

**Continental**   
The Future in Motion



**ContiTruckTyre Special 2014**



# German Heritage



On October 8, 1871, Continental was founded in Hanover, Germany. At the time, Continental was purely a rubber manufacturer. Today, Continental operates successfully in the automotive supplier business. Its product portfolio extends from technical components, such as brake systems or tachographs, to, of course, tyres.

Over the last 142 years, German heritage and virtues have been deeply embedded into the company's culture. Reliability, a focus on technology, and agility are the virtues that make Continental a global player for innovative products. Our pursuit of perfect solutions for our customers forms the basis for our long-term success.

The following facts show that adhering to these virtues has been the best way to create modern high-technology solutions for our customers.

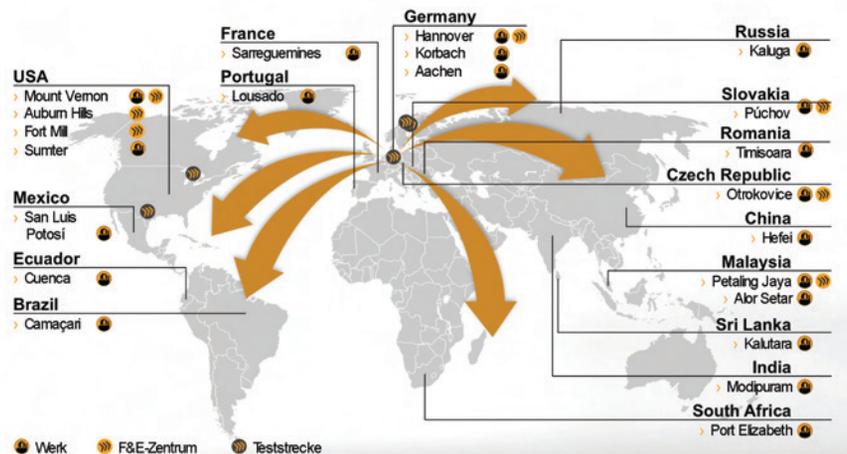
## Continental is:

- the biggest OE supplier in Europe
- the second biggest automotive supplier in the world
- the fourth largest tyre manufacturer worldwide

Connection and interaction with our local customers are of major importance to us in being able to offer tailor-made solutions. For this reason, we are steadily expanding our operations in

the APAC region. After Taiwan, we set up what was at the time our first joint venture in Malaysia in 2003. Over the following years, we began operations in Australia, China, Thailand, and Indonesia. Our latest investment in India marks a tremendous step toward strengthening our presence in this region.

In line with our regional approach, we have set up five tyre plants in the APAC region. Two plants are located in Malaysia, ensuring our delivery capability mainly for southeast Asia. In addition to the Sri Lanka Industrial plant, our Indian and Chinese plants each cater to the needs of our customers in their respective markets. This ensures that you obtain our best solution for your specific needs.



# Continental stories

Driven by our passion to create a win-win situation with our customers, Continental has achieved uncountable milestones within its 142 year history. These have originated from completely different areas. We picked three stories that represent successful partnerships with our customers.

## Continental teams up with ADIDAS

Firstly, Continental and Adidas agreed to work together to create the best running shoe on the market. Continental provided the rubber and technology for the sole, which made this shoe the most agile running equipment available in 2012. Mr. Makan won the Berlin Marathon within world record time.



## First ContiTruckServiceCenter in Thailand

Secondly, Continental opened a "ContiTruckServiceCenter" in cooperation with K.C. Tyres in April 2013. It is the first of its kind for Continental in Thailand. It is strategically located in Kalasin, close to two of the main transport routes in the north-east region of Thailand. The 3,000 square meter facility offers a comprehensive service package to customers. Drivers can rest and relax while their vehicles are serviced at the one-stop truck center. This partnership shows the trust K.C. Tyres places in Continental and its products for mutual growth in the future.



## Awards

On February 12, 2014, Continental received not just one but two awards from trade journal "Tire Technology International". The international expert jury not only named Continental Tire Manufacturer of the Year but also had special praise for the recycling of rubber from end-of-life tires in conjunction with the retreading of truck tires at the ContiLifeCycle plant in Hanover. Both awards were presented at a ceremony held at the Tire Technology Expo fair in Cologne, Germany.



## Editor's note

### Dear readers,

We have successfully gotten through another year that proved challenging for you as well as for us. We look back on 2013 with pride and confidence. I strongly believe that we have put in place the right pillars for the future. Our tailor-made solutions further strengthen our ability to make your life easier and hence more successful.

What these solutions are, what benefits they offer and how we realized them will be the subject of this ContiTyreSpecial 2013. I hope you enjoy reading it.

An important pillar came with the launch and implementation of our Conti360 fleet services. This service solution offers a complete package of products and tyre services to our customers. This includes analyzing the state of the customer's tyres, implementing services and organizing product maintenance in order to keep the fleet in optimal condition, resulting in our promise to offer "the lowest overall driving costs." The 2013 Conti360 launch in Malaysia marked a milestone for us in the Asia Pacific region.

Following Continental's global retread approach, we finalized the upgrade of our ContiLifeCycle plant in Petaling Jaya, Malaysia. The final step of this upgrade placed the new Pre-Cured Tread liner press into operation. Fleet and dealer customers now have access to the higher flexibility and availability of our ContiTread premium retread products. Furthermore, we developed this ContiLifeCycle plant as the retread training center for the Asia Pacific region. Here our customers, and especially our retread partners, have the opportunity to learn about Continental's premium standard processes that support the improvement of their own business.

Tyres are still the only contact between the road and the vehicles - and this will most probably remain the case for the next 50 years or so. We are therefore dedicating one section of this issue to tyre safety. Looking at safety from different angles, it becomes very clear that this crucial topic has to be considered in every aspect of a tyre. Having mentioned Conti360 earlier, this fleet service can support our customers in sustaining the safety of their tyres at a high level.

There are many more great stories to mention, the opening of the first ContiTruckServiceCenter in Thailand being one of them. Two further stories describe how Continental is driving innovation and constantly seeking new sources of raw materials in an ecological way.

And now I invite you to read this special edition with the same enthusiasm we put into preparing it.



Yours sincerely,

**Benoit H. HENRY**  
**Executive Vice President**  
**Business Region Asia Pacific Truck Tires**  
**Business Unit CVT**





# Conti360° Fleet Services:

## The all-round solution for our fleet customers

These days, owners of truck fleets are under increasing cost pressure and experiencing ever fiercer competition. This makes cost efficiency the most important factor for success in this business. To address this issue, Continental has developed the "Conti360 Fleet Services" package, which is designed to meet your needs and enable you to achieve low overall driving costs. This means you get professional tyre service, starting with the perfect selection of tyres and continuing on through correct fitting, ongoing monitoring and reporting and fast response times in the event of a tyre breakdown right down to the proper disposal of worn tyres.

In what follows, each individual service step is described in detail, giving you additional value through Continental's complete tyre solution.

### "ContiFitmentService"

Ensuring everything runs smoothly from the start

The purpose of this service is to create the perfect starting conditions. Continental makes sure you get the right tyres and have them fitted professionally. We supply you with new and retreaded tyres that precisely meet your requirements. This service is based on expert knowledge, providing you with advice about the perfect tyre for your needs and offering professional fitting and removal through a dealer or the mobile service.

### "ContiFleetCheck"

Paying more attention to your tyres pays off.

The right tyre pressure, the tread depth on all tyres, mileage, damage, and wear profiles are the five key points for optimizing your tyre costs. If you neglect even just one of these points, you are sacrificing valuable tyre service life and money at the same time. Our "ContiFleetCheck" Service gives your truck tyres the attention they really need and provides you with a detailed summary of the condition of all your tyres.



ContiFleetCheck

### "ContiBreakDownService"

Whatever happens, a maximum of three hours is all the longer you will have to wait.

You operate around the clock, 365 days a year. For this reason, we do too. In the event of a tyre breakdown, we get you mobile again fast. This is the advantage of our over 30 years' experience in combination with Continental's reliable and straightforward system. Long breakdown times are therefore a thing of the past.



