

THE REINFORCER

KORDSA GLOBAL | BULLETIN | N.03 SUMMER 2015 | TURKEY

Determined to Create Value

KORDSA GLOBAL





MISSION

Deliver high value added reinforcement solutions globally.

VISION

Agile Kordsa Global in high value businesses for sustainable growth.

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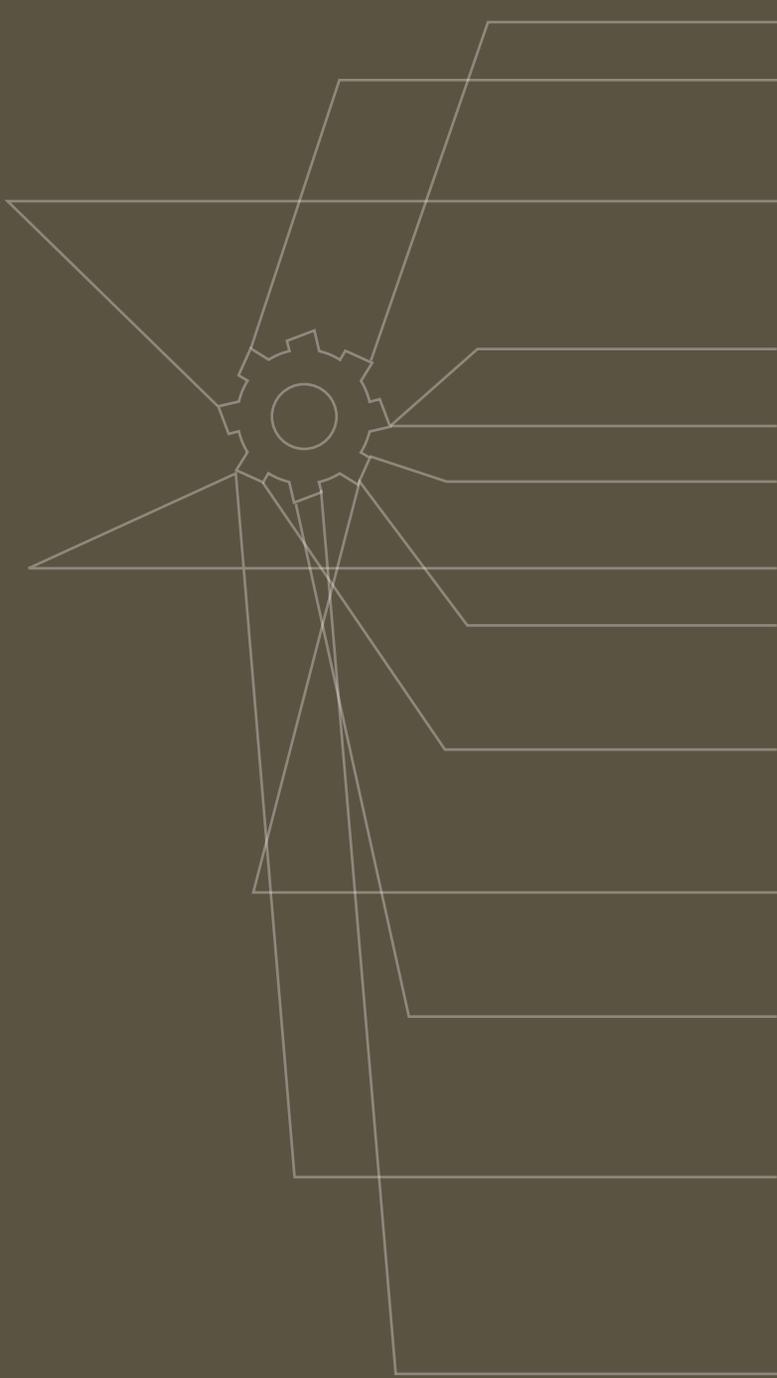
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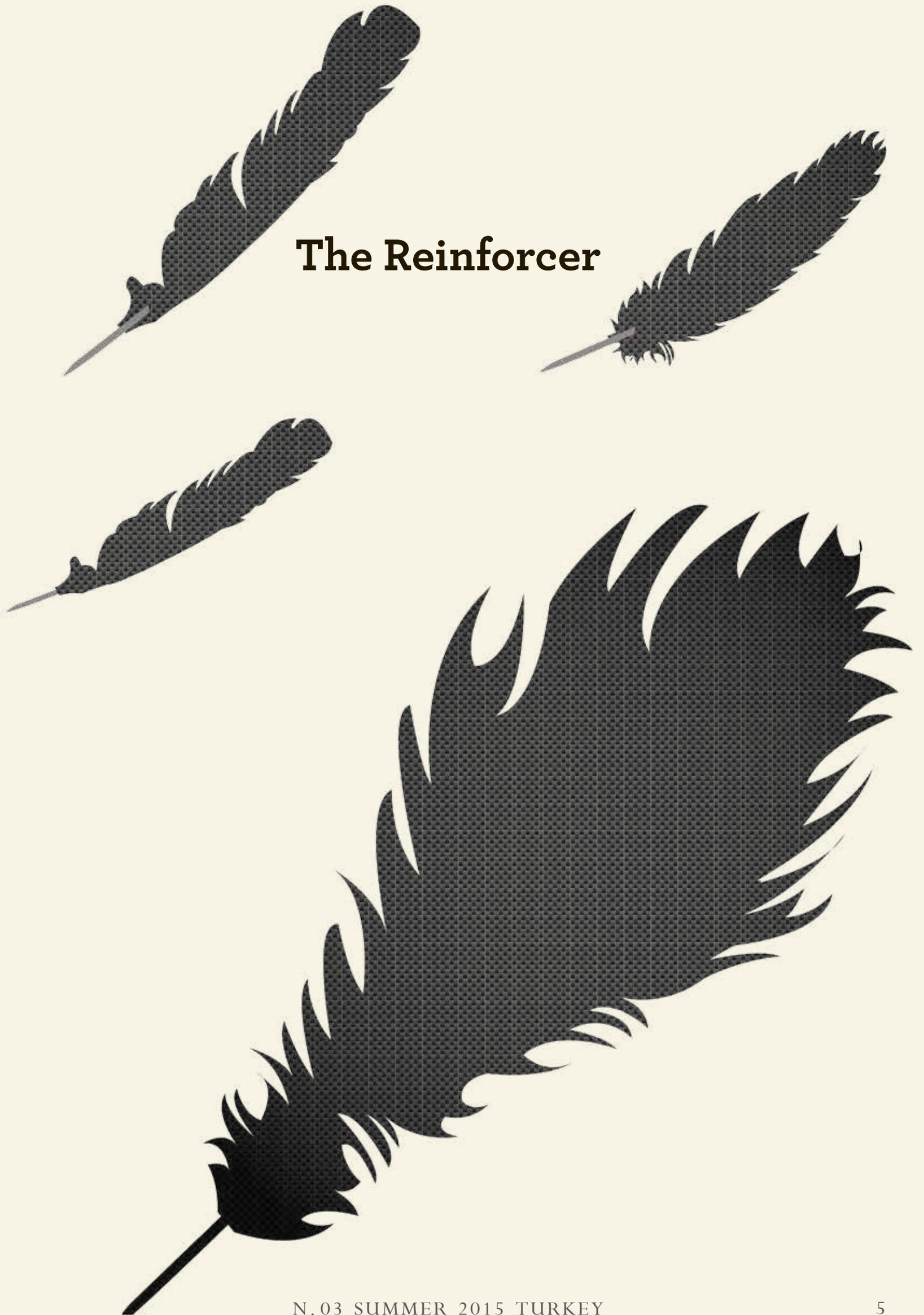
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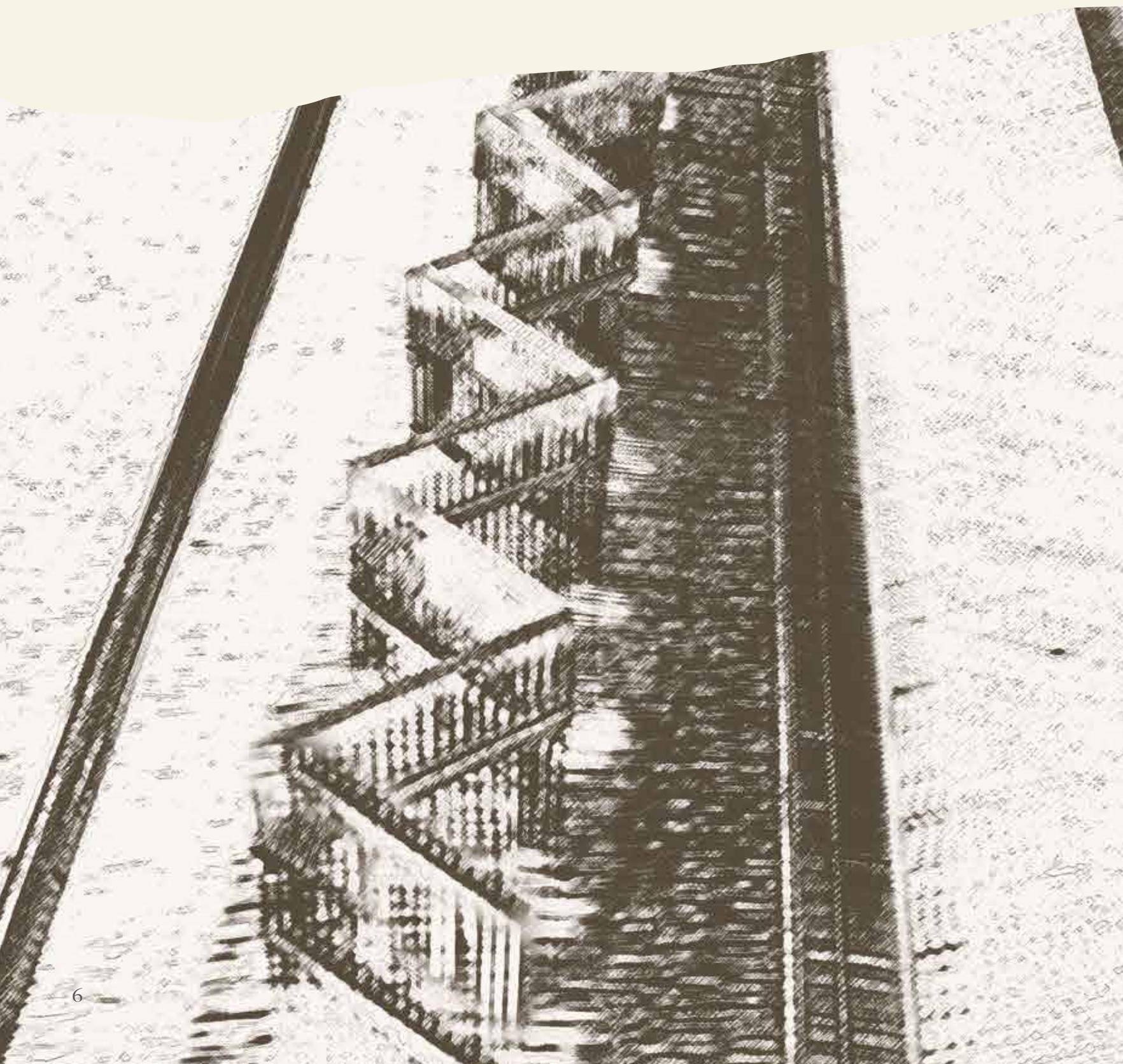
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The Reinforcer



