

Global Tire Intelligence report

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TIRE INDUSTRY
RESEARCH

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Please note:

This is the last copy that will be distributed for free.

Up to now we have been producing these magazines to get feedback from the global tire community. That feedback has led us to believe the product has a value.

We will therefore be charging for further copies.

Please get in touch for subscription rates.

David@TireIndustryResearch.com

The newsletter contains information about the global tire industry. The information is provided in good faith, but it is not advice, and should not be treated as such. Without prejudice to the generality of the foregoing paragraphs, we do not represent, warrant, undertake or guarantee that the information in the newsletter is correct, accurate, complete or non-misleading. We will not be liable to you in respect of any special, indirect or consequential loss or damage.

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What's up with tire prices

By David Shaw, Tire Industry Research

If you work in the tire trading business, you've probably been receiving a series of emails from suppliers telling you about price increases. These are blamed on rocketing raw material costs

Yet there's not much sign of prices increasing in the retail market. If anything prices are still going down in most markets. Furthermore, none of the premium tire makers is saying anything about higher raw material costs.

What's going on?

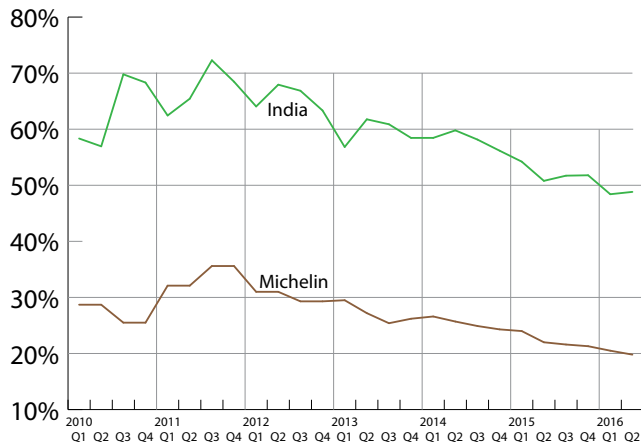
Today's strange situation gets right to the heart of the modern globalised tire manufacturing industry.

Most important to understand is the different cost structures of import brands compared with the premium brands. Another difference is the brand strength of premium tires compared to most of the Asian imports.

Cost structures

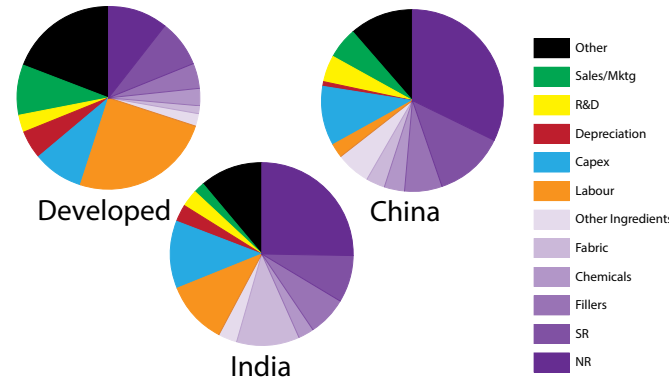
I've been talking for years about how the costs of tire makers is a huge aspect of the global tire industry competitiveness and warning that when raw materials prices rise, the Chinese tire manufacturing sector is going to suffer.

Here's a chart of raw materials costs as a percent of total tire industry revenues over the last few years.



In India this data is very transparent, but in China, much less so. I have tracked the top six tire makers in India and added the total revenue figures and then calculated the percentage from the cumulative raw materials figures. The cost structure in China is fairly similar to that in India, with the

exception that labour costs in India are a bit higher than those in China. (See this chart based on 2012 data)



Among the premium tire makers, only Michelin breaks out raw materials costs. Note that the pie charts refer to 2012, and the pie charts for the developed world show around 30% on raw materials, as reported in the line graph above.

The main take-away from this is that Indian and Chinese tire makers are much more exposed to raw materials price fluctuations than the premium brands.

Price increases good for premium brands

That is to say, if raw materials prices increase by half, Michelin only sees its marginal costs rise by 10%, but low-cost tire makers see the proportion of raw materials rise from 50% to 75% of total revenues.

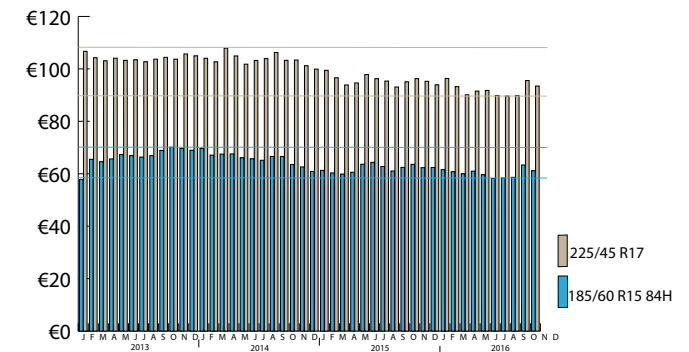
Premium tire makers can absorb that fluctuation for a short period, but the cheap tire makers have to raise prices immediately to compensate for the extra costs. If they fail to do that, then they quickly move from profit to loss.

Input costs fell from 2011-2015

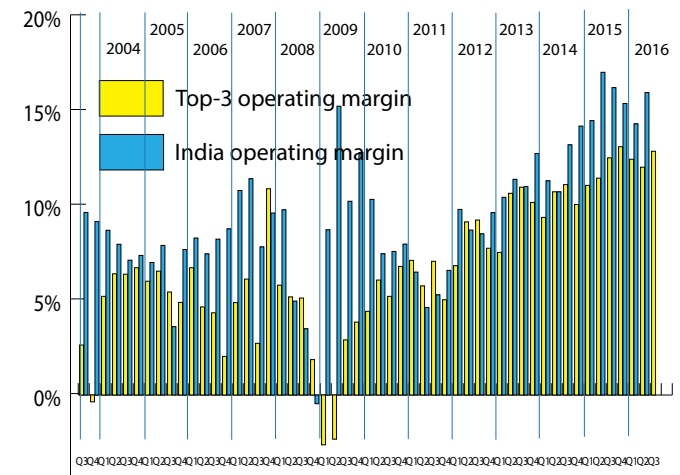
A second aspect of this is that raw materials prices have been falling significantly after peaking in 2011. They picked up again in 2016, but I'll get onto that below. Premium brands and cheaper imports reacted differently to that extended price fall.

All tire makers were forced to raise prices in the period from 2009-2011 to take account of very rapid increases in raw materials costs. The premium tire makers were able to maintain their selling prices more or less unchanged through 2012-2014, despite plunging raw materials bills.

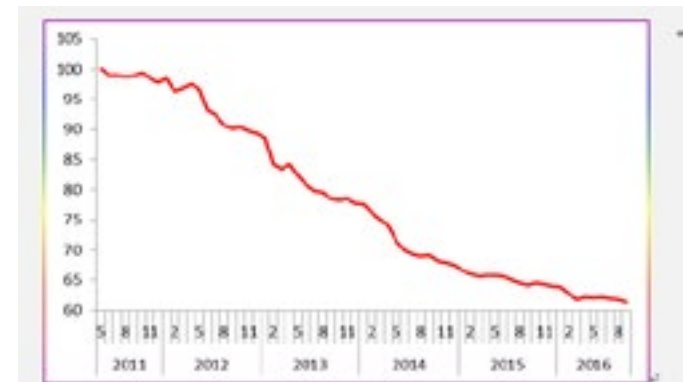
As competition from cheap imports intensified in 2015, and 2016 premium tire makers have had to accept slightly lower prices. We track prices over that period and selling prices for tires are down by around 5% - 10% in Europe over the last three years. High performance tires have seen a greater percentage drop compared to low-end tires, as competition increases.



However, margins have steadily increased at premium tire makers until the end of 2015. That has fuelled investments in capacity increases, modernisation, technology and diversification.



In China prices fell by 40-45% over the same period as tire makers saw



What's up with tire prices

input costs fall. Instead of keeping prices high and using the money for future investments, they took the short-term view and slashed selling prices, while maintaining profits.

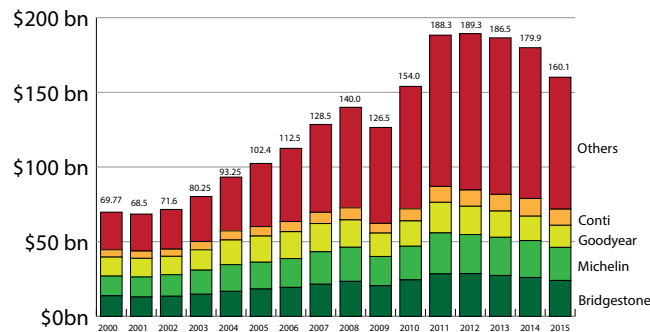
However, the last couple of years has seen particularly aggressive price competition and prices have been slashed so far that margins were under pressure, even before raw materials prices started to rise at the start of this year.

Brand strength

That's all about brand strength. Premium brands were able to keep prices high because brand image plays a significant role in the buying decision in many developed countries.

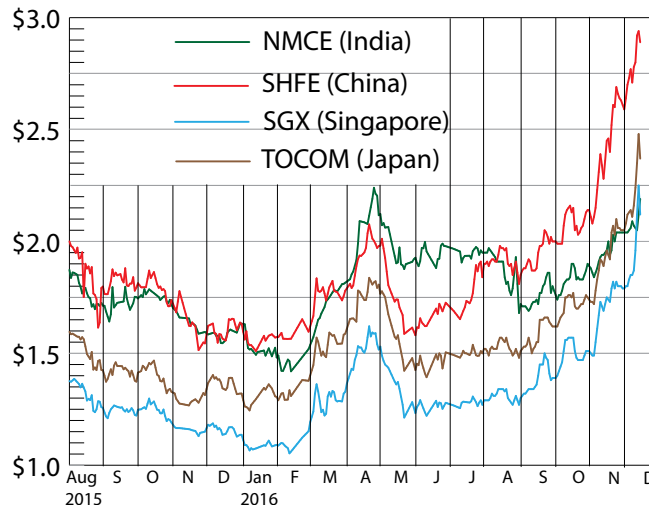
Over the last couple of years, tire selling prices have fallen around the world.

Combined tire industry revenue has fallen by some 18% over the last three years, despite volumes up by some 9%. That's a per-unit price fall of over 25%. This has mostly affected low-end tires. As we have seen prices in China fell by far more than this 25% average. In the last 12-18 months, even the premium bands have accepted lower prices as they have been forced to respond to the increased competition from Chinese-made tires



In China, and among most Chinese exporters, brand strength is minimal, so the only way different manufacturers can compete is on price. Tire importers and traders have learned this and the first subject in discussions between Chinese tire sellers and their customers in the US and Europe is to go through prices on each and every size and pattern. Some will buy different sizes from different suppliers based only on price.

This is the curse of a Chinese tire maker. You want to invest in technology; build brand and compete with Kumho and Nexen and Debica and Maxxis, but the price competition means you have to sell at suicidally low prices in order to get any kind of volume, and that leaves precious little spare cash



for investments.

As a result, tire makers in China have cut margins in order to win business.

Faced with higher input costs, they are forced to raise prices in a more or less unplanned way in response to their cost structures.

About this publication

This document has been prepared in response to demands from the global tire community for insight into the global tire industry.

Our company tracks the tire industry around the world. We publish a weekly report that gives Western executives deep insight into current developments in China's tire industry.

Part of that research involves tracking the China-based publications that report on the global tire industry. We noticed that Chinese reporting of Western developments is woefully inadequate.

During conversations with many Chinese people, we identified a strong need in China for a source of information on the global tire industry that lies outside of the official channels.

Furthermore, in conversations with industry analysts, we identified a need for a short-form document that explains and analyses latest developments in the global tire industry.

About the author. This report is compiled by David Shaw. Mr Shaw publishes widely on LinkedIn about the tire industry. He has a 30-year track record reporting on the global tire industry at the highest levels. He publishes market research reports; offers a weekly news service and manages conferences globally.

For more information see <http://TireIndustryResearch.com>

As can be seen from the chart above, NR prices on the Shanghai Futures Exchange to Dec 13 (red line) have risen from around \$1.50/kg in January to \$2.91/kg this month - around 94% increase in less than a year. Other ingredients have risen, though not by quite as much.

Today's situation

So that is the background. There was a small price bump in NR in April this year and tire makers in China tried to raise prices. The sought-after increases did not materialise as the dealers rejected the proposed price rises.

They are now trying again. This time, they have no choice. We saw the first increases in the domestic Chinese market in early November, with proposed price increases of 2%-5% or in some cases, promotional price cuts were cancelled.

Although export prices still have not risen most of the tire dealers we speak with have received notifications of increases, also in the 2% - 5% range.

We believe this is not enough to compensate for the increased costs at tire makers, especially those in China. Tire dealers should expect further increases in December and in January as tire makers play catch-up with rising input costs.

Into the future

It is a brave man who predicts the future. Especially where prices are concerned. Anyone who really knows would keep quiet and make money from the changes.

With that caveat in mind, here are my guesses for the coming months.

Prices of NR almost always rise in January/February as the dry season reduces yields. Most NR producers spend the months of November and December building up stocks, but this year that has not been possible as demand has been strong while yields have been low due to excessive rain.

Some believe that the excess rain will mean wetter ground, so that yields in the first two months of 2017 will fall less than normal.

Personally I think we are looking at the opposite effect: I think NR prices are likely to go up even faster in January as Wintering sets in. Another dimension is the oil price, and it appears that is set to rise after the recent deal to reduce supply between OPEC and the non-Opec producers.

My advice to tire makers is that they will have to raise prices further. My advice to tire buyers is to buy volume today and fill your warehouses, as prices will only go up in the future.

This article first appeared on LinkedIn and generated a great deal of discussion and interest.

https://www.linkedin.com/pulse/whats-going-tire-pricing-david-shaw?trk=pulse_spock-articles

What's up with tire prices

We had some interesting comments on the article. Here are a selection:

Dirk Menzel

Doctoral Candidate at LKS

Really good report. But we have to keep in mind that from a sales point of view there are more important topics than the price.