ContiBreakDownService

### "ContiCasingManagement"

Worn out and you still get cash - As part of our "ContiLifeCycle," our "ContiTread" premium retread can give your worn tyres a second lease on life - without compromising performance or safety. After the tread has worn down,



ContiCasing Management



# Conti360° Fleet Services Now Available in Malaysia

On June 4, 2013, Continental Tyre PJ Malaysia Sdn Bhd, Petaling Jaya, Malaysia, announced the official launch of its Conti360° Fleet Services tyre management system for truck tyres in Malaysia. With Conti360° Fleet Services, customers benefit from affordable and reliable tyre services in ten states of Malaysia (Kedah, Penang, Perak, Kelantan, Terengganu, Pahang, Selangor/Kuala Lumpur, Negeri Sembilan, Malacca and Johor). In the near future, Continental will expand Conti360° Fleet Services to the states of Sabah and Sarawak.

"Globalization, the expansion of business areas – from a geographical viewpoint too – along with company mergers and changing customer requirements makes fleet services increasingly attractive. The right choice of tyres as a "resource" and handling them in a tightly controlled fashion can make a substantial contribution to a company's success," emphasizes Wee-Chung Sim, sales & marketing director for the Malaysian replacement market.

### Conti360° Fleet Services

Conti360° Fleet Services is a modular system, which covers all tyre-related services for transport operators. It aims of reduce operating costs and

improve cost control. The modules comprising it are **ContiFitmentService**, **ContiFleetCheck**, **ContiFleetReporting**, **ContiCasingManagement**, and **ContiBreakdownService**. Customers can assemble a tailor-made service package that meets their tyre management requirements in an ideal way.

### Continental's Breakdown Service

With ContiBreakdownService, customers are able to minimize breakdown-related downtime. This service is available around the clock, 365 days a year. In case of a breakdown, the Conti360° hotline provides exclusive as well as immediate assistance.

"A comprehensive network of over 50 selected partners is currently available all over West Malaysia to provide assistance. They are located mostly in urban areas and along all major transport routes so that they can quickly help customers both at their centers and with mobile services. Time-consuming and often costly searches for local tyre service providers are therefore no longer necessary for contract customers," ensures Wee-Chung Sim, highlighting another advantage of the Conti360° Fleet Services tyre management system.



Official launch of Conti360° Fleet Services



ContiFitmentService



ContiFleetReporting



## ContiLifeCycle Ensures a Long Life of Our Continental Truck Tyres

Continental truck tyres are designed to provide ultimate economy over the entire service life of the new tyre and far beyond when it comes to the casing.

### **ContiLifeCycle - Continental's Retread Service Solution**

The lifecycle of Continental truck tyres - the ContiLifeCycle - begins with the new tyre, continues with ContiCasingManagement and ends with the premium retreading solution ContiTread. ContiLifeCycle offers every customer a tailor-made solution and prolongs the lifespan of the tyres, thus lowering tyre costs significantly.

### **New tyres: Built for more than just one life.**

We have developed Continental truck tyres that suit the unique conditions of the customer's transport applications. Our customers can choose from a wide range of products that address their individual needs. For example, Continental recently launched the new HYBRID and CONSTRUCTION lines.

The Continental casing is of major importance in making the tyres an economically sound product. Built with optimized and perfectly matched

reinforcements, the casing achieves outstanding structural durability. Moreover, the mixture of components and a contour that best suits the application offers the customer the best possible solution. Continental casing is therefore a worthy investment as it serves as a highly valuable asset for retreading.

### **ContiCasingManagement: An incredibly valuable service**

Based on proven procedures, ContiCasingManagement takes over the complete casing management process. By collecting, examining, and returning worn out tyres for retreading or recycling, ContiCasingManagement helps the customer keep an eye on costs throughout the entire life of the tyre.

### **Retreading: The beginning of a tyre's new life**

Continental truck tyres prove profitable in the long term. Their advantages extend beyond a single tyre life, with a second life possible thanks to ContiTread, Continental's professional retreading solution. The retreading of all usable casings is performed by means of Continental's premium retread process in the recently upgraded ContiLifeCycle plant

in Petaling Jaya. For further information about this advanced plant, please refer to the article "ContiLifeCycle plant in Malaysia under full production for the Asia-Pacific Region."

After the inspection procedure, casings are buffed and prepared for application of the ContiTread liners. All ContiTread liners have the same pattern and material characteristics as their new tyre counterparts. After curing and final inspection, the ContiTread tyre is handed back to the customer, ready to safely operate during its second life.

When customers purchase a retreaded tyre, they not only reduce their tyre budget but also help to protect the environment. Reusing the casing saves energy and raw materials. Multiple use of the casing also reduces the number of old tyres in circulation.

In short, the ContiLifeCycle service solution offers our valued customers a holistic tyre lifecycle with premium Continental products. Customers thus benefit from an efficient and sustainable tyre, resulting in low overall driving costs.

# Continental Heralds New Era for its LifeCycle Business

**On November 19, 2013 Continental held a ribbon cutting ceremony for its ContiLifeCycle plant in Hanover Stoecken. A world's first, the plant integrates a cutting-edge facility for retreading bus and truck tyres with a proprietary industrial-scale rubber recycling unit. The technology developed by Continental has been recognized as an environmental innovation by the German Federal Ministry for the Environment.**

By producing retreaded tyres with product characteristics on a par with new tyres, the international tyre manufacturer and automotive supplier is taking a strategic step and ushering in a new era for its LifeCycle business. "When we started this project, our aim was to bring our LifeCycle solution closer to new tyre production. Within a timeframe of less than 18 months, we planned and built a plant that not only catered to necessities but also extended the boundaries of what is possible. We have put all of our knowledge from tyre engineering and manufacturing into the ContiLifeCycle plant and thus attained a new level in terms of product performance and characteristics," remarks Nikolai Setzer, member of the Executive Board of Continental and head of the Tyres Division. These outstanding characteristics were achieved by implementing production techniques from Continental's new tyre production as well as refining existing retreading technology.

Based in Hanover-Stöcken, the new retreading factory will have a projected annual capacity of 180,000 retreaded tyres once it reaches full capacity. "For us, the ContiLifeCycle plant serves as a competence center for our world-wide LifeCycle business. Our unique team of R&D, manufacturing, engineering, as well as quality management departments here in Stoecken develops and improves solutions for our other LifeCycle centers, such as Petaling Jaya, Malaysia; Cuenca, Ecuador; and Morelia, Mexico. What is more, we established at the plant an on-

site training facility, the ContiLifeCycle Academy. Here both internal and external staff can deal with different retreading topics," remarks Dr. Andreas Esser, head of the Commercial Vehicle Tyres Business Unit at Continental. As part of the ContiLifeCycle plant, Continental has also developed a recycling process for the tread powder that arises during retreading. "We put our already cured tread powder through a series of different processing steps that allow us to reverse the curing process. The recycled material is of such high and controlled quality that it can be used for tyre compounding without hesitation," remarks Dr. Boris Mergell, vice president for product development & industrialization Commercial Vehicle Tyres at Continental. Tread buffings from Continental's new ContiLifeCycle retreading factory will be used in full in the recycling facility. This reduces waste by more than 80 percent and significantly cuts CO2 emissions.

"With our ContiRe tyres made in Stoecken, we offer our customers a product portfolio that is economically and ecologically sustainable. Environmentally friendly production techniques and raw material usage in the ContiLifeCycle plant are complemented by the low rolling resistance of our final products and a wide range of service solutions," remarks Christian Sass, director of retread business at Continental. All this ultimately leads to the major objective of the ContiLifeCycle concept: lowest overall driving costs for the fleets.



**"Within a timeframe of less than 18 months, we planned and built a plant that not only catered to necessities but also extended the boundaries of what is possible."**

**Nikolai Setzer**

# Continental named Tire Manufacturer of the Year and honored for ContiLifeCycle plant in Hanover

- Tire Technology International names Continental Tire Manufacturer of the Year
- Recycling of rubber from end-of-life tires combined with retreading of truck tires selected as Tire Manufacturing Innovation of the Year



On February 12, 2014, Continental received not just one but two awards from trade journal "Tire Technology International". The international expert jury not only named Continental Tire Manufacturer of the Year but also had special praise for the recycling of rubber from end-of-life tires in conjunction with the retreading of truck tires at the ContiLifeCycle plant in Hanover. Both awards were presented at a ceremony held at the Tire Technology Expo fair in Cologne, Germany.