Companies, that can continually generate value for all its stakeholders and pre-emptively assess and manage risks are winning the race for competitiveness in the long run.





CENK ALPER
CEO

While the economic balances are changing Kordsa Global strengthens its place

World economies have been facing interesting changes in the first half of 2015. European companies are becoming more competitive with the sharp decline of €/€ parity. Stagnation in Latin American economies, slow down in Asia Pacific and finally continuous renewal of US economy have changed the economic realities for many companies. Local protections, government incentives, additional duties are only temporary solutions for companies to become competitive in the global competitive landscape.

Companies, that can continually generate value for all its stakeholders and pre-emptively assess and manage risks are winning the race for competitiveness in the long run. That's why at Kordsa Global we are continuously striving for opportunities to create value for all our stakeholders and stay competitive in the market space.

As part of her policy of increasing free float of its companies, Sabancı Holding has successfully completed a secondary public offering of Kordsa Global shares. With the 20% sale of Kordsa Global shares to qualified investors, Kordsa Global free float has increased to 29%, which will allow healthy trading volumes and correct valuation of Kordsa Global share price. Kordsa Global has already started to be traded in the BIST 100 Index of Borsa Istanbul with the increased trading volumes.

In our core business of tire reinforcements, we have successfully participated in Tire Technology, Cologne and Tech Textile, Frankfurt where we have met with our existing and new customers. The Tire Reinforcement Materials Training in Cologne together with Bekaert and Cordenka was a prime example of our responsible industry leadership.

For the first time, we have participated in JEC Paris with our innovative Composite Reinforcement Fabrics, to strengthen our position into the Composite Industry. In order to support the composite reinforcement market and associated technological development activities, the construction of the Composite Technologies Center of Excellence continues with full speed.

The marketing of our Construction Reinforcement brand Kratos has continued in Turkey Build Istanbul and in the 9th Concrete Congress. The launch of the joint brand Kratos Beton with Akçansa is the first sign of our commercial success.

I am very excited to inform you that we will be publishing our first Sustainability Report in the second half of the year to reinforce our commitments to the world's economical, environmental and social sustainability. We are happy to see that our sustainability efforts have continued to be crowned with many awards like, Etika 2015, Energy Efficiency in the Industry, Environmentalist of the Year, and TIDE Corporate Awareness.

Finally, I am happy to see the cooperation of our operations teams and JMAC on Lean and Total Productive Maintenance activities which will strengthen our zero accident, zero quality defects and zero down time goals.

Again, we are happy to share the latest developments and successes in our business with you in the 3rd issue of "The Reinforcer". We still have a long journey ahead and we would like to unite, develop and prosper together.

Happy reading.



ARZU ERGENE
Chief Financial Officer and
Chief Operating Officer, South America

Kordsa Global continues to create value for shareholders

When I joined Kordsa in 1994; it was a company with a free float over 30%, traded in Borsa Istanbul.

Over the years; Kordsa evolved into a global player by mergers and acquisitions namely; Dusa Sabancı DuPont JV of Nylon Yarn Plant in TR, DuPont Brazil, DuPont Argentina, Dusa LLC US, Cobafi Brazil, Sakosa TR.

These acquisitions diluted the free float to 9% by 2006. At this time Kordsa Global had facilities in Asia Pacific, Europe and Middle East, North and South America.

During this process, Kordsa Global dropped out of the watch list of institutional investors and lost its space in the top trading stocks at the stock exchange. With a very shallow trading volume, the share price absolutely was no indicator of company performance and the enterprise value.

During the management roadshow, once again we saw how limited our exposure to the investor base was and how little we have been able to communicate to the market who we are, what we do, and our position in our markets. Obviously we were just too small to be in the radars of investors.

Our main shareholder Sabancı Holding decided to increase free float to a reasonable level and announced that it will list 25% more shares for sale within 2015. There was good

demand and appreciation of this decision in the stock market and the share price soared.

Kordsa Global's market leadership position, long term strategic partnership status with all global players, diversified footprint, technological depth and strength, commitment to the industry, growth prospects via investment into existing, adjacent and new reinforcement sectors have been well perceived by the markets. Needless to say, Kordsa Global's trajectory on dividend distribution and cash generation over the 42 years of its existence has enhanced its investment case.

Increased free float is a key to improving liquidity, enable correct valuation in the market, improve enterprise value. An investor when investing into Kordsa Global's should feel the comfort of knowing that he/she can exit when feels necessary and will not be penalized by the shallow trading volume that carries a share price which does not reflect the value of the company.

We should also mention that a reasonable free float is perceived as a solid signal of transparency, corporate governance and trust to the management of the company. Kordsa Global having possessed these qualities already is now harvesting the benefits of its invested efforts.

KORDSA GLOBAL

in the first half of 2015

Completed the last piece of Kordsa Global share sales

Sabancı Holding informed that it has decided to sell up to 10 percent - equaling TL 19.45 million (\$7.54 million) - of Kordsa Global, on the wholesale market of the Borsa Istanbul.

Regarding to the Sabancı Holding's statement to the Public Disclosure Platform, at May 15, 2015 Board & Directors meeting, it was decided that Sabancı Holding would sell up to 10 percent of share capital of its shares in Kordsa Global Endüstriyel İplik ve Kord Bezi Sanayi ve Ticaret A.Ş., with a nominal value of TL 19,452,907, on the wholesale Market of the Borsa Istanbul.

They completed the last piece of Kordsa Global share sales. With this share sale, Kordsa Global's float increased to 29% in Borsa Istanbul which will allow a healthy trading volume.

Kordsa Global began preparations for sustainability report

Kordsa Global adapts sustainability concept in parallel to an understanding and management determination to today's goals and strategies.

As a result of this understanding, Kordsa Global signed the United Nations Global Compact in 2014. With the guideline of GRU 4 (Global Reporting Initiative), Kordsa Global will publish its first sustainability report in 2015.

In this context, Kordsa Global established its project team and began its training activities. The primary objective of the study is to create the ownership of this issue by the project team and adopt the concept of sustainability. The Sustainability Report, which will begin after the training, will provide all socio-economic and environmental factors in a comprehensive and systematic approach.

Kordsa Global, which implements transparency and ethical business model as core principle, will prepare the sustainability report to meet the expectations of all the stakeholders. The report is scheduled to be completed and published in 2015.

Thai Indokordsa reached its target of completing 2 million hours of work without an accident

After accomplishing their target of reaching 1 million hours of work with no accidents, Kordsa Global's Thailand plant reached its second target of completing 2 million hours of work without an accident. There has not been a reported accident since the 28th of April, 2014.



Employees' efforts, management's support, trainings and auditing were all essential contributions to create a safe working

environment and to enhance the performance. Thailand plant's new goal is to complete 3 million hours of work without an accident.

Bridgestone inspected the Izmit plant of Kordsa Global

Kordsa Global's İzmit plant has been inspected in terms of quality and business processes by the North America team of Bridgestone Auditors. They stated that they were pleased to see such successful quality systems and competent employees who seem to be the best at what they do.

