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Ali Çalışkan, CEO Kordsa

KORDSA

THE REINFORCER



Ali Çalışkan, CEO Kordsa

in an interview with M Noorani



Following a successful 2016, congratulations on an exciting 2017 for your company. Can you comment on your turnover for 2016 compared to 2017?

Compared to the same period last year, Kordsa's sales reached TL 1,239 million (US\$ 341 million) with an increase of 29% while its operating profit amounted to TL 152 million (US\$42 million) with an increase of 22% in the first half of 2017. Kordsa's net profit increased 11% to TL 112 million (US\$31 million) in the second quarter of 2017 compared to the same period last year.

What is your forecast for 2017?

In line with our guidance for 2017, we aim to increase our sales by 25-35% as well as reach 20-30% increase in EBITDA (local currency). In 2016, we announced polyester cord investment amounting to USD 30 million in Indonesia and Turkey and they will become operational in 2018. Moreover, in an effort to maintain our leadership in North America, we purchased Invista assets in Chattanooga, Tennessee. Currently, we are

reshaping our production to produce polymers for our plants in Indonesia and Turkey. Our aim is to obtain 20% organic growth in five years as a result of our investments.

With the highs and lows across the globe and various political uncertainties (US policies, Brexit, the US-North Korean situation) what are your main targets for this year?

There might always be highs and lows or uncertainties. Whatever the circumstances, we will continue to make our planned investments and achieve our targets. We announced our polyester cord investment in Indonesia and Turkey, which are planned to be operational in 2018 and serve the market with relatively high-growth potential. We will be focusing on this ongoing project. This plant in Indonesia will further strengthen our position in the Asia Pacific region. Thanks to our technological capabilities and our expertise in the reinforcement technologies, we are aiming to increase our market share in Europe, especially in

the composite industry. We send prototypes for 30 of 40 potential customers. In our R&D Centre at Composite Technologies Center for Excellence, we produce visual and structural parts in an effort to build stronger and lighter vehicles and currently have 15 collaboration projects with the university. Briefly I can say, in parallel to our mission to reinforce life, we will keep on creating value for our stakeholders in a wide geography from America to Asia Pacific.

Among the many achievements of Kordsa internationally and nationally, which are the ones that have given you the greatest satisfaction?

Our business success is strengthened with many prestigious and honorable awards, granted for our innovative technologies, human resource practices and business ethics. For instance, according to a survey conducted by the Great Place to Work Institute (GPTW) this year, we were listed once again among the best employers in Bahia, Brazil for the second consecutive time. We ranked third in the list of the best employers in Bahia, Brazil with 86% Trust Index. We are delighted to be recognised among the companies with a strong humanitarian culture. Moreover, we are listed among the top 100 fastest-growing companies in Indonesia by Infobank, one of Indonesia's biggest economic magazines. In 2016, we were selected as "Export Star of the Year" in Indonesia and also received the "Best Employee" award with the project leader who realised the Project "Safety Experience Center" two years consecutively.

For our recent success in business, I would like to sincerely congratulate all my colleagues for their contribution to our new dipping technology in the tire cord fabric production. Thanks to our vision to create collaborative solutions to existing and emerging challenges in the future of mobility, we have been working on this formulation since 2008. As a reflection of our open innovation mindset, we have leveraged our expertise with Continental and have managed to change the 80-year common formula by replacing resorcinol and formaldehyde with eco-friendly chemicals.

Another pride of our R&D efforts is that we have introduced a revolutionary innovation for automotive composites. With this new resin technology bringing speed and productivity increase to the industry, the curing time of nine minutes has been reduced to three minutes. Providing the composite material with a smoother and higher quality surface finish, our new resin technology is also suitable for automotive production speed.

It is clear to any observer that Kordsa's success is due to its high standards ethically, its commitment to R&D, innovation, a technology-oriented mindset and development of the younger generation. Your thoughts on this would be enlightening for our readers worldwide.