David Shaw

C E O at Tire Industry Research

Hi Dirk. I absolutely agree that there is a lot more to tire supply than pricing. This is the fundamental difficulty of the China tire sector. The leading companies want to develop their brands and build a reputation, but are frustrated because they first have to get through the barriers of importers who focus almost exclusively on price. Lets talk more :)

Robert Sherkin

Tireman

David, Thanks as always for your thoughtful insight into the China Tire market. The report is quite accurate, BUT... one must be careful not to get too caught up in percentages vs. quantum amounts. At today's extremely low FOB prices from China (created by over-capacity) a 5% increase on a \$100 FOB truck tire is "only" \$5. And on a \$20 PCR only \$1.00 !!! So while the increased percentage sounds like a lot, in raw dollar terms, not so much. Entry level manufacturers (led by China) have grown share significantly over the past 10+ years. The quality gap is narrowing. The Tier 1's have done an excellent branding job and for consumer products it will be a challenge for some time for the insurgents to win the hearts and minds for the buyer that is wedded to brands. In Commercial and Industrial categories it is more about operating cost/value... Good companies find ways to compete regardless of which way the wind is blowing. Fasten your seat-belts, as the ride is likely to remain bumpy!!

Gautam Singh Ghai

Sales, Distribution & Operations Specialist

Couldn't agree more with your analysis.

Tjeerd Prenger

Entrepreneur, Tire Industry Expert

Hi David, great article, very informative - I would add that the differentiation within the portfolios of the premium brands with 2nd and 3rd tier ranges helps them to maintain pressure on the imported brands, while safeguarding profitability in the premium range. Lack of marketing from imported brands makes them very vulnerable to this play and competition from within (...the same country) is not helping. Those brands that have the means and mindset would be wise to start investing in marketing and

consolidation of existing market positions.

Edward Koczan

Experienced Tire Industry Sales Manager / Sales Trainer

Tremendous insight. And again, illustrates where a brand's strength lies in position and mindset of consumers.

Tulus Widodo

Department Head, R&D Construction 1 at PT. Multistrada Arah Sarana, Tbk

Thanks for the insight, currently only have inside view. This kind of analysis is an eye opening for me.

Alessandro Campos

Sales Manager, VIPAL Cauchos

Congratulation for the report, besides from my point of view, due to low sales in this year, a lot of wholesalers still have high stocks, what bring a another scenario: almost impossible to buy big quantities to take advantage of actual prices.... On the other hands, the competition in the low price niche for end users will keep for sometime in order to decrease the stocks and try to get back the money was stopped for long period. And about retread tire market? What will be the impact? I suppose positive... Best Regards

Mohammad Baalbaki

TT Riyadh Sales Manager

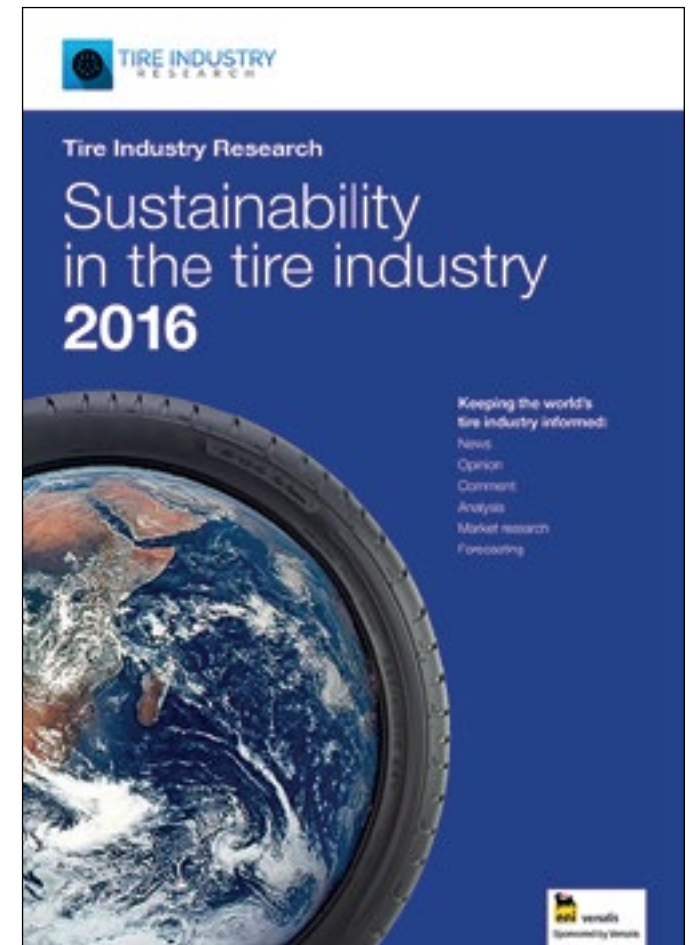
Very special thanks to you to share such valuable information. Then, in a way or other, premium tires manufacturers will maintain same prices as they are profitable to them while Chinese will suffer to increase their prices and also regain more volume and revenue as they loose some due to Chinese prices gap , The question is why only Michelin tires costs fell more than other premium? Would you please answer my question with all appreciation and gratefulness.

David Shaw

C E O at Tire Industry Research

Hi Mohammed. I think there are some readers who have control over pricing of premium brands and I cannot speak for them. However, if input prices continue to increase and the low-end companies also increase prices, that does give a bit of freedom for the premium brands to lift their own prices. I'm not saying they will use that freedom - that's more a strategic decision based on corporate margins and local competitive environments. Let's say I am not expecting many price cuts in tire markets around the world in this environment. But the majors and especially Michelin tend to be price leaders and they know that low-cost tire makers are really suffering in this environment. There are many drivers affecting the tire industry in China. All of them point toward some tens or more of bankruptcies between the end of the year and the Chinese New Year holiday that ends in mid-Feb. Mid-term, we are expecting more consolidation in the China tire industry.

But how all this plays out is not yet clear. Readers of my weekly newsletter on China's tire industry will be the first to know. Does that help? David Shaw



Section 1: Investments; additions and closures

Apollo inaugurates Asia Tech centre



Apollo Tyres has formally inaugurated its Global R&D Centre, Asia just outside the southern Indian city of Chennai.

This is company's 2nd Global R&D Centre, after the Global R&D Centre, Europe in the Netherlands, which opened in 2013.

Besides the two Global R&D Centres, Apollo Tyres also has set-up two satellite R&D Centres in Bengaluru and in Germany. The Advanced Engineering Centre in Bengaluru is working towards integrating electronics into tires, whereas the one in Raunheim (Frankfurt), Germany is working towards establishing ties with leading German OE customers for both Apollo and Vredestein brands.

<http://www.autocarpro.in/news-national/apollo-tyres-inaugurates-global-centre-chennai-22483>

Apollo to build USD77m factory in India

Apollo Tyres has signed a Memorandum of Understanding (MoU) with the Government of India's Andhra Pradesh (AP) State, to build a new tire factory for two- and three-wheeler tires. The company expects to invest approximately Rs 5250 million to build the facility on the south-eastern coast of India.

The proposed manufacturing facility will be the 5th plant for Apollo Tyres in India. It has two plants in Kerala and one plant each in the states of Tamil Nadu and Gujarat. The company has international manufacturing presence with a one plant in the Netherlands and another Greenfield facility currently being set up in Hungary.

<http://www.thehindubusinessline.com/todays-paper/tp-news/apollo-tyres-plans-rs-500cr-factory-in-andhra-pradesh/article9325728.ece>

Michelin opens new Tech centre in Ladoux



Michelin has opened its new RDI Campus (Research, Development, Innovation), at the Ladoux technology centre in Clermont-Ferrand. The RDI Campus is 70,000m² built around a 320m-long "Innovation Street" and represents an investment of EUR270mn. The foundation stone for the building was laid in June 2014, as part of a project begun in 2011. The 1,600 available workstations host the many businesses present in Ladoux and representatives from some of Michelin's most innovative partner companies.

The RDI Campus in figures
320 metres long
130 metres wide
67,000 m² of floor space
80 work areas, each measuring 300 m²
1,600 workstations
400 kilometres of electric power cables

<http://www.michelin.com/eng/media-room/press-and-news/michelin-news/Innovation/The-Urbalad-RDI-Campus-at-the-heart-of-Michelin-innovation>

BF Goodrich to invest \$100M at Woodburn plant

A report on Wane.com, a local news site for Fort Wayne, Indiana. It has seen a filing with Allen County government that indicates the plant plans to put \$20 million toward upgrading its process and equipment; \$23.5 million toward improving its production and efficiency; \$18.5 million toward improving its quality verification; and \$38 million toward tooling and moulds. The investment will not produce new jobs, however, according to the filing.

Michelin, which owns the BFGoodrich brand in the United States issued a statement saying, "Michelin is considering a potential investment in its BFGoodrich Fort Wayne plant over the next five years. This prospective investment would support Michelin's ambition to grow the BFGoodrich brand in the U.S. and around the world. At this time, no final decisions have been made."

<http://wane.com/2016/12/12/bf-goodrich-to-invest-100m-at-woodburn-plant/>

Goodyear expands Pulandian plant in China

Goodyear has broken ground on a \$485 million expansion of its state-of-the-art tire factory in Pulandian, Dalian, China.

When completed in 2020, the expansion will increase the plant's capacity by about 5 million tires a year, enabling Goodyear to meet demand for premium, large-rim-diameter consumer tires in China and the Asia Pacific region. By 2020, Goodyear expects tires with rim diameters of 17 inches or greater to account for nearly 60 percent of its replacement tire sales volume in China.

Goodyear invested in a tire manufacturing plant in Dalian in 1994. The company moved production to the new Pulandian factory in 2012 and opened its new China Development Centre on the Pulandian campus in 2015 to increase the speed and efficiency of developing high-quality premium tires for China-based auto manufacturers.

Commentary

Goodyear has continually expanded this facility, one of its most modern and automated in the world. While Chinese tire makers boast of their Industry 4.0 capability, the Pulandian plant embraces much of the technology desired by Chinese tire makers.

However, technology alone cannot meet their needs. In the case of Goodyear and the other Western tire makers, management is the key to running a good, profitable and high-quality factory in China.

And, for better or worse, management is one of the weaknesses of the Chinese system. It need not be that way.

Japan has the same Asian culture of face, and the idea that one's responsibility is not to solve a problem, but simply to make one's line manager aware of any issues.

Yet Japan has one of the best industrial engineering cultures in the world. This is not impossible for China – it has to re-train its staff to identify issues that can be improved and then promote dialogue to resolve those issues, all within the hierarchical culture that has served the country so well over the millennia.

<https://corporate.goodyear.com/en-US/media/news/goodyear-expands-tire-factory-in-china.html>

JK seeks new business in 2-Wheeler tires

In early November JK Tyre announced a 24 per cent rise in operating profit for the second quarter of the financial year 2016-17 on higher sales of two and three-wheeler tires.

The company said it maintained market leadership in the truck and bus radial tire category and overtook many established players in the two and three wheeler tire category in just 4-5 months of operations.

JK Tyre has three manufacturing facilities in Mexico and nine in India. Its total capacity is 35mn tires per year.

<http://businessworld.in/article/JK-Tyre-Eyes-Market-Leadership-In-Two-Wheeler-Segment/09-11-2016-108004/>

Section 1: Investments; additions and closures

Test World adds tracks for Winter tire tests



Test World is extending the range of tests it can carry out at its Ivalo, Finland winter tire testing base. The company was bought by the Millbrook Group in September 2015 and the new facilities are a direct result of Millbrook investments.

Two new tracks will be operational from January 2017. They include a high speed circuit, a vehicle dynamics area and a vehicle handling track, all based on compressed snow. Millbrook said their construction method avoids the negative 'polishing' effect typical of lake-based test tracks. The new snow oval high speed circuit is 10m wide and 3.1km long. It provides the opportunity to test vehicles in a safe and controlled environment, at continuous, high speeds.

An open expanse of smooth snow for testing vehicle dynamics and a dedicated 2.3km handling track allow testing of safety equipment such as stability control systems.

Customers will benefit from the availability of service buildings nearby, from a wide range of accommodation and hospitality options, and from Test World's legendary customer service.

<http://www.millbrook.co.uk/press-office/news/test-world-announces-enhancements-to-winter-vehicle-testing-capabilities/>

New PCR tire plant planned in Algeria

Algerian oil group Sonatrach is developing plans to produce 5 million tons of tires per year, said Sonatrach Vice-president for downstream activity Akli Remini.

No further details were available as we went to press.

<http://www.aps.dz/en/economy/15531-car-industry-sonatrach-to-produce-5-million-tons-of-tires>

Nokian to look at new tire factory this month

In a conference call to mark Nokian's Q3 results, outgoing CEO Ari Lehtoranta said the Finnish tire maker is expecting to study a proposal for a third tire factory at the end of this year. The plant is expected to have capacity for around 5m PCR tires annually.

Nokian operates a factory in its home town of Nokia Finland and a much larger, high-tech factory in Vsevolozhsk, close to St Petersburg, Russia. It has been seeking a site for a third factory for some years and earlier in the year said it has short-listed sites in the United States and in Central Europe.

The company will present its proposal at the company's December board meeting. The board will then consider it, but Lehtoranta, who has announced he is leaving for another post from 31 December, said the board may leave the decision to his successor

<http://www.tirebusiness.com/article/20161121/NEWS/161129995/nokian-3rd-plant-proposal-due-by-year-end>

Qingdao FullRun to build PCR plant in Malaysia

Qingdao FullRun Tyre Corp Ltd has signed a Memorandum of Understanding (MoU) with Malaysia's Port Klang Authority to build a factory for PCR and SUV tires there.

The plant will be owned and operated by a new company, Golden Horse Rubber Sdn Bhd and is expected to start production in just over six months' time, in May 2017, said its president Liu Zijin at a signing ceremony in Qingdao, China.

The initial investment will be RM200mil (USD45mil) in its initial phase to set up a factory in the Port Klang Free Trade Zone (PKFZ). This will be Fullrun's first overseas factory and is expected to have total capacity for 15mn PCR tires annually.

Fullrun has signed a 30-year lease with PKFZ which has allocated six acres of land and 20 warehouses. Chan Wun Hoong, a PKFZ official said the factory was expected to export three million tires to Southeast Asia every year.

<http://www.thestar.com.my/business/business-news/2016/12/02/chinese-tyre-maker-to-invest-rm894mil-in-pkfz-factory/>

Airless bicycle tires funded by crowd funding

A small company based in Utah has developed two types of airless tire for use on bicycles. They have raised almost USD65,000 to begin manufacturing the different styles of airless tire.

One, the Nexo is a solid tire available in different colours and is made in Taiwan with the material Nexell, that we believe to be a foamed polyurethane.

The other is sold under the EverTires brand and is made in China. These tires look similar to conventional tires, except that the sidewall is full of holes which help to make the tire more flexible.

