



**SUSTAINABILITY
REPORT
2018**

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Report Manuel



Please click to watch the video.



Please click for detailed information.

ABOUT OUR REPORT

ABOUT



As Kordsa, we present our stakeholders the fifth sustainability report that reflects our economic, environmental and social performance in 2018. With this report we would like to give our stakeholders the opportunity to evaluate our efforts to measure, monitor and manage the impacts resulting from our operations.

THE SCOPE



The data in this report covers Kordsa's activities from January 1, 2018 to December 31, 2018. This year the scope of our report has not changed. The data of our three new US facilities acquired in 2018 are not included in this report. We plan to include these facilities starting from our next report. We explain how we defined our report content and topic boundaries in the Strategy and Governance section of this report.

NEXT REPORT

We plan to publish our next report, which will cover our sustainability performance of 2019, in the second half of 2020.

THE PRINCIPLES



This report has been prepared in accordance with the GRI Standards: Core option. In the process of identifying our strategic sustainability topics, we took into consideration GRI's principles of materiality, stakeholder inclusiveness, sustainability context and completeness, as well as the principles of UN Global Compact that we signed in 2014, and the International Finance Corporation IFC's Performance Standards on Environmental and Social Sustainability that were established to pinpoint, assess and manage social and environmental risks in project finance.





**MESSAGES TO OUR
STAKEHOLDERS**

“

**INSPIRED
FROM LIFE,
WE
REINFORCE
LIFE.**

”

MESSAGE FROM OUR CHAIRMAN



DISTINGUISHED STAKEHOLDERS,

We have the pleasure in sharing with you the fifth of our reports in which we present you the exemplary works we completed in our sustainability road map.

In Kordsa, the systematization of our consciousness for sustainability, which already existed at the foundation of our company, began with our signing of the UN Global Compact in 2014. Immediately following this, we issued our

very first sustainability report in 2015. We were listed in the BIST Sustainability Index in 2016, next to the companies with the highest performance levels in corporate sustainability. We take a pride in being counted among our country's sustainability leaders, while creating value for our shareholders and investors with this achievement. As Kordsa today, we are delivering our promises in sustainability by taking Sabancı Group's "Sabancı of New Generation" vision as our starting point, and managing the economic, social and environmental impacts of all of our activities with smart targets.

As a technology and innovation leader on a global scale, the sustainability practices, which we execute in an effort to create value for all of our stakeholders, with primarily our employees and customers in mind, are changing and transforming in line with the emerging global trends. We are putting the digitalization and mobility at the core of our operations, as they transform the way we do business and conduct our relations with our customers all around the world. As we are building the factory of the future using smart production systems, we also watch our corporate responsibilities

very sensitively. While we are using our existing resources more efficiently, we are also investing in our employees' development, health and safety.

For an efficient and sustainable mobility, in the tire reinforcement technologies, we produce reinforcement materials which reduce fuel consumption by reducing the rolling resistance of the tires in tire technologies, and by reducing the weight of the vehicles in the composite technologies. In the construction reinforcement technologies, we strive to make the reinforced concrete structures have longer life and higher durability. We develop innovative and environmentally friendly technologies in all lines of our work by placing human and environment at their core.

The capabilities of our R&D centers and production facilities which act as main bases we carry out these works through and literally serve as innovation hubs continue to be recognized by international certifications. In 2018, the production facility in our Composite Technologies Center of Excellence was certified with AS 9100 Aerospace Quality Management System, thereby having the seal of approval for the quality of service

we offer to our customers. AS 9100 is an international standard for the quality and risk management set in the aerospace and defense industry, which will give us a great advantage in our endeavors to reach our goals in the aerospace industry.

As we continue to grow organically through the outputs of our R&D centers and technology investments, we are taking advantage of inorganic growth opportunities on a global scale. Our capabilities are expanding every day in the composites field which we see as the material of the future. Following the acquisition of three composites manufacturers in the US, we acquired another US-based advanced composite manufacturer in 2018. In our ventures into aerospace industries that began with the acquisition of Fabric Development and Textile Products which produce highly-engineered specialty fabrics, our capabilities were further improved with the acquisition of Advanced Honeycomb Technologies which produce honeycomb cores for cabin interiors. In order to leave behind long approval processes in aircraft parts and space vehicles, in 2019, we completed the acquisition of Axiom Materials, an approved supplier for aerospace industry. With this acquisition

which serves as an important milestone in our goal of create a second Kordsa, we aim to lead advanced composites industry for not only the aerospace industry, but also for next generation transport vehicles.