Tim Robinson: "We are proud to have a supplier like Kordsa Global" Tim Robinson, Director of Reinforcement and Raw Materials Development at Bridgestone, praised Kordsa Global with a sincere message. In the message, Robinson said they were very impressed to see that all teammates are highly qualified, actively engaged and committed to making a quality product. He also emphasized the fact that as Bridgestone, they are proud to have a supplier like Kordsa Global.

"Based upon our visit, we have a high degree of confidence in Kordsa Global that we will pass along to our global Bridgestone associates. To this point, we are attempting to schedule additional technical meetings to explore future business opportunities for the mutual benefit of Kordsa Global and Bridgestone. Thanks again for all of your support and hospitality and we look forward to working with all of you in the future" Robinson added.

Kordsa Global is among the leaders of the Turkish Patent League

Kordsa Global took its place among the champions of patent submitting companies in the first half 2015 ranking 6th with 14 patent submission according to the data published by the Turkish Patent Institute, an affiliate of Ministry of Science, Industry and Technology of Turkey.

"We see R&D as a continuous business in Kordsa Global. We will convert our R&D inventions to new and innovative products which will be presented to the entire globe." said Mr.Mehmet N.Pekarun President of the Industrials Strategic Business Unit of Sabancı Holding.

Kordsa Global CEO Cenk Alper stated "Since 2008, we systemized our works and studies under the roof of our R&D center. We consider innovation as a basic target not only for product development but for our processes and technologies as well. We serve the giants of tire industry with our innovative products, technologies and processes." He added that their aim is to increase Kordsa Global's rank even further in this league and to bring new technologies and capabilities to the industry though our new innovations.

AWARDS



Kordsa Global received award for corporate awareness

Being granted full marks in Quality Assurance Review from KPMG, Kordsa Global received the 2015 Internal Audit Awareness Award from Institute of Internal Auditors - Turkey (TIDE) Board of Directors.

The world's leading manufacturer of Nylon 6.6, polyester industrial yarn, cord fabric and single cord. Kordsa Global was audited by the independent KPMG auditors. Conducted in November 2014, the Quality Assurance Review resulted in "Generally Conforms" for Kordsa, granting the company's Internal Audit Department the certification of International Internal Audit Standards. The leading organization Kordsa Global has been awarded the Corporate Awareness prize by Institute of Internal Auditors - Turkey (TIDE) Board of Directors after passing the Internal Audit Quality Assurance evaluation successfully.

Kordsa Global CEO Cenk Alper stated that the assessment and mention award has extreme importance. He made the following remarks:

"It is extremely important for us to pass the assessment of KPMG and confirm that our internal audit activities are in accordance with the International Internal Audit Standards. The result certifies that our audit practices are in line with International Internal Audit Standards and Codes of Conduct, assuring our stakeholders once again."

Mr. Alper also indicated that they gladly follow the awareness activities of TIDE, and such projects are an effective instrument in making their internal audit activities consistent with international standards.

Kordsa Global Internal Audit Manager Özkan Demir stated that the Internal Audit Department is proud of the result:

"We aim to improve our practices through advanced technology without compromising our high quality standards, and look forward to contribute to our stakeholders in the future. I would like to thank the members of the Board of Directors, Audit Committee and Executive Board, as well as our entire team who had a share in our success."



Kordsa Global won "ETİKA 2014 Turkey's Most Ethical Companies" award

Kordsa Global has been granted "ETİKA 2014 Turkey's Most Ethical Companies" award by Ethic Values Center (Etik Değerler Merkezi - EDMER). The award is given to honor the companies who set a good example for the young, in terms of raising awareness on work ethics and adopting the idea of ethical consciousness. Kordsa Global, which was deemed worthy of an Etika Award for the third time this year, received an "ETİKA Ethical Continuity" award as well.

Kordsa Global, received "İTKİB Platin" award in the "Stars of the Exportation" category

Kordsa Global received a Platin Award in the category of textile at the İTKİB (Textile and Apparel Exporters Associations) Stars of the Exportation Award Ceremony on May 8.

Almost 12 thousand exporter companies which are also members of İTKİB's ready wear, textile, leather and carpet associations, have been evaluated in terms of their exportation skills. Kordsa Global got its Platin Award from Nihat Zeybekçi - Minister of Economy and Mehmet Büyükekçi - President of TİM (Turkish Exporters Assembly).

Sabancı Golden Collar Awards 2014 winners

Having continued since 2009 with the aim of promoting the success of Sabancı Group companies and their employees and mutually sharing good practices, the process for Sabancı Golden Collar Awards has been initiated. As Kordsa Global we applied on all 8 categories.

Synergy Winners: (Special Award) Hasan Mandal, Yusuf Menciloğlu, Volkan Özgüz, Mehmet Yıldız, Özgür Yıldırım, Deniz Korkmaz

Innovation & Corporate Entrepreneurship Winners: (Mention Award) Zayım Saygılı, Okan Ataman, Selçuk Gedikli, Yücel Ayyıldız, Yasin Şen, Elif Erdoğan, Emel Eren, Neslihan Gülbeycan, Nurçin Javaherian, Ülkü Katırcı, Hüseyin Ateş, Egemen Bilge, Özlem Türkarıslan, Deniz Korkmaz, İbrahim Yıldırım

Efficiency Winners: (Mention Award) Sinan Örengül, Safiye Yavuz, Hacı Hüseyin Çelebi, Muhsin Tokel, Hakan Kaya, Ali Varal, Hasan Eris, Bahadır Uzkeser, Erkan Bayraktar, Ersel Efe, Nilson Franco Dos Santos, Arrazy Bagus Triffilasetyo, Satria Mukti Nuswantara, Mark Byrd, Pitak Bunprom, Cahit Erdem, Levent Bekaroğlu, Samart Chimpong

Invest in People Winner: (Mention Award) Kordsa Global
Digitalising Winners: (Mention Award) Hakan Edis, Fatih Akar, Halil Şenkal, Gökçe Özarar, Alper Kırmızıoğlu, Emre Çelik



Synchronous Kordsa Global All Star excitement in 5 continents



This year, Kordsa's global award program All Stars was held in 5 continents synchronously. At the award ceremony which was broadcasted live from 8 different plants on 5 different continents, the employees who were deemed worthy of the award, got their trophies from their company's board members.

All Stars Award Ceremony, which has been organised by Kordsa Global since 2006, is an award program that rewards outstanding projects and the employees who effectively contributed in these projects.

The ceremony was broadcasted live from 8 different Kordsa Global plants on 5 different continents, synchronously.

At the Award Ceremonies which took place in Bogor-Indonesia, Ayutthaya-Thailand, Ramadan City-Egypt, Mühlhausen-Germany, Salvador da Bahia-Brasil and Chattanooga and Laurel Hill in USA; the awards were given both in the factory and individual segments. The number of the factory awards given away was 10, while 212 awards were given in 9 different segments of the individual categories.

All stars award ceremony ended after the factory awards, individual awards, global synergy awards and the individual awards held by each country respectively.



Cenk Alper Receives "Environmentalist of the Year" Award

Cenk Alper received "Environmentalist of the Year" award from Kocaeli Newspaper, one of the biggest local newspaper in İzmit. Cenk Alper received his awards from Kocaeli Chamber of Industry Chairman Ayhan Zeytinoğlu. The awards ceremony held since 1991 by Kocaeli Newspaper, once again gathered the bests in their categories. Esteemed politicians, businessmen, academics and professionals from diverse industries attended the ceremony. Kocaeli Newspaper General Manager Erkan Ünal gave a speech at the reception and thanked the participants for their contributions.



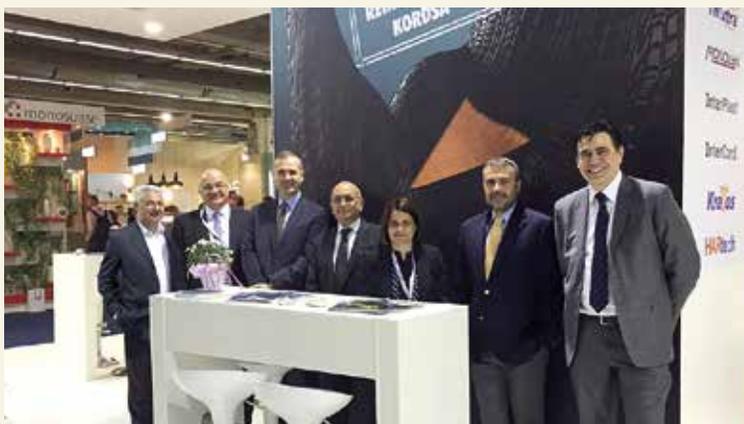






SOCIAL KORDSA GLOBAL

Techtextil 2015 Frankfurt (4 - 7 May 2015)



Held in Frankfurt, Germany, on 4 to 7 May 2015, Techtextil is a global marketing platform, with more than 30.000 visitors, brings manufactures and consumers together to share needs, new technologies and new ideas.