<https://www.kickstarter.com/projects/1340586869/nexo-tires-and-ever-tires-flat-free-forever/description>

Kenda to switch PCR production to Vietnam

Kenda Rubber is expanding capacity for PCR tires in Vietnam. The increased capacity will be used to replace existing capacity in Kunshan, China with the aim of improving its exports to the United States. The new plant in Vietnam is scheduled to begin operations in the third quarter of 2017, with an estimated daily capacity of 25,000 units. Kenda said the new plant would export car tires to customers in the US to take advantage of Vietnam's low-tariff status and maintain the company's price competitiveness over global rivals.

Capacity at the Kunshan plant would be used to meet domestic demand. The company expects to add 10 to 12 Chinese automakers to its portfolio next year, lending support to sales and profits, it said.

From January to September, car tires contributed 38 percent to total revenue, up from 35 percent last year, company data showed.

Revenue from bicycle tires accounted for nearly 22 percent of Kenda's total sales this year, compared with 28 percent last year, company data showed.

<http://www.taipetimes.com/News/biz/archives/2016/12/01/2003660313>

MRF begins work on Tiruchi factory

MRF Ltd. began construction of its new Tiruchi TBR factory in late October, according to Koshy K. Varghese, Executive Vice-President, Marketing, MRF. Varghese said the company proposed to invest about Rs. 7000-8000mn on its expansion programmes.

The Tiruchi factory is the MRF's seventh and is scheduled to be on stream in 2018.

<http://www.thehindu.com/business/companies/MRF-begins-work-on-Tiruchi-plant/article16514611.ece>

Cooper completes acquisition of GRT

On December 1, Cooper announced that has completed the acquisition of 65% of the equity in Qingdao Ge Rui Da Rubber Co., Ltd. (GRT) (格锐达橡胶有限公司).

The new company officially changed its name to Cooper (Qingdao) Tire Co., Ltd (固铂青岛轮胎有限公司) In January 2016, Cooper signed a contract with GRT shareholders to form a joint venture. Cooper has invested CNY600mn to acquired 65% shares of GRT, as well an initial investment. GRT produces truck and bus radial (TBR) tires for global markets and will manufacture TBR tires to meet Cooper's customer needs in North America, as well as in Asia and other markets. In the future, passenger car radial tires may also be manufactured at the one-million-square-foot GRT facility, which has room for further expansion.

GRT was founded in 2014, an investment company to buy "Qingdao Guangming tire" (青岛光明轮胎) was established.

GRT Corporation has strong connections with Qingdao University of science and technology (青岛科技大学), and with Sailun-Jinyu, NERCART, and Mesnac.

<http://coopertire.com/News/Corporate-News-Releases/Cooper-Tire-Completes-Purchase-of-Majority-Interes.aspx>

Section 1: Investments; additions and closures

Conti breaks ground at Mississippi plant



Continental has broken ground at the site of its new tire plant near Clinton, Mississippi, in the United States. The truck tire plant is due on stream in 2019.

Continental has committed approximately \$1.4 billion over many years. The plant is expected to employ 2,500 people when it reaches full capacity in the next decade. The site is more than 400 hectares and is by size and location well suited for setting up a gradually growing tire plant. <http://www.continental-tires.com/transport/media-services/news-room/20161104-mississippi-tire-plant>

Indonesian tire makers might invest in Egypt

A report in an Egyptian newspaper suggests that GiTi is considering tire manufacture in Egypt, following the fall in the value of the Egyptian currency.

Mohamed Baraka, chairman of Baraka Contracting and Trade, a subsidiary of GT Tires, said the company is willing to consider establishing a tire factory in Egypt.

Baraka said there are only two factories in Egypt. Pirelli, makes 60% of truck tire needs and Nisir Tires, which covers 6% of passenger car needs. Most of Nisir's production goes to government agencies.

He added that the price of tires in Egypt have increased by 40% due to the price of US dollar, even though the price of tires has declined globally.

<http://www.dailynewsegypt.com/2016/11/15/pound-flotation-decision-will-encourage-indonesian-companies-invest-tyre-industry-mohamed-baraka/>

Tanzanian government to revive GTEA

Tanzania's Minister for Trade and Industry, Charles Mwijage has said the government recognizes the importance of the factory in Arusha, but could not say when it might re-open.

The plant was closed in 2009 following disputes between the government as majority shareholder and Continental as minority shareholder with 24%. Conti sold its stake to the government in 2015, leaving the Tanzanian government as 100% shareholder.

The National development Corp owns the shares on behalf of the government and is looking for a strategic partner to help it re-open the factory. <http://www.thecitizen.co.tz/News/Tanzanian-government-mum-on-revival-of-Tyre-company/1840340-3440542-view-printVersion-hkrrw4/index.html>

ATD to set up distribution hub in Roanoke

One of America's largest tire distribution companies – American Tire Distributors (ATD) is setting up a large regional distribution hub in Texas. ATD has signed a lease for 756,000 square feet (70,235 m2) of space at Alliance Gateway 60, which sits in a U.S. Foreign Trade Zone. The Roanoke facility sits in Denton County, Texas.

ATD expects to move into the new building in early 2017.

Commentary

Tire distribution is becoming more professional, with large facilities managed by professionals. These services can ship tires to individual dealers in 24-48 hours.

As internet purchasing becomes more common, the need to get tires from warehouse to dealer in a short time-scale becomes more urgent.

<http://www.bizjournals.com/dallas/news/2016/11/14/tire-distributor-to-open-massive-regional-hub-in.html>

Conti paid EUR126mn for Hoosier

In last month's edition, we reported on the acquisition by Continental of Hoosier Racing Tires. At the time the purchase price was not disclosed, but in Continental's quarterly report, the company indicates that the price was EUR126mn paid in cash.

<http://www.reifenpresse.de/2016/11/15/kaufpreis-veroeffentlicht-continental-zahlt-126-millionen-euro-fuer-hoosier-racing-tire/>

Nigerian tire dealers set up trading hub

Aba Heavy Motor Parts and Tire Sellers Association (AHMPATSA) has established a 1200-shop tire hub at Aba, the commercial hub of Nigeria's Abia State

Commentary

Africa has become a strong market for tires in recent years and this hub is likely to become one of the centres for tire trading in the region.

<http://guardian.ng/business-services/tyre-dealers-commence-n1-5b-cluster-park-in-aba/>

Kolon to build tire cord plant in Vietnam

Kolon Industries has signed a memorandum of understanding with the government of Vietnam's Binh Duong Province to build a \$600 million polyester tire cord plant in the Province. The plant will be built on a 42-hectare site within the Bau Bang Industrial Park located some 50km from Ho Chi Minh City.

This will be Kolon's third tire cord factory. The two existing plants in Gumi, South Korea and Nanjing, China have a combined annual capacity of 77,000 tonnes. The new plant will add a further 36,000 tonnes.

The company plans to spend \$220 million next year for the first phase of the project. The investment will ramp up to \$600 million for the second phase from 2018 to 2026. The total value of the project could reach \$1 billion.

<http://pulsenews.co.kr/view.php?year=2016&no=817716>

Solvay opens silica plant in Korea

Solvay has opened a new factory for Highly Dispersible Silica (HDS) in Gunsan, South Korea.

The plant has an annual capacity of more than 80,000 tons of Solvay's most advanced grades of HDS. Solvay claims that the use of this silica in combination with advanced elastomers and other additives can reduce a vehicle's fuel consumption by 7 percent. It suggest silica-based compounds for car and truck tires.

The new facility will over time replace the one in Incheon, which is in an area designated for urban development.

Solvay's Silica GBU operates 10 sites across Europe, North and South America and Asia.

Commentary

Silica is used in tire tread compounds because it can offer improvements in fuel economy and wet grip at the same time. With a conventional carbon black compound it is possible to improve one property, but usually at the expense of the other, for a given wear life.

Unfortunately, silica is difficult to work with. It tends to clump together and is difficult to disperse in a rubber mix. This, leading silica suppliers have developed formulations called highly dispersible silica.

Growth in demand for silica occurred first in Europe in response to the development of markets for Winter tires and then with the introduction of tire labels.

Where tire makers produce advanced tires either for cold-weather performance or for low rolling resistance, demand for silica tends to increase. Hankook, Nexen and Kumho are increasingly using these compounds in Korea.

In the future we expect significant increases in demand in China and other countries that introduce consumer labels for tires.

http://www.solvay.com/en/media/press_releases/20161102-Silica-Gunsan-launch.html

Section 1: Investments; additions and closures

Evonik buys JM Huber's silica business

Evonik Industries AG has bought the silica business of the US company J.M. Huber for USD630mn. The acquisition enables Evonik to expand its position in North America and Asia.

The silica market has many different applications and shows above-average annual growth of 4 to 6 percent. Huber's business is especially oriented towards applications in the consumer goods industry, the dental sector for example.

Evonik's silica business has been focused on industrial applications, for example in the tire and coatings industries.

Christian Kullmann, Executive Board Member for Strategy at Evonik said, "Huber Silica is an excellent regional fit with its focus on the U.S., China and India."

For the 2016 financial year, Huber Silica is expected to achieve sales of close to USD300mn and an EBITDA of USD60mn.

http://corporate.evonik.com/en/media/press_releases/pages/news-details.aspx?newsid=64101

Evonik to build silica plant in S Carolina

Hot on the heels of its acquisition of JM Huber's silica business for its N American customers, Evonik has announced plans to build a USD120m silica plant in South Carolina to serve the tire industry. The plant is clearly focussed on the tire makers in the region. Evonik said.

The use of silica in combination with silanes allows for manufacturing tires with significantly reduced rolling resistance that save fuel (compared to conventional car tires). Green tires therefore contribute to climate protection. Evonik is the only manufacturer to offer both components, making it a competent partner for high-performance tire formulations for customers in the tire and rubber industries.

http://corporate.evonik.de/en/media/press_releases/Pages/news-details.aspx?newsid=64191

Section 2: News & events

World Rubber Summit set for Singapore in March

A major meeting of tire and rubber industry professionals is set for Singapore from 21-23 March 2017.

World Rubber Week brings together the TyreExpo Asia show and conference from 21-23 March, while the World Rubber Summit will take place on 22, 23 March.

The theme for World Rubber Summit 2017 will be Orderly Growth for a Healthy Industry. The conference programme is designed to address broader, strategic policy led issues which impacts the rubber industry, and will examine how leaders of the global rubber industry are adjusting to the rapidly changing world economy and new global paradigms which will inadvertently have an impact on the industry.

Commentary

I always attend this event, as it is one of the primary meeting points for a range of senior executives from government, industry and – from last year – civil Society. The event covers everything from natural rubber production through to selling finished tires and is sure to be of interest to anyone in this industry.

<http://www.worldrubberweek.com/events/world-rubber-week-2017/cus-tom-135-4be23ca38fdf400196e33f35c3085289.aspx>

64% of cars in Latin America run on used tires

A study by Bridgestone suggests that a high percentage of drivers in several Central American and Caribbean countries are running on tires bought as pre-owned.

The study shows that in the region only Costa Rica and Jamaica ban the import of used tires. In countries such as Panama and Honduras, the percentage may reach 45%.

According to Roger Hidalgo, Director of Sales for Bridgestone Centroamérica and Caribbean, much of this problem is due to cost: "Many consumers think buying a used tire for as little as 40% of the cost of a new one is a bargain." In reality, the life of these cheap tires is not in proportion to the cost, so the cost per km is greater. Also, used tires are not necessarily safe; many of them have been taken off scrapped vehicles, or removed because they were dangerous.

<http://adnsureste.info/en-centroamerica-y-el-caribe-64-de-autos-circulan-con-llantas-usadas-1414-h/>

US Podcast: Why you should avoid Chinese tires

A Podcast distributed in the United States tells tire dealers that they should avoid buying Chinese tires and source from Thailand instead as the quality is much better.

In the 10-minute long Podcast, Joe Arisso, Caribbean and Latin American sales representative for Florida-based Universal Tire International says his company now sources its truck tires from Thailand to avoid the tariffs on

tires made in China. The Thai factory is owned by the same China-based supplier, but the Thai-made tires are of a better quality than the Chinese-made tires, he said.

Speaking at the SEMA show in Las Vegas a couple of weeks ago, Arisso says, "The raw materials that go into Thailand-made product must be about ten times better than the raw materials that go into a China-made tire."

Listen to the podcast at the link below.

<http://www.tractionnews.com/podcast-universal-avoid-chinese-tires/>

Consumer Reports on spare tire alternatives

US consumer-focussed organisation, Consumer Reports has published a report on the increase in alternatives to the spare tire.

Punctures happen. Since the earliest days of motoring, drivers have had to carry a spare tire (or more than one) to keep them mobile in case of a puncture.

With advances in technology and increasingly long intervals between the average puncture in the developed world, and in a bid to save weight, car makers are increasingly seeking alternatives to the full-sized spare. These alternatives may include a skinny spare; a sealant kit; and inflation kit or even run-flat tires.

Commentary

The article is mostly about run-flat tires. These have a limited range – typically the manufacturers suggest around 50 miles (80km) at 50 miles/hour (80 km/h).

In reality it depends on heat. The structure of the tire can degrade as it gets hot. Some of the fabric reinforcement might soften or melt, while rubber can degrade (or revert) if it becomes over-heated.

Most of these run-flat tires will last longer than 80 km if they remain cool. So if the car is not heavily loaded and speeds are kept down, or the car is driving in cool or sub-zero temperatures, then in most cases, there is a change to go a little further than 80km, but few manufacturers will honour warranties if drivers do this.

Nevertheless, the news story is correct to say that unusual sizes might take a day or two to be delivered. So if you have unusual tire sizes, and are running in hot temperatures in a remote area, these tires will still allow you to drive a short distance, but users should be aware of the limitations of the technology.

<http://www.wxyz.com/money/consumer/dont-waste-your-money/consumer-reports-the-drawbacks-of-spare-tire-alternatives>

Section 2: People

Kurt Lehmann named as Conti's First CTO



Continental has appointed Kurt Lehmann (54) as Corporate Technology Officer (CTO). Lehmann has been Continental's Senior Vice President Corporate Systems & Technology since January 1, 2016. He reports directly to Dr. Elmar Degenhart, chairman of the Executive Board.

"The focal point of this newly created role of Corporate Technology Officer at Continental revolves around formulating our company's long-term technological strategy," states Degenhart. This makes Lehmann the central contact for customers and business partners

on strategic technological and innovation matters.

http://www.continental-corporation.com/www/pressportal_com_en/themes/press_releases/2_corporation/personnel_changes/pr-2016-11-01-kurt-lehmann-en.html

Cooper appoints sales director for Europe



Cooper Tire & Rubber Company Europe Ltd. has appointed Jaap van Wessum as Sales Director for European operations. He is based in Velp, Netherlands, and reports to Luis Ceneviz, Managing Director, Europe Tire Operations and Managing Director, Latin America Tire Operations.