Jury member David Shaw, Head of Research at Tire Industry Research, had this to say: "To my mind, Continental has combined the global strategic view with great products and a vision of a more sustainable future. The new plant in Sumter, USA, shows commitment to a global future, while the Hurricane machine demonstrates a desire to reduce, reuse and recycle. Meanwhile, their car and truck tire products continue to win praise from independent testers and fleets."

"We are delighted to be named Tire Manufacturer of the Year 2014," said Nikolai Setzer, Continental Executive Board Member responsible for the Tire Division. "As our Tire Division is currently midway through realizing its Vision 2025, the timing couldn't be better. This is great appreciation for our global tire team for the successful execution of our long-term growth plan, which is based on substantial investments in expanding our existing tire plants and building several new ones. We are also extending the high-tech testing capabilities of our proving grounds as well as investing in new premium products, processes and technologies at the highest level. In addition, as official sponsor of the 2014 FIFA World Cup in Brazil and of UEFA EURO 2016™ in France we are continuing to invest in our premium brand Continental." At the same time, Continental is stepping up its presence in the tire trade, not least through acquisitions and the integration of additional franchise partners, preparing the ground for a long-term rise in the global volume of sales.

Praising the ContiLifeCycle plant, jury member Joe Walter, an adjunct professor at The University of Akron said: "Utilizing end-of life rubber products should lead to a significant reduction in Continental's corporate carbon footprint while producing retreaded tires in an environmentally friendly fashion. This recycle-retread initiative seems to be win-win for the consumer and the environment."

"We are delighted that our ContiLifeCycle plant has been named Tire Manufacturing Innovation of the Year," said Christian Sass, who heads up the Truck and Bus Tire Retreading segment at Continental. "We see this as confirmation that, with our globally unique combination of rubber recycling and truck tire retreading, we have come up with a sustainable solution. In the space of 18 months our team transformed the vision of an innovative retreading and recycling solution into a reality. The outcome is a retread solution that is even more sustainable and has reached a new level in terms of product performance and characteristics."

The Tire Technology International Awards for Innovation and Excellence are a celebration of far-sighted endeavor in the field of tire development and manufacturing. A shortlist of contenders is drawn up based on nominations from readers and the editorial team at Tire Technology International. The shortlist is then passed on to an independent jury of international tire experts who evaluate the nominees and select the winners. The awards are presented each year in February at a ceremony staged at the Tire Technology Expo fair in Cologne, Germany. For further details visit [www.tiretechnology-expo.com](http://www.tiretechnology-expo.com).

With provisional sales of around €33.3 billion in 2013, Continental is among the leading automotive suppliers worldwide. As a supplier of brake systems, systems and components for powertrains and chassis, instrumentation, infotainment solutions, vehicle electronics, tires, and technical elastomers, Continental contributes to enhanced driving safety and global climate protection. Continental is also an expert partner in networked automobile communication. Continental currently has more than 177,000 employees in 46 countries.

As one of the world's leading tire manufacturers, with more than 42,000 employees, the Tire division achieved sales of €9.7 billion in 2012. Today, the division has 22 production and development locations worldwide. The broad product range and continuous investments in R&D make a major contribution to cost-effective and ecologically efficient mobility.

The Commercial Vehicle Tire business is one of the largest manufacturers of truck, bus and commercial specialty tires worldwide.

Tire Division is an Official Sponsor of the German DFB Cup, 2014 FIFA World Cup™ in Brazil and the Continental's UEFA EURO 2016™ in France.

Accompanying material: Jörg Nohl, Vice President Engineering Tires, and Christian Sass, Director Retread Business; Nikolai Setzer, Member of the Executive Board of Continental and Head of Tire Division; Christian Sass, Director Retread Business; Award Logos.

#### Contact:

**Dr. Christiane Pfeiffer**  
Head of Communications  
Commercial Vehicle Tires

**Continental**  
Tire Division  
Büttnerstraße 25, 30165 Hanover,  
Germany  
Ph.: +49 (0) 511 938 2683  
Fax: +49 (0) 511 938 2230  
[christiane.pfeiffer@conti.de](mailto:christiane.pfeiffer@conti.de)  
[www.continental-corporation.com](http://www.continental-corporation.com)  
[www.continental-tyres.com](http://www.continental-tyres.com)  
[www.continental-truck-tires.com](http://www.continental-truck-tires.com)

**Thomas Recke**  
Manager Communications  
Commercial Vehicle Tires

**Continental**  
Tire Division  
Büttnerstraße 25, 30165 Hanover,  
Germany  
Ph.: +49 (0) 511 938 21813  
Fax: +49 (0) 511 938 2230  
[thomas.recke@conti.de](mailto:thomas.recke@conti.de)  
[www.ContiSoccerWorld.com](http://www.ContiSoccerWorld.com)  
[www.continental-specialty-tires.com](http://www.continental-specialty-tires.com)



# ContiLifeCycle plant in Malaysia: full production for the Asia-Pacific Region

## The new retread plant

The Truck Tyres Asia-Pacific business region is proud to announce the completion of their Retread and Pre-Cured Treadliner plant in Petaling Jaya, Malaysia. The plant will be able to supply retreaded tyres and pre-cured tread liners such as ContiTread and TecnoTread for the Malaysian market as well as for the Asia-Pacific region.

Restructuring of the ContiLifeCycle retread plant started in mid 2011 with the planning of a new layout, equipment upgrades, and a new production management system. "After the ground breaking ceremony we started upgrading casing entry inspection with a new visual inspection station. It incorporates nail-hole detection and Shearography inspection in order to guarantee that only high-quality casings are accepted for the next part of the retread process," states Manuel Ruiz-Ortega, head of Production and R&D Retread APAC. The next step was to refurbish the buffing machine, upgrade the tyre autoclave, introduce a double envelope system, a new building machine and high-pressure testing machine and finally commission the new pre-cured tread liner press. By the end of the year, further improvement measures will be implemented in the form of layout optimization and the addition of an AZ extruder.

"However, equipment alone does not guarantee a premium solution for our customers," points out Manuel Ruiz-Ortega. "In addition to the equipment, we need highly trained and skilled people as well as reliable traceability in production and quality management systems. Firstly, our complete workforce was assessed and retrained in accordance with newly redefined quality standards. Secondly, we developed a custom-made system called eRetread. It not only allows traceability of our customers' casings but also tracing of essential quality parameters during the retread process. Finally, we incorporated lean manufacturing tools like 5S and Gemba Walk into our everyday life as a means of ensuring constant efficiency improvement." The new set-up allows the ContiLifeCycle plant in PJ to act as a training center for our ContiLifeCycle partners from the entire APAC region who purchase our premium ContiTread pre-cured tread liners.

## The pre-cured tread liner solution

The pre-cured ContiTread and TecnoTread liners are offered to retreaders in the Asia-Pacific region. They offer a complete portfolio to our ContiLifeCycle partners and their customers. "Before we allow an external retreader to use our pre-cured tread liners, they must meet

Continental's premium retread quality standards," states Stanley George, ContiTread Process specialist for the Asia-Pacific Business Region. This includes a process and quality inspection in all stages of the partner's retread plant. Only if standard criteria are fulfilled, will the respective partner and its plant be accepted as a ContiLifeCycle partner.

Since the middle of 2013, nine potential ContiLifeCycle partners have been audited in Malaysia and Indonesia. So far, seven of these have been authorized to manufacture ContiTread and TecnoTread retread tyres in their plants. Further potential partners in Australia, Thailand, Singapore, and Hong Kong will be assessed within the coming months. "The general feedback from customers is that Continental handles its retread processes in a very professional way," states Stanley George. Our retread partners have the option to visit our ContiLifeCycle plant in Malaysia, where they have the opportunity to view our retreading standards as well as receive training in terms of production management and process know-how." Through our Retread Training Center, we are giving our retread partners the confidence that with its ContiLifeCycle retread solution, Continental is a reliable partner that will help enhance their business," concludes Stanley George.



