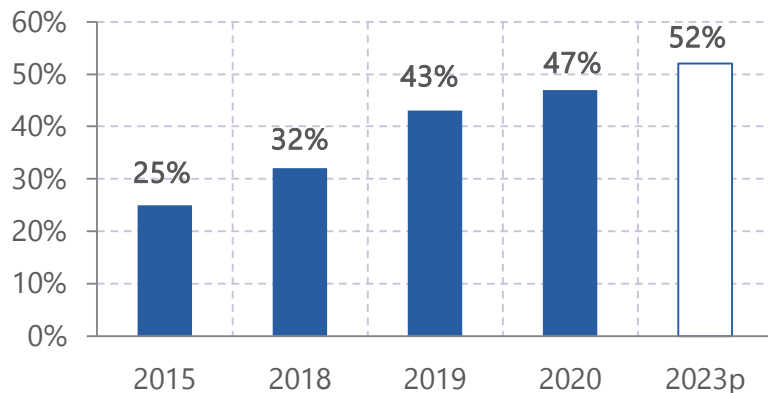
Presented by Michelin for the first time in 2017, the VISION concept, as a natural object, is both a wheel and an airless tyre. Biosourced, connected and equipped with a renewable, puncture-proof 3D-printed tread, it regroups the entirety of tyre innovations up to 2050.



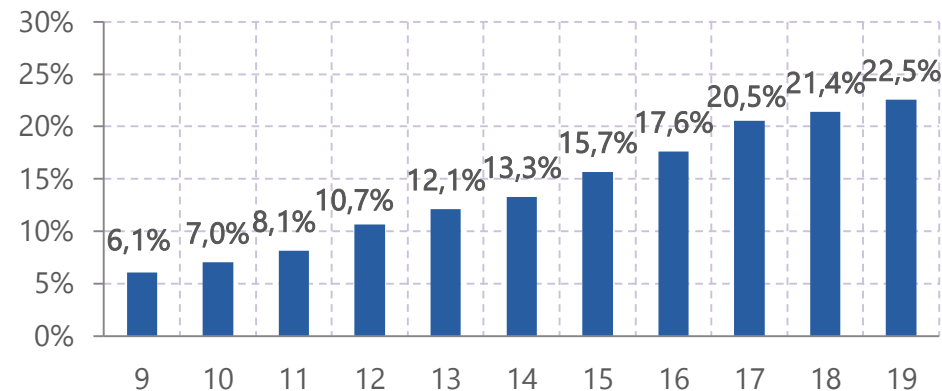


## The share of large size tyres in sales continues to grow

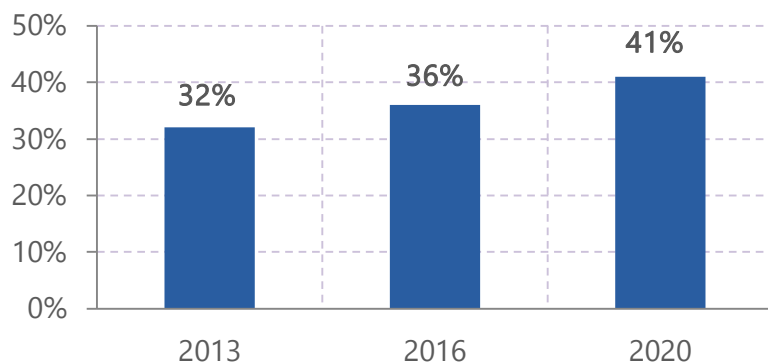
*Share of Michelin's sales from 18-inch and larger tyres (% of total sales volume)*



*Share of Continental's sales from summer and all-season tyres that are 18 inch and larger (% of total sales volume)*