Today, we are in a world where innovation and

technology are the key drivers for growth and development. Therefore, in order not to be out of the game, as you have mentioned, R&D and innovation are an integral part of our corporate culture and are located at the heart of our business strategy. To have a broader vision leading to new discoveries that ignite an organisation or industry, we need to get out of our cocoon and combine multiple existing ideas and disciplines and unite our power. Being a keen supporter of open innovation practices for some years now, we have collaborations with institutions, companies and universities for projects that are outside the scope of our own area of expertise. We always offer technology that makes a difference and create value with an intensive focus on R&D and innovation. We closed 2016 with a record number of patent applications. As of end of July 2017, we have over 100 inventions, 433 patent applications and 146 approved patents in total. We also have a mission to reinforce the future, and that is possible through development of younger generation. In line with this mission, we always encourage the university and industry collaboration, and support young and enthusiastic students through sponsorship programmes in their effort to invent new technologies and engineering.

In addition to your plants in Brazil and Indonesia, do you plan to set up manufacturing facilities in China, India, USA or in Europe?

Kordsa has already had two plants in US — in Chattanooga, Tennessee and Laurel Hill, North Carolina. As you might know, recently Kordsa Incorporated, the US subsidiary company of Kordsa, has purchased the Invistaplant in Chattanooga, Tennessee. With this purchase, we aim to maintain our leadership position in the US market. In the near future, we are not planning any plant in China, India or Europe.

While Kordsa is truly a "reinforcer of the world", you can take particular pride in your contribution to the global tire and automobile industry. Which aspects of your technologies and your themes have contributed to this leading position?

Kordsa's products are very much integrated to our everyday life to make life safer, more efficient, comfortable and convenient. That is why we say "We Reinforce Life". Being a global actor of its industry, and an exemplary for the Turkish industry, we will continue our journey by creating value for the future. Our ability to deliver for our clients is based on the talent, creativity and passion of our employees. Their hard work and dedication helps make the world a better place by meeting the needs of our clients and the communities in which we live and work, touching every aspect of life. We know our customers very well and make agile and attentive decisions. We accept differences and create a world with no discrimination. We strive to improve the

lives of individuals, families and our loved ones across our community. In other words, "we reinforce the life, we reinforce the world". That's how we sustain our leading position, and that's why we have consistently evolved what we do and how we do it.

What percentage of your annual turnover is earmarked for R&D?

We are spending USD 10-12 million per year for R&D. This is approximately 1.5-2% of our turnover. In 2016, our turnover only from our new products was USD 49 million. In five years, we are expecting that 20% of our turnover will be from new products.

CSR is also an important part of the Kordsa philosophy. What are the major CSR projects planned for the next few years?



I can tell that our 44 years of success is a result of our objective which is to not only develop the company, but also our surrounding community and environment. We reinforce life through several CSR programmes, namely house or school renovations, public health support as well as donation to various activities supported by the local government. We also sponsor university students to encourage them for R&D and engineering or provide them with opportunities to conduct an internship in our company.

Your collaborative projects with universities have been very impressive. What are the ongoing projects?

We place great importance to build a sustainable future and do our best to encourage young people to reinforce the future. Supporting them in their efforts to being involved in technology, innovation, R&D and engineering is one way of doing this. For instance, currently we are among the sponsors of Yildiz Technical University students' team YTU Racing. The team developed their vehicle with our composite material and participated in the Formula Student competition, the world's biggest student engineering competition. The composite materials that we have supplied this year are used especially at the hull, wings and seats of the vehicle. The vehicle produced is stronger, more robust and more convenient for speed due to its lightweight. Moreover, we have also supported Yildiz Technical University Wind Energy Club and their eco-friendly vehicle, Bulut 17. Our prepreg and composite fabrics are used for the body, chassis, wings and diffuser sections of the car. The wind-powered vehicle participated in Racing Aeolus, held in the Netherlands.

We also provided composite material support to the production of the vehicle to take part at TÜBTAK Efficiency Challenge Electric Vehicle

which was held from August 21-27, 2017 at the Körfez Circuit, designed by Kocaeli University Turkish Mekatronik team. The carbon fiber fabric, produced by Kordsa, was used in the interior, inner and outer door, chassis, suspension and instrument panel of the second vehicle developed and produced totally by the Turkish Mekatronik team. It had previously produced a 430 kg single motor electric vehicle. With our support, they succeeded in reducing the weight of the new dual motor vehicle by 45% and to 240 kg. The team ranked number one in Turkey Design category.