Van Wessum most recently served as Director, Marketing and Sales for Apollo Vredestein BV.

In his new position, van Wessum is responsible for overseeing sales throughout the region, including continued development

of the distribution network, brand positioning, and fulfilment of customer requirements.

<http://coopertire.com/News/Corporate-News-Releases/Cooper-Tire-Names-Jaap-van-Wessum-Sales-Director-f.aspx>

Parks to lead RTA as Harvey Brodsky retires

Veteran Retread expert, Harvey Brodsky is retiring from the Retread Tire Association in the United States due to ill health. His long time assistant, Jeffrey Parks will take over as managing director.

Commentary

Harve is one of the leading lights of the global tire scene. I feel privileged to know him.

In his note to members of the RTA he says, "As many of you already know, I was involved in a serious accident followed by a failed back surgery that left me disabled from walking well and in intractable pain. At the time I was certain that I would fully recover with treatment and that I would be able to resume my full time activities (including travel) as the Managing Director of the Retread Tire Association (RTA).

"Unfortunately, that has not been the case. After much soul searching, I realized that after 40 years of knowledge and experience serving as the voice and Representative of our Retread Tire Industry, the time has come for me to turn over to my very able assistant Jeffrey Parks the full time day-to-day role of RTA Managing Director.

"On the bright side I have no plans to exit our Industry or to leave RTA. Both Jeffrey and I are excited about working together through RTA on your behalf for many years to come."

I am sure I speak for everyone who has had the pleasure of talking with Harve over the years in passing no my very best wishes to him and also to Jeffrey as the organisation Harve founded in 2010 moves forward into a new phase.

<http://www.retreadtire.org/news-you-can-use.htm>

Hankook names Woo Byung-il as COO, China



On December 7, Hankook Tire announced a new round of Executive appointments effective from 1 January. The appointments include one Senior Vice President and 14 Vice Presidents. Hankook's new head of China operations is Byung-Il Woo, currently division director of Hankook Tire's Global OE division. Woo succeeds Soo-Il Lee as chief operating officer of the Hankook Tire China headquarters..

While Soo-Il Lee was in office, Hankook sales grew YoY+20%. Production amounted to 31mn units/year.

Hankook also named two new senior vice-presidents at Hankook Tire Worldwide: Yong-Hak Kim and Soon-Gi Yoon.

The new vice-presidents are Young-Kook Choi and Jong-Yun Kim.

Hankook has promoted Young-Seol Byun, to senior vice-president. The company also promoted vice-presidents include two people based at the Hankook Tire Europe headquarters: Jae-Seock Ryu and Byoung-Ryong Lee. The other vice-presidents are: Jin-Mo Kim, Hyun-Cheol Kim, Jeong-Hwan Jo, Jin-Gyun Jeoung, Young-Su Choi, Sang-Hyun Oh, Ji-Sung Kim, Sung-Ho Kim, Yung-Ouk Jeong, In-Soo Park, Dong-Wook Kim and Heon-Joon Kim.

<http://news.cria.org.cn/6/35684.html>

<http://www.tyrepress.com/2016/12/new-appointments-at-hankook-tire-for-2017/>

Taylor to retire from Titan: Reitz named as CEO

Titan International, Inc. has promoted Paul Reitz to Chief Executive Officer (CEO) and President effective January 1, 2017.



Maurice Taylor, Chairman (Pictured), states, "This has been a six year process. Six years ago we hired a search firm to find a Wheel President, a Tire President and a Chief Financial Officer (CFO). When it was time to select the President of Titan, after approximately four years, the Board decided that they could once again retain a search firm or choose one of these three candidates. They determined the right candidate was Paul Reitz, who was made President two years ago and has now earned the right to

become both CEO and President. Paul has demonstrated that he is not only intelligent but he knows how to build and lead a strong team. I look forward to advising him on various engineering products and helping out with new wheel operations in Russia and Brazil. I will continue visiting our customers and promoting the benefits of our LSW products, along with making an appearance at a few investor conferences."

<http://titan-intl.investorroom.com/2016-12-09-Titan-International-Inc-Names-Paul-Reitz-Next-CEO>

Titan International confirms Froisland as CFO

Titan International has promoted James Froisland from his current position as Interim Chief Financial Officer to Chief Financial Officer, effective December 5, 2016. Mr. Froisland was appointed as Interim Chief Financial Officer in May 2016.

<http://titan-intl.investorroom.com/2016-12-06-Titan-International-Inc-Announces-CFO-Appointment>

Prinx Chengshan names Europe marketing head

Prinx Chengshan Europe has recruited Marina Mamojka, to become its marketing director.

Marina Mamojka will report directly to the European managing director Ivan Majsky.

<http://colesa.ru/news/52562>

John Hagan quits Linglong to join Nexen

Nexen Tire America Inc. has appointed John Hagan as executive vice president of sales, effective 1 December. He will be based out of the company's offices in California.

Hagan's previous role was chief operating officer and president of sales and marketing at Linglong Americas Inc.

<http://www.moderntiredealer.com/news/719138/nexen-tire-hires-john-hagan-to-lead-u-s-sales>

Section 3: Legislation and government

Washington State charges for Studded tires



Washington State in the US has imposed a fee of USD5 for each studded tire purchased. The aim is to offset the estimated USD20m cost of the damage inflicted on the State's roads by these tires.

Washington State Department of Transportation and the Washington State Transportation Commission each continue to call for a phase-out of the tires. Their attempts to ban the tires fail each year.

Federal transportation policy also favours a ban. Fourteen US States now ban tires with metal studs.

- Alabama*
- Alaska*
- Florida*
- Georgia (except for snow & ice driving conditions)
- Hawaii
- Illinois
- Louisiana
- Maryland (except in five mountainous counties)
- Michigan*
- Minnesota
- Mississippi
- Texas*
- Wisconsin
- Puerto Rico

* Means rubber studs are permitted.

Commentary

Studded tires offer the best traction on hard-packed snow and ice. There is no question about this. However, when the tires are used on regular roads, or where the snow has melted, they inflict considerable damage.

Furthermore, the grip advantage reduces where the surface is mainly slush. Where the surface is not covered in hard ice or hard-packed snow, studded tires perform worse than non-studded snow tires.

The main drawback from studded tires, however is road damage. Not only do they scrub away road markings, but they also damage the road surface. Washington State estimates the damage to asphalt and concrete pavement on state highways due to studded tires at \$20 to \$29 million a year. Damage to city streets and county roads is millions more.

Engineering research indicates that tire studs damage hot mix asphalt and concrete pavements, wearing away the pavement and eventually forming ruts on the pavement surface. This type of rut damage is called "raveling." Raveling on concrete pavements only comes from studded tire wear; raveling on hot mix asphalt comes primarily from studded tire wear and some from general tire wear.

<http://www.heralddnet.com/news/new-state-fee-on-studded-tires-is-small-but-statement-is-big/>

China takes up global role as US retreats



An article in the government-approved South China Morning Post analyses the role of China's Belt and Road (一带一路) policy in the light of the new US politics of President-Elect Trump.

The aim of the Beijing government is to build relations in the Asian zone while it appears that the United States is abandoning them and withdrawing from the Trans-Pacific Partnership (TPP).

The One-Belt, One-Road (OBOR) initiative encompasses 65 countries including China, stretching through Southeast, South, Central and West Asia to the Middle East, Africa and East and Central Europe.

It was launched by China's President Xi Jinping in 2013 as an attempt to boost connectivity between China and other countries along the ancient land-based and maritime Silk Roads through trade and infrastructure projects, including high-speed railway lines and energy pipelines.

However, China has become increasingly nervous about its capital reserves. The government has banned overseas investment deals of more than US\$10 billion until September 2017 and is cracking down on overseas mergers, acquisitions and real estate deals involving more than US\$1 billion because of concerns about capital flight.

<http://www.scmp.com/news/china/diplomacy-defence/article/2050741/chinas-one-belt-one-road-plan-pushing-through-global>

China government seeks increased automation

An article in the government-approved South China Morning Post outlines some of the implications of the Made in China 2025 programme that aims to improve automation in China's factories.

An electronics assembly factory in Kunshan, just outside Shanghai burned down, but it was re-built using robots and automation. Employment fell to 50,000 from 110,000 before the fire for increased output.

Some have noted that the China government seeks high employment, so is reluctant to encourage automation and overseas investment, but the combined effect of these policies – Belt and Road and Made in China 2025 is the opposite. These high-level policies seek to improve product quality and reduce price through automation and also to increase China's economic power through overseas expansion.

<http://www.scmp.com/news/china/economy/article/1949918/rise-robots-60000-workers-culled-just-one-factory-chinas>

South African drivers dislike second-hand tires

In a poll of its readers, South African motoring magazine Wheels24 found the following:

- Do you use second-hand tires?
- I do, but haven't experienced any issues - 4% 888 votes
- Yes but only because new tires are too expensive - 9% 2130 votes
- Never! I always replace worn tires with new ones - 84% 18951 votes
- Doesn't affect me - 3% 628 votes

The poll followed a news story in October that one of the biggest dangers South African motorists faced is driving on second-hand tires and re-grooved tires.

This was asserted by Riaz Haffeejee, CEO of Sumitomo Rubber South Africa.

Commentary

Used tires are widely used around the world, but most professionals believe they pose a safety hazard.

Although some tires removed from vehicles are roadworthy, the fact is that many are removed precisely because they are damaged or dangerous. In reality, many of these find their way to the second-hand market.

Others are removed from vehicles after a collision, and it is not known how they were treated prior to the accident.

Finally, the cost per mile of tread on a used tire is often much greater than the cost per mile when buying new tire.

http://www.wheels24.co.za/Road_Trip/On_The_Road/poll-majority-of-wheels24-readers-dont-use-second-hand-tyres-20161114

Section 3: Legislation and government

ECHA to look at safety of compounds

The European Chemicals Agency (ECHA) has launched a project on classification and labelling of mixtures.

ECHA is the agency responsible for managing the REACH (Registration, Evaluation, Authorisation and restriction of Chemicals) legislation in Europe. Historically rubber compounds have not come under this legislation, although the separate ingredients have been included. This is because compounds have always been considered as mixtures of ingredients. From 8 to 10 November, ECHA's Forum for Exchange of Information on Enforcement (the forum) held its 25th plenary meeting where it decided the subject of its sixth major coordinated enforcement project REACH-ENFORCE-6 (REF-6). The project will focus on the classification and labelling of mixtures including the check of relevant parts of the safety data sheets (SDS).

The project scope was developed based on proposals from the Member States, accredited stakeholder organisations, the European Commission and ECHA. The project will be prepared in 2017 and inspections will take place in 2018. Publication of the report is expected near the end of 2019.

Commentary

ECHA is a powerful agency in Europe and is responsible for implementing and enforcing REACH legislation. If rubber compounds come under the scope of REACH, it will add substantially to the costs of rubber materials manufactured or imported into Europe. This includes tires.

The principle behind REACH is that manufacturers of any goods must prove that they are safe. Historically, anything that had not been shown to be unsafe was permitted to be sold. REACH changed that to put responsibility on chemical suppliers and their customers to show that the chemicals and goods made from them are safe.

ETRMA in Europe is lobbying on behalf of tire makers and rubber goods manufacturers, but anyone who operated in Europe's tire industry needs to be aware of the implications of this research program.

<https://echa.europa.eu/-/forum-launches-major-project-on-labeling-of-mixtures>

Winter tires remain voluntary in New Brunswick

The provincial government of New Brunswick is recommending the use of winter tires but carefully chooses not to make them mandatory. New Brunswick lies on the Atlantic coast, adjacent to the US State of Maine. The Canadian Automobile Association (CAA) endorses the use of winter tires across the country, but is not calling on all provincial governments to make them compulsory.

<http://www.insurancebusiness.ca/ca/news/breaking-news/new-brunswick-government-resists-making-winter-tires-mandatory-218574.aspx>

Winter tires to remain voluntary in Nova Scotia

In the northern Canadian Province of Nova Scotia (NS), the government has said it will not make Winter tires a mandatory requirement.

Commentary

The NS government has declined to impose an extra cost on motorists, despite the fact that temperatures regularly drop below freezing and deep snow often falls in NS. This is the opposite view of government in Europe. In Germany, Luxembourg, Switzerland and other countries the authorities take the view that the cost of accidents and injuries on the road due to inappropriate tires outweighs the cost to motorists of fitting winter tires. NS Transportation Minister Geoff MacLellan said "Everyone needs winter tires if they can afford them, there's no question about that. We're big proponents of that. If you can get them, put them on. But we just can't impose a cost of that level to Nova Scotians."

Royal Canadian Mounted Police Constable Corey Ford said, "We go out, we see the same thing every time, insufficient tire treads or poor tire choice, whether it be an all season tire or a tire that's worn out and shouldn't be on the road,"

<http://globalnews.ca/news/3053976/nova-scotia-government-has-no-plans-to-make-winter-tires-mandatory/>

Winter tire use is surging in Canada

Following a concerted campaigns by tire makers, road safety experts, insurers and others, the use of specialist Winter tires in Canada is on the increase.

The Tire and Rubber Association of Canada (TRAC) commissioned a survey by independent pollsters, Leger.

Quebec has legislated to make Winter tires mandatory, but in other Canadian Provinces, around 61% of car owners fit Winter tires.

By Province, this breaks down as follows:

Nearly half (49 per cent) of British Columbia drivers now own winter tires, compared to 38 per cent in 2014

Alberta's usage rate is now 55 per cent versus 45 per cent in 2014

In Manitoba and Saskatchewan usage has climbed 11 percentage points to 50 per cent

65 per cent of Ontario drivers now use winter tires compared 56 per cent in 2014

In Atlantic Canada, where winter tire usage is traditionally second only to Quebec, usage has risen eight percentage points to 81 per cent RMA said. Rising usage rates for winter tires are the result of significant improvements in tire technology, particularly in tread design and rubber compounds. These advances have improved traction performance across all tire categories, but especially for winter tires. The softer tread compounds in today's winter tires retain their flexibility even in extreme cold. At temperatures at or below 7 degrees Celsius, winter tires provide significantly better traction than all other types. The result is significantly greater control on all cold-weather road surfaces and shorter stopping distances.

"Drivers adopting winter tires in record numbers is fabulous news because it means Canada's roadways in winter are becoming significantly safer," says Glenn Maidment, president of TRAC. "However, the fact that three-in-ten motorists still do not own winter tires poses a threat to all motorists. This is why outreach to educate drivers continues to be needed. Every motorist needs to know that today's high-tech winter tires radically outperform all-seasons in all cold-weather driving conditions and offer potentially life-saving benefits."