As being one of the biggest players in the tire reinforcement industry (Mobiltech) with other well-known technical textile producers (Indutech, Buildtech, Geotech, Clothtech & Protech) Kordsa Global attended Techtextil-2015 introducing its new innovative solutions. Our experts seized the opportunity to present new innovative solutions mainly for the Tire, Composite and Construction industries. Our visitors appreciated the Kordsa Global portfolio of products especially our "customized" solutions created by a state-of-the-art technology center.

38th YAPI FUARI - TURKEYBUILD 2015 (21 – 25 April 2015)



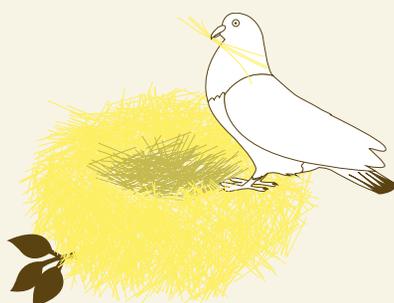
Held in İstanbul, Turkey, between 21st and 25th of April 2015, TURKEYBUILD is considered to be the summit of the global construction sector. This year the exhibition welcomed 1.250 producer companies from 105 countries and was visited by more than 100.000 people.

Throughout the event, in a new custom-made exhibition platform, Kordsa Global hosted meetings with local and international visitors along with many companies associated with the industry. In addition to Kordsa Global's Kratos® exhibit, Akçansa launched Kratosbeton a "new" Kordsa Global technology in their portfolio. Many attendees had heard about the innovation from the sales and marketing team. During the exhibition, the Kratos® sales and marketing team met with many new prospects and developed long-term business relationships.

9th National Concrete Congress (16 – 18 April 2015)

Kordsa Global attended the National Concrete Congress Held in Antalya, Turkey between 16th-18th April 2015, 9th. The main topic of the 9th Congress was 'Sustainability in Concrete'. This year, the Turkish Chamber of Civil Engineers (TMMOB) organized the event.

The main headlines of the congress were: Sustainability, continuity and energy savings in concrete by using environmentally friendly materials. During the congress, Kordsa Global welcomed many academicians, contractors, concrete companies and engineers to its showroom where we shared extensive information about Kratos® to create brand awareness in Turkish construction sector.



Tire Tech Expo 2015

Kordsa Global attended in Tire Technology Expo 2015, Europe's leading tire design and manufacturing exhibition, with broad product portfolio range and especially attracted great interest with its innovative cap ply solution Capmax® from participants following the conference presentation was made by product leader, Evren Güner. In the presentation, simplification of the passenger tires nylon overlay production stages with direct Capmax® usage and tire design were shared with the participants.

In addition to conference presentation, "Textile and Steel Cord, Its Features and Tire Inner Performance" lecture which was organized for the first time this year and Kordsa Global gave instructions about textile tire cord and reinforcement design in tires. After the high participation and excess demand, the course is planned to be repeated in the future years within the regular agenda.



Kordsa Global employees joined the "Big Picture Workshop"

The workshop is a global program to determine the core competency of organizations and ensure implementation of a holistic marketing strategy that is based on this core competency. The attendees who took part in the event received training from an expert in her field, Professor Emine Batislam.

In Big Picture Workshop, five separate teams consisting of five people were separately trained on marketing strategies for three days. Each team developed fresh ideas on marketing strategies in their product category and made value propositions.



JEC 2015 (10 – 13 March 2015)



Held in Paris, France, on 10 to 13 March 2014, JEC Europe 2015 gathers developers and producers of raw materials, intermediate products, and composite parts together as the world's biggest exposition since 1956. JEC is widely known as a global meeting place and technology showroom, as JEC Innovation Award is highly acclaimed as one of the most reputable innovation awards in the performance composites industry.

For the first time, Kordsa Global Reinforcement for Composites Business Unit attended as an exhibitor. Kordsa Global with its approach to technological developments, and Composite Technologies Center of Excellence aroused interest in our engineered, value added reinforcement solutions. Visitors from aerospace and automotive industries constituted the biggest group at the exhibition. During the fair, not only did we have the opportunity to observe the trends and the directions of the high performance composites industry, but we were also able to provide insight into our new development activities for the marketing and technology teams.

NEWS FROM ASIA PACIFIC



TPM training program by Indo Kordsa

Indo Kordsa has already started to implement Autonomous Maintenance (AM) and Planned Maintenance (PM) which are critical pillars of Total Productive Maintenance. JMAC Consultants, Yoshiaki Morita (Technical Director, Head of TPM Consulting) and Takuya Sasaki (General Manager, TMP Global Center) conducted feasibility study and awareness training between 6- 10 April 2015. After the initial feasibility tours and observations, Mr. Morita delivered a full-day TPM Awareness Training to managers (operation) and engineers.

At the end of the study week, the consultants had detail discussion with the team comprising of Derya Ali Kınık (KG Lean Manufacturing Director), Özgür Kaya (Indo Kordsa's Lean Manufacturing Manager), Ali Özgür (Global Lean Manufacturing Engineer) and Burcu Güdücü (Global Lean Manufacturing Engineer) to prepare full implementation program for the rest of the year.

As the next step, the consultants will submit their report on how TPM will be implemented and trainings conducted in Indo Kordsa for coming months. Although TPM consists of 8 main pillars, Indo Kordsa will begin with Autonomous and Planned Maintenance implementation to eliminate losses through contribution of group activities. Indo Kordsa's target is 3Z: Zero Incident, Zero Defect, Zero Breakdown.



Celebration in Indo Kordsa's NYP

The Nylon Yarn Plant team of Indo Kordsa recently celebrated its first pass yield and lowest energy consumption as of May 2015. As many as 70 people attended the celebration, including site director Nuri Düzgören, management representatives and NYP employees. In his speech, Nuri Düzgören thanked the team and underlined the importance of teamwork, planning and management in achieving this success. He also emphasized the meaning of the celebration being part of the four main drivers in human resources, namely communication,

teamwork, recognition/rewards and development. As a token of appreciation, all 200 NYP employees were given each box of cake from the company. Lloyd's Register Quality Assurance Limited (Assessor: Ms.PaveenaHengsritawat visited Thai Indo Kordsa on May 26, 2015 for the 4th Surveillance of ISO9001:2008).

Some departments were audited. There was no noncompliance found in each audit process.

CSR Inauguration Ceremony



Indo Kordsa organized a ceremony in its plant on 6 May 2015 to inaugurate its CSR activities. Regent (Mayor) of Bogor and many high rank officials including member of local parliament, regional police and military chief and heads of 14 surrounding villages attended the ceremony. The ceremony started with the official opening of the main road which was repaired by Indo Kordsa in cooperation with the surrounding companies. The ceremony was marked by breaking the pot by the Regent. It was later on followed by the inauguration of the improper houses renovation, marked by cutting the ribbon by the Regent and President Director of Indo Kordsa, Nuri Düzgören, at the 2 of the 15 renovated houses. The ceremony then moved to Indo Kordsa, which began by the drilling of 9 bio pore wells, a government-sponsored program aimed at increasing the absorption of soil.



During the ceremony, Indo Kordsa also gave the monthly allowances to the interns currently doing a 3-month internship in Indo Kordsa. The orphans who are supported by Indo Kordsa were also invited to the program to receive their monthly scholarships. As a token of appreciation towards Indo Kordsa's CSR contribution, the mayor presented a plaque to the President Director. As many as 500 people attended this program and were shown video clips of Indo Kordsa's CSR activities and company profile. The ceremony program was part of the Regent's weekly meeting with the villages' heads in Bogor area and was covered by local journalists.

The story with the fish



VAHE HANAMIRIAN
Global Accounts and Marketing Director

If a person spends enough time in a company, especially if that person works in Sales, naturally there are a lot of stories to share. So, when I was drafted to share some stories that I remembered, my problem was not the lack of stories, but to decide where to start. Hence, what story do I start with, 'The Story with the Fish' or 'Doing Yoga in a Hotel room full of Cigarette Smoke' or 'The Duty Free Shop in Hotel Nais / Yugoslavia'?

Kordsa Global in the eighties had just a few countries to export to: Italy, Yugoslavia, some Middle East countries and the Soviet Republic. The Russian Soviet Republic was a big market for Tire Cord Fabric exports; however, the logistics and the relationships were not too difficult. We had one single point of contact; a central company which was issuing specifications and handling all of the imports for the entire country. They were then distributing the material all around the country to all the different republics. We rarely contacted or visited end user factories and if we did, we were always with people from the central distribution company.

In the nineties, when the big Soviet Republic divided into several countries, our business started to face some new challenges. Some of the big tire companies were located in Russia which continued operations as before, but some companies which were located in the new independent countries needed to establish contacts on their own in order to import the necessary raw materials.

So, we had to visit them for the first time!

My dear friend Bülent Araslı, who is one year more senior than me, had a deep knowledge and understanding of the old Soviet and the new CIS market. He proceeded to visit most of those countries, either to convince them to buy from Kordsa Global, or to convince them to continue to buy from us, as we were supplying them indirectly in the past.

Flights from Turkey to the East in those days were infrequent. Even for a meeting of half a day, we had to fly there one day early, spend several days until there was a return flight and then take the plane back. Alternatives via other West European cities were available but usually more costly. We had to spend several days in the country, but it was usually not an issue as our colleagues there were very friendly and had a traditional understanding of deep hospitality.

