



## CONTINENTAL HAS PRESENTED AIBA

The hall of the AIBA has a length of 300 m which is comparable to two-and-a-half football pitches.

# New quality of accuracy in braking test series



Nikolai Setzer, Head of Continental Tire Division, explained the "Vision 2025" of the Rubber Division to media representatives. The target is a "Global Manufacturing Footprint".

**Early in November, the tyre giant Continental presented the fully-automated indoor braking facility AIBA (Automated Indoor Braking Analyzer), which was newly constructed at the Contidrom, to a selection of media representatives during the Conti TechForum. Continental corroborated its future demand for achieving the highest possible level for its own products with regard to the category "braking".**

Tyre tests consist of subjective and objective forms. No robot has ever been able so far to provide comparable usable results on a handling course as trained test drivers are able to. There are, however, test units, which have to be carried out with such an accuracy that each test driver might stop enjoying doing his job – braking e.g. sometimes for hours with a similar intensity until having a swollen thigh. Nonetheless, the company Continental offered some relieve: The new Automated Indoor Braking Analyzer AIBA started operating in autumn. Consequently, braking tests can be carried out in a 300-m-long and 30-m-wide hall on different road surfaces in a so far unprecedented accuracy. According to people being responsible, annual test series of about 100,000 runs are supposed to be likely. According to Burkhard Wies, Head of R&D of Tyre Development at Continental, there was a probable investment volume of between 10 and 15 million euros. Vision 2025

The Contidrom has been the main test track of Continental passenger car, commercial vehicles and motor bike tyres for 45 years. In the beginning the Contidrom consisted of the high speed oval with two measuring straight lines. By and by the tyre giant from Hanover has extended the variety of tracks in the Lüneburger Heide in order to be able to check increasing demands on tyres in tests. Since its foundation, the area has been an indispensable part of the research and development department at Continental. According to company information, there have been tested nearly two million passenger car, commercial vehicles and motor bike tyres on this site since 1967. The extension of braking test capacities by setting up the fully-automated indoor testing facility AIBA corroborates the claim to leadership of the Continental tyre development department in the category "braking". "Who else but we could be better in the category 'braking'", confirms Nikolai Setzer, Head of the Continental Tire Division, when referring to the different group divisions during the opening press conference.

Setzer is aware of the importance of independent tyre tests for the industry and the public: "We always want to be on the podium in the tests. It is not possible to be always the number one, but also being on the podium – that is our demand." The tyre boss fixed as well challenging targets with regard to the "Company Vision 2025". The Rubber Division is above all supposed to grow and to make use of international potentials. Apart from worldwide extensions of production capacities it is important to bring the premium brand message across in Asian and American markets. Moreover, it is planned to put more pressure on the top three among the manufacturers - Bridgestone, Goodyear and Michelin.

AIBA is to enable Continental to make considerable progress in test technology for passenger car, van and 4x4 summer and winter tyres. An unmanned test vehicle is accelerated in a fully-automated way to speeds of up to 120 km/h and then it is braked with standardized pads on exchangeable road surfaces, which are moved hydraulically, in

this new facility. Both wet and dry surfaces are available for the tests. Additionally, it is possible to let testing take place in a separate ice rink with conventional procedures. Thus, Continental is the first tyre manufacturer who can carry out tests independent of the weather at one site all year round. The temperature of the entire hall can be adapted to the relevant values. "Actually, we set up the worldwide most accurate procedure for braking tests at our test track", explains David O'Donnell, Head of Research and Development Passenger Car Tyres at Continental. "We are able to combine the advantages of laboratory testing with outdoor testing for vehicles here. Thus, we have been enabled to improve reproducibility by 70 per cent. This means that we can measure development progress with the utmost precision."