## From Conception to Mass Production, Safety Is the Primary Focus

When Continental talks about tyre safety, the whole lifecycle, from the early development stages to the disposal of worn out tyres is discussed and examined.

### Part 1: Development and new tyre production

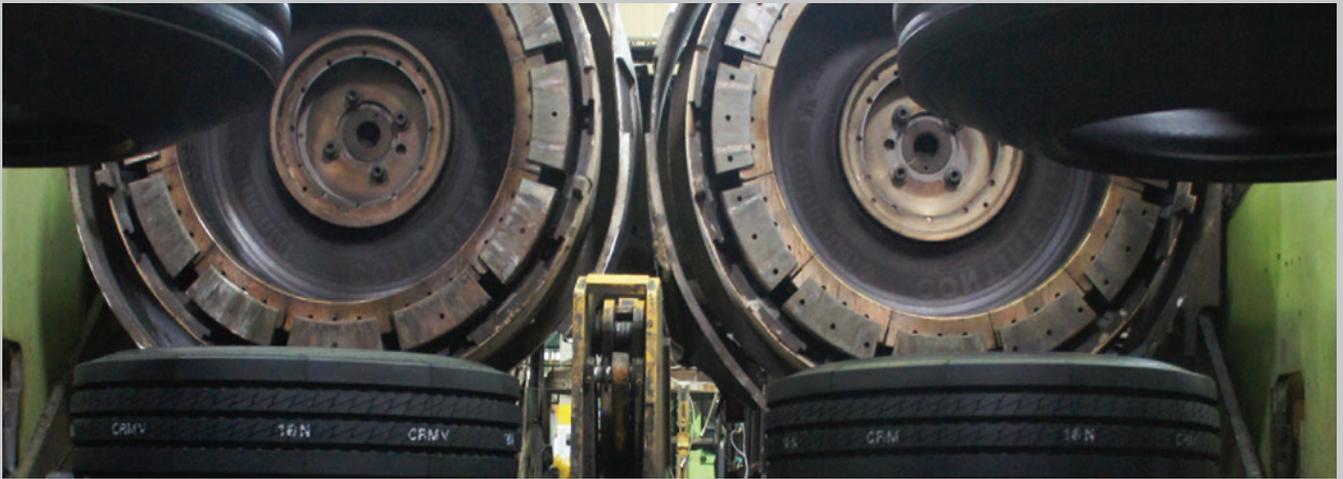
Tyre safety comes first in planning the development of a new tyre. Planning means initial thoughts and ideas about what the performance criteria are as well as with respect to tyre applications and the conditions under which the tyres perform. Specific customer requirements also influence the thought processes. All possible combinations of load, road surfaces, weather conditions, vehicle configuration, and more have to be taken into consideration. We always choose a robust tyre design for the various applications such that all tyres fulfill the required load and speed limits.

"As far as it is technically and economically feasible, we will provide such a robustness to the product. If feasibility is not ensured, we will not bring such a product to market," states Mergell. A feasibility study at the very beginning of planning is therefore

crucial to make sure that tyre safety can be delivered to the market. If the requirements are not technically feasible, no development actions will be taken. If the result of the feasibility study is positive, meaning Continental is sure that tyre safety can be assured throughout all stages of the process, the next step in the development process is taken, namely computer simulations. In this procedure, all available data is loaded into a computer model, which then simulates the effects of new requirements on existing and new tyre designs. A new compound might generate a higher heat buildup in certain parts of the tyre or flexing in the bead area due to higher load conditions that exceed the limit permitted. The simulation makes the critical areas visible and allows us to identify causes. As early as at this stage, corrective measures are worked out to avoid any risk in terms of tyre safety.



"Safety is not negotiable and is a topic central to economical tyres," says Dr. Boris Mergell, vice president of truck tyre development and industrialization, Hanover, Germany.



### Testing, testing and more testing

Having eliminated all critical findings of the computer simulation, pilot tyres are built. Different members of the development and production team observe the assembly (building) of the tyre. After curing, the tyre has to undergo a series of tests and inspections. Tyres are cut, and the positioning of all parts is checked and then crosschecked against the simulation results. This reveals whether major parts inside the tyre are not correctly positioned, harboring the risk of tyre failure. The goal is to minimize all potential risk of tyre damage or failure. Only if the tyre has been built according to specifications will it move on to the next step: internal endurance testing.

During internal endurance testing – which is still part of the experimental stage – the tyre is run on a test drum. Here a real life situation is simulated. Parameters such as inflation pressure, load, and lateral forces are brought to maximum levels. In accordance with strict internal standards, the tyre has to survive for certain time limits under these conditions. If the tyre does not meet these standards, it will not be released for further development. Having met internal standards, which greatly exceed the legal standards, the new tyre is released for field testing. This takes place either on company-owned trucks or in real-life situations on customer vehicles.

### Real-life applications for the fine-tuning of tyres

As mentioned above, the tyres are now tested under controlled conditions such as a fully loaded truck and under a variety of weather, road surface, and speed conditions. The particularity of this test is that legal limits of speed and load are purposely exceeded. This gives Continental the confidence that the tyres will continue to run safely even if misused in daily operation.

After successfully completing the tests on Continental's own test vehicles, a certain number of tyres are given to fleet customers in order to obtain their feedback on the safe handling of the tyres. "Safety also means a stress-free ride for the driver," comments Mergell. If drivers or fleet owners do not have confidence in their tyres, they are distracted from their actual tasks. They must be sure that under varying conditions the tyre can safely accelerate, brake, and steer the truck. In addition to Continental's internal tests, the tyres have to meet tests required by law. These tests ensure compliance with minimum legal requirements.

All our factories are audited on a regular basis to certify that Continental delivers safety according to legal standards. The Continental plant in Petaling Jaya has ISO certification. Having passed all of the aforementioned tests and procedures, meeting all Continental and legal safety standards, the tyre is released for series

production. The first loop of series tyres will then be shearographed, checked, and tested in depth.

Full production commences when all safety and performance values are within the limits defined in the relevant standards. "Precision and discipline in the production process must be under control," Mergell emphasizes. Customers will buy and buy again only if all their safety and performance expectations are met. In order to secure the stability and accuracy of the production process, tyre samples are constantly tested and evaluated. Furthermore, each and every single tyre is x-rayed in order to ensure that it meets Continental's quality and safety standards. Tyres are now manufactured in mass production and can be observed on many trucks on the market. Continental collects feedback from customers regarding quality, performance, and safety on a regular basis. This feedback is evaluated and passed on to the responsible person in the development as well as in the production departments. Corrective measures are taken immediately should any signs of reduced quality, performance, or safety appear. What is more, Continental recommends maintaining and using its tyres according to the general guidelines provided by customer services in order to achieve the best possible levels of safety.



# Safety for the Second Life of a Tyre – The Retreading Process

**Manuel Ruiz Ortega, head of production and R&D Retread APAC, shares his knowledge about retreading tyres and the art of giving them a safe second life**

Many of us will have seen tyre rubber on the highway. It might be assumed that such separation of the tread from the casing is something that happens only to retreaded tyres. This is, however, a misconception. It can happen to new tyres as well. In its ContiLifeCycle plant, Continental imposes the highest quality standards, so retreaded tyres are today literally of the same high quality as brand new tyres. As we shall explore in this article, they offer the same level of safety.

Retreadability depends on two factors. Firstly, any tyre that is to be retreaded needs to be designed in a way that allows for subsequent retreading. The design features required are based on decades of research and feedback gathered from the market and from analyzing tyres when they are returned. In developing the casing, it is necessary to build in not only retreadability. It is also essential to build in the safety that allows the casing to be given a “second life.” The second aspect deals with the actual use of the tyre. Some heavy-duty applications will make it impossible to retread the tyres. Even if a tyre is designed for retreading and the application would allow for it, lack of care and maintenance may, nevertheless, render specific tyres unsafe for retreading.