Another sponsorship was with Trakya University Design Project Team for their Pehlivan-02 and Pehlivan-ElekTrak which are the two prize winner cars in several former competitions. The Pehlivan-ElekTrak's body is fully made from carbon fiber, thus enabling it to be lightweight yet strong. The nature-friendly car recharges itself in 45 minutes, and can run for 100km with only 0.22 USD worth of electricity.

A very recent development is your plan to develop jointly with Continental AG a new resorcinol and formaldehyde adhesion system as a more eco-friendly alternative. The pioneering approach in this collaboration to also make it accessible to other suppliers and competitors is a great step. Please tell us more about this.

We joined forces with Continental to establish a new adhesion system for textile reinforcement materials. As a reflection of our open innovation mindset, we have leveraged our deep knowledge and diverse expertise together with Continental and accomplished to make a change in the 80-year formula used in the dipping of tire cord fabrics. The final formulation is an eco-friendly alternative to resorcinol and formaldehyde-based adhesives. Reviewing our massive investments into research in this field and the results obtained, we are absolutely convinced that this new technology can become the new industrial adhesion standard. In the context of our collaboration, we are planning to introduce a free licensing concept for the new adhesion system. We know numerous suppliers are currently working on solutions of their own and the complexity of the approvals process alone for all of the unique solutions could soon become excessive. By making the technology accessible to other suppliers and competitors, we might eliminate this complexity and lay the foundations for a new adhesion system standard.

Kordsa is a prominent presence at international exhibitions like the Tire Technology Expo in Germany. In which other international exhibitions does Kordsa participate?

Apart from Tire Technology Expo, every year we attend JEC World in Paris, the largest international show of the composite industry, where leading companies from more than 100 countries have the

opportunity to share their innovative applications.

This year, we also attended ITEC in Focus held on September 13-14 in Akron, Ohio where the focus was on the reinforcements for tire performance. We were also one of the few sponsors of the event too, showcasing their brand and solutions to the attendees.

We also attended the Techtextil in Frankfurt from May 9-12. We presented our construction reinforcement brand KraTos and composite technology to the participants at the fair.

We were also among the participants of The 2017 edition of Michelin Challenge Bibendum, the world's largest collaborative symposium focused on solving the planet's most pressing urban mobility challenges for almost 20 years now in Montreal, Canada. Our Chief Operating Officer of North America, Jim Del Piano, gave a presentation on the opening day stressing on the significance of open innovation, which would be a key factor for the reinforcement market.

In line with our strategy to focus on composite technologies, we participated in the Composites Europe in Germany, the most important meeting point of Europe with its thousands of visitors every year in the field of composite materials and equipment.

Besides these international events, we participate in domestic events as well. For instance, this year was the 40th edition of Turkeybuild Exhibition held at TÜYAP Beşikdüzü exhibition center in May. We exhibited our innovative products in construction reinforcement technologies. We have also been to the Turkish Composite Fair.

What are the present total capacities at each of your production plants? Do you already have expansion plans in mind?

We have eight plants and approximately 4,000 employees in five countries, namely Turkey, USA, Brazil, Thailand and Indonesia. In polyester yarn, our total capacity is currently 75 kt/tons. We are planning to commission 7,000 tons of additional polyester thread capacity both in Turkey and Indonesia in 2018.

Our nylon yarn capacity is around 120 kt/tons. We produce tire cord fabric in Izmit and Indonesia plants. Our total capacity for cord fabric is around 150 kt/tons, and for single end cord is 3 kt/tons.

Kordsa also lays great effort in energy efficiency. Are there specific targets for each of your production plants?