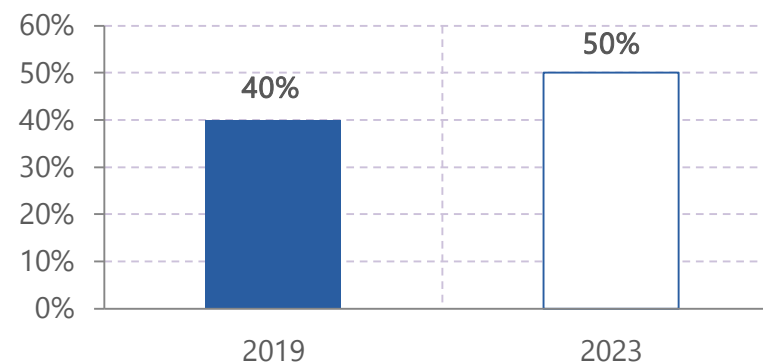


*Share of Toyo Tires' sales from SUV tyres (% of total sales volume)*



Source : Toyo Tires

*Share of Yokohama's sales from 18-inch and larger tyres (% of total sales by volume)*



Source and forecast: Yokohama

The growth of 18 inch and larger tyres is explained by the continuous increase of the share of SUV sales over the last decade. These vehicles are owned on average by more affluent households who mainly buy premium tyres. Even despite the health crisis, this segment continued to grow for many tyre manufacturers, such as Hankook.

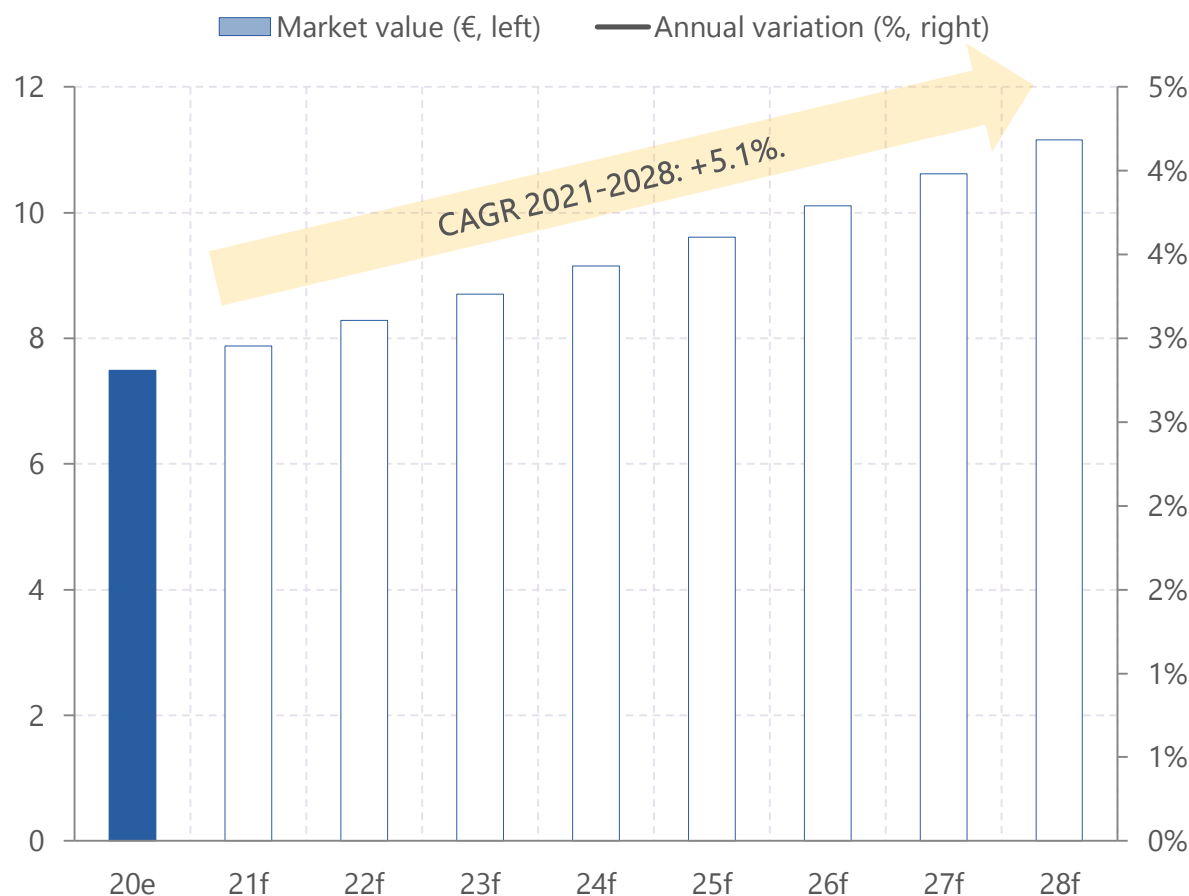




## Like the agricultural tyre market, the speciality markets offer significant opportunities for manufacturers

### Global agricultural tyre market (2020-2028f)

Unit: billion euros, annual variation in %, compound annual growth rate (CAGR) in %.