Commentary

Winter tires offer significantly higher profit opportunities to tire makers and dealers. They also offer substantial improvements in safety in cold weather and also when ice and snow cover the road surface, due to reduced stopping distances and improved control of the vehicle.

A campaign in the 2000s by the main tire makers in Europe led to substantial increases in Winter tire demand in Germany, Switzerland, Austria and other countries. This drove profits for tire makers and tire distribution companies. This campaign worked with legislators, law enforcement, emergency services, insurance companies and others to demonstrate that Winter tires have a substantial impact on safety. More Winter tires means fewer accidents as vehicles can stop more quickly, even on ice and snow. Canada is experiencing a similar process of market development by a loose confederation of interested parties.

We expect similar campaigns to take off in China and possibly the northern United States.

<http://www.newswire.ca/news-releases/winter-tire-use-surgin-survey-601461545.html>

Indian tire makers seek tariffs on China imports

The Automotive Tyre Manufacturers' Association (ATMA) of India has once more renewed its calls for import tariffs on Chinese-made truck tires after imports surged in the first half of 2016.

ATMA data shows that Truck and Bus Radial Tire (TBR) imports increased by 30% in the first half of FY 2016-17. ATMA blamed the influx of Chinese Imports.

ATMA said China dominates as the source of TBR imports to India with a share of 94% in 2016-17. This is up from 40% in 2013-14, and 70% in 2014-15 and 90% in 2015-16.

According to ATMA, India's position as a target country by China has become further vulnerable with US imposing severe dumping and anti-subsidy duties against Chinese tire imports to the US. Slowdown of the domestic Chinese economy is feared to cause further dumping of tires in India since India offers a ready and growing market with very low import duties in finished rubber products, such as tires.

<http://auto.economictimes.indiatimes.com/news/tyres/tbr-import-from-china-increases-indian-manufacturers-seek-safeguard-duty/55545291>

Section 4:

New business models

Michelin ends mobile fitting experiment

Michelin has decided to end its experiment in mobile tire fitting, known as Michelin OnSite.

According to Wes Johnson, a Michelin engineer who came up with the idea, Michelin took it forward, buying vans and paying for a series of supporting projects. But in the end, said Johnson, “you can’t run a tire store if you can only sell one brand. It’s sort of like going to Amazon.com and having one brand of razors or one brand of TV.”

<http://upstatebusinessjournal.com/news/michelin-ends-experiment-mobile-tire-installation/>

Goodyear launches fleet management business



In late November, Goodyear launched a new pan-European business called Goodyear Proactive Solutions.

The business aims to offer fleets better ways to save money through telematics and predictive analytics technology. Goodyear says it has developed systems and user interfaces that make it easy for fleet operators to precisely identify and resolve tire-related and potential safety issues before they happen.

“We are witnessing a transformational shift that is reshaping commercial trucking. In a digital economy, consumers and businesses expect deliveries to be faster, cheaper and more flexible, and in response the industry is becoming increasingly connected and automated,” said Michel Rzonze, Vice-President, Commercial Business, Goodyear Europe, Middle-East and Africa.

The new business offers two families of services:

- Proactive Tire offers a broad range of services including tire pressure, temperature and tread depth monitoring.
- Proactive Fleet includes two options, Driver Behaviour and Track &

Trace, which help fleets to reduce fuel consumption and journey times while increasing safety.

Commentary

Goodyear is a little late with this offering, as Pirelli, Michelin, Continental and Bridgestone all have equivalent service offerings. Nevertheless, this is the next step in the evolution of the tire industry. As the premium brands find it harder to compete with cheap Chinese imports – some of which are not bad tires – they are having to move their business model away from selling black, round products into more service-based offerings.

Connecting the truck to a telematics system gives extra data on how the truck is being used. Combine that with an extensive database of how tires are used and how they wear in different conditions and under different loads, and the tire makers can make fairly accurate predictions of how fast their tires will wear. This is backed up by visual inspections to compare predicted tire wear against actual wear and this feedback is entered back into the system so that it gradually learns to develop more accurate predictions. For Goodyear as tire service provider, this analysis helps them to reduce the costs and down-time associated with tire replacement and servicing.

<http://news.goodyear.eu/LATEST-NEWS/goodyear-launches-new-business--connected-fleet-management-solutions/s/6fd788e2-88b5-45a3-b4aa-2b99afbfcfb>

Bridgestone is part of Supertruck II project

Bridgestone is involved in a United States-based project that aims to double the freight efficiency of 18-wheeler trucks, compared to a 2009 baseline.

The project, commonly known as Supertruck II is being driven by engine maker Cummins and truck maker Peterbilt. Other members of the project are Eaton and Bridgestone.

It has won funding from the United States department of the Environment. In more detail, the team aims to boost the thermal efficiency of the engine and create new designs that reduce drag from aerodynamics and friction, including rolling resistance of tires.

<http://investor.cummins.com/phoenix.zhtml?c=112916&p=irol-newsArticle&ID=2198980>

<https://www.bridgestoneamericas.com/en/newsroom/press-releases/2016/bridgestone-to-develop-new-tire-technologies-as-part-of-super-truck-ii-program>

Are you ready for Autonomous vehicles?

Goodyear is working with the London School of Economics to research psychological factors involved in mobility.

In the latest project, LSE asked people in 11 countries across Europe about their attitudes to autonomous vehicles (AVs).

- Comfort. Just over a quarter (26%) of respondents said that they would be comfortable using an AV themselves, while 29% said that they would

be comfortable driving alongside one. Conversely, 44% feel uncomfortable about using an AV, whilst 41% feel uncomfortable about driving alongside one.

- Safety. Twice as many respondents agreed (43%) than disagreed (19%) that AVs would be safer, since most accidents are caused by human error. However, concerns about AV technology persist, with 73% of respondents fearing that “autonomous vehicles could malfunction.”

- Behaviour. Focus group participants expected AVs to be “well-behaved” and abide by the rules of the road. They saw the potential for AVs to “weed out” the “bad behaviour” of other drivers. And almost twice as many survey respondents agreed (37%) as disagreed (21%) that “machines don’t have emotions so they might be better drivers than humans.” At the same time, 60% were concerned that “machines don’t have the common sense needed to interact with human drivers.”

- Sociability. The respondents most open to AVs are those who, on average, have a more “combative” view of the road and are anxious about the behaviour of other drivers. The respondents least open to AVs are those who, on average, are more sociable drivers who enjoy their interactions with other drivers.

- Control. 70% of respondents agreed that “as a point of principle, humans should be in control of their vehicles.” And 80% would want AVs to have a steering wheel.

- Innovation. A clear majority of respondents (64%) were in favour of “smart tires” with intelligent sensors capable of assessing road and weather conditions in AVs.

- Leisure. Becoming leisurely passengers on the road with time to relax or work was a possibility readily discussed by focus group participants. Although many (82%) survey respondents reported that they would struggle to let go and would prefer to keep aware of the road around them.

Country Snapshots

- Polish and French respondents expressed the greatest level of belief, on average, that AVs would be safer than conventional cars.

- French and German respondents expressed the greatest level of concern, on average, about the lack of human control in AVs, while Dutch respondents were the least concerned.

- UK and Polish respondents expressed the greatest level of belief, on average, that machines don’t have emotions so they might be better drivers than humans, whereas Belgian respondents the lowest.

- Czech respondents expressed the greatest level of concern, on average, that AVs lack the common sense required to interact with human drivers, whereas Italians were the least concerned.

- Czech respondents would miss the enjoyment of driving the most, while Dutch respondents were the least concerned about this loss.

LSE asked people in 11 European countries: Spain, Czech Republic, Germany, Italy, Serbia, France, Poland, Belgium, the Netherlands, Sweden and the UK.

<http://news.goodyear.eu/latest-news/all/are-european-drivers-ready-to-give-up-the-wheel-s/e6415212-5e5d-4af7-a11e-9ddb8eb6291>

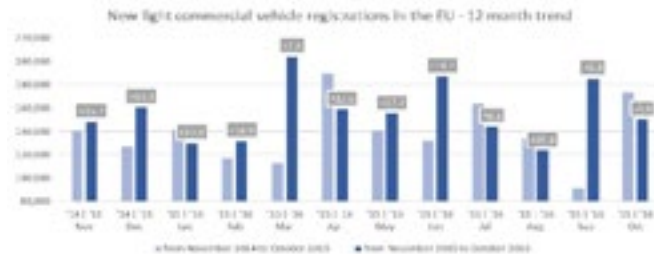
Section 5: Statistics

EU truck sales weaken in October

In October 2016, demand for new commercial vehicles in the EU decreased by -2.4% to 185,055 units, breaking a 21-month trend of consecutive growth. The decline affected all segments and all major markets, except for Italy.

In October 2016, demand for new commercial vehicles in the EU decreased by -2.4% to 185,055 units, breaking a 21-month trend of consecutive growth. The decline affected all segments and all major markets, except for Italy. In fact, the Italian market posted a double digit increase (+47.9%), while Germany (-15.0%), the UK (-6.4%), Spain (-5.7%) and France (-5.6%) saw registrations decline compared to October 2015. Over the first ten months of 2016, new registrations in the EU nevertheless remained positive (+11.6%) thanks to gains in earlier months, totalling about 1.9 million vehicles. During that period, Italy (+41.1%), Spain (+10.8%), France (+8.3%), Germany (+8.1%), and the United Kingdom (+2.1%) all posted growth.

New light commercial vehicles (LCV) up to 3.5 tonnes



In October 2016, EU demand for light commercial vehicles flattened (-0.8%), totalling 150,189 units. This ended the streak of 37 consecutive months of growth in the segment. Demand was mainly driven by Italy (+47.7%), while Germany (-13.2%), France (-5.8%), Spain (-5.5%) and the UK (-4.5%) all saw demand for vans decline in October.

From January to October 2016, 1,572,863 new light commercial vehicles were registered in the EU, or 11.9% more than in the same period one year ago. Italy (+42.2%), Spain (+10.8%), Germany (+9.7%), France (+8.0%) and the UK (+2.0%) all contributed to this positive upturn over the first ten months of 2016.

New heavy commercial vehicles (HCV) over 16 tonnes

In October, registrations of new heavy commercial vehicle decreased (-7.7%) compared to October last year, totalling 26,324 units. Among the big five markets, Italy (+35.3%) showed the highest percentage growth, while demand for new HCVs in Germany (-17.4%), the United Kingdom (-16.3%), Spain (-8.7%) and France (-4.3%) dropped significantly. Ten months into the year, demand for new heavy trucks continued to



increase (+12.4%), with 244,303 new vehicles being registered in the EU. All major markets made a positive contribution to the overall upturn, especially the Italian (+37.0%) and French (+13.5%) ones with their double-digit increases.

New medium commercial vehicles (MHCV) over 3.5t



In October 2016, new truck registrations were down (-9.0%) compared to October last year. Overall, 31,853 new trucks were registered in the EU. Among the major markets, results for trucks were similar to those of the heavy truck segment, with Italy (+43.9%) showing the highest increase and all other major markets posting declines.

From January to October 2016, 300,228 new trucks were registered in the EU, 11.0% more than in the same period last year. Italy (+37.8%), France (+13.2%) and Spain (+9.4%) made a particularly significant contribution to this.

New buses & coaches (MHBC) over 3.5 tonnes



In October 2016, new registrations in the bus and coach segment declined for the fifth consecutive month (-6.7%), totalling 3,013 units. Italy (+89.4%), Spain (+19.5%) and Germany (+3.6%) all posted growth, while

France (-16.6%) performed less well than in October 2015.

Over the first ten months of 2016, the EU market for buses and coaches remained fairly stable (+0.5%), counting 32,311 newly registered vehicles. During this period, demand was primarily driven by Spain (+17.0%) and Germany (+13.2%), while France (-5.5%) saw demand decline.

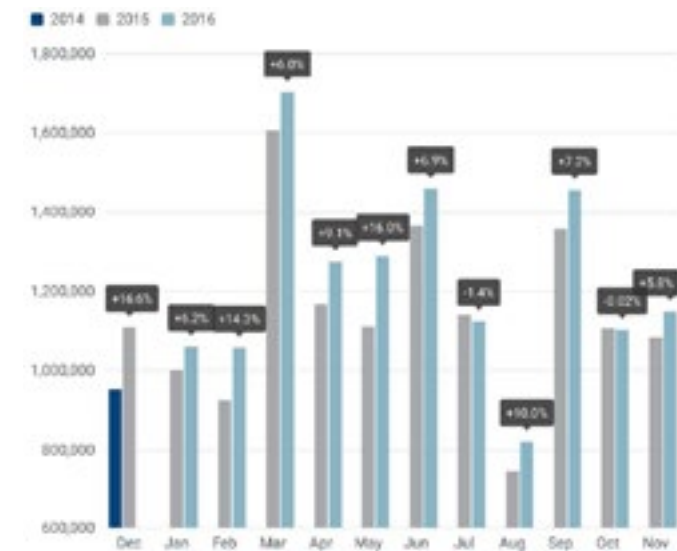
<http://www.acea.be/press-releases/article/commercial-vehicle-registration-s-11.6-over-ten-months-2.4-in-october>

EU Passenger car registrations: +7.1% in Jan-Nov

In November 2016, the EU passenger car market rebounded. New registrations totalled 1,148,618 units (+5.8%). All major markets grew, with Spain (+13.5%), France (+8.5%) and Italy (+8.2%) posting strong gains, while the UK (+2.9%) and Germany (+1.5%) reported weaker growth.



Over the first 11 months, EU car registrations totalled 13.5 million, up by 7.1%. Double-digit increases were recorded in Italy (+16.5%) and Spain (+11.1%), followed by France (+5.0%), Germany (+4.6%) and the United Kingdom (+2.5%).



<http://www.acea.be/press-releases/article/passenger-car-registrations-7.2-over-ten-months-0.02-in-october>

Section 5: Statistics

US tire shipments increase slightly in 2016

Total U.S. tire shipments will increase slightly in 2016 according to a forecast by the US-based Rubber Manufacturers Association (RMA). Original equipment and replacement tire shipments for passenger vehicles are expected to fall slightly compared to 2015. The light truck tire segment should end the year with growth in both original equipment and replacement tire shipments. Original equipment truck tire shipments are projected to decrease while replacement truck tire shipments increase. Total truck tire shipments (original equipment plus replacement) will decrease. Overall, total tire shipments are projected to increase from 313.5 million units to 314.4 million.