#### Increase in test precision

Different sensors applied to the wheel and inside the vehicle record the braking test. According to people being responsible, one test run needs four minutes - involving everything from fitting the tyres and

driving to the starting line, accelerating and braking to a standstill. Theoretically, up to 15 test runs could be carried out per hour. "Due to our new facility we can run tests in a more flexible and accurate way - and this even with more than a doubled capacity", explains O'Donnell. In the past, the tyre testers had to carry out tests based on varying environmental influences at a test track which was exposed to the weather at the Contidrom. Now, the Automated Indoor Braking Analyzer facilitates tyre tests under fully air-conditioned test conditions on exchangeable road surfaces with constant friction coefficients all year round. Previously, the vehicles were guided alongside certain rails and the tyre testers had to use the brakes themselves at a specific point, even in the ABS area. As the results had always been influenced by reaction time and force, there was also an additional effect of scattering on the results due to air and track temperatures. According to O'Donnell, this system-related interference could now be avoided. Moreover, considerably reduced

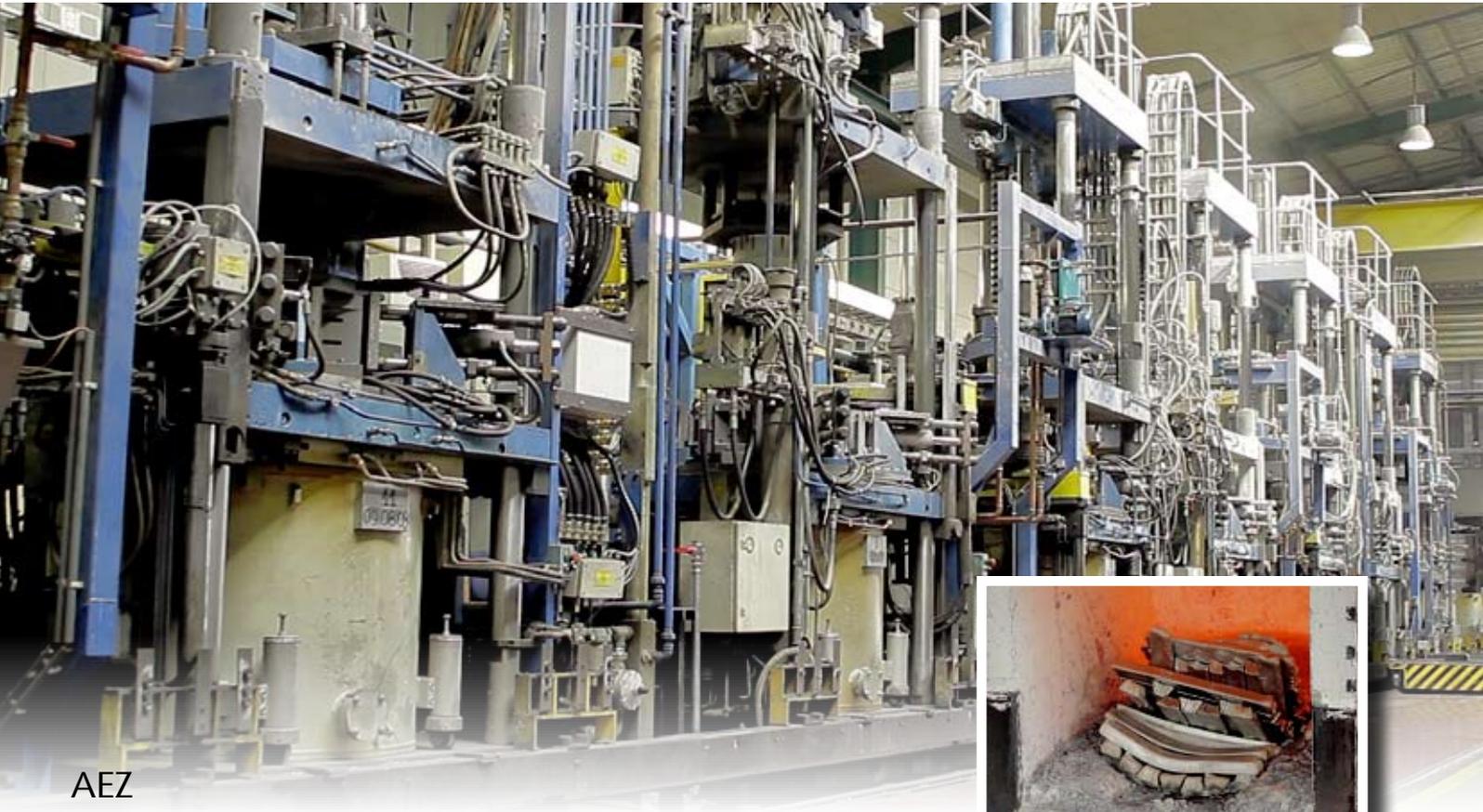
physical restraint on the test drivers and testing cycles being available without any time limits stand for further positive effects. As demand for tyre testing has been increasing all the time, this rise in efficiency is absolutely essential. Due to the significant diversification in the tyre sector, a considerable increase in test units has been noticed so far.