Source and forecast: Grand View Research

### Main drivers of demand

Modernisation of agricultural equipment in key markets

Growth and development of the global agricultural industry in a context of growing food needs

New product development among tyre manufacturers

Increase in replacement purchases with public subsidies and new regulations favouring advanced agricultural equipment (e.g. more ecological)



## Michelin and Yokohama have been particularly aggressive in the speciality segment in recent years



<b>July 2016</b>	Acquisition of Alliance Tire Company (ATG), an Israeli manufacturer of tyres for agricultural and industrial machinery, for \$1.18bn (€987m).
<b>March 2017</b>	Acquisition of Aichi Tire Industry, a Japanese manufacturer of solid tyres, pressure tyres for industrial machinery and other industrial rubber products.
<b>December 2020</b>	Construction (\$300-400m investment) of a second off-road tyre plant in India, in Visakhapatnam. In August 2021, \$171m was added to increase the initially planned capacity of the new plant, which will be operational from early 2023.
<b>January 2021</b>	Consolidation of all its off-highway activities into a single entity called Yokohama Off-Highway Tires (YOHT), marking the end of the Alliance Tire Group (ATG).



<b>March 2018</b>	Acquisition of UK-based Fenner for €1.48bn. The company, which specialises in the manufacture of conveyor belts for conveying materials, employs 4,330 people, owns around 30 plants and earned £655m in 2017. It also designs high-tech polymer-based parts, such as seals, transmission timing belts and blood transfusion kits. The acquisition of Fenner consolidates Michelin's leading position in the mining market
<b>December 2018</b>	Acquisition of Quebec-based Camso for €1.25bn, the world leader in rubber tracks and solid tyres, two market segments in which Michelin was previously absent. Camso had 7,500 employees in 17 plants and 3 development centres in 26 countries.
<b>January 2021</b>	Michelin renewed its contract to supply tyres for Air France-KLM's aircraft for a period of 10 years. The partnership also includes collaboration on emission reduction and new technologies. The tyres supplied will be produced in the French factory located in Bourges (Cher).