Million units	2015	2016 (est)	Change %	Change (units)
Original equipment tires				
Passenger	49.7	49.6	-0.3	-0.2
Light truck	4.4	4.8	9.5	0.4
Truck	6.2	5.1	-17.6	-1.1
Replacement				
Passenger	206.1	205.2	-0.5	-1.0
Light truck	29.1	31.5	7.9	2.3
Truck	17.9	18.4	0.3	0.9
Total	313.5	314.4	0.3	0.9

<https://rma.org/news/year-end-tire-shipment-forecast-shows-slight-growth-2016>

ETRMA reports on difficult quarter for EU tires

Statistics from the European Tire & Rubber Manufacturers' Association (ETRMA) suggests that the EU tire market is slowing down. Sales for the first nine months are slightly ahead of a year before, but sales in the three months to September 2016 are lower than a year before.

In 000 units	Q3 2015	Q3 2016	Variation	Jan-Sept 2015	Jan-sept 2016	Variation
Car	57,323	57,333	+0%	157,883	159,907	+1%
Truck	2756	2686	-3%	7146	7232	+1%
Agri	368	354	-4%	1219	1142	-6%
Moto	1807	1806	-0%	7526	7914	+5%

Commentary

The ETRMA is a powerful body in the world of tires. Its members are those

who manufacture tires in Europe. Hankook became a member when it set up the factory in Hungary. Apollo is already a member due to its factory in Enschede, Netherlands. If the Nexen factory in Slovakia comes on stream then that company will also become a member. Members get access to a large amount of data and also an influential lobby group.

<http://www.etrma.org/uploads/Modules/Newsroom/20161101---third-quarter-tyre-sales-press-release.pdf>

US New-Vehicle Sales Slide Again



For the second time in three months and the sixth time this year, US new-vehicle retail sales in November are expected to slip from year-ago levels, according to a monthly sales forecast developed jointly by J.D. Power and LMC Automotive.

U.S. new-vehicle retail sales in November are projected to reach 1,128,900 units, a 2.0% decrease from November 2015 on a selling-day adjusted basis, while total new-vehicle sales are expected to drop 3.4% to 1,381,800.

While the presidential election had the potential to disrupt vehicle sales in the first half of the month, in reality, the impact was minimal. This is consistent with past elections when a small suppression of sales during the election was offset by gains post-election.

	Nov. 2016	Oct. 2016	Nov. 2015
New-Vehicle Retail Sales	1,128,900	1,120,052	1,060,147
(2.0% lower than November 2015) ²			
Total Vehicle Sales	1,381,800	1,369,522	1,316,604
(3.4% lower than November 2015) ²			
Retail SAAR	13.9mn	14.6mn	13.8mn
Total SAAR	17.9mn	18.0mn	18.0mn

Figures cited for November 2016 are forecast based on the first 17 selling days of the month.

²The percentage change is adjusted based on the number of selling days in the month (25 days in November 2016 vs. 23 days in November 2015).

The seasonally adjusted annualised rate (SAAR) for retail sales in November 2016 is projected to reach 13.9 million units, up from 13.8 million units in November 2015. The SAAR for total sales is projected at 17.9 million units in October 2016, down from 18.0 million units a year ago. Fleet sales are expected to total 252,900 units in November, down 9.3% on a selling-day adjusted basis from November 2015. Fleet volume is expected to account for 18.3% of total light-vehicle sales, down from 19.5% in November 2015.

The average new-vehicle retail transaction price thus far in November is \$31,645, a record for the month surpassing the previous high of \$31,397 set in November 2015.

With high absolute retail sales volumes and record transaction prices for the month, consumers are on pace to spend \$35.7 billion on new vehicles in November, surpassing the record high of \$33.7 billion for the month of November, set in 2014.

Trucks account for 62.7% of new-vehicle retail sales so far in November, matching the record set in October but up from 59.8% in November 2015. The model-year transition remains slower in 2016 than it was a year ago, with 50% of retail sales thus far in November being 2017 model-year vehicles. During the same period in November 2016, 54% of sales were 2016 model-year cars and light trucks.

Retail sales year to date through the end of October are expected to be down 1.0%, compared with the same period in 2015, while total sales remain positive with volume expected to be up 0.3%.

<http://www.jdpower.com/press-releases/jd-power-and-lmc-automotive-forecast-november-2016>

Indian roads see rise in tire-related accidents

As more cars are sold in India, the number of drivers is increasing, and so is the number of crashes. Some of them are tire-related.

According to Indian newspaper Rush Lane, Yamuna Expressway which runs between Agra and Delhi, and is one of the best-maintained highways in India, has seen an rapid rise in accidents. In spite of safe driving and following traffic rules, there are accidents due to high-speed tire failures. 40% of the accidents on Yamuna Expressway are due to tire failures, reveals a new Automotive Tyre Manufacturers Association (ATMA) and Indian Tyre Technical Advisory Committee (ITTAC) report.

The report adds that there are a large number of Indians who rely on heavily repaired / patched tires. You should replace such tires at the earliest, says Rajiv Budhraj, director general of ATMA.

India has one percent of the world total vehicular traffic and yet it accounts for almost 10% of world road accidents.

<https://www.rushlane.com/road-accidents-indian-highways-1265024.html>

Section 6: Raw Materials

Bridgestone makes a better synthetic NR

Bridgestone Corp has said that it has found a way to significantly improve the performance of synthetic polyisoprene using a new catalysis process. Chemically-speaking, natural rubber is *cis*-1,4 polyisoprene.

The *cis* term denotes a particular arrangement of atoms to make the isoprene molecule. The alternative is the *trans* form.

Natural rubber from the Hevea tree is almost 100 percent *cis*.

When scientists try to re-create this in the lab using established catalysts such as lithium (Li), titanium (Ti) or neodymium (Nd), the synthetic material has around 95% *cis* and 5% *trans*. This impurity degrades the performance of the material by making it less elastic and leading to greater rolling resistance.

The new process uses a completely new catalyst based on gadolinium (Gd). This, says Bridgestone, results in a molecule that is between 99% and 99.9% *cis*.

Gd has been known as a catalyst for isoprene polymerisation for some years, but had the drawback that it operated at low temperatures and produced low yields.

Bridgestone says the new process runs at 40°C or more and has an activity of 1800 pellets/min, said to be 600 times more active than conventional Gd catalysts.

Not only is the *cis* content up to almost the same level as natural rubber, but the scientists can tailor the molecular structure much more accurately and repeatably than conventional natural rubber. The result is that this material performs even better than natural rubber as it has better crack resistance and fuel consumption.

<http://www.bridgestone.co.jp/corporate/news/2016121301.html>

Michelin highlights role of NR in tires



In a series of infographics, Michelin has highlighted the role of natural rubber in the tire industry.

The company says, "A standard car tire contains 18% natural rubber, i.e.

about 1.35kg per tire. These figures climb to 40% and 22.5kg of natural rubber in tires for heavy trucks. The biggest tire on the market, a 63-inch mining tire, requires about a ton of natural rubber.

Michelin says, "In general, the major tire companies are not directly involved in rubber cultivation. They work in partnership with producers. Nevertheless, the Michelin group still owns a 2,000ha experimental plantation in Bahia, Brazil. We use this to undertake research with a view to improving yield and production quality."

The company has acquired 88 000 devastated hectares of land in Indonesia with a local partner, the Barito Pacific Group. Working with WWF, Michelin plans to develop here an exemplary rubber plantation, from an environmental and social standpoint.

Commentary

The natural rubber industry and the tire industry depend on each other in a symbiotic relationship. Neither can exist without the other. However, the two sides of this relationship have grown further and further apart in recent years.

The NR community has not responded to tire industry requests to improve quality and repeatability, while the NR side believes that the tire industry do not pay a fair price for their materials.

Michelin is seeking to build relations with the NGOs (non-governmental organisations) to demonstrate sustainability and its care for forest protection. In our opinion, this will become an increasingly important aspect of the tire industry's work and more tire makers will need to follow Michelin's lead.

<http://www.michelin.com/eng/media-room/press-and-news/michelin-news/Sustainable-development/Hevea-Brasiliensis-Rubber-the-tree-behind-tires>

Scientists decodes the hevea genome (again)

Researchers at the RIKEN Centre for Sustainable Resource Science (CSRS) in Japan along with collaborators at Universiti Sains Malaysia (USM) have decoded the genome sequence for *Hevea brasiliensis*, the natural rubber tree native to Brazil.

Published in Scientific Reports, the study reports a draft genome sequence that covers more than 93% of expressed genes, and pinpoints regions specific to the biosynthesis of rubber.

Commentary

This is essential science. One of the great drawbacks of the natural rubber community is their lack of hard science. Although this is the fourth or fifth time the hevea genome has been decoded, it shows that some scientists in Malaysia are taking the idea seriously.

Genetic research can lead to improved yields and better disease resistance. These are the areas where the NR-producing countries have been focussing up to now. But it can also lead to improvements in molecular morphology – chain length, branching and other characteristics. Even more critically, it can show the biological processes that result in very high levels of *cis* polymerisation.

Currently polymerisation in the lab or in a commercial reactor results in high levels (but not sufficiently high) of *cis*-polymerisation with significant contamination by *trans* isomers.

If we fully understand how the trees produce such high quality NR, then we can think about simulating that in a commercial, synthesis environment. <https://biotechn.asia/2016/11/01/scientists-decode-the-rubber-tree-genome-could-lead-to-improve-yields/>

Japan's SR production up slightly on year-ago

Japan's production of synthetic rubber grew by 0.7 percent, to 140,547 tons in August, according to the Synthetic Rubber Industry Association of Japan. This marks a return to positive growth after the decline seen in July. By material, styrene-butadiene rubber (SBR) production fell by 8.5 percent. Polybutadiene rubber (BR) rose 31.8 percent. Total rubber production volume over January–August was down 4.6 percent at 1.044756 million tons. Within this, however, BR volume increased by 1.6 percent.

<http://www.jpca.or.jp/4stat/02stat/file/m2mainpd.xls>

JSR Increases S-SBR Sales by 15% in Q2

In its Q2 results published in late October, leading synthetic rubber producer JSR said sales of its speciality Solution-SBR (S-SBR) grades increased by around 15% over the same period a year ago.

Much of the increase is due to new capacity coming on stream at JSR's joint venture in Thailand JSR BST Elastomer (JBE). JBE increased sales by 40% and is set to see a further increase as capacity at the Thai factory is set to double annual capacity to 50,000 tonnes/year from the existing 25,000 tonnes.

<https://www.japanrubberweekly.com/2016/10/jsr-increases-s-sbr-sales-15-second-quarter/>

Asahi Kasei unveils 5th generation S-SBR

Asahi Kasei Corp. publicly unveiled its fifth-generation solution styrene butadiene rubber (S-SBR) during the Rubber & Elastomer Technical Exhibition at IRC 2016 Kitakyushu.

The company exhibited XF and XB grades from the new series. Although they had been shown to engineers at conferences, this is the first time for the company to exhibit the grades publicly. Deliveries are already being made to customers.

XF and XB are grades in which each end of the molecule is functionalised. XF is produced through continuous polymerization and XB via batch polymerization.

<https://www.japanrubberweekly.com/2016/11/asahi-kasei-publicly-unveils-fifth-generation-s-sbr-irc-2016/>

Section 7: Company information

Bridgestone CEO positive on Trump presidency

Bridgestone Corp. CEO and Chairman Masaaki Tsuya recently offered a positive view on U.S. President-elect Donald Trump. Trump has publicly said he will take the United States out of the North American Free Trade Agreement (NAFTA) and the Trans-Pacific Partnership (TPP).

Speaking at a press conference held on Dec. 5, Tsuya said that these moves could have a positive effect on tires and on chemical and industrial products in the short-term. He added that greater investment in America's energy industry and infrastructure would facilitate growth for Bridgestone's products and services.

However, Tsuya said, Bridgestone is keeping a close watch on medium and long-term policies affecting international relations and trade.

<https://www.japanrubberweekly.com/2016/12/bridgestone-ceo-tsuya-positive-trump-presidency-immediate-future/>

Bridgestone keeps race tire plant in Akron



Bridgestone Americas said it has extended by two years the lease on its Advanced Technology Workshop (ATW) in Akron, Ohio. ATW makes race tires and the move will ensure that over 50 highly-skilled jobs remain in Akron for at least two more years.

The ATW tire unit occupies about 10,000 m² within the original Firestone Tire and Rubber Company's Plant One building off Akron's Main Street. The total floor area of the building is around 75,000m²

<https://www.bridgestoneamericas.com/en/newsroom/press-releases/2016/bridgestone-americas-announces-lease-extension-of-akron-tire-manufacturing-facility>

Bridgestone Europe raises prices

Bridgestone Europe is raising prices of its Car/Motorcycle tires by up to 3% and Truck & Bus tires by an average of 1%.

Despite higher raw materials costs, Bridgestone said the price increases are justified by its growing investment in people, technology and the on-going programme for the introduction of new value products across the Bridgestone Group brands and ranges.

In China, Japanese and Korean tire manufacturer Bridgestone, Yokohama, Dunlop, Korea's Hankook, Nixon, Kumho have all announced price increases.

Commentary

Unsurprisingly, the subject of tire prices raises a great deal of interest within the tire community.

Costs of raw materials have been rising in 2016 after an extended period of price declines.

Among premium brands, pricing has remained relatively constant, despite the falling input costs, but among less strong brands, prices have been falling in line with raw material costs as sellers seek to win market share by cutting selling prices.

At Michelin, raw materials have fallen from about 35% of total tire revenues in 2011 to 20% in 2015. At the other end of the spectrum, cheap, no-name brands saw raw materials costs at around 70% in 2011, falling to just 50% in 2015.

As a result of this, the premium brands are much less exposed to raw materials prices than the lesser brands.

If raw materials double in price, it raises Michelin's total costs by 20%. But at a lesser tire maker, the same increase means the tire maker is forced to raise prices or make a substantial loss.

Among Chinese tire makers, the increasing prices of raw materials has caused consternation, where as the premium brands have been more composed about it.

The increase from Bridgestone is something of a mystery. The company has not blamed raw materials increases, which would be a natural and easy excuse. Instead they have said the reason is the greater technology that goes into the tires.

<http://www.bridgestone.eu/corporate/press-releases/2016/12/bridgestone-increases-prices-across-the-range/>

Triangle loses appeal in Bridgestone IP case

Bridgestone Corp said it has received a favourable ruling from China's Supreme People's Court in a lawsuit alleging infringement of the company's tire tread design rights against Triangle Tyre Co., Ltd.

Bridgestone says Triangle had been manufacturing and selling studless winter tires in China using a tread pattern for which Bridgestone holds exclusive design rights.

The case started in October 2013 when Bridgestone filed a lawsuit claiming that Triangle infringed its design rights. In July 2015, the court

ruled in favour of Bridgestone was upheld, and ordered Triangle to cease manufacture and sale of tires that use the tread pattern and pay damages to Bridgestone.