With the strength we receive from all of these works, we will continue to create value for our customers, employees, investors, and in all communities and fields we are operating in and spread our "Reinforce Life" vision all around the world.

Yours sincerely,
CENK ALPER
Chairman

MESSAGE FROM OUR CEO



DEAR STAKEHOLDERS,

As Kordsa, our “inspired from life, we reinforce life” motto drives each decision we take and each investment we make toward the aim of producing sustainable technologies in every step of the way. We have the pleasure in presenting you here the fifth of our annual sustainability reports in the fourth year of our 2020 Sustainability Road Map, which covers our 5-year targets and action plans with the conscience that we not only carry the responsibility of today, but also tomorrow.

Sustainability report 2018 covers our annual sustainability performance, the sustainability topics we focus on, our related management approaches, future plans, targets and the best practices initiated and developed by our employees. As a result of stakeholder engagement activities to set our material topics; business ethics, employee health and safety, human rights, training and development, and customer privacy have been the common social sustainability topics of our top management, employees and customers.

Bearing in mind that the first step to sustainability is to maintain our own sustainability, we always give priority to our employees’ development, health and safety. In 2018, we continued to work with the aim of zero accidents in four continents thanks to our safety projects such as Safety Experience Center, and to support our employees’ personal and professional developments through platforms like KEEP and All Stars. Our employees received an average of 36 hours of training in 2018.

As a global reinforcement brand, we continued to improve our entire operational processes as a natural result of our respect for the community and

environment we live in. We improved our performance gradually every year with our R&D and TPM projects. Continuous improvement in material, water and energy efficiency in production is among our top priorities. Our savings through reuse of materials in 2018 totaled US\$1.82 million. We reduce our waste every year thanks to the waste management precautions taken in all of our facilities, which also cover the tracking and reduction of carbon emissions. This year, we invested US\$790 thousand in environment under the scope of emission and waste management. We continue to present our CDP Climate Change and CDP Water reports to investors regularly every year.

Besides the improvements in our internal processes, 2018 has been a year that we started to transform the tire industry through the technologies we developed and continued to reinforce life in the aerospace industry with our composite technologies, while maintaining a strong and sustainable growth through our strategic investments. We took very important steps that supported our vision to reinforce life by being inspired from life.

Following the acquisitions of Fabric Development, Textile Products and Advanced Honeycomb Technologies, Kordsa acquired Axiom Materials, which leads the composites market with its R&D works and supplies advanced composite materials to the next generation vehicles as well as aerospace industry. With this acquisition, we completed our portfolio of advanced composite intermediates and became the only worldwide qualified producer of high-temperature resistant oxide-oxide ceramic composites for aircraft engines. Kordsa will now reinforce not only the tires, wings, fuselages and cabin interiors of aircrafts, but also their engines.

In another front, we are aiming to transform the tire industry with an environment friendly resorcinol-and-formaldehyde-free adhesion technology we developed in partnership with Continental. We are opening this environment-friendly technology which can replace almost a hundred-year old formula that is still in use, to the benefit of the entire industry through a free licensing model. The details of the CoKoon Technology are included in our report.

As a corporation that aims a more sustainable life for the whole world through its products and technologies, our innovations are not limited to CoKoon. We increased our patent portfolio by 22% from 2017 to 2018. With our works towards producing lighter and more durable rubber and composite materials while consuming less energy and materials, we applied for 670 patents and had 183 inventions as of 2018 year-end. Our turnover from new products alone has reached to US\$64 million in 2018.

I would like to thank all of our stakeholders for their contributions to our endeavors to create a sustainable world. As Kordsa, with our products in the tire reinforcement technologies which reduce fuel consumption through better road grip, and our composite technologies which reduce carbon emissions by making vehicles lighter and consume less fuel, as well as our more durable and practical reinforcement solutions in the construction industry, we will continue to take our place in all walks of life and reinforce life.