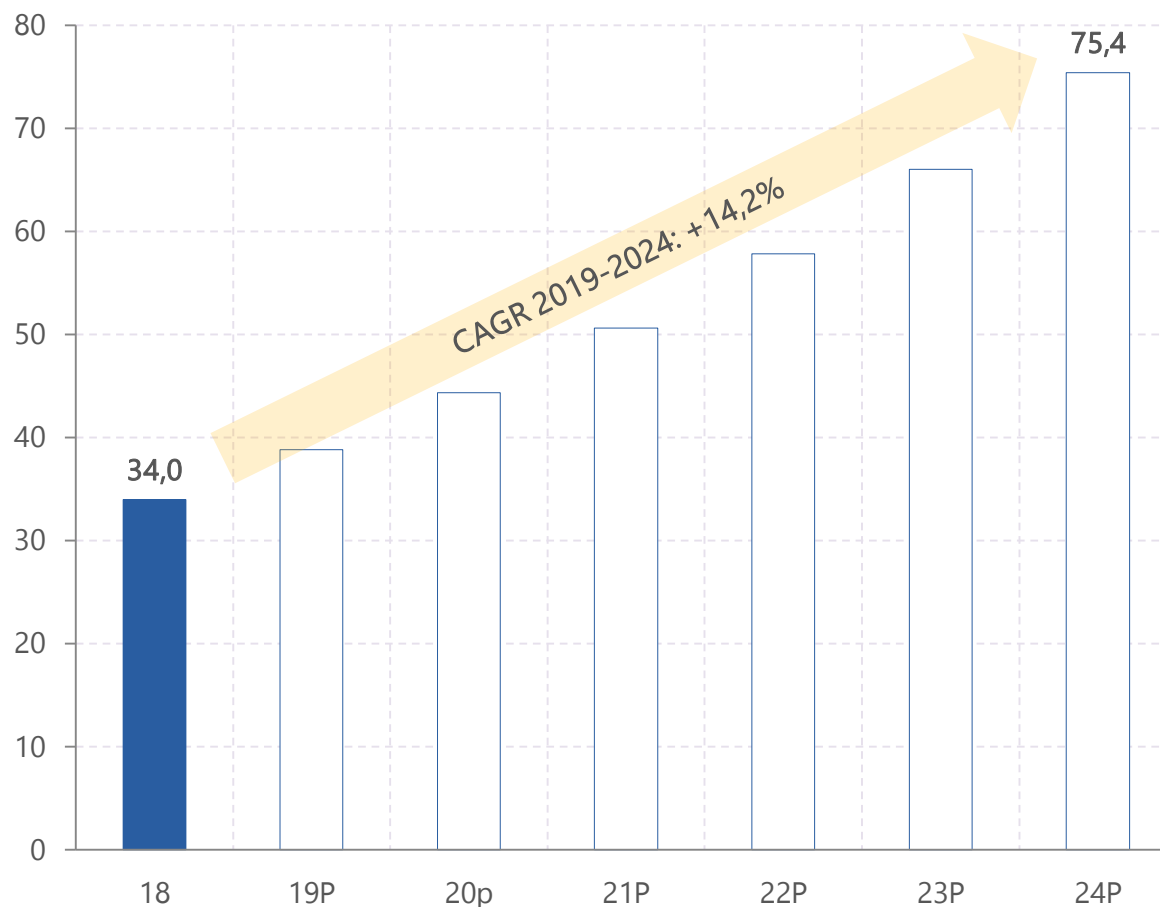
Sources: operators and specialised press



## Facing the rise of connected cars, tyre manufacturers diversify into mobility services

### *Telematics Market Growth (2018-2024p)*

Unit: millions of telematics systems installed as original equipment



Source and forecasts : Berg Insight

Telematics is the provision of solutions for fleet monitoring and optimisation, driver behaviour improvement and digital transformation. It is the kind of service that tyre manufacturers value highly in order to diversify.

According to Berg Insight the number of OE in-vehicle systems almost reached 34 million units in 2018. With an average annual growth rate of 14.2%, the volume of equipment is expected to reach 75.4 million in 2024. Taking advantage of this dynamic, so-called secondary products, including services, will double over the period (from 41% to 82%). The total number of subscribers will grow significantly, with an estimated average annual growth of 27%, from 80.4 million users to 339.3 million in 2024.



## External growth operations allow operators to rapidly build up their service offering

*Examples of tyre manufacturers' development in new mobility services*



In June 2021, Goodyear signed an agreement with the automotive supplier ZF to offer a unique solution dedicated to truck fleet managers and trailer manufacturers. The Goodyear Total Mobility offer will integrate ZF's *Transics fleet management* solutions.



Continental acquired specialists in fleet management services (**Zonar Systems** and **Bandvulc**) and, since 2016, strengthened its tyre management platform for trucks and buses *ContiConnect* in its core markets. In late 2020, it launched the first tyres for Volvo equipped with RFID tags that allow access to additional tyre-specific data via a standard interface with the Continental database.



Michelin strengthened its telematics offer through several acquisitions:

- 2014: **Sascar**, Brazilian leader in digital management of truck fleets and security of transported goods
- 2017: **NexTraq**, US-based fleet management company that claimed 7,000 management customers ;
- 2019: **Masternaut**, French fleet management company with 10,000 customers in Europe

Michelin also positioned itself in the niche market of central tire inflation via a double acquisition in 2017 of both Germany's PTG and France's Téléflow.

In spring 2019, Michelin did set up an entity specifically dedicated to connected mobility, the Connected Mobility Business Venture, whose mission is to accelerate the development of new services based on data.



In July 2020, Bridgestone presented its medium-term strategic plan (2021-2023) in which it plans to increase the share of revenues from service from 16% in 2020 to 20% in 2023.