The High People's Court in Jilin Province upheld the original ruling in January 2016 after Triangle appealed. In June 2016, Triangle submitted an appeal for another retrial to China's Supreme People's Court. However, in September 2016 this court determined that the result of the second trial was appropriate, rejecting Triangle Tyre's appeal and upholding Bridgestone's claim.

<http://www.bridgestone.com/corporate/news/2016120902.html>

Michelin picks Swisslog for N. Am logistics

Michelin North America, Inc. has selected Swisslog Warehouse & Distribution Solutions (WDS) to automate a new distribution centre in the U.S. The order value is in the high double-digit-million euro range.

The new distribution centre will supply passenger car and truck tires throughout North America, allowing the company to meet its ambitions for responsible logistics. Swisslog has been engaged to automate the warehouse operation including receiving, tire selection and sequencing, shipping, Warehouse Management Software and controls software. The project is expected to be fully operational in 2019. Swisslog is a unit of Kuka Group, best known for its Kuka Robotics solutions.

<http://www.swisslog.com/en/Corporate/News-Events/News-Releases/2016/November/Swisslog-announces-major-contract-from-leading-European-tire-manufacturer-Michelin>

Sentury launches Groundspeed for US market

At the SEMA show in Las Vegas in November, Century Tire North America (STNA), a subsidiary of China's Qingdao Century Tire Co. Ltd., launched the Groundspeed brand. Groundspeed is aimed exclusively at the North American market. STNA will market the brand separately from its existing Century and Delinte brands.

Commentary

Chinese tire makers struggle in overseas markets because most of the brands they have are obviously Chinese, and there is a stigma associated with tires made in that country. A prime example is Linglong. The tires are adequate – some are even good enough for OE approval, but the brand does not add value to any vehicle on which they are fitted.

The Groundspeed brand is a clear attempt to break away from this mould. For any Asian company that takes seriously its intentions in the US market, this kind of new brand launch should be an essential part of their strategy. Furthermore, the best approach – but also the most expensive – is to engage an advertising consultancy to come up with a suitable name. It is possible for some native English speakers to kick around a few names, but these agencies often understand the emotional impact of a brand as well as the legal implications rather better than a bunch of tire salesmen.

<http://www.tirebusiness.com/article/20161121/NEWS/161129994/sentury-launching-groundspeak-brand>

Section 7: Company information

Hyundai drops Hankook in favour of Michelin

Korean car maker Hyundai is switching its tire volumes bought from fellow Korean company Hankook in favour of more international suppliers, including Michelin.

Hyundai has fittedMichelins as OE on its latest car, the Grandeur IG. This is the first time Hyundai has used a non-Korean brand on the Grandeur since the model was first launched in 1986. Hyundai is also sourcing tires from Michelin and Continental on its Genesis EQ900 luxury car.

“We choose a tire supplier through an open bidding system for each model,” said Cha Seonjin, a Hyundai spokesperson. “Through the system, we are widening the bidding pools to satisfy diverse needs of our customers.” Analysts said Hyundai and Hankook had disputed the causes of abnormal noise in its 2013 Genesis premium sedan and this had led Hyundai to review its relationship with Hankook.

“It is true that after we had to spend tens of billions of won to replace defective tires supplied by Hankook Tire, we decided to make more effort to diversify our suppliers,” a Hyundai Motor official said. “We have to say that our dispute with Hankook over the cause of noise in the 2013 Genesis hurt the partnership.”

Hyundai affiliate Kia Motors also used Michelin tires for its eco-friendly, compact SUV Niro.

A Hankook spokesman told Korea Times, “Hyundai and Kia are our biggest clients. We have and will continue to maintain a strong partnership with them,”

Commentary

OE contracts are important for tire makers for a number of reasons. On the technical front, leading vehicle makers push the tire makers very hard to develop cutting-edge performance in terms of rolling resistance, life and grip as well as handling and other factors. In the replacement market, the over-riding driver is price. It is an almost universal truth that tire makers who do not have OE contracts with leading vehicle makers do not have the same level of technology as those that do have multiple OE contracts. Second –and this applies especially in China, India and other markets – many motorists will replace the tires on their vehicle with the same ones it came on. This, there is a strong retail opportunity for tire makers who win OE contracts. This effect is called the pull-through. Pull-through is strongest in premium vehicles and in countries where there is limited information on tire performance and comparisons. As a result, tire makers can make substantial profits by charging high prices for the replacement versions of the tires fitted as OE.

<http://asia.nikkei.com/Business/Companies/Hyundai-Motor-drops-old-tire-supplier-sells-noncore-assets>

http://m.koreatimes.co.kr/phone/news/view.jsp?req_newsidx=218932

Hankook Holds ‘Design Insight Forum’ in Korea

Hankook Tire held a Design Insight Forum at its new tech centre, the Technodome on December 8, 2016. The Design Insight Forum has been held every year since 2004 and is designed to cultivate future leaders and unveil cutting-edge concepts.

A total of 34 works were submitted as the result of Design Innovation 2016. Among them the five winning works, included

‘Flexup’ moving freely even up stairs,

‘Magfloat’ driving with a flexible wheel and magnetic field,

‘Autobine’ adding tires with an expandable bus body depending on the number of passengers,

‘Shiftrac’ with strong cornering by use of a skating principle, and

‘i-Play’ maximizing cornering performance.

<http://www.hankooktire.com/global/about-hankook-tire/media-center/press-room.59108.html>

Can you understand Toyo's new technology?

Toyo uses something called nano-balance technology in its tires. It is upgrading this with something called Nano Tan Delta Simulation. This is a new simulation model, it brings five years of accumulated technology for an upgrade in the area of nano-level analysis.

Toyo says its Nano Tan Delta Simulation quantitatively evaluates the relationship between energy loss and tan delta testing, making it possible to predict rubber peculiarities in short periods of time.

Commentary

As a trained engineer and someone who has observed the tire industry for many years, I barely understand a word of the above story. It sounds like the worst kind of marketing puff to me. Of course I know what tan delta (tan δ) is – the loss angle in rubber and it offers a measure of rolling resistance and also of grip, depending on the frequency at which it is measured.

Toyo later says, “In building an elaborate model that closely mirrors real-world rubber compounding and employing molecular dynamics simulation, precise calculations are made for a master curve between energy loss and viscoelasticity.”

Pardon me for thinking that this is established technology. It has been a feature of all modern tread design that we can develop a master curve for a compound that can be used to predict behaviour in the frequency domains appropriate to grip and rolling resistance respectively. I deplore this type of technobabble. It devalues the real meaning of the terms used by engineers and means nothing to consumers. The more we can avoid this kind of confusion introduced by so-called smart marketing teams, the better so far as I am concerned. If Toyo wants a tip – call it something like “balancing fuel-saving and grip for ultimate safety” I think that’s what they are talking about. And those words might mean something to the lay person as well as the engineer.

<https://www.japanrubberweekly.com/2016/11/toyo-tires-announces-new-nano-tan-delta-simulation-for-nano-balance-technology/>

Double Star sets up JV in the UK

A new company called Double Star Europe Limited has been set up in the UK. The directors include Harjeev Kandhari and Jorge Crespo. Both of whom are directors of Zensis, the tire marketing and sales company based in the UAE.

Other directors include GaoShengri, Xie Tao and Li Zhen, all Chinese nationals and, we believe, employees of Double Star China.

Commentary

Double Star is a large, State-Owned Enterprise (SOE) in China. It is rumoured to be on the government’s short-list to be one of the pillars of tire industry consolidation in China.

However, it is also a relatively slow, unresponsive company run by Party officials who know more about pleasing the authorities than they do about running a dynamic tire company in a competitive environment.

The latest targets for the company are to form joint ventures with Western companies. The company has a JV with ABB and another with Harburg Freudenberg (HF) to make curing presses.

Double Star is both a tire maker and a manufacturer of machinery to serve the tire industry.

We hear rumours that the company will set up other joint ventures in many countries across Europe.

<https://beta.companieshouse.gov.uk/company/10390387>

Kobelco launches new tire uniformity machine



Kobe already has a strong position in the world of tire uniformity machines, but it has now begun selling the Librota-GS. Kobe claims the new model has the world’s fastest cycle time of 18 seconds per tire and the world’s highest repeated measurement accuracy. Kobe claims the new Librota-GS has achieved a repeated measurement accuracy of 1.69N or lower, compared with conventional machines of 2.40N or lower.

Kobe says it has 30% of the global market for tire uniformity machines.

http://www.kobelco.co.jp/english/releases/1195837_15581.html

Section 7: Company information

Delticom online retailer sees strong growth

Delticom, Europe's largest online tire retailer reported strong growth in the three months to September and the nine months from Jan-Sept.

Delticom said revenues grew by 11% in the nine months, to EUR393mn from EUR354mn a year earlier.

Delticom said the warm dry weather in across much of Europe in September had delayed the start of the Winter tire buying season. Estimates suggest that sales of Winter tires in Germany in September 2016 were 20% lower than the same month in 2015. Perhaps surprisingly, demand for Summer tires was also down by 10% during the first nine months. However, this decrease was offset by an increase in all-Season tires. For passenger car summer tires, including all season tires, experts estimate shipments in Germany between January and September 5 % lower than in the equivalent 2015 period.

Commentary

The tire retail business in Europe is highly weather-dependent. The replacement market in Germany and elsewhere is split roughly 50-50 between Summer tires and Winter tires with All-seasons taking only a few percentage points. If the Winter is mild, drivers tend to continue with their Summer tires until later in the year, affecting sales of Winter tires. 2016 was the warmest September on record since 1881. I remember sitting outside a café in Berlin in mid-September in a short-sleeved shirt and still feeling too warm as night fell.

However, colder temperatures hit the continent in October. In the fourth quarter of the previous year, winter tire business peaked in mid-October, as temperatures plunged and snow fell even at lower altitudes. For 2016, winter tire shipments in Germany are down by more than 10 % year on year during the first ten months.

http://www.delti.com/Investor_Relations/pressemitteilung_IR116_en.html

Point S expands into India

Point S has signed a series of master franchise agreements in India. The announcement follows closely behind a similar announcement relating to Malaysia.

The Point S tire retail concept will be implemented through Master Franchise Agreements with three regional partners who will be covering 5 of the most dynamic States: Deviate Enterprises for the National Capital Territory of Delhi and Punjab; GIAAN International for Maharashtra and Goa; and Tyrekada for Kerala.

In 2017 more than 25 stores will be converted to the Point S brand. India has a replacement market of approximately 17 million passenger car tires and a significant truck market.

<http://www.points-development.com/point-s-expands-further-into-india/>

Nexen wins top supplier award from FCA

Nexen Tire has won the 'Best Supplier in Quality' award from Fiat Chrysler Automobiles (FCA).

Nexen was ranked fourth out of 12 tire brands in the Passenger Car segment of the 2016 J.D. Power Original Equipment Tire Customer Satisfaction Study in March this year.

http://int.nexentire.com/pr_nexen/news/news_view.asp?idx=143

Nexen to sponsor Winter sports events

Following in the footsteps of Bridgestone, Nexen has announced plans to sponsor Winter sports events.

These include:

International Ski Federation's Ski Jumping World Cups in Germany, Switzerland, and Poland.

International Ski Federation's Snowboard/ski Big Air World Cup.

10 World Cups and Championship events in speed skating

Seven World Cup and the World Championship on bobsleigh and skeleton events hosted by the International Bobsleigh and Skeleton Federation.

Commentary

Sponsoring Winter sports is a way to engage with people who are active in snow and ice, and who therefore may need Winter tires. The idea is that the grip and performance required by skiers and skaters is also needed on cars that drive on snow and ice.

It is a much cheaper alternative to the bigger sports such as football or Ice hockey.

<http://www.prnewswire.com/news-releases/nexen-tire-plans-to-sponsor-four-global-winter-sports-competitions-300354788.html>

This article has been extracted from our latest report, Sustainability in the Tire Industry - 2016

It represents six pages of the content-rich 200-page report. See link below to find out more

Chapter 2: Key drivers – Automotive

Chapter 3: What's Green?

Chapter 4: Tire labelling

Chapter 5: Natural rubber

Chapter 6: De-risking from natural rubber

Chapter 7: Bio-sourced monomers

Chapter 8: Polymers

Chapter 9: Other materials

Chapter 10: Tire design and concepts

Chapter 11: Towards 100% sustainability

Chapter 12: Market development

Chapter 13: Sustainability Reports

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Section 8: What's Green

Tire dumping continues to be a problem

A community in Ohio suffers – as do many others – from the plague of dumped scrap tires. Unscrupulous people will find an area of unmonitored land and late at night will dump scrap tires there.

The problem arises because many areas charge to dispose of tires, and it is easier and cheaper to dump them on waste land, rather than dispose of them properly.

Although this kind of dumping is illegal, it is hard to catch the offenders and even more difficult to prosecute them.

<http://wkbn.com/2016/10/26/youngstown-man-tire-dumping-will-continue-until-attitudes-change/>

Bridgestone considers guayule unit in Arizona

Along with other companies, Bridgestone is developing its technology for producing rubber from the Guayule plant (*Parthenium argentatum*), as an alternative to natural rubber (*Hevea brasiliensis*).

The company opened a large research centre in Mesa, Arizona. It is now reportedly considering opening a processing centre in the region close to Yuma, Arizona.

Commentary

Guayule is a desert shrub that grows in poor soil in semi-desert climates such as Western Australia; Arizona, Northern Africa, parts of Greece. One of the key advantages of Guayule over *h. Brasiliensis* is that the growers of *p Argentatum* have invested in genetic research to develop new varieties that offer high yields, and even offer tailored molecules of NR. Unlike *h. Brasiliensis* the plant needs to be grown from seed. Also the rubber cannot be extracted from a live plant, but instead the whole plant is harvested after about 18 months of growth and then processed to separate the biomass from the rubber and the resins that can also be valuable. Hence the need for large processing factories to extract the rubber from the whole plant

<http://science.kjzz.org/content/390537/bridgestone-tires-considers-expanding-guayule-rubber-operation-yuma>

EChA to investigate synthetic turf

As concerns grow over the use of rubber infill in synthetic turf sports fields, the European Chemicals Agency (EChA) has issued a call for evidence on possible dangers associated with these materials.

On 1 June 2016 the European Commission requested ECHA to make a preliminary evaluation if recycled rubber granules used as infill material in synthetic turf may pose a risk to human health.

This call for evidence is to:

- Gather information on the composition of the infill material, especially recycled rubber, used in synthetic turfs;

- Gather information on imports of recycled rubber granules and
- Complement the information collected so far.