In one of those trips, when Bülent had landed in the Caucasian country, he was taken to a dinner with a big group of participants from our customer. It was an excellent dinner with a lot of vodka and variations of fish from the Caspian Sea. Bülent especially liked one type of smoked fish - a specialty, for which he made a lot of compliments.

He was not aware of consequences!

Back in his hotel room, when he was about to go to bed, there was a knock on the door. A young engineer from dinner appeared at the door. He had a package under his arm, about a meter long, a present from the General Manager: smoked fish wrapped in a newspaper. Bülent thanked him politely and accepted the present as he knew that it would have been impolite in the region to refuse such presents.

He went to bed, but his mind was preoccupied with a problem. He had to stay in that small room for two more days without a refrigerator and with a fish wrapped in a newspaper! He thought, even if he would survive the two days, he was not sure if he could pass through customs with the fish without any problems and if he would be allowed to take it home to Turkey. He could not sleep and his mind was racing with these thoughts. Finally, he decided not to fight with his thoughts but fight with the fish! He wanted to get rid of it.

He took the fish and opened the door to take it downstairs and look for a place to throw it away. But, all the hotels in that region had employees sitting 24 hours in the corridor to service the guests. The lady asked Bülent something in Russian. Probably it was 'How can I help you?' But the way she asked and the tone sounded to Bülent like 'Sir, please go back to your room'.

Bülent was back in the room with the fish. But, being a very innovative person, he had an alternative idea. He

took a nail clipper from his bag. The only tool he could carry with him, which could cut the fish in pieces. 2 hours after midnight he was cutting the fish in small pieces and throwing them into the toilet, soon he realized that this was not a very good idea as the toilet was about to become blocked. The alternative of continuous flushing water would have been noisy and disturbing in the middle of the night.

Clever as he is, he thought that another alternative would be to throw the pieces out of the window. He proceeded. About an hour later, he noticed that there is a big noise outside on the street. The cats in that part of the city arrived, fighting for the delicious fish. Next came the dogs, they were also fighting for the fish with the cats. The scenery was like in a Disney movie and started to attract the attention of the people in the area. One by one, all

the lights flicked on and the entire city became alarmed because of Bülent. Police arrived as well, so Bülent decided to put off the light, end the process and go to bed silently.

During the next two days he took bigger pieces of the fish with him when he was going out and got rid of them in different parts of the city.

On his return, when he was at customs going out of the country, he was checked very carefully as it was forbidden to take smoked fish and caviar out. The officer noticed that he was smiling in a funny way when he had heard that.

He did not have the fish, but he had a fish story to bring home.



by Bülent Arslan

Kordsa Global's contribution to the creation of a symbiotic ecosystem



Prof. Dr. HASAN MANDAL
Council of Higher Education, Member of Executive Board

The need to resolve global problems which are consequences of globalization (such as the change in the demographic structure, demand for better living conditions, issues about sustainability, food, water, healthcare, energy, environment and climate change) has necessitated collaboration between industry and universities. Considered in that context, the competitive development of industrial businesses required an edge in production in the 1960s, cost in the 70s, quality in the 80s, speed in the 90s, and finally knowledge in the 2000s. In the 2010s, competition is still based on superiority in knowledge, however, the closed system of knowledge has now been replaced by an open system of knowledge. Consequently, success in a competitive environment of that type is only possible through collaborative work. In a similar vein, while the mission of universities used to be limited to education and research, now academia questions the economic and/or social impact of the knowledge produced. This in turn creates competition in that field as well. Therefore, today, Industry - University Collaboration throughout Research and Technological Development and Innovation Processes is a necessity for all institutions to survive. In this regard, there are many projects carried out by both sides globally. However, it is hard to name a single model or method to cover the whole effort. What we need are national, regional and local collaboration models with a global approach.

Turkey has been among the fastest growing economies in the world, in part from the development of a robust ecosystem. Turkey has emphasized and provided incentives for R&D-focused processes in the 2000s, which in turn, facilitated a speedy transition from low-technology products to medium-low and medium-high technology products. This has led to many positive developments in processes related to these technologies.

On the other hand, this positive development has not been adapted at the desired level and rate in high technology products and their relevant processes. A major reason for this is that revenues obtained from medium-low and medium-high technologies have been reinvested back in low risk, medium-low technologies, and, to a limited extent, medium-high technologies instead of higher risk, high technologies. In turn, the industry's need for universities, as well as the motivation of universities to collaborate with the industry has been limited to short-term relationships only.

Considering Turkey's ambition to "Become One of the Top Ten World Economies" in 2023, industries with a focus on medium-high and high technologies will play a key role. This target can only be achieved if a multi-layered structure consisting of processes involved in applied research and product development focused on basic research and technology are deployed. All of these disciplines need to be developed and improved together in a synergistic manner. The successful management and governance of this type of process would be characterized by an interdisciplinary approach, team spirit and cooperation. Public sector focused strategies and related support and incentive systems were initiated in Turkey to specifically serve this purpose especially after 2011. Although there have been some good examples in practice, a culture or ecosystem specific to this field has yet to be fully established.

The Composite Technologies Center of Excellence, established through a partnership of Kordsa Global and Sabancı University, is an innovative initiative approach exactly toward achieving the aforementioned objectives and goals. This initiative will enable running all processes related to basic research, applied research, technology development, product development, entrepreneurship, and production under the same roof. All players involved in these processes, namely PhD students, postdoctoral researchers, faculty members, researchers, designers, engineers, managers and staff of manufacturing processes, as well as entrepreneurs representing business incubators will inhabit a single ecosystem. This emerging ecosystem is a new and authentic model for Turkey and represents an approach that could be regarded as an exemplary model for many high-technology focused industries.

Needless to say, the sustainability of such an ecosystem is more significant than its initiation. There are many good practices related to realizing and facilitating University-Industry Cooperation on a project by project basis. However, it is not easy to create a viable symbiotic living environment in the same building and ecosystem as indicated in this model. This is because while universities predominantly want to produce open knowledge and grow by sharing it with the rest of the world, industry tends to prefer a more closed and competitive structure. Kordsa Global's groundbreaking approach and contribution to this process will improve composite material production with a focus on high technology as a way to achieve its own targets, and simultaneously contribute significantly to the establishment of the innovative and unique Industry-University Collaboration processes that will support Turkey's quest to "Become One of the Top Ten World Economies".



The Composite Technologies Center of Excellence started through a cooperation of Kordsa Global and Sabancı University is an innovative initiative geared exactly toward serving the above-mentioned objective and goals, and to contribute to the achievement thereof.

Our commitment to quality

One of the most important assets of Kordsa Global is our commitment to quality. Quality is part of who we are; it is an integral part of our culture, It impacts the way we work and why we take pride in what we do.

Kordsa Global is a global company, operating 9 businesses in 7 countries distributed over 5 continents. Due to cultural and environmental differences, Quality has the utmost importance in order to provide the same product and the same service to all our customers all over the world.

In order to be the Leader in Product and Service Quality, our understanding of quality focuses on 4 main areas:

Quality in our Products & Services

Quality in our Processes & Systems

Upgrading Machineries for Quality

Quality in our Organization

Quality in our Products & Services: Our customers require the best quality level from all of our sites. Therefore, standardization studies have evolved to become an essential part of the Product & Service Quality. Visual defect criteria, process control plans and standardization studies such as labelling standardization, Kordsa Global Standard Test Methods have become a fundamental aspect in product & service quality improvement.

Quality in our Processes & Systems: Properly maintained systems and processes are central to achieve sustainability

in our quality level. Global Quality Assurance has the responsibility to maintain and improve the global systems.

Customer Satisfaction Survey applications monitor our customers' perception in great detail. Feedback from our customers is the single most important element for us to be able to improve Kordsa Global products' quality to levels never before achieved.

Customer Complaint Management is a focal point for Customer Satisfaction. The Customer Complaint Handling process has been standardized, and when deployed properly, results in getting positive feedback from our customers. Currently, Kordsa Global is engaged in the continuous improvement of the Customer Complaint Handling Process.

Approval management is another global process which is critical for management of our products. The Global Specification System is utilized beginning with the Turkey R&D Center, in order to follow up new products and approvals. R&D evaluates each request to assist in optimizing interchangeability and SKU reduction globally. Global Quality Assurance audits are conducted every year in every site to monitor the progress. Improvements must be checked in order to see progress more clearly. Sites are audited in 7 subjects (Leadership and Quality Commitment, Process & Product Design Quality, Supplier Quality Management, Production Quality Management, Customer Quality Management, Continuous Improvement and People/HR). GQA Audits are designed so that each site has the same Quality understanding level throughout the entire Kordsa Global system.



Supplier management is another vital quality component for Kordsa Global. All problems, complaints, etc. are handled in Kordsa Global with the Supplier QAR (Quality Action Request) system. All complaints, as well as supplier performance are evaluated annually, the outcome of the evaluations are shared with the supplier in order to provide feedback for their own continual improvement.

Upgrading Manufacturing, Testing & IT Equipment for Quality: Technology is a key tool which helps us improve our Quality much faster and further. In Kordsa Global every year many investments are completed to increase our Quality level. Some of them are:

- Automated inspection system for weaving & dipping areas
- Shopfloor project to monitor production real time
- Global Specification System software development
- Customer Relationship Management software development
- New investments in Indonesia
- Winding improvement project
- Mechanical quality improvement on Yarn Production
- Equipment upgrades for weaving improvement, mainly appearance and cord distribution

Quality in our Organization: People are the most important asset to further Kordsa Global's world class quality level. Quality is everyone's responsibility as evidenced by our Quality Network and Annual Quality Summit.