The group made two important acquisitions in the telematics market:

- 2019: **TomTom's** telematics division, renamed **Webfleet Solutions**, to have access to a base of 860,000 vehicles under management, the largest in Europe.
- 2021 : **Azuga**, US-based telematics solutions company which manages about 6,000 vehicles and equips over 200,000 with connectivity solutions.

Bridgestone is also investing in technologies that complement fleet tracking solutions. In June 2021, it acquired a stake in **Kodiak**, a California-based autonomous trucking start-up.



## Tyre manufacturers continue to diversify geographically

### *Recent examples of projects to open sites abroad*



In December 2020, the Toyo Tires Group launched the construction of its first factory in Europe in the Republic of Serbia in December 2020. The new plant represents an investment of €390m and is expected to start tyre manufacturing activities in April 2022, with a capacity of 5 million passenger car tyres per year by summer 2023.



In July 2021, Sumitomo announced a €200m investment to increase the tyre production capacity of the group's only plant in Brazil. Its capacity will increase from 18,000 units per day to 23,000 by April 2024. Similarly, the production capacity of truck and bus tyres will increase from 1,000 per day to 2,200 by April 2025.



Continental plans to increase the share of tyres manufactured in the Asia-Pacific region from around 4% in 2015 to almost 20% by 2025. After increasing capacity at strategic locations such as Lousado in Portugal and Puchov in Slovakia, the group launched the construction of a new plant in Rayong, Thailand. The plant is expected to reach a production capacity of around 4 million passenger tyres by 2022.



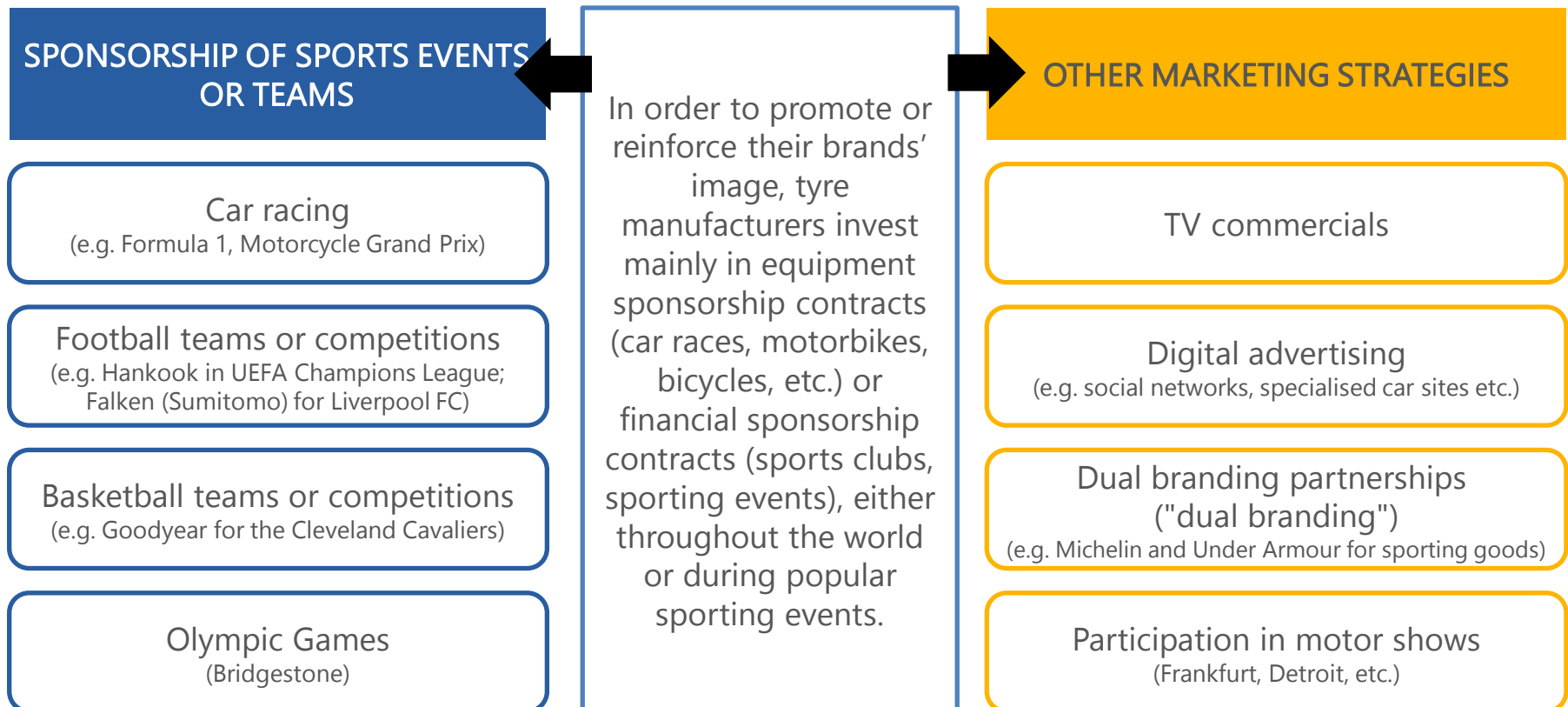
Bridgestone invested in the expansion of its US facility in North Carolina and three of its European sites (Burgos in Spain, Poznan and Stargard in Poland). As part of its product diversification, the group also opened a manufacturing site and a retreading site in Thailand in 2019 entirely dedicated to aircraft tyres.