Energy is one of the main inputs of production. Therefore, achieving its efficiency and reducing its usage per ton of product are among our strategic goals alongside other energy saving activities. Our goal in the projects we work on is to develop new products and technologies that increase energy efficiency and reduce carbon dioxide emissions with a focus on the environmental impact. We undertake to provide the necessary budget, manpower and technology, and inspire teams. We encourage and



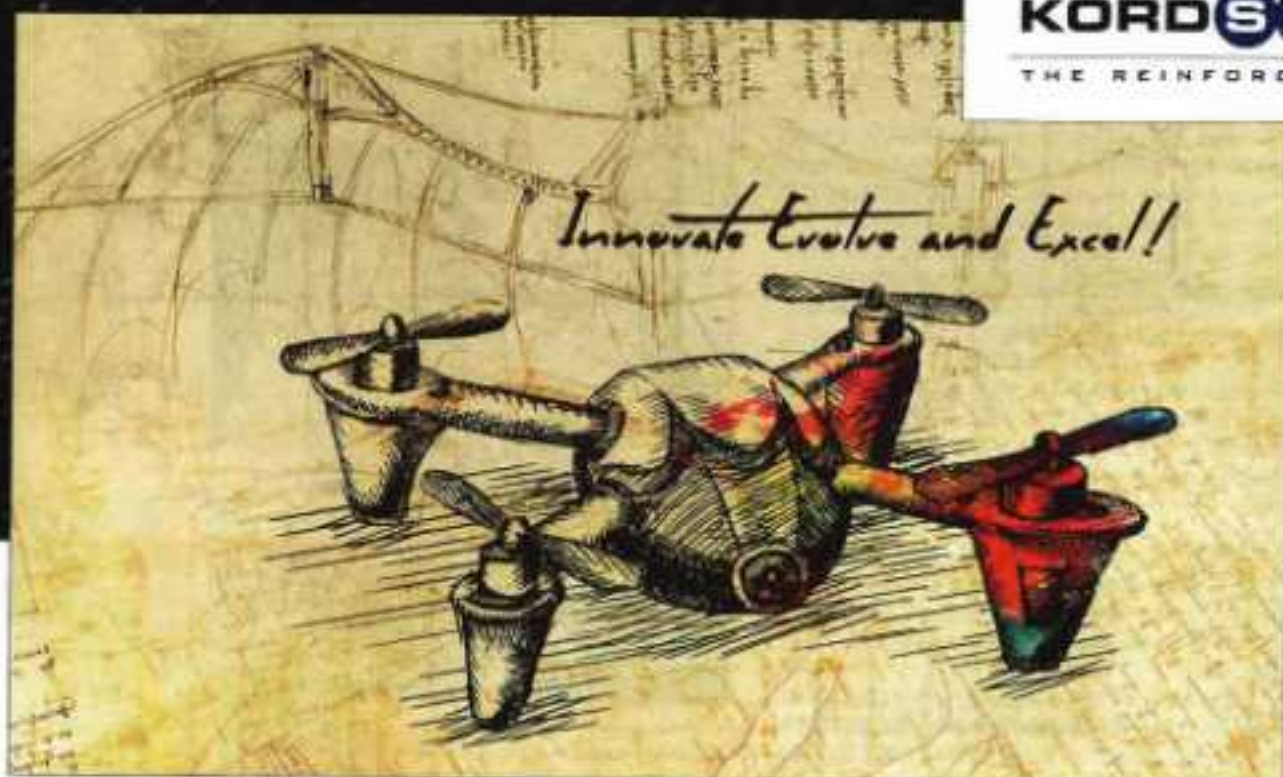
cascade projects with proven success and payoff to other Kordsa plants. We make comparisons across our facilities for energy results and amounts of energy consumed. We award energy efficiency project teams at recognition events. Every plant of ours acts in line with the energy regulations of the country where they are located. For instance, Composite Technologies Center of Excellence, where our second R&D centre is located, has a LEED Gold Certificate.

Can you share with our readers your plans and vision for Kordsa for the next few years upto 2025?

With our reinforcement technologies, we contribute to a safer, more efficient, convenient and easier life, as well as provide a sustainable world for future generations. Today, Kordsa, the reinforcer of one out of every three automobile tires and two out of every three aircraft tires in the world, contributes to a sustainable world with its products and technologies. We touch every corner of life with our environment-friendly products that reduce rolling resistance in tire reinforcement technologies. We lighten the vehicles that enables them to perform with less fuel and lower carbon emissions in composite industry, and contribute to build stronger buildings in construction reinforcement technologies. Our commitment is to reinforce life. For the coming years, we will strive to find new ways to reinforce the lives of people while we lessen the negative impact of our operations, as our business grows and our geographic footprint expands.