When designing a tyre, Continental decides early on – based on the knowledge gathered in the R&D departments – which specifications and technologies have to be featured to make a tyre retreadable.

In the ContiLifeCycle plant in Petaling Jaya, we offer two options for retreading: 1) stock casings and 2) customer-owned casings. For stock casings, Continental selects for purchase and retreading only casings that are validated as “A” grade. After retreading, these tyres are reintroduced to fleets and dealers. Customer-owned casings are casings collected from end-users. After the retreading process, casings are returned to the same client with a new ContiTread or TecnoTread. With eRetread, a traceability system developed in-house, Continental is able to track the exact whereabouts in the plant of any customer-owned casing during the retreading process. Should a casing not pass the inspection requirements, it will be returned to the client stating a reason for rejection. High quality standards are applied in the inspection of the casings to ensure safe use after retreading.



Before a tyre is retreaded, stringent inspection will be carried out to ensure the casing is fit for a safe second life. For the all-important initial inspection, several methods are used. These include visual inspection, nail-hole detection, and Shearography, also known as X-Ray in some markets. Only if these tests are conducted according to the highest quality requirements, can the casing be released for retreading.

Before the new tread can be applied, the old tread will be removed by a process known as buffing. This ensures that old tread rubber is removed and an acceptable texture is created that allows for application of the bonding rubber to the buffed surface. Furthermore, the buffing radius needs to be selected correctly since this has a direct impact on the performance of the tyre.

An important part of the process is the vulcanization of the pre-cured tread liner to the casing. This takes place in an autoclave. At Continental, we use the double envelope system set for the different casing sizes to ensure optimum performance of the retreaded tyres. The double envelope system ensures that pressure is uniformly applied to the retread tyre during the process of vulcanization in the autoclave.

After the tyre has been vulcanized, it undergoes stringent inspection. This includes high-pressure tests and shearography (if required) before it is delivered to the warehouse.

Continental offers a complete portfolio of premium retread products under the "ContiTread" brand. All ContiTreads have the same pattern design as their new tyre counterparts. 100-percent identical in appearance, they provide performance identical to that of new tyres. Users of ContiTread retreads can be assured that the retreaded tyres will give them the same driving pleasure as new tyres. Using Continental's new tyres in combination with ContiTread forms the so-called ContiLifeCycle that leads to low overall driving costs without any compromising of safety and performance.

Using retreaded tyres not only reduces the impact on the environment but also helps operators reduce costs. A retreaded tyre will cost significantly less because the casing is reused. When considering retreading, companies should not look at just the cost of the tyre itself. They should instead calculate the overall cost of vehicle ownership.

# The Right Fit:

## Correct Tyres for Your Application Ensure Safety and Lower Operating Costs

When talking to commercial vehicle customers, the main discussion nowadays revolves around who is giving them the best solution for their tyres at optimal cost. Mileage, retreading, casing value, durability, fuel-efficiency, mounting, and break down services appear to be the most frequently named criteria when negotiating the best bargain. In the end, one thing becomes very obvious: If the complete solution for tyres, which is comprised of products, services, and distribution, does not match the customer's needs, this will limit the success of the business. But should the reasons behind choosing a certain tyre be purely economic?

Before talking about all the economic aspects of a tyre, it might make sense to also consider safety requirements such as braking capabilities, traction, handling, cornering and the like. As tyres are the only contact between the vehicle and the road, its safety features and requirements should be considered for each customer separately.

Looking carefully at the market, three main customer groups can be identified: These are firstly truck customers operating on-road (GOODS customer segment) and secondly truck customers operating partly on-road, partly off-road as well as customers operating completely off-road (CONSTRUCTION customer segment). A third customer

group can be identified as bus customers (PEOPLE customer segment) containing coach fleets, regional bus fleets, and urban bus fleets. Each group clearly has different requirements with regards to performance and safety. In order to fulfill each customer's needs, specific tyre concepts have to be developed applying different technologies.

### “On-road” customers - GOODS

The first customer group, our so-called GOODS customers are, for example, tankers, container haulers, auto carriers as well as general cargo fleets. They all operate purely on-road. While operating mainly on the highway, the tyres have to sustain high temperatures caused by high average speeds. If the tyres are not capable of withstanding these high temperatures, negative effects such as failures or even accidents may occur. To provide the maximum amount of safety, heat dispersing technologies have to be integrated into the casing and taken into account especially when developing the tread compound. Two more important points to ensure safety at high average speeds are short braking distances and directional stability under varying weather conditions. Here it is essential that the tread pattern geometry and tread compound fit together perfectly. Within the Continental product range, the new HYBRID line fulfils these special on-road requirements.



GOODS - HS HYBRID



GOODS - HD HYBRID

# Specific applications require dedicated solutions.

## “On-and off-road” customers – CONSTRUCTION

This second customer group includes those customers who operate their vehicles on-road and off-road, such as tipplers, logging and mining customers. The challenge here is to develop a product that contains all the necessary features to secure maximum safety while operating on paved and unpaved surfaces. Short braking distances and directional stability are also important for this customer group. However, operation on unpaved surfaces, durability, and traction are crucial to delivering the highest possible level of safety.

As you can imagine, a truck driving on gravel or on rocky roads has to have tyres that are resistant to impacts, sharp obstacles, stone trapping, and drilling. Under these conditions, a tyre can easily become damaged, with a puncture occurring perhaps only at a far later point in time. To avoid such situations, the tread pattern needs to have a robust geometry, meaning large blocks as well as wide ribs and shoulders. Furthermore, the tread compound must be cut-resistant to minimize the risk of penetration by sharp objects.

Additionally, sidewalls and the bead area need to be reinforced to withstand heavy impacts and a special belt package should be used to protect the casing from any damage. Finally, the tread design with regard to traction needs to ensure that a vehicle does not get stuck on frequented roads, hindering or even endangering other road users. For these applications, Continental offers its CONSTRUCTION line.

## “PEOPLE” customers

Customer groups that place emphasis on safety as a key element of their business are so-called “people” customers, transporting passengers to all kinds of destinations. Traveling long distances from one country to another or from city to city on well-maintained highways where high average speeds are the norm, these vehicles require directional stability and excellent braking capabilities to ensure safety. Special compounds and tailor-made tread pattern geometries make sure that customers feel safe while relaxing in their comfortable seats. Furthermore, the tread pattern has to be of such a design that driving noise is minimized, as this may disturb the customer’s sense of security. For operations within city areas, where the respective urban buses are highly likely to scrape against curb stones, tyres have to be ultra resistant to sidewall impact. Scraping mainly occurs when cornering or when entering and stopping at the bus stop. To guarantee maximum safety, the external sidewalls are reinforced using a special layer of rubber that protects the casing and sidewall from damage. For these purposes, Continental offers the URBAN line. Maximum levels of road safety can be achieved for all of us only through the combination of all safety aspects in all facets of a tyre. This combination consists of tyre development, retreading, tyre maintenance, and finally the tyre selection described above. It ensures that the tyre best meets the customers’ needs. To answer the question posed earlier, besides economical reasons, safety aspects should also be borne in mind when making a purchasing decision for any tyre.



Construction - HSC1



Construction - HDC1



People - HA3

# Everybody has to stop occasionally. Don't let it be due to a tyre breakdown. ContiPressureCheck™ The tyre pressure monitoring system. Be aware - through continuous monitoring

ContiPressureCheck is a direct measurement system mounted inside the tyre. If the inflation pressure drops, then the tyre is subject to greater strain as it rolls and heats up as a result. This can damage the tyre or even lead to a blowout. To prevent this, ContiPressureCheck uses a sensor inside the tyre to continuously monitor the inflation pressure and tyre temperature.

The ContiPressureCheck system immediately detects any changes in inflation pressure or temperature. The sensor inside the tyre sends the data wirelessly to the central receiver (electronic control unit - ECU). This processes the data, saves warnings, and sends them directly to the display in the driver's cab. The driver can immediately take corrective action and avoid a breakdown.