Sources: operators and specialised press



## Sponsorship contracts are tyre manufacturers' main marketing strategy to establish a foothold in a given region or raise awareness

*Marketing strategies in the tyre industry*

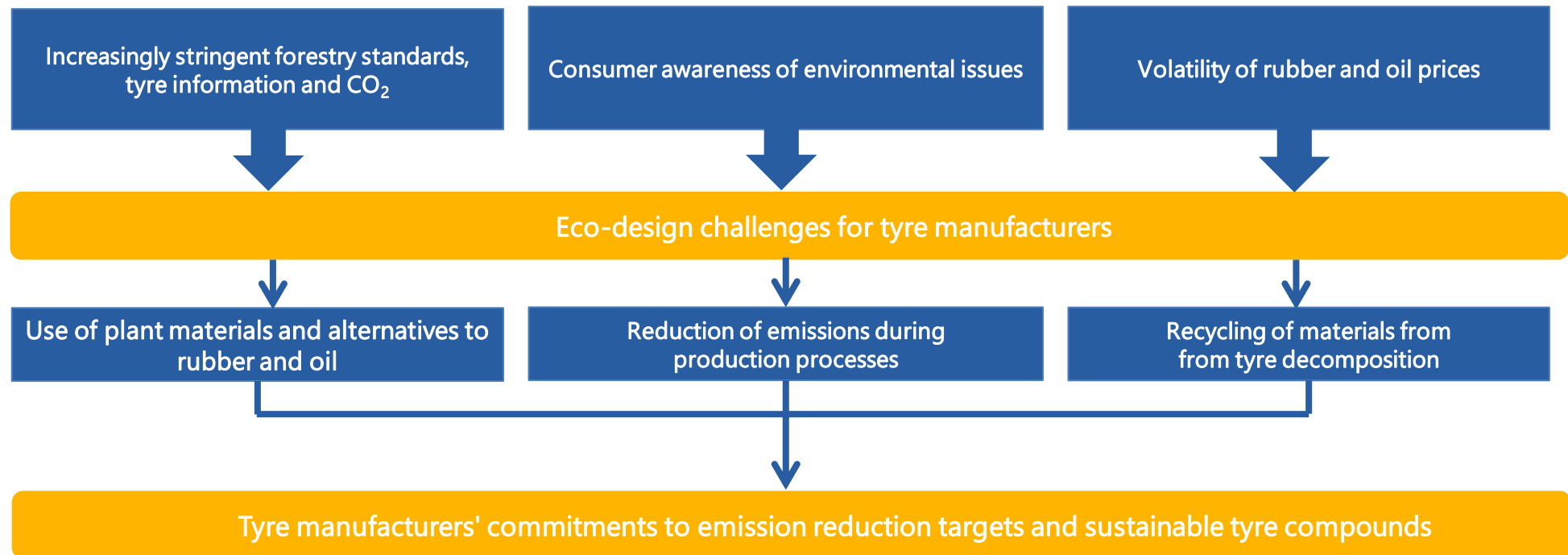


Source: Xerfi Global





## Eco-design has environmental, marketing and economic benefits



### Examples

**Continental**



- 25% sustainable materials in some tyres currently
- 60% sustainable materials by 2030 for its best-selling product ranges
- 100% sustainable materials by 2050 for all product ranges