The Quality Network was established by Kordsa Global

to connect all Quality Leaders of Kordsa Global sites in one platform. The Q-Network enables our leaders to share experiences, learn from other sites, establish best practices and have discussions for all quality related topics. Monthly Q-network meetings are the venues where results are reviewed and problems are discussed.

The Annual Quality Summit is another platform to share experiences and learnings throughout Kordsa Global. Every year all Quality members meet in the Quality Summit. Every site shares best practices and has the opportunity to meet and discuss daily applications during the Quality Summit.

Quality is everyone's responsibility and Management's philosophy is "Genbutsu Genba - Go there Be there". Highest levels of quality will be maintained and improved with being on the shop floor. The Executive Leadership Team of Kordsa Global insists on this philosophy in order to see and find the problems and opportunities when and where they occur. Quality is one of the key principles of Kordsa Global. By continuously improving our products, organization, processes & systems, Kordsa Global will continue to be a leader in the industry. All Kordsa Global employees are responsible and claim ownership of our Quality. For each employee of Kordsa Global our motto is.. Almost perfect is not enough, Strive for Perfection and You will Achieve Excellence.

written by
GLOBAL QUALITY TEAM

Understanding the needs of the customer



KÜRŞAT AKSOY

Rubber Reinforcement Technologies Platform Leader

Kordsa Global's Research & Development activities have been organized under different technology platforms in order to serve its customers better and its plants have been dispersed across the world to boost the pace of innovation. Rubber Reinforcement Technologies Platform in Kordsa Global R&D Center;

- Focuses all efforts on understanding customer and application requirements and translating them into innovative projects
- Develops and deploys application knowledge within the organization
- Provides customer technical support & coordination

Kordsa Global continues to invest in developments in order to create value added products in accordance with the trends in tire industry. While benefiting from various industry specific market reports & periodicals, we have also been applying tire reverse engineering analysis in the R&D center to extract the hidden key details and properties. We are offering tailor made specialized products to our customers that meet their specific demands. As a starting point what we need is a simple desired Stress-Strain curve of the requested reinforcement and some basic information regarding the application. Thanks to our tire experts and knowledgeable project leaders, coupled with our in house developed software and great application experience we can quickly process and provide potential cord construction alternatives.

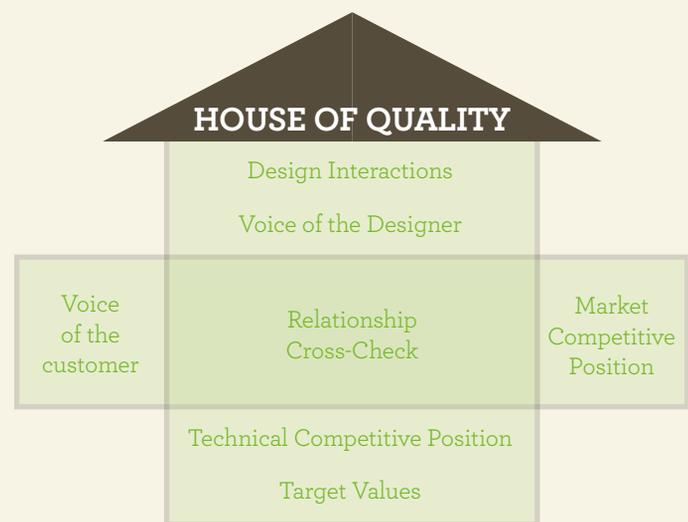
Kordsa Global R&D is fully equipped to turn the theory into practice. All the necessary lab and pilot scale tests are performed quickly to proceed to plant scale production. Based on the business case conditions and mutual interest, we are jointly deciding the commercialization phase.

As a systematic tool we are also recommending "Quality Function Deployment" (QFD) study to our customers which is a proven methodology for developing products based on the needs of the customer.

There are 3 main goals;

- To recognize the correlations between the customer requirements and the product characteristics
- Identify the product characteristics that affect specific customer requirements
- Recognize the correlations within the engineering characteristics.

Utilizing a 1-2 day condensed joint workshop, we can prioritize what to work for a specific application.



In our current product portfolio, in addition to differentiated Nylon 6.6 and PET HMLS products we are also offering new products under Twixtra, Capmax, Monolyx brands.



Twixtra® Hybrid cords are the combination of different kinds of fibers (Nylon 6.6, Polyester, Aramid, Rayon etc.) in one cord in order to offer engineered solutions for various applications.



Capmax® is the ready to use cord fabric strip that can be directly applied to the tire during the manufacturing stage.



Monolyx® is a multi-ply monofilament cord for tire reinforcement that is made of synthetic monofilament fibers with 3-7 plies.

We are proud to share that all of these specialized branded products have been proven in tire performance for specific applications and have been sold commercially to various customers.

As your solution partner please tell us what you are looking for! It may be a new product development project for achieving the ultimate performance or weight reduction & cost optimization work or some other specific initiative. Kordsa Global Rubber Reinforcement Technologies team is dedicated to serve its customers to offer the most convenient solutions to provide value to you and to Kordsa. What make us different than the others is our agility and the great technical expertise in core technologies which is reflected in our motto.... "The Reinforcer".

At the beginning of 2015, we began to offer another service to our partners...



"TIRE REINFORCEMENTS TECHNOLOGY TRAINING"

Kordsa Global has been providing intensive training programs aiming to strengthen the technical knowledge of our employees. We are offering this valuable expertise to our partners in order to support the individual training programs for their own staff. Kordsa Global designed "Tire Reinforcements Technology Training" program. This is a unique course given at our Turkey facility where our global R&D center and production plants are located. Lessons are supported by practice and demonstrations at the plant. Subjects that are covered during Tire Reinforcements Technology Training Program are:

Fiber terminology and manufacturing processes (Polymerization, Spinning)

Cord conversion processes (Twisting, weaving, dipping)

Adhesive systems

Function of reinforcement

Requirements for tire

In-tire cord dynamic behaviors

Cord properties and Tire performance relationships. Final content and duration of the training is tailored for the needs of each specific group. Certification and success recognition will be realized after the event.

OMNOVA Solutions and Kordsa Global shared heritage of success and a strong partnership for growth



DAVID HYATT
OMNOVA Solutions
Global Technical Manager – VP Latex

Since the earliest days, OMNOVA Solutions and Kordsa Global formed a partnership to help Kordsa Global deliver the highest quality cord fabric products in the tire industry.

Using OMNOVA's Pliocord® and GenTac® vinyl pyridine (VP) lattices, Kordsa Global's tire cord and mechanical rubber goods (MRG) fabric latex products have achieved a level of consistent high quality that is recognized throughout the world.

Why is VP latex so important for tire cord?

From the initial development of the pneumatic passenger car tire, the reinforcement used in the tire was cotton fabric (cloth), followed by cotton tire cord woven more or less as it is today. Cotton adhered very well to rubber, so no adhesive was necessary. After a number of years, however, it was discovered that cotton tire cord would last longer without breaking if it was saturated with rubber latex. This was in the early 1900's and the only rubber latex available was natural rubber latex. This was the way

tires were reinforced into the 1930's.

When rayon was recognized for its greater strength and durability compared to cotton, it was tried as tire reinforcement. Since rayon cord had a much smoother surface than cotton, it did not adhere well to the tire rubber. An adhesive was developed to achieve the necessary adhesion which became known as resorcinol-formaldehyde-latex, or in much easier form, RFL. The latex used in the first RFL recipes was natural rubber latex. The tires were tested and the natural latex gave satisfactory adhesion.

The birth of a new chemistry

Move to the 1940's when nylon was invented; the idea was advanced to use nylon as tire cord, about the same time that synthetic rubber was developed for use in tires along with natural rubber. The synthetic rubber was styrene butadiene rubber (SBR). Unfortunately using styrene butadiene latex in RFL was not sufficient for adhering nylon to rubber. In 1945, a new latex polymer was invented by DuPont, in which a little known monomer was co-polymerized with butadiene and styrene. This monomer was vinyl pyridine, and suddenly adhesion between nylon and rubber was possible. Nylon-reinforced tires fueled DuPont's growth in tire cord. DuPont's nylon tire cord business was later acquired by Kordsa Global, but that is well-known among the readers.

What about vinyl pyridine latex, better known as VP latex? The VP latex that was invented in 1945 was not commercialized until General Tire licensed the technology from DuPont and built a latex plant in 1952 in Mogadore, Ohio, on the outskirts of Akron. This was the first VP latex production facility. Other tire companies in the U.S. also licensed the technology and established VP latex production in the years that followed, including Firestone and BF Goodrich. Interestingly, the largest tire company in the U.S., Goodyear, with a rubber latex plant in Akron, did not immediately obtain the technology from DuPont, and sourced its VP latex from the other producers (who were Goodyear's competitors), primarily General Tire. In the early 1960's, Goodyear obtained the technology from General Tire and started making VP latex at its Akron Polymer Plant. Goodyear began production of VP latex at its Le Havre Plant in 1970, and built a new latex plant in Calhoun, GA, in 1979. VP latex production after this point began to spread around the world.