### The technology is in the detail: The ContiPressureCheck™ sensor

ContiPressureCheck integrates sensors, a communication system, and processing into a single module that is housed inside a rubber container and glued to the inner surface of the tyre. The advantage of this system over sensors placed outside the tyre is that it avoids measurement errors due to brake heating.

ContiPressureCheck is quick and easy to install and is robust and reliable. It is an inexpensive solution for automatically measuring tyre inflation pressure and it pays for itself the first time it prevents a tyre breakdown. And that's without even taking any follow-



up costs such as late fines, damage to a company's public image, or loss of sales or profits into consideration. So, the worst that can happen is not to have ContiPressureCheck on board.

### Easy

ContiPressureCheck is quick, easy, and cheap to install. Mounting inside the tyre guarantees greater data accuracy than comparable systems. ContiPressureCheck is compatible with all tyre makes.

Driving with the correct air pressure can lead to significant fuel savings and increased tyre mileage. Making your fleet more economical.

### Reliable

The ContiPressureCheck system helps avoid tyre-related breakdowns that can lead to costly downtimes, late fines, possible damage to one's public image, and loss of sales or profits.

### Safe

Every tyre breakdown that is avoided increases road traffic safety in that tyre damage or a breakdown always risks causing an accident.

### Eco-friendly

Running the correct inflation pressure lowers fuel consumption, reduces tyre wear, and, as such, protects the environment.



# ContiPressureCheck 1st tested in Australia

After having learned about the benefits of the ContiPressureCheck system, we are very happy to present the first customers in the Asia Pacific region to have tested the system on their own vehicles. To enable us to really experience the reliability of the system, we went to Western Australia to install the system for two customers with two completely different applications and requirements.

## Goldrush Tours, WA

GRT Minesite Transfers in Kalgoorlie, 600 km from Perth, recently purchased two purpose-built MAN truck chassis with coach (bus) cabins to transport their passengers from the company's headquarters to their work places in the mines. Both vehicles are fitted with Continental HSC1 (CONSTRUCTION) tyres, which are designed for on- and off-road purposes. The mine site shuttle covers more than 100 km to the destination. The journey is over dirt roads considered among the harshest in Regional Australia.

"As we are transporting the most valuable goods, our passengers' safety is the number one requirement for our operation," states managing director Mr. Guy Brownlee. "With the ContiPressureCheck system, we are now able to monitor the inflation pressure of our tyres while driving. Even small deviations from the recommended

inflation pressure are detected. We are able to react immediately in order to ensure the safety of our passengers. As a bus company, we are required to maintain the pressure of all our tyres. Previously, we would have had to remove the valve caps from the valve and measure the pressure manually using a pressure gauge. With the ContiPressureCheck system, we have easy access to the inflation pressure data. This helps us reduce maintenance costs."

## Pymont Transport

"We are interested in any technological developments that can make our business safer and more efficient," states Warren Pymont. The trucks operated for

several days on the road without returning to the fleet yard. For this reason, Pymont is now testing the ContiPressureCheck system. It enables the driver to easily detect any deviations from the optimal inflation pressure. Being able to see inflation pressure data in the cabin, the driver can take action as soon as any pressure loss - due to a slow leak, for example - is detected. "This prevents tyre punctures, possible damage to the vehicles, wasteful downtime, and unhappy customers as a result of late delivery." Furthermore, Warren sees a clear benefit in optimizing the service life of his tyres. "By constantly keeping inflation pressure at an optimal level, "we will achieve higher mileage and can expect an improvement in fuel consumption."

The ContiPressureCheck system gives the driver and fleet manager easy access to inflation pressure data. This means that maintenance intervals can be "reduced to a minimum." If deviations from the recommended inflation pressure occur, both parties can take immediate action to prevent any further damage to the tyre and vehicle. The ContiPressureCheck system can, moreover, help the fleet to optimize the service life of the tyre and reduce fuel consumption.



# Continental - Reducing Driving Costs

Continental's Benoit Henry says that treads only makes money when it moves, but he might be biased in favor of radials.



"When it comes to 16" commercial tyres, owners are reluctant to change from bias to radial tyres in this market," says Benoit Henry, CEO of Continental Tyre Malaysia Sdn Bhd, "even though the future is radials as they have many advantages. Although there are few applications that justify using bias tyres, 80% of people in the medium truck segment are still using them."

Why is there a preference to bias tyres when the advantage goes to radials? "In the past, the three local manufacturers used to offer only bias tyres," explains Henry. "That was right up until last year. Continental is the only company to have offered radials to that market. Now, we are offering radials to all segments, but the change will not take place overnight. OEMs still offer bias tyres as standard, but since 2014, Fuso is fitting 16" radials and Isuzu is moving as well in the same direction."

Why is Henry so biased toward radials? "It's clear," he says, "that radials have advantages in terms of cost. They are a much better solution in most situations. Bias tyres have the edge when it comes to heavy loads, and with overloading a common practice in the market you can see why many owners are reluctant

to move from bias tyres. However, overloading is becoming less frequent and in a few years it will not be as prevalent as it is now."

To get owners to move to radials, there has to be a change in mindset. "Continental is educating fleet owners about the reasons why they should be using radials, and we are seeing radials going up and bias tyres coming down in terms of sales percentage, but it will take years before we see radials assume the dominant role. Our aim isn't to sell tyres," Henry emphasizes, "we want to bring owners the lowest overall driving costs."

Another way that Continental can help owners reduce costs is through the use of retreads. "Retreads are an integral part of our offering," Henry explains. "More players are interested in retreads than in the past. Before, it was mostly the smaller shops that used retreads, but we are now seeing major players getting into it."

It's not just the cost of the tyre that fleet owners should be considering. "The savvy fleet owner says to us, 'don't give me a good tyre as cheap as you can. I want you to optimize my tyre costs.' For

a fleet owner, fuel is the number-one operating expense, with tyres coming in second. Proper tyres that are properly mounted, inflated, and maintained will help to reduce fuel costs."

Keeping trucks rolling is the highest priority of all owners. "They don't want downtime," says Henry. "We offer 24-hour roadside assistance to help reduce downtime on the highway."

However, Continental offers more services, which is why the company is offering a new comprehensive approach. "It is best that all our services be integrated. That's why we have launched Conti360°," explains Henry.

Conti360°, which was launched only recently, includes: FitmentService, FleetCheck, BreakdownService, CasingManagement, and FleetReporting. "More and more owners are coming to us for our FleetReporting. Continental offers a pretty good fleet reporting system, which is a great advantage for fleet owners. We are educating them to look at tyres not as a cost, but a P&L that they can optimize. The tread only makes money when it moves."

## First “ContiTruckServiceCenter” in Thailand Opened by Continental and K.C. Tyres

“This partnership is the first of its kind in Thailand,” Mr. Watcharapong proudly states while pointing at his newly opened ContiTruckServiceCenter. After one-and-a-half years of planning and roughly six months of construction, this ContiTruckServiceCenter was opened at the end of March 2013.

It is strategically located in Kalasin, close to two of the main transport routes in the north-east region of Thailand. The 3,000-square-meter facility offers a comprehensive service package to its customers. The ContiTruckServiceCenter is a one-stop service center offering tyres and spare parts for trucks, busses, and passenger cars as well as related services such as tyre repair, tyre balancing, axle alignment, and suspension system repairs. Drivers have the opportunity to rest and relax while their vehicles are serviced at the one-stop truck center.

“We keep moving forward to tap all distribution channels of the Thai tyre market to reach end consumers nationwide,” says Ms. Sirivan Koo-Amphorn, executive of Continental Tyres Thailand. “We are confident that the partnership between Continental Tyres and K.C. Tyres will support our target customers with innovative products and standardized services. Moreover, our leadership in innovative automotive technology from Germany offers superior safety and durability. Our products are designed to accommodate the demanding applications of our customers’ fleets in order to serve all user levels and vehicle types.”