 **MICHELIN**

- 28% sustainable materials currently in all product ranges
- 40% sustainable materials by 2030 for all product ranges
- 100% sustainable materials by 2050 for all product ranges





## Tyre manufacturers are stepping up innovations, investments and partnerships to accelerate tyres' eco-design

*Examples of eco-design innovations or investments*



In September 2021, Continental launched a range of bicycle tyres made from dandelion rubber. The group wants to extend this type of rubber to a range of car and truck tyres. It presented a tyre made from 17% recycled material, polyester from PET bottles, silica from rice waste and rubber from dandelion.



From August 2021 to February 2024, Sumitomo's Shirakawa tyre plant in Japan will test the use of hydrogen energy in its production processes. It will aim to replace the thermal energy used in high-temperature, high-pressure phases.



The Auvergne-based start-up Carbios, in which Michelin holds a 4.5% stake, is a pioneer in the development of enzymatic solutions dedicated to the recycling of plastic and textile polymers. In April 2021, Michelin tested and validated the enzymatic recycling technology for PET plastic waste developed by Carbios for use in tyres. This means that the fibres resulting from the decomposition process could be used in tyres.



At the end of 2020, Goodyear announced that it wanted to double its commitment to sourcing silica for its tyres from burnt rice husks by 2021. The group wants to reduce the use of carbon black. The addition of silica improves the flexibility and elasticity of the tread at low temperatures. It also improves rolling resistance compared to carbon black.



Bridgestone did set a target of increasing the use of renewable electricity to power its sites from 12% in 2021 to 50% in 2023. European sites switched to 100% renewable electricity in April 2021. Since July, four sites in Japan did make the switch.



At the beginning of 2021, Michelin started the construction of its first tyre recycling plant in partnership with the Swedish company Enviro, in which it has a 20% stake. The latter patented a pyrolysis process that recovers carbon black, pyrolysis oil, steel and gas. Based in Chile and requiring an investment of €25m, the plant will recycle 30,000 tonnes of civil engineering tyres each year. Work will start in 2021 and the plant will be commissioned in 2023.

## 6. Sources



Bridgestone	<a href="http://www.bridgestone.com">www.bridgestone.com</a>
Michelin	<a href="http://www.michelin.com">www.michelin.com</a>
Goodyear Tire & Rubber	<a href="http://corporate.goodyear.com">corporate.goodyear.com</a>
Continental Tire (Continental Corp.)	<a href="http://www.continental-corporation.com">www.continental-corporation.com</a>
Sumitomo Rubber Group	<a href="http://www.srigroup.co.jp/english/ir">www.srigroup.co.jp/english/ir</a>
Hankook Tire	<a href="http://www.hankooktire.com/global">www.hankooktire.com/global</a>
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Yokohama Rubber	<a href="http://www.yrc-pressroom.jp/ir_en">www.yrc-pressroom.jp/ir_en</a>
Cheng Shin Rubber	<a href="http://www.cst.com.tw">www.cst.com.tw</a>
Toyo Tires	<a href="http://www.toyotires-global.com">www.toyotires-global.com</a>



ACEA	European Automobile Manufacturers' Association <a href="http://www.acea.be">www.acea.be</a>
ATMA	Indian Tyre Manufacturers Association <a href="http://www.atmaindia.org">www.atmaindia.org</a>
World Bank	International financial institution, source of macroeconomic data <a href="http://www.banquemondiale.org">www.banquemondiale.org</a>
Grand View Research	Market analysis and consulting company <a href="http://www.grandviewresearch.com">www.grandviewresearch.com</a>
IHS Markit	American economic information company <a href="http://www.ihsmarkit.com">www.ihsmarkit.com</a>
Intracen	International Trade Centre (agency affiliated to the WTO and the UN) <a href="http://www.intracen.org">www.intracen.org</a>
OICA	International Trade Centre (agency affiliated to the WTO and the UN) <a href="http://www.oica.net">www.oica.net</a>
Statista	Statistics, market research and economic intelligence website <a href="http://www.statista.com">www.statista.com</a>
Tire Business	Specialised magazine for the tyre industry <a href="http://www.tirebusiness.com">www.tirebusiness.com</a>
Tyrepress	Specialist magazine for the tyre industry <a href="http://www.tyrepress.com">www.tyrepress.com</a>