"We reinforce the life, we reinforce the world"

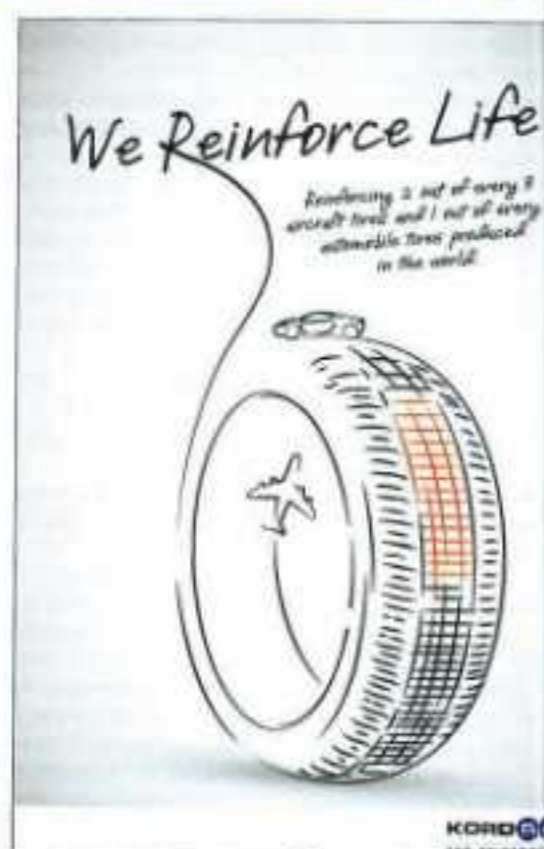
KORDSA: Turkey's Global Life Reinforce Determined to Create Value



Kordsa, the Reinforcer, the Turkish titan on a global industrial stage, one of the crown jewels of Sabanci Holdings; you might know of this company in various ways, but there is no doubt that if you are a part of the international rubber industry, you will certainly be familiar with the name Kordsa.

From its promising beginnings four decades ago in a small town in Turkey, as a subsidiary of the country's largest industrial and financial conglomerate, Sabanci Holdings, to its position today as the world's leading manufacturer of industrial nylon and polyester yarn, tire cord fabric and single end cord - Kordsa has always been an innovator heading for great things. The company positions itself as "The Reinforcer" and the title is richly earned - Kordsa currently reinforces one out of every three automobile tires and two of every three aircraft tires in the world.

The company's success story as a leading service provider to the tire reinforcement and mechanical rubber goods markets, started in Izmit, Turkey in 1973, with the establishment of its tire cord manufacturing plant. Having rapidly captured market share in its home country and becoming the leader in its field, Kordsa went on to scale great heights over the years, becoming the global market leader. Empowered by its strategic approach to tire reinforcement, it is one of the few outstanding Turkish companies that has reached global heights



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GLOBALLY SERVING THE WORLD WITH OUR REINFORCEMENT TECHNOLOGIES



through its vision of international expansion and strong emphasis on quality.

Kordsa has earned tremendous respect around the world for its dynamic management team and executive leadership. Unwavering adherence to a code of corporate ethics, vision and values, a strong emphasis on human resources, strict adherence to quality and its enlightened corporate social responsibility - not just in Turkey but in all the countries where Kordsa operates - have steered the company to its present pre-eminent position. The company has benefited through its strategic acquisitions, made in collaboration with highly-placed business partners. Kordsa currently has 10 manufacturing facilities, located in nine countries.

History & Milestones

- 1973 Establishment of Kordsa with the building of a Tire Cord Fabric plant in Izmit, Turkey



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1976 First exports to Yugoslavia



- 1982 Tire Cord Fabric capacity expansion, Kordsa 2.
- 1984 Tire Cord Fabric capacity expansion, Kordsa 3.
- 1987 Dusa, Sabancı-DuPont JV Nylon Yarn Plant.