Yours sincerely,
ALİ ÇALIŞKAN
CEO



**CORPORATE
PROFILE**

“

**WE TOUCH
EVERY
ASPECT OF
LIFE.**

”

AS KORDSA, WE DEVELOP REINFORCEMENT TECHNOLOGIES FOR A SAFER, MORE EFFICIENT AND MORE SUSTAINABLE WORLD. TODAY, WE REINFORCE 1 OF THE 3 AUTOMOBILE TIRES AND 2 OF THE 3 AIRCRAFT TIRES PRODUCED IN THE WORLD.

WE REDUCE THE FUEL CONSUMPTION BY LIGHT WEIGHTING THE VEHICLES WITH OUR COMPOSITE TECHNOLOGIES AND BY REDUCING THE ROLLING RESISTANCE WITH OUR TIRE REINFORCEMENT TECHNOLOGIES. WE PROVIDE CONSTRUCTION REINFORCEMENT TECHNOLOGIES WHICH STAND OUT BY THEIR LOW CARBON EMISSION AND DURABILITY FOR SUSTAINABLE BUILDING PROJECTS.

AWARDS AND ACHIEVEMENTS



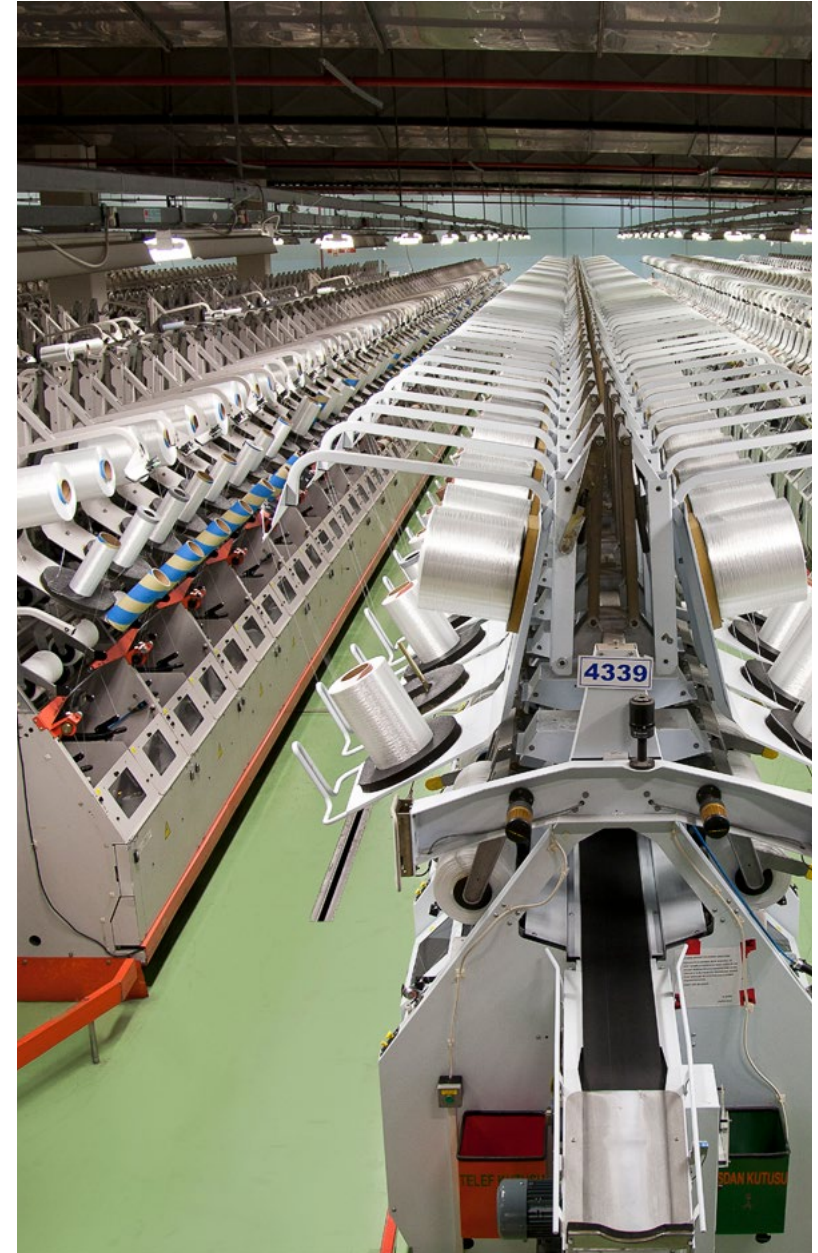
R&D PERSONNEL TRAINING PROGRAM



In keeping with our vision to foster an interest in technology, innovation, R&D, and engineering among young people, we provided training to students under the Uludağ University Career Center's Textile Industry R&D Personnel Training Program.