The creation of OMNOVA and the growth of a partnership

In the mid-1980's General Tire changed its name to GenCorp and sold its tire business to Continental AG. In the 1990's Firestone and BF Goodrich ceased their production of VP latex. In 1998, GenCorp acquired Goodyear's Calhoun Plant, and in 1999, GenCorp spun off its polymer business, which became OMNOVA Solutions. Two years later, Goodyear sold its remaining specialty chemical business, including the Akron Polymer and Le Havre Plants to an investment company, and ELIOKEM was created. Through the first decade of the 21st Century, both OMNOVA and ELIOKEM established close relationships with Kordsa Global. In 2010, OMNOVA acquired ELIOKEM, bringing

together the VP latex production that had its origins in 1952 at General Tire. From 1952 to 2010 and up to the present day, the VP latex produced by General Tire, Goodyear, GenCorp, OMNOVA, and ELIOKEM has not changed much. Its consistency has improved very much over the years, and some minor changes have been made, but the basic polymer is still the same.

Today, OMNOVA's global manufacturing footprint ensures a steady flow of high quality VP latex to Kordsa Global's operations around the world. OMNOVA has continued to invest in its operations, expanding into China to ensure it can meet the needs of Kordsa Global for this very important component.

Sharing a passion for excellence in technical development, quality control, and timely logistics, Kordsa Global and OMNOVA continue to create a uniquely special and successful legacy of growth.



COMPOSITE TECHNOLOGIES CENTER OF EXCELLENCE

Kordsa Global’s new investment “Composite Technologies Center of Excellence” will be the key development facility in composite industry in collaboration with Sabancı University to bring together engineers, researchers, faculty members, students, entrepreneurs and designers under one roof including;

- Kordsa Global Prepreg Production Line
- Kordsa Global Composite Reinforcement R&D Center
- Sabancı University PhD Programs
- Incubation Centers
- Kordsa Global – Sabancı University Joint Composite R&D Labs:
 - Wet Chemistry Laboratory
 - Material Characterization Laboratory
 - Polymer Processing Laboratory
 - Micro Nano Manufacturing Laboratory
 - Advanced Composite Laboratory
 - Mechanical Characterization and Nondestructive Testing Laboratory



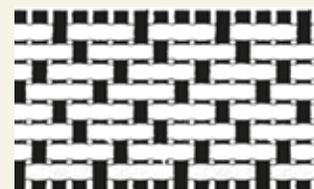
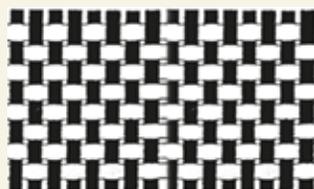
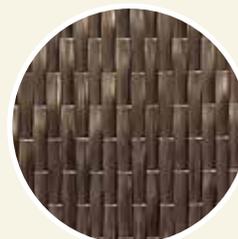
Sabancı University is a world university in Turkey, founded in 1996. It has 4 thousand 500 students, 7 thousand 500 graduates and 368 faculty members. Its vision is; being innovative, leader research and education center and it’s an international reference point. Its mission is; creating and developing together. According to Ministry of Science, Industry and Technology Index, it’s the 2nd most entrepreneurial and innovative university. In October 2014, Sabancı University had entered the Times Higher Education (THE) rankings in 182nd position, becoming the Turkish university with the highest position upon first entry to the rankings, and was the only private Turkish university to be among the top 200 universities of the world. Sabancı University also entered the Times Higher Education (THE) BRICS & Emerging Economies Rankings in 15th position.

Fabric Products

Kordsa Global is currently capable of weaving unidirectional and bidirectional fabrics (plain, twill, harness satin and basket). Carbon, glass or aramid fibres can be used as reinforcement materials in traditional and hybrid fabrics.

Carbon fabrics

- Carbon fibres: from 1K to 50K
- Fabric width: 150mm – 1700mm
- Areal weight: 120 gsm – 1500 gsm
- Fabric type: Plain, Twill, Satin, Basket, Leno

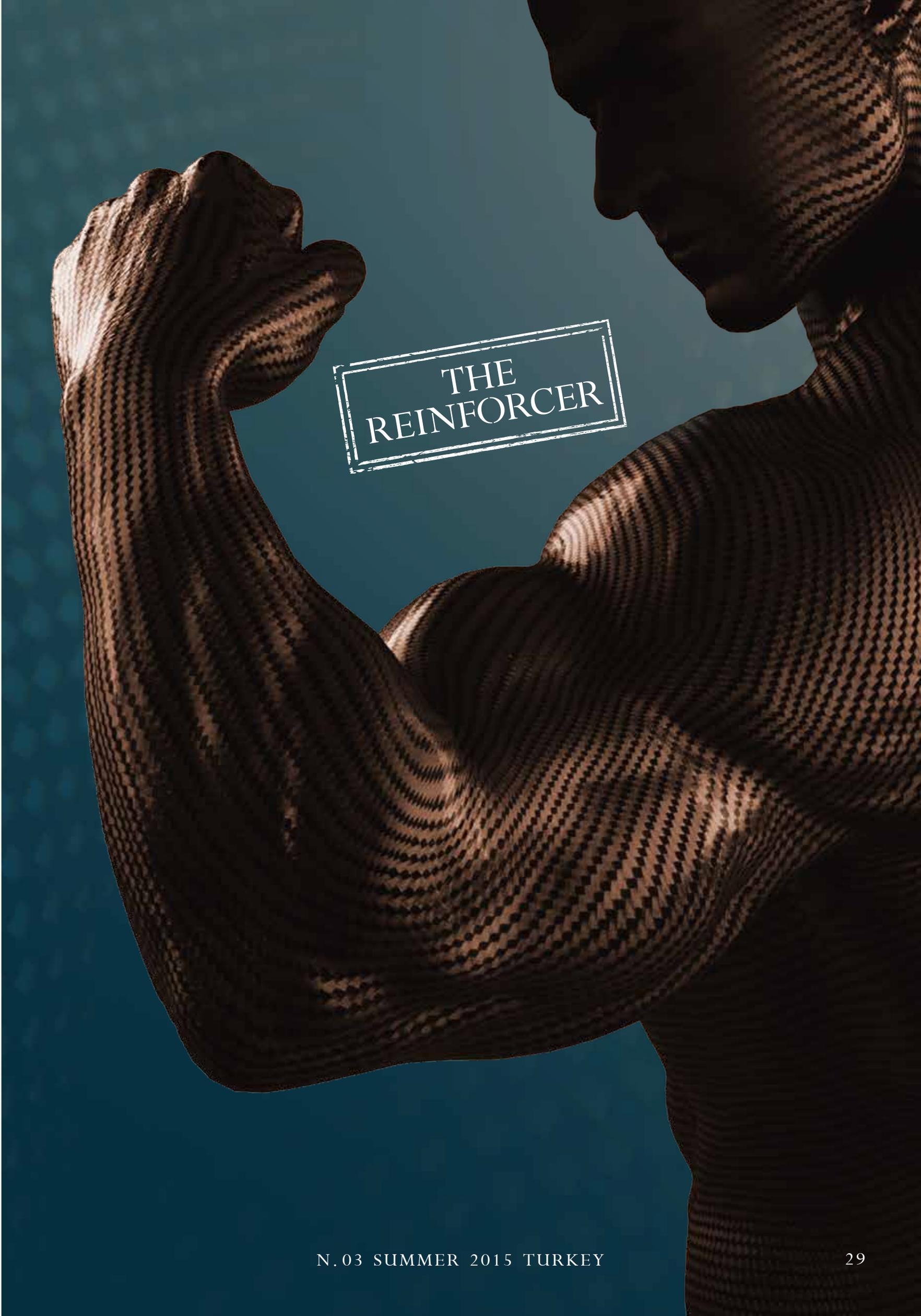


Plain:
Simple basic weave, good dimensional stability, the least pliable.

Twill:
More pliable than the plain weave, better drapability than a four or eight harness satin weave.

Harness Satin:
More pliable than the plain weave and suitable for complex shaped parts.

Basket:
Similar to the plain weave, more pliable, flatter and stronger than the plain weave, but is not as stable.



THE
REINFORCER

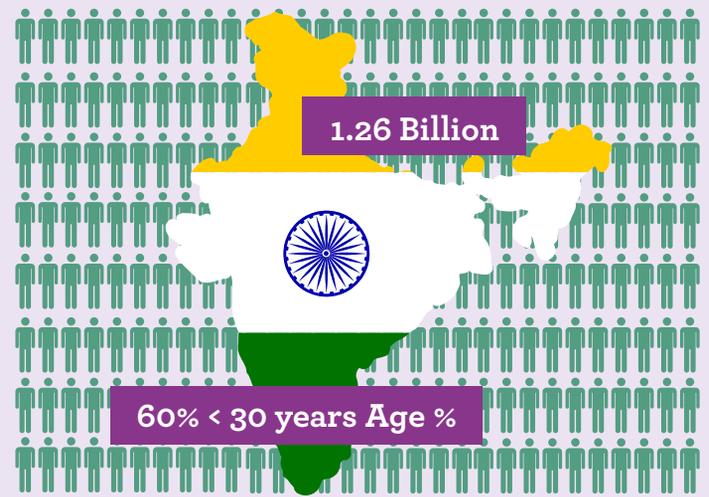
India, India auto sector, tire production and recent developments

India is a democratic country with a population of **1.26 Billion** of which **60%** of are young population **below 30 years** of age.