A growing company with strong emphasis on quality

- 1990 Initiation of "Quality Culture" studies and implementation of Total Quality Management.
- 1993 The First ISO 9001 certification given to a textile company in the world at Kordsa's plant, Nile Kordsa, Egypt.
- 1996 Honored with the Tüsiad-Kalder Quality Award. The "National Quality Congress

and Awards" is organized by TÜSYAD along with the Turkish Society for Quality (KALDER) to encourage efforts to improve quality and increase the sustainable competitiveness of Turkish industry.

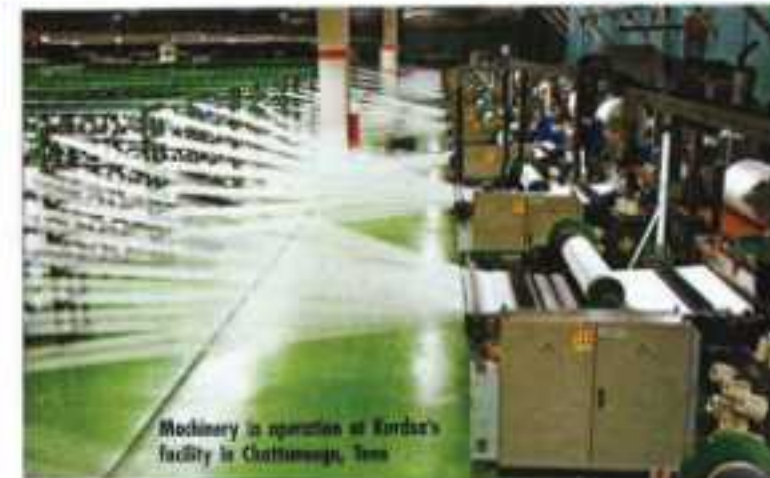
- 1998 Acquisition of Intercord® and formation of InterKordsa. Investment in South America.
- 1999 Merger of Dusa yarn plant and Kordsa fabric plant.
- 2000 Growth in North America.



A global company is born

- 2001 Dusa International.
- 2005 Kordsa International. Acquisition of Cobafi, merger of Sakosa.
- 2006 Kordsa. Growth in Asia: Indonesia, Thailand, China.
- 2008 Global Technology Centre in Izmit-Turkey.
- 2010 Launch of Monolux® and Twixtra®. Kordsa became a member of the Turquality Global Brand Programme.
- 2011 Increase in polyester production capacity at Indonesia facility.
- 2012 Capmax®, Nile Kordsa modernisation, ground-breaking of Indo Kordsa, polyester yarn plant and completion of line 4.
- 2013 Turkey Nylon 6.6 yarn expansion completed. Greener and cost-efficient products and technologies are on the way.
- 2014 Inauguration of a plant in Indonesia: the company's second tire cord fabric and polyester yarn plant at an investment of \$100 million, making Kordsa the strongest player in its sector in the region.

Ground-breaking ceremony held for the Composite Technologies Center of Excellence. This joint project between Kordsa and Sabancı University will create a breakthrough ecosystem consisting of research, learning and production under the same roof, for high value-added technologies. This centre is a move to form the country's new "Industry-University Collaboration" with an aim to serve stakeholders throughout the different stages of the R&D cycle, depending on requirements, starting with basic research, continuing with prototyping, and ending



Machinery is operated at Kordsa's facility in Chattanooga, Tenn.

in mass production.

- 2016: Kordsa was honored as the "Great Place to Work" in Brazil, and received the "Best Employee" award in Indonesia thanks to the project "Safety Experience Center". Selected as an export champion both in Turkey and Indonesia.

- 2017: Acquired Chattanooga, Tenn, USA facility from Invista S.A. of Luxembourg to maintain leadership position in the USA and to produce polymers for all its facilities around the world.

Technology and Innovation Power:

Through innovations, Kordsa has established global leadership and gone on to translate its competence from tire reinforcement to composites.

It is no wonder that Kordsa counts for 1 out of 3 automotive tires and 2 out of 3 aircraft tires in the world.

R&D: \$10-12 million corresponding to 1.5 to 2% of its turnover is invested in R&D. Turnover



Kordsa's second R&D centre certified by the Ministry of Science, Industry and Technology

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from its new product was \$49 million in 2016 but it is expected by 2020-21 that new products will constitute 20% of Kordsa's turnover.