ECHA has already contacted European Tyre and Rubber Manufacturers Association (ETRMA), European Synthetic Turf Organisation (ESTO) and a few other stakeholders to gather the initial information.

The group has compiled a short introduction to the subject which may be downloaded for free from the link (below)

https://echa.europa.eu/documents/10162/13641/bd_rubber_granules_en.pdf

Price of tires and life – what's the cost?

US-based Consumer reports has calculated the cost per mile of a range of tires, based on its expectation of the tread life of those tires.

The survey of US products found that All-season tires last significantly longer than Summer tires, and buying high performance tires often means a trade-off in wear life.

Overall the most expensive tires in terms of cost per mile were the UHP Summer tires with an average cost of \$4.10 for 1000 miles, compared with an equivalent cost of \$1.40 for regular (low performance) All-Season tires.

As the chart illustrates, the Pirelli P4 Four Seasons Plus presents a high value as a result of its \$100 cost and its projected tread life of 100,000 miles based CR's test. In contrast, the Kumho Solus TA11 cost just slightly more at \$108 apiece, but its projected 55,000-mile tread life hurts the overall value.

Tire name	Price	Price/mile
Pirelli P4 Four Seasons Plus	\$100	0.10
Yokohama Avid Ascend [T]	\$93	0.10
Sumitomo HTR Enhance L/X [T]	\$78	0.11
Cooper CS5 Grand Touring	\$92	0.13
Toyo Extensa A/S	\$80	0.13
Michelin Defender	\$120	0.13
BFGoodrich Advantage T/A	\$102	0.14
Uniroyal Tiger Paw Touring	\$90	0.14
General Altimax RT43 [T]	\$91	0.14
GT Radial Champiro VP1 [T]	\$64	0.14
Goodyear Assurance TripleTred All-Season [T]	\$121	0.15
Nexen Aria AH7	\$119	0.16
Firestone Precision Touring	\$94	0.17
Continental TrueContact	\$106	0.18
Firestone FR710	\$98	0.18
Kumho Solus TA11	\$108	0.20

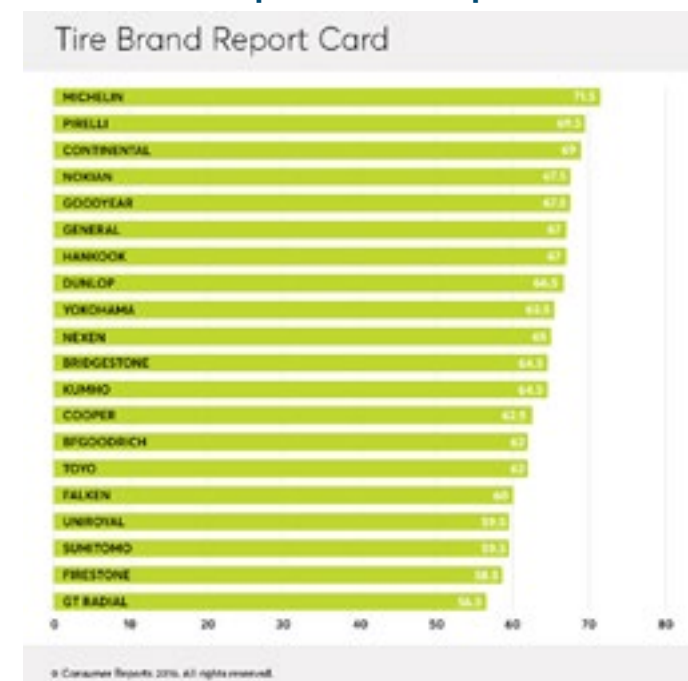
Commentary

Measuring tread wear is notoriously difficult. Consumer reports estimates the treadwear by driving for a relatively short distance over a defined course. However, temperature, moisture, humidity and driving style play a huge role in treadwear variability. CR drivers can probably eliminate issues around road surface abrasion and driving style, but it still remains difficult to compare the wear on a tire driving on a hot, dry day with the same test carried out on a cool, damp day when the roads are coated with a thin layer of moisture.

So while this guide is helpful, it should not be seen as a definitive comparison.

<http://www.consumerreports.org/tires/real-price-of-buying-tires/>

US Consumer Reports selects top tire makers



US-based consumer group, Consumer Reports has named its top tire brands for 2016. The group says, "To determine how the leaders truly compare, we have calculated a brand score by averaging the overall scores of the tested models. This data comes from our detailed ratings on 155 tire models from more than 25 brands."

The top 20 brands include just one brand that is mainly Chinese: GT Radial. Consumer Reports is traditionally strongly in favour of Michelin and, unsurprisingly, Michelin comes top of the CR rankings.

<http://www.consumerreports.org/tires/best-tire-brands/>

Section 9: S-SBR special

Trinseo bets on differentiated S-SBR, Nd-BR



Trinseo is building its Solution-polymerised SBR (S-SBR) business globally. The company has invested in new capacity in Schkopau, Germany and is building an additional small-scale production unit for trials. With a clear eye on the advanced tire industry, the company is also trying to develop a new business in neodymium-catalysed butadiene rubber (Nd-BR). We spoke to Samer Al Jabi, head of Trinseo's elastomer business (pictured, left) to better understand how this expanding company sees the future for the tire industry and the polymers it supplies.

In combination with neodymium-catalysed butadiene rubber (Nd-BR) and silica and silanes, Solution-polymerised SBR is one of the key materials required for high-tech tire manufacturing.

However, there are some misunderstandings about S-SBR. Al Jabi helped to clarify some of those misunderstandings and set out a path for the company's development.

He first confirmed that the total market for S-SBR is around a million tonnes growing at around 5% annually. However, this bulk figure can be misleading. Some S-SBR factories are making little more than replacement grades for the older E-SBR technologies. Much of this is used in shoes and other low-end products. He estimated that this is something like 200kt/year.

Then there are the mid-range S-SBR materials that offer some performance enhancements over E-SBR.

Trinseo likes to operate only in the premium, high-tech end of the business and Al Jabi said this market is much smaller. But it is growing at rates of 8%-10% annually.

Other companies have described different generations of S-SBR.

A rough approximation might run as follows:

- 1st generation: continuous polymerisation focussed on replacing E-SBR grades
- 2nd generation: controlled branching and molecular weight distributions



- 3rd generation: some batch production for closer control of morphology and size
- 4th generation: functionalised end groups combined with accurate size control
- 5th generation tailored functionalization for specific customers

Al Jabi said he did not think this generation-style description was helpful to the industry, as different suppliers meant different things when they referred to a 3rd- or 4th generation product. As the industry progresses further, then the description of 5th, 6th or more generations is becoming increasingly confusing.

Al Jabi said today it is about tailored polymer micro-structure. This produces performance benefits in grip and handling. With better functionalization, the interaction between filler groups such as silica or carbon black can be improved and this ultimately leads to better fuel economy.

He said all customers are looking to get the edge in these areas. Vehicle makers and legislators are seeking challenging targets for fuel economy and one way to do this is to improve the fuel-economy of tires.

Al Jabi said the mixing process is also becoming more challenging as the silanisation reaction transforms the mixer from a passive device into a chemical reactor. Furthermore, some molecules are getting longer in an effort to reduce the number of chain-ends. This is making the polymers more difficult to process.

I asked if Al Jabi has seen a trend toward consortia of different materials suppliers as well as machinery makers developing technologies for the some tire makers. This is common in the plastics segment and other segments, but has been restricted in the tire industry because of concerns about intellectual property and a desire among tire makers to have multiple suppliers.

He responded that this is likely to become more common over time. 'I don't think that in the past this has been done enough. Going forward we will need to do that because it is becoming more complex.' He added that the tire producers are also starting to realise this and see the need for change.

He said this is likely to develop fastest among the less well-established names in the industry. The big brands have been working with these advanced compounds for decades and have built up a great depth of experience, but some of the new manufacturers need to develop a complete package, often from a relatively low base. "Smaller tire maker are in a learning curve when it comes to introducing what all of them brought," he said.

He said this drive for developing new grades has led Trinseo to build a new pilot plant adjacent to its production facilities at Schkopau. As more tire makers are seeking specialised solutions, Trinseo has to explore many different technologies and try out new grades, which can then be improved in a series of iterations with tire makers. Up to now, the company has had to make a short run on one of its primary production reactors to make a small batch for trial purposes.

The new pilot facility means the company does not have to occupy that production capacity with trial production, so the new facility not only allows the trial grades to be produced with less need to plan them in to the production wheel, but it also means the production reactors are not tied up making trial grades, so adding to the potential output each year.

He noted that the pilot plant will not be used to make regular, small orders of highly specialised grades. He said, "It's really an aid to development for tire formulation." He added, "the whole purpose of the pilot plant is to speed up innovation, from lab to commercialization and then grade developments to become more agile at tire formulation."

He said that one trend in the industry is for different customers to seek specific grades. "There are no standard requirements where everybody has the same needs. We are getting different needs by different customers."

Asked to expand on this he said, "It is a mixed bag and I think you need to obviously have some unique developments for some customers... I believe that it is important as well for commercial viability and then we need to run effectively our assets. Again you need to strike the right balance in all that."

Trinseo, like all materials suppliers, needs to strike a balance between supplying highly tailored grade and maintaining a reasonable grade slate. Often companies can get carried away with producing highly specialised grades, but then the complexity of the grade slate reduces profitability. Al Jabi said Trinseo aims to remain on the right side of this balance.

High-SR formulations in truck tires

Al Jabi said that he is seeing some interesting research by tire makers into the use of advanced SR compounds in truck tire treads. Because Trinseo's S-SBR business serves almost exclusively the tire industry, the truck tire segment is a huge target market.

Whereas in the car segment, grip and fuel economy are the main drivers.

Section 9: S-SBR special

In trucks it is wear life and fuel economy. Al Jabi said he was not at liberty to discuss specific projects, but the company aims to leverage the technology and expertise it has developed for the passenger car tire segment and adapt them to the needs of the truck tire industry.

Al Jabi said he would not put a timescale on this kind of development because the tire industry – and especially the truck and off-road segment is relatively slow-moving, because the tire makers need to be very confident of the performance of their products before they are prepared to make substantial changes to formulations of recipes.

Drivers for low rolling resistance tires

Al Jabi said consumer labelling is one of the most important drivers in the passenger car segment. “Trinseo was in the heart of the labelling of Europe. So obviously our R&D pipeline was ahead of that.” He continued, “We made very good differentiated grades that met the customer needs for labelling and since then we have been leveraging this technology across the globe and this has gives us an edge.”

The other primary driver is legislation on CO2 emissions. He said this is really pushing the tire makers to the limit on rolling resistance.

Based on these two drivers, Al Jabi said, “Europe will continue growing in our view even if its labelling today is pretty much existing and implemented.” He said there is a continual drive in Europe to improve the environmental footprint and this is driving very serious research into lower rolling resistance tires combined with good grip and wear characteristics.

“North America and Asia Pacific”, he said, “are regions where they need to catch up and as such we see a higher growth rate from normal base.” He added that potential growth in these regions is one of the main reasons to add an extra 50kt of S-SBR capacity in Schkopau, announced in October. That investment will bring total capacity for Trinseo to 200 kt of its highly differentiated S-SBR materials.

In the Asia-Pacific region, Al Jabi said he has been following his main customers there for some years.

Asked if the company is also targeting China-based tire makers in addition to the established brands, he said, “We do work with local tire producers as well. That is an area for growth for us because we would definitely like to expand our position there.”

He added, “we are working on developing partnership in Asia.” This means Trinseo has significant volume in that market and is seeking ways to fulfil that volume in ways that reduce the length of the supply chain from the Schkopau base, he said. There may be an announcement in 2017 in this regard, he said.



Neodymium BR.

Al Jabi said. “We have already developed neodymium BR capabilities in our facility in Germany and we are in the process and making trials during a qualification period.” He continued, “We are in a steep learning curve and moving up that curve. We want to enter the market with a differentiated product offering and that obviously takes time.”

AL Jabi said the pilot plant will be exclusively for S-SBR and he had no plans or expectation that it would be used for any other materials such as BR.

Future materials.

Asked about the future, Al Jabi said, “I think if anybody wants to be in the performance tire market, they need to get out of the normal and move into more innovative solutions.”

He continued, “The products we developed 5-6 years ago are today our mainstream business. We believe that whatever we are developing will, in 5 to 6 years, become mainstream in the industry. That’s our philosophy and that’s where we invest our money and pilot plants and others and develop new technology even if we are a small player but we are differentiated and that is our strategy.”

– By David Shaw
David@TireIndustryResearch.com

Zeon to take over Sumitomo's S-SBR business

Following announcements last August, Zeon and Sumitomo Chemical have agreed that Zeon will take over the merged S-SBR business of the two companies.

Zeon will establish a new wholly-owned subsidiary called ZS Elastomers Co., Ltd. (“ZSE”). The Company and Sumitomo Chemical will then grant the rights and obligations of the sales and R&D functions of each company’s respective S-SBR business to ZSE.

ZSE will issue 6000 shares owned 60-40 by Zeon and Sumitomo Chemical respectively.

Commentary

Sumitomo has capacity for around 50 kt annually and Zeon has capacity for 90kt/year.

The Sumitomo capacity is made up of a small 10kt in Japan and a 40kt factory in Singapore that opened in March 2014. The status of the small Japanese line is unclear. It is not listed in the IISRP directory and the size suggests it is more of a pre-production unit than a full-scale production environment.

Zeon’s capacity is made up of a 55kt/year unit at the company’s Tokuyama facility in Japan and a new 35kt/year unit in Singapore, that has been on stream since April 2014. The Singapore unit was originally intended to expand to 70kt by 2016, but this has been delayed due to over-capacity in the industry. In November 2015, Zeon has said construction of the second phase was expected to finish in February 2016 with commercial production beginning in April 2016. The company has not released any statements saying the plant is on stream. In its annual results for the year to April 2016, the company made projections of lower sales in the Elastomer business for the 12 months to April 2017. If the plant had come on stream, the projections should be higher due to the additional volume coming out of the new factory.

Japanese-developed S-SBR is regarded as the best in the world for making tires. Solution-polymerised SBR (S-SBR) differs from the older emulsion-polymerised SBR (e-SBR) in that the polymerisation process can be controlled much more accurately to make specific morphology (shapes) of molecule: either long and straight, or with controlled branching. In addition, advanced materials can add functional groups on the molecule. Depending on the chemistry, these can be designed to engage with particles of silica or other fillers to improve rolling resistance. Solution-polymerised SBR is one of the most critical materials for advanced, ‘green’ tires.

<http://www.zeon.co.jp/content/200318051.pdf>