In the year 2014 people elected a new Government on Pro-Development agenda.

The New Government is aggressively promoting the "Make in India", facilitating businesses in **transport sector (road building, transport, auto and tire industry)** besides the major infrastructure push for setting up mega power generation, improving mining and creating 100 smart cities and are simplifying taxation laws such as direct tax code and goods and service tax.

China, Japan, US, Canada, Australia and many other countries have already committed to support India's growth story.



Auto industry

The **Compound annual growth rate has been around 10%** (Road Transport Year Book 2011-12) and is expected to grow with companies like Suzuki Hyundai, Ford going in for expansion.

Manufactures



Medium & heavy commercial vehicle

Current truck and bus production is 21,000 vehicles/mo with a 2020 projection of 0.54 mio units.

India currently is the 5th commercial vehicle manufacturer.

Tire production is estimated to be around 17 mio. units over the year.

TCF demand

Bias tires 5400 t/mo. and 250 t/mo. for radial

Passenger and multiutility vehicles

Currently 0.26 mio. units are produced per month with 2015 estimation of 3.15 mio. The projection for 2020 is 8.7 mio.

India is No 3 in small car manufacturing. Tire production is around 15 mio. units per year.

TCF demand

Approximately 1150 tons/mo.

LCV/SCV Vehicles

The current production is around 21,000 units/mo. The estimated annual production by 2020 is around 1.5 mil.

Tire production is 11 mil. units/year.

TCF demand

Around 620 tons/month

2/3 and Motor cycle vehicles

Market is shifting from motorcycle to 2 W scooters. On an average 0.4 mio. 2 wheelers (24%), 0.08 mio. 3 wheelers (5%), a -1300nd 1.17 mio. (71%) motorcycle and moped tires are produced.

India is no 2 in motor cycle tires with production with 1.55 mio. units /mo. Projected tire production is 74 mio.

TCF demand

Average 1250-1300 t/mo.

Tractor

Total monthly tractor production is around 36,000 with a projected increase to 60,000 units in next financial year.

Tractor tire production marks 5 mio units for both front and rear tractor tires in 2015.

TCF demand

500 tons/mo. if front farms are also included

LCV/SCV Vehicles

The current production is around 21,000 units/mo. The estimated annual production by 2020 is around 1.5 mil.

Tire production is 11 mil. units/year.

TCF demand

Around 620 tons/month

became important market for cord fabric reinforcement

Tire industry

Overall tire production increased at an average of 16% mainly due to the growth in the passenger, 2/3 wheelers, motorcycle and light commercial vehicles markets.

Truck commercial vehicles tire production is also expected to show some positive trends.

Tractor tire production which showed a drop of 4% is bound to pick up in the next financial year.

Tire units such as MRF are already expanding their units in Tamil Nadu and Medak (AP).

Birla Tire will maximize production in their Balasore unit. Birla tires is also in the process of negotiating sale of their modern TBR and radial passenger plant.

JK has set up a new plant in Chennai and is targeting for 1.46 mio T&B tires, 7.6 mio passenger tires.

Continental is setting up an R&D centre at Bangaluru with an investment of 12.4 mio Euros.

BKT with almost 30% growth for last years is expected to mark a 2 billion USD Turn over by 2020.

2/3 wheelers and motor cycle units are expanding their current capacities.

Tire cord fabric reinforcement

Overall TCF reinforcement for all category of tires should be around 11500 t/mo.

Of the total annual requirement of Nylon (125000 t) local plants (3 plants) support 77000 t and the balance is mainly covered thru imports from China, Taiwan and Indonesia.

Though the market is dominated by Nylon 6, the future trend is PET or Hybrid fabric for 2/3 wheelers and motor cycle and tractor front and rear.

In OTR sector segment, the all steel imported (Bridgestone, Michelin) tires has forced the local major to set up a new plant for maximizing the steel tire production. In the bias segment, the emphasis is on N66.

In Agri sector tires and smaller OTR attempts are on for using Aramid. Aramid /Nylon hybrid or twisted monofilament.

The requirement for truck and bus tires is an average of 1.5 mio units/ mo. The radial tires are being supported by JK. Apollo, Michelin and Continental.

In the bias market the tendency is to use heavy Dtex such as 2100/3. Hybrid continues to be an attractive opportunity area. Smaller radial players are still aggressively involved in bias tire developments and contribute to the requirements.

Market is keen to shift to more ready to use materials such as cap ply, chafer and trials are at various stages.

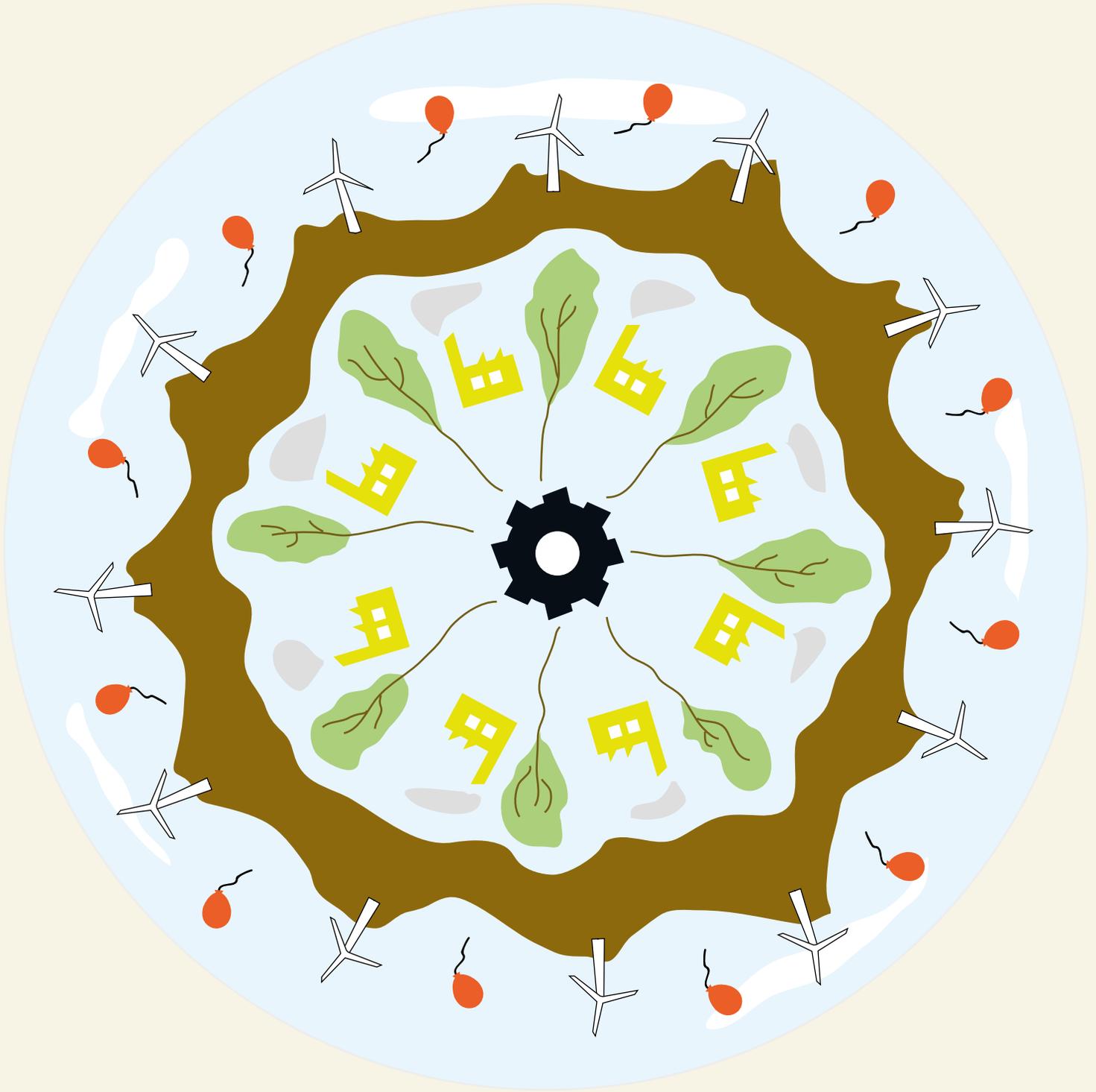
Market keen to replace Nylon6 with PET or PET Hybrid in 2/3 wheelers/ motorcycle and farm (tractor tires). PET usage bound to go up.

Radialization of motor cycle tires (though very small percentage) has started.

Manufacturers may opt for captive production of 2/3 wheelers and motor cycle than outsourcing.



The writer benefited from ATMA and Articles in Economic Times for the data given in this article.



Products of Kordsa

KORDSA

Nylon 6.6 PET HMLS CapmaX Twixtra MONOLIX InterPlast[®] InterCord[®] Kratos HARtech

KORDSA GLOBAL