Focus on R&D has already resulted in 433 patent applications and an impressive 146 inventions. In 2016, it opened its 2nd Composite Technologies Centre for Excellence bringing together all processing, production and R&D under one roof. The second R&D Centre has been approved by Turkey's Ministry of Science, Industry & Technology. The impressive investments in innovations and R&D would not have been possible without Kordsa's healthy ROI.

Technology is at the heart of advancement in tire technology particularly to reduce weight, rolling resistance, cost, endurance and increase road hazard resistance.

Kordsa's pioneering agreement with Germany's Continental AG for 'green' tire-cord adhesives

In August, Kordsa and Continental Tire Division announced plans to jointly establish a new resorcinol and formaldehyde-free adhesive system for textile reinforcement materials. They have already claimed progress in developing more eco-friendly alternatives for bonding textile reinforcement materials to rubbers. Continental announced that it plans applications for fibre adhesive products and tire production and free licensing was planned for the tire supplier industry.

Kordsa has "extensive knowledge in the field of resorcinol- and formaldehyde-free bonding



Ibrahim Özgür Yıldırım, Chief Technology Officer, Kordsa

technologies," said Dr. Boris Mergell who heads worldwide research and development of passenger car tires at Continental. Test results obtained by the partners to date are "very promising both in the laboratory and in test tires," added Mergell. "We are, therefore, planning the progressive introduction of this technology in the production of our tires across all segments, which is a further substantial step toward greater sustainability." According to Dr. Mergell, many suppliers are currently working on solutions of their own and the complexity of the approvals process alone for all of the unique solutions could soon become excessive. "That's why our approach in this collaboration is to make the technology accessible to other suppliers and competitors, thereby laying the foundation for a new adhesion system standard," Mergell added.

The use of resorcinol and formaldehyde represents a major challenge to the tire industry, according to Ibrahim Özgür Yıldırım, Chief Technology Officer at Kordsa, which has been working to eliminate the use of resorcinol and formaldehyde since 2008. "Reviewing our massive investments into research in this field and the results obtained, we are absolutely convinced that, in collaboration with Continental, we can make the new technology ready for becoming the new industrial adhesion system standard for textile reinforcing materials", Kordsa's CTO stated.

Kordsa was a prominent participant at ITEC in Focus in mid-September in Akron, Ohio, USA.

Globally acknowledged as the Reinforcer, Kordsa attracted interest with its unique and innovative solutions. Kordsa Reinforcers shared Kordsa's ongoing collaborative hard work in harmony with its current customers and its best practices in finding innovative and sustainable solutions for its business partners' issues today and in the future. Attendees had the opportunity to take a first-hand look at Kordsa's tire reinforcement solutions and to see how Kordsa is always a competent development partner, who can contribute to their extensive knowledge. Kordsa was also one of the sponsors of this conference and showcased its brands and solutions to the delegates.

Kordsa is a truly global player. In addition to its imposing presence in the tire reinforcement market, Kordsa has been a prominent entrant in the composite construction and reinforcement markets. It has been participating in the JEC Composite Fairs which is the international gathering of the global composite industry, where industries of automotive technology that provide speed and efficiency in the automotive industry participate. Its new Resin Technology has reduced the cure time from nine minutes to three minutes.



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Exciting future

Kordsa is not just the only Turkish company with a global vision and presence, but also a highly respected one. This is due to its enormous technological achievements resulting from innovations and R&D and high ethical standards in all the countries that it operates from USA & Brazil in the West to China, Indonesia and Thailand in the East. It has received numerous awards for being the most ethical company in Turkey for four consecutive years. It has also bagged similar awards in the USA, Brazil and Indonesia for being a great employer and for its enlightened corporate social activities to help the communities surrounding its offices and factories worldwide.

Under the fine leadership of Ali Çalyiğın and his team, Kordsa will continue to enhance its position in the automotive, construction and composite industries by leveraging its expertise on tire reinforcement and technology gathered since its start up in 1973. Simply put: Kordsa will continue reinforcing life with its reinforcement technology.



Among best employers in Brazil for two consecutive years



Export Star of the Year in Indonesia

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