GLOBAL ENTREPRENEURSHIP CONGRESS PARTICIPATION

We both sponsored and participated the Global Entrepreneurship Congress by taking part in the 4th Industrial Revolution panel as a speaker. We underlined Kordsa's global collaborations and technologies which we have realized by our open-innovation approach.

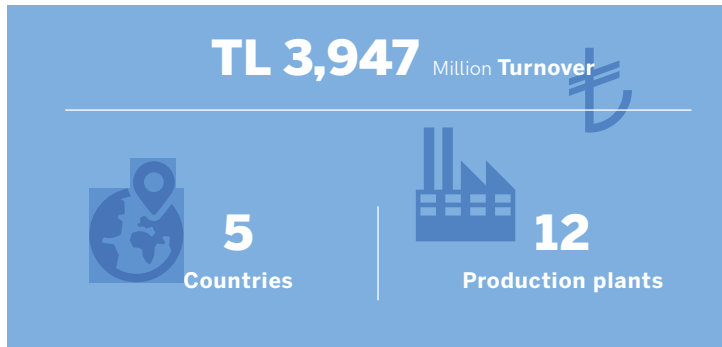


KORDSA FACTS AND FIGURES

CORPORATE PROFILE

SUSTAINABILITY PROFILE

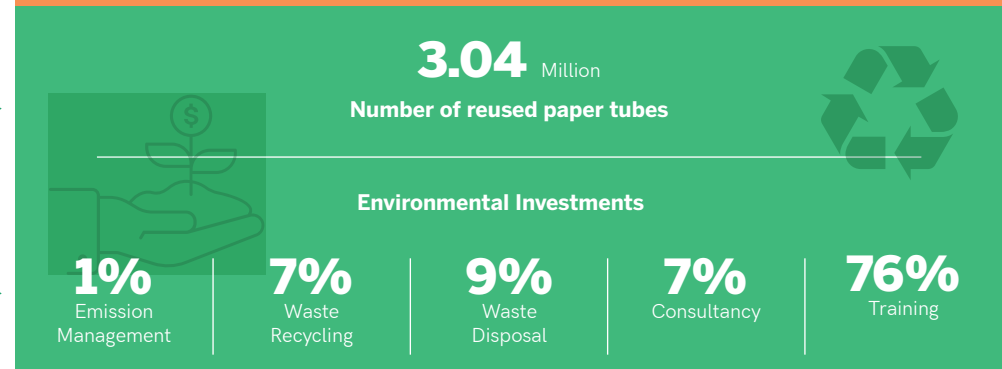
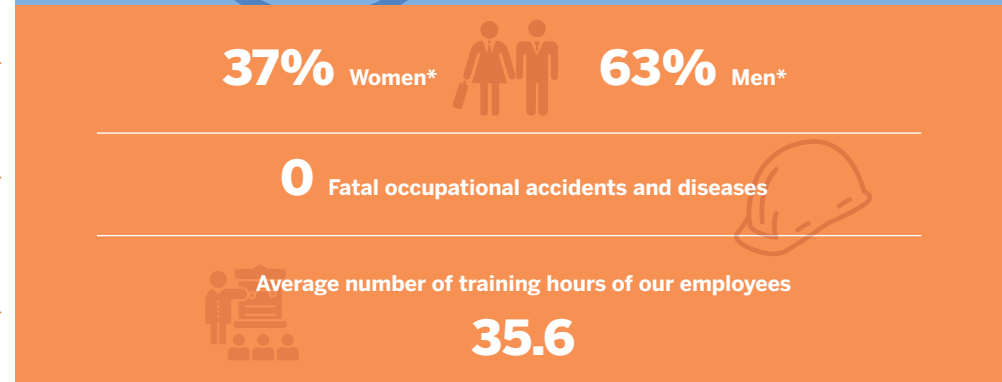
ECONOMIC



SOCIAL



ENVIRONMENTAL