The Automated Indoor Braking Analyzer enables the development department at Continental to carry out braking test units of summer and winter tyre models for passenger cars, SUVs, transporters and vans in a more accurate and efficient way. Furthermore, the people being responsible in the Tyre Division expect crucial development progress with regard to shortening the braking distances, which will result from the technical possibilities of AIBA. Thus, it can be concluded that the demand fixed by Nikolai Setzer to be always on the podium in independent tyre tests in the category "braking" will be put into practice.

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Test vehicles are accelerated to speeds of up to 120km/h with a linear drive on a track measuring only 100 meters.



AEZ

# High investment and fireworks of design



The liquid aluminium is filled in a storage tank.

**The German premium manufacturer made extensive investment in its plant in Neuenrade (Sauerland). The further optimized wheel production is the flagship of the wheel manufacturer being well-positioned as part of a Group with brands like AEZ, Dotz, Enzo and Dezent.**

**A** new casting line with a total of twelve casting machines was set up in Neuenrade. The cutting-edge plant produces aluminium blanks with low pressure die casting technology. Thanks to the new machine line dies can be exchanged without much effort. The blank is automatically transported out of the die and is then immediately quenched in

a water basin. At this point of production, all the blanks are meticulously checked by two 3D x-ray facilities. The metal structure is checked for voids and pores. A photo is taken of each wheel and all the data are stored. Should any defect be found, the blanks are directly brought back to the furnace and molten once again. Only then, the blanks are lathed and drilled by numerous automated CNC control systems. All the waste products resulting from mechanical processing are collected according to item type, molten again in special furnaces and reused afterwards. This resource-friendly production enables a sustainable use of the involved aluminium.

As the wheel is considered as a safety component, all the aluminium wheels have to pass a leak test with helium in Neuenrade. The 100-per-cent check guarantees both a continuously high quality of the wheels by the brand AEZ

and of wheels by other brands. After that the wheels get a surface treatment which involves several steps in the painting facilities. Raw materials are used in a resource-friendly way here too.

The aluminium wheels treated in this way represent high-quality accessory parts. The slogan "Made in Germany" stands for a promise of quality. At the moment, the company is planning set to up a further central warehouse very close to the production location. About 17,000 pallet spaces are to be built there and room for about 500,000 rims is to be available. European markets are supposed to be delivered together with the central warehouse in Osnabrück. The central warehouse in Siegburg has a capacity of 400,000 rims and is meant to focus on supplying the German market. Thanks to this organization it is possible to have about one million wheels available for a fast transport to trade. According to Norbert Frohner, Ge-

Due to the black painting in the rim base and ten gloss-lathed spokes, very specific visual effects are caused.





The AEZ Genua was especially developed for Audi vehicles.



The new casting line works with twelve casting machines.



The mechanical processing of the blanks takes place in numerous automated CNC control systems.

neral Manager AEZ, it is planned to intensify the loyalty of the trade partners based on this high level of availability.