Mr. Watcharapong Chawsamthong, executive from K.C. Tyres, notes: “Our positive experience with the products of Continental Tyres in all subsidiaries of K.C. Corporation fills us with confidence. 140 years of experience at Continental underline our partner’s corporate and technological strength as well as the premium quality of their products that are in keeping with the highest international standards.” The support during the planning and building phase of the shop has been commendable. “From the layout and selection of the equipment to the branding of the shop, Continental has been a great source of advice for us,” states Mr. Watcharapong. However, Continental doesn’t only provide support after the shop has opened. Since we began operating, Continental has helped us to improve our internal processes and to expand our customer base. This partnership shows the trust K.C. Tyres places in Continental and its products for joint growth in the future.



# Continental Provides Low Overall Driving Costs to Fleet Customers Through Attractive Product and Service Offer

Since Continental opened its subsidiary in Indonesia in 2010, we have been striving to find the best tyre solution for our customers. As a global tyre manufacturer, we were looking for strong local distribution partners (distributors) to provide the best service solution to our end users. In the following, we report about two customers who are very impressed with our comprehensive Continental tyre solution.

## Pertamina

Pertamina, the biggest liquid transporter in Indonesia, has opted for Continental's comprehensive tyre solution. "With the new tyre, a premium retread solution, and a maintenance package, Continental and its partners offer us a very beneficial comprehensive tyre solution," states Mr. Gema Iriandus Pahalawan, Operational Director. Pertamina operates around 800 trucks for various applications and road conditions.

Seven sites on Java Island (Jakarta and West Java) receive service from Continental. The fact that the entire service is provided from a single source reduces the company's administration costs. At every site, several employees of Continental and its partners take care of service and record all required data. "At the end of the day, we have to control our costs and try to find every single opportunity to become more cost efficient," says Mr. Gema Iriandus Pahalawan. With the Continental tyre solution package, we are very confident that we will achieve an efficient cost structure.

## Pahala Kencana

"Safety and comfort are the main criteria for our customers and are deeply embedded in our company's philosophy," states Ms. Ika Kuswardhani, Workshop Manager. 300 Pahala Kencana busses bring their customers safely to their destinations. It is primarily long-distance routes connecting the major Indonesian cities that are covered.

Ms. Ika Kuswardhani states: "We have tried many different tyres over the past few months and have finally decided on Continental tyres. We are placing our trust on German engineering and quality, which Continental has demonstrated during the past tests." Furthermore, the overall service package has won over Ms. Ika Kuswardhani. The service is provided by Continental's local partner and includes features such as new tyres, a premium retread solution, and a maintenance package.

The maintenance level in particular has been improved, which in turn increases safety. "Whenever we need advice, Continental's representatives swiftly provide in-depth answers to our questions. This gives us the security to transport our customers safely to their destinations."





# Success story: India

Continental, a leading automotive supplier and the world's fourth-largest tyre manufacturer, acquired 100% shareholding in Modi Tyres Company Pvt. Ltd., a subsidiary of Modi Rubber Ltd., on July 18, 2011.

Mainly focusing on local production and distribution of TBX and TBR tyres as well as radial passenger car tyres in the Indian market, Continental India Ltd. (CIL) has a registered office in New Delhi and manufacturing facilities in Modipuram and Partapur. CIL is bringing German technology to the huge truck tyre market of India, which accounts for a total of 16 million tyres.

To meet the annual demand for truck tyres in the Indian market, the production facility is being modernized with the latest equipment and world-class facilities, the company is being expanded with additional sales and service representatives to cater to the growing number of customers, and the entire team is receiving extensive training to ensure best-in-class support for our valued customers and dealers.

Continental in India is growing at an enviable pace and surging ahead with more than 1,200 dealers throughout India. The company has been

continuously adding to its product portfolio, with the latest addition being the TBR range and the improved versions of the TBX range. As the only multinational corporation in India to include both TBX and TBR tyres in its wide product portfolio, Continental gives dealers vast business opportunities. CIL has proven the core values of Continental in the Indian market of:

Being **Agile** by meeting our customers' current and future needs. We continuously monitor and analyze our markets and our responsive and pro-active attitude enables us to keep pace with ever-changing demands. We implement changes with flexible and sustainable approaches and processes. Extensive study was conducted on the Indian tyre market at the beginning of 2013, and over 500 consumer campaigns were organized throughout the whole of India in 2013.

Being **Reliable**. With more than 140 years of experience and success in providing mobility solutions, we are a trusted partner and dedicated organization serving our customers' needs and exceeding their expectations.

Being **Technology-driven** by challenging current technical

boundaries to bring successful solutions to the Indian market and introducing tailor-made tyres for Indian roads.

Continental India Ltd. is extensively branding dealer shops to strengthen relations with our business partners and has branded more than 800 dealer shops to date. End consumers are given a Continental welcome through well-lit display boards at the entrance of the dealer shops. Tyre business is people business, and with the consumers being the core of our business they are given a warm welcome to the retail outlets. The fact that the dealers are now part of the Continental family and are branded with the world-class Continental name is boosting their confidence. Continental has moved the world on high-tech tyres and now it's India's turn to move. The world-class product range will encourage customers to enter these dealer shops. A top-quality product range inside and Continental's premium brand image will add more dealers to the network. The dealers' branding will help us to spread the same brand across the country. With our premium product portfolio, our well-trained sales and service team, and branding support, we provide a strong platform that drives successful business for our dealer partners.



## Continental and Fraunhofer Join Forces to Bring Dandelion Rubber to the Roads

Leading companies invest in environmentally friendly material production as they see a huge potential for dandelion as a modern crop plant in Europe. A pilot facility for industrial production of dandelion rubber was launched in Münster, and a pilot test phase was initiated to determine whether or not the plants will be grown on previously uncultivated land.

Leading tyre manufacturer Continental and the Fraunhofer Institute for Molecular Biology and Applied Ecology (IME) in Aachen are on the verge of a breakthrough with their joint development project for rubber that can be industrialized and is made from dandelion plants for tyre production. In recent years, with the aid of state-of-the-art growing methods and optimized cultivation systems, it has been possible to produce high-grade natural rubber from dandelion roots in the laboratory. Work began recently on the construction of a pilot facility that can produce natural rubber by the ton at the Münster site of the IME.

"We are investing in this promising material development and production project because we are convinced that it will enable us to further improve our tyre production in the long run," says

Nikolai Setzer, who is responsible for the Tire division within Continental's Executive Board. "This is because the production of rubber from dandelion roots is far less weather-dependent than production from rubber trees. Furthermore, the new system is so undemanding in terms of agricultural requirements that it opens up a whole new potential - particularly for areas of land that are currently uncultivated. By growing the crops much closer to our production sites, we would also be able to significantly reduce the burden on the environment and our outlay for logistics. This development project shows impressively that we have by no means reached the end of the line in terms of our possibilities for material development." The first test tyres featuring rubber compounds made from dandelion rubber are already set to be tested on public roads in the coming years.

"We have built up a great deal of expertise in the field of dandelion cultivation in recent years. Thanks to DNA marker technology, we now know which gene is responsible for which molecular property. This enables us to grow particularly high-yield plants much more efficiently," explains project manager Professor Dirk Prüfer, looking back at the work carried out at the

Münster site of the IME. This had been preceded by several years of research activities, as part of which the scientists were able to prove that the rubber produced from the dandelion plants they had grown themselves not only offers the same quality as its counterpart from the rubber tree, but that this new variant is actually more robust and offers a higher yield.

"With this dandelion project, we are taking a huge step forward on the path to our long-term goal of manufacturing tyres for cars, trucks, and bicycles, as well as specialist tyres, completely without the use of any fossil materials," explains Dr. Boris Mergell, who looks after the cooperation project as the head of Material and Process Development for Tires at Continental. "If we can successfully manage to produce large amounts of dandelion rubber with at least equivalent performance properties to conventional rubber harvested from rubber trees, then we will be able to put ourselves in a position where we are much less dependent on the annual harvest situation in the subtropical growing regions," adds Mergell. However, the decision on where in Europe such large-scale cultivation of the specially grown dandelion is going to take place has not yet been taken.

## Outlook for 2014

Unfortunately, as the year 2014 lies ahead of us, we do not have the luxury of time to linger on our past activities and success stories. However, we would like to take the opportunity to present a brief taster of the upcoming year.