Bloomberg	International economic and financial news agency <a href="http://www.bloomberg.com">www.bloomberg.com</a>
Businessweek	International economic and financial weekly <a href="http://www.businessweek.com">www.businessweek.com</a>
The Economist	International economic, political and financial weekly <a href="http://www.economist.com">www.economist.com</a>
Financial Times	International economic and financial daily <a href="http://www.ft.com">www.ft.com</a>
Forbes Magazine	International Economic and Financial Review <a href="http://www.forbes.com">www.forbes.com</a>
Thomson Reuters	International news agency <a href="http://www.thomsonreuters.com">www.thomsonreuters.com</a>
Wall Street Journal	International economic and financial daily <a href="http://online.wsj.com">online.wsj.com</a>

## 5. Annexes





ITEM	DEFINITION
<b>Assets</b>	Assets encompass all the economic resources owned by a company. They are commonly divided into short term (cash, trade receivables, etc.) and long term assets.
<b>CAGR</b>	Acronym for Compound Annual Growth Rate.
<b>Capex</b>	Short for "Capital Expenditure", an item of the cash-flow statement used as a proxy for investment in property, plant and equipment (PPE). Generally entails physical assets used to maintain or increase operation capacities.
<b>Capex ratio</b>	The percentage ratio between capital expenditures and net sales.
<b>Current ratio</b>	The current ratio is found by dividing current assets by current liabilities and indicates whether the company has enough resources to pay its short term debt (12 months).
<b>Debt-to-equity</b>	The ratio between total liabilities and total equity, reflecting the company's relative amount of debt.
<b>Free cash flow</b>	The cash that a company is able to generate after subtracting expenses needed to maintain its asset base.
<b>Gross profit</b>	Gross profit is the result of the difference between total sales and the cost of making products or providing services. Payroll and interest costs as well as taxes are not taken into account.
<b>Impairment charge</b>	Impairment charges occur when a company has found that the value of its goodwill has been overestimated and needs to be revised.
<b>Interest coverage</b>	Interest coverage is calculated by dividing operating income by net interest expenses and reflects the company's debt burden, i.e. its ability to pay interest on outstanding debt. The lower this ratio, the more the company is burdened by interest expenses.
<b>Liabilities</b>	Liabilities encompass all obligations arising from a company's past operations and which will result in an outflow of resources in the future. Liabilities are divided into short term and long liabilities, and represent the debt a company owes to its creditors.





ITEM	DEFINITION
<b>Net debt</b>	Net debt is calculated by subtracting a company's cash from its total debt.
<b>Net profit/ net margin</b>	Net profit refers to a company's total earnings. It is the result of the difference between net sales and all operating and non-operating expenses such as taxes, interests, depreciation and amortisation expenditures.
<b>Operating profit/ operating margin</b>	Operating profit refers to the earnings generated by the normal business operations of a company. Operating profit is the result of the difference between sales and total operating expenses. Operating margin is expressed in % and is computed by dividing operating profit by net sales.
<b>R&amp;D expenditure</b>	Expenses associated with the research and development process of creating new products or services; it is often used as a proxy for innovation.
<b>Return on assets (ROA)</b>	Return on assets is calculated by dividing a company's net income by its total assets. It measures the ability of the company to generate profits from its assets.
<b>Return on equity (ROE)</b>	Return on equity is calculated by dividing a company's net income by its shareholder equity. It measures the ability of a company to generate profits from its investment funds.
<b>Sales</b>	Earnings made from the sales of goods and services, excluding VAT and other taxes. Reflects, total volumes sold, selling prices, exchange rates and product mixes.
<b>Quick ratio</b>	The quick ratio is calculated by dividing current assets net from inventories by current liabilities and measures the company's immediate capacity to repay its short term debt.
<b>Working capital</b>	Working capital is the difference between current assets and current liabilities. When positive, working capital means a company would be able to pay its short term debt.