### Fireworks of designs for 2013

Next year, the four brands AEZ, Dotz, Enzo and Dezent will have new and excellent rim designs at hand. A lot of thought went into next year's designs for new rims in the research and development department, which is based in Austria. Norbert Frohner reported that above all the many special details make the difference when he exclusively presented the latest rims to our specialized journal.

Individual style is a specialty of the company AEZ. After this year's success with wheels especially developed for BMW and Mercedes models the brand is going one step further. As Audi was among the most-sold premium car brands in 2011, AEZ developed a special design line "for Audi drivers only!". The brand new AEZ models were presented at the biggest tuning and accessory trade fair in the USA, the SEMA Show in Las Vegas, for the first time. The rim stars "Made in Germany" were a big success.

### AEZ Genua - for Audi drivers only!

The AEZ Genua carries the name of Genoa, the native town of the great navigator Christopher Columbus. And this tailor-made light-alloy wheel is particularly for Audi drivers a really new discovery with regard to design and technology. The AEZ designers were inspired by wind power when developing the wheel rim star which looks like a wind wheel.

The sun is a further energy source of the future, which is reflected by the elaborately worked out light edges, which are ideally accentuated by a high-gloss painting. The designers speak in this case of a "triple lightstep feature": Each double strut is a continuous band running at different height levels from the rim centre to the rim flange at the outside. There it describes two sharp "turns" and disappears just in front of the wheel bolt

downwards - dynamics in pure culture. The concave hup cap is another characteristic feature of the light-alloy wheel, which optically reinforces the slight "cupping" of the new model. The AEZ logo casted in a special way in the rim flange is a distinctive feature of the brand. The Plug & Play procedure is very handy and thus the use of original wheel bolts and of course a general operating licence (ABE). The Genua is offered in sizes 7.5x17, 7.5x18, 8.0x18 and 8.0x19 inches in high-gloss or matt-black with gloss-lathed finish and is suitable for Audi A1, A3, A4, A5 and Q3.

### Design wheel Reef

The name Reef comes from yacht sport and stands for the reefing of the sail. It fits perfectly to the new wheel by AEZ. Due to the black painting in the rim base and ten gloss-lathed spokes, very specific visual effects are caused. The interplay between light and dark and straight and bended surfaces is responsible for pure dynamics. You should not separate what belongs together. - The AEZ Reef offers many possibilities of use in sizes 7.5x17, 8.0x18 and 8.0x19 inches. The wheel is also available as AEZ Reef SUV in 9.0x19 and 9.0x20 inches for especially powerful types of vehicles like Porsche Cayenne, Audi Q7 or BMW X5.

### AEZ Bridge as optical all-rounder

The name of the ship's bridge originates from the times of the paddle steamers, when the command centre was mostly in a crossing between two wheel cases. From 2013 on, however the bridge will directly be found in the wheel cases, which means in those of Golf VII, Ford Mondeo, Mercedes A-Class and C-Class as well as Audi A3 and A4. Nevertheless, the name was less influenced by its mounting position but by its maritime design, which reminds of a high-tech steering wheel. A "reversed" rim base, which provides an additional optical edge at the inside, is a further new feature and creates thus a more intense

visual depth. The developers were directly influenced by racing yachts of the high-class RC44 Cups, in which the wheel manufacturer is represented by its own AEZ RC44 racing sailing team.

The modern and also timeless ten-spoke wheels fit perfectly to every vehicle and are the new all-rounders of the AEZ range of products 2013. The rim is qualified as optical all-rounder due to its classic and solid design. Excitement and variation dominate subconsciously and catch the observer's eye. All the ten spokes have got an elegant twist and are unfolding in pairs from their joined "anchorage". The CNC-turned AEZ lettering "dark" is another eye-catcher in front of a matt-black background. As an alternative, the AEZ Bridge is also offered without the addition "dark" in high-gloss painting. The Bridge is available in sizes 8.0x17, 8.0x18 and 8.0x19 inches. We are presenting the other wheels of the brands Dotz, Enzo and Dezent step-by-step. (oth)



All the wheels are checked by two x-ray facilities.