One of the major events will be the opening of our INDIAN TBR plant in the state of Uttar Pradesh. With this opening, Continental will become the only multinational corporation in India with a complete TBR and TBX product range in addition to PLT tyres.

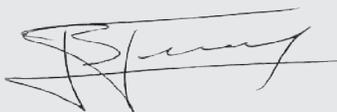
All over Asia Pacific, we will further develop our Conti360° fleet services and its network. We are working relentlessly to refine the elements of Conti360°, namely: ContiFleetCheck, ContiFleetReporting, ContiFitmentService, ContiBreakdownService, and the ContiLifeCycle, which includes ContiCasingManagement.

Having mentioned ContiLifeCycle, we are pleased to let you know that we will complement our premium retread brand CONTITREAD with a second retread brand called TECNOTREAD. This will provide our customers with a complete retread solution for all types of retreadable casing.

With ContiPressureCheck, we will add the first advanced tyre solution to our product portfolio. This system is capable of measuring the inflation pressure via sensors from inside the tyre. The combination of our wide product portfolio, Conti360° fleet service, and the ContiPressureCheck system puts us in the pole position to become a full-solution provider for our customers.

We wish you all the best for 2014.

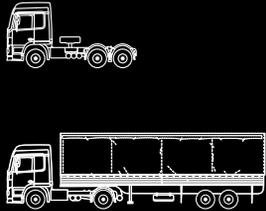
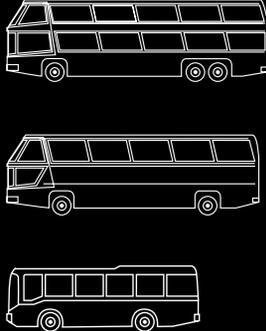
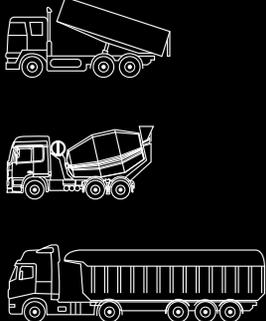
Yours sincerely,



**Benoit H. HENRY**  
Executive Vice President  
Business Region Asia Pacific Truck Tires  
Business unit CVT



# Product Portfolio

Segment	Customer Benefits	Vehicle Type
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Goods</b></p>	<p><b>Optimized costs</b></p> <ul style="list-style-type: none"> <li>High mileage</li> <li>Retreadability</li> <li>Robustness</li> <li>Low fuel consumption</li> <li>Low maintenance costs</li> </ul> <p><b>Innovation</b></p> <ul style="list-style-type: none"> <li>New products, services and solutions</li> </ul>	 
	<p><b>Safety</b></p> <ul style="list-style-type: none"> <li>Resistant to curb stones and other damages</li> <li>Robustness sidewall</li> </ul> <p><b>Optimized costs</b></p> <ul style="list-style-type: none"> <li>High durability</li> <li>Proven retreadability</li> <li>Low fuel consumption</li> </ul>	<p><b>Performance</b></p> <ul style="list-style-type: none"> <li>Excellent mileage</li> <li>Optimum comfort and quietest tyre in its class</li> </ul> 
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Construction</b></p>	<p><b>Performance off-road</b></p> <ul style="list-style-type: none"> <li>Best physical resistance in its class</li> <li>Tyre proven on hard tracks worldwide</li> </ul> <p><b>Optimized costs</b></p> <ul style="list-style-type: none"> <li>High durability</li> <li>Proven retreadability</li> </ul>	<p><b>Performance on-road</b></p> <ul style="list-style-type: none"> <li>Special compound delivers similar driving characteristics as tyres for regional application</li> </ul> 

Steer – All axle	Drive	Trailer
 <p>HS HYBRID</p>  <p>HSR 2</p>  <p>HSR 2</p>  <p>HSR 2</p>  <p>HSR 1</p>	 <p>HD HYBRID</p>  <p>HDR 2+</p>  <p>HDR 2</p>  <p>HDR</p>	 <p>HTR 2</p>  <p>HTR 1</p>  <p>HTR</p>
 <p>LSR 2</p>  <p>LSR 1+</p>	 <p>LDR 1+</p>	
 <p>HS HYBRID</p>  <p>HSU1</p>  <p>HSU1 M+S</p>  <p>HSU</p>	 <p>HD HYBRID</p>	
 <p>HSC 1 ED</p>  <p>HSC 1 ED</p>  <p>HSC</p>  <p>HSC 1 ED</p>  <p>HSO SAND</p>  <p>HSO MIL</p>  <p>HCS</p>	 <p>HDC 1 ED</p>	

# ContiTread™

## The premium Retread engineered in Germany

### HS HYBRID



- Maximized life expectancy and fuel economy through customized tread geometry.
- Even wear pattern under various load conditions on all axles due to balanced pressure distribution.
- New siping technology with numerous grip edges which provide excellent wet traction properties and therefore safety.

Article Number	 mm	 mm	 mm
18205650000	200	15.0	3255
18205670000	210		3255
18208430000	220		3255
18205710000	230		3255
18205730000	235		3020
18209050000	235		3255
18205760000	250		3240
18307260000	250		3300
18208440000	260		3300



### HDR 2

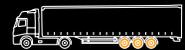


- Advanced unidirectional tread design to withstand high lateral and longitudinal forces for outstanding mileage and superior traction.
- Numerous grip edges and open shoulder tread pattern delivering excellent traction along with even tread wear.
- Even wear pattern under various load conditions due to balanced pressure distribution.

Article Number	 mm	 mm	 mm
18205660000	210	19.0	3255
18205700000	225		3255
18316500000	240		3200
18205750000	250		3240
18207620000	260		3300



### HTR



- The wide tread area and wide shoulder ribs reduce the wear under high lateral forces occurring on trailer axles.
- High tread volume and a wear resistant compound deliver high mileage under various road conditions.
- Numerous finite structured sipes guarantee good grip even on wet road conditions.

Article Number	 mm	 mm	 mm
18206240000	210	14.0	3220
18205690000	220		3255
18205640000	250		3240



## ContiUrban HA3



- Additional volume of rubber provides higher mileage and longer service life.
- Zig-zag grooves provide longer effective edges for better handling and cornering.
- 3D sipes improve wet performance over lifetime for superior braking while improving handling.

Article Number	 mm	 mm	 mm
18208020000	215	17.5	3195
18208030000	230		3195
18208040000	240		3000
18208150000	240		3195
18208050000	250		2925
18208060000	260		3035



## HDC 1



- Optimum tread durability plus high mileage due to a specialized on/off road compound.
- Self cleaning drive pattern design, providing excellent traction as well as even tread wear.
- Special designed groove ground to avoid casing damage to maintain its value.

Article Number	 mm	 mm	 mm
18205680000	215	18.0	3255
18207610000	245		3240
18316510000	255		3180



We are offering a premium retread solution for our high-value casings

 Recommended axle

Continental Tyre PJ Malaysia Sdn. Bhd. (4296 K)  
3rd Floor, 2 Jalan Tandang, 46050 Petaling Jaya,  
Selangor, Malaysia.  
Tel +603 7787 88 88

The long life of our  
Continental Truck Tyres through

  
**ContiLifeCycle**™





# Conti360° Fleet Services.

## YOUR One Stop Solution To Lowest Overall Driving Costs



**ContiFitmentService™**  
Creates the perfect conditions



**ContiFleetCheck™**  
Optimizes your tire costs



**ContiFleetReporting™**  
The analysis that summarizes everything



**ContiCasingManagement™**  
Turns worn tires into cash



**ContiBreakdownService™**  
Back on the road again fast



**Continental Tyre PJ Malaysia Sdn. Bhd.** (4296 K)

(formerly known as Continental Sime Tyre PJ Sdn. Bhd.)

3rd. Floor, 2 Jalan Tandang, 46050 Petaling Jaya,  
Selangor, Malaysia.

Tel: +603 7787 88 88

[www.continental-truck-tyres.com](http://www.continental-truck-tyres.com)

**Continental**   
The Future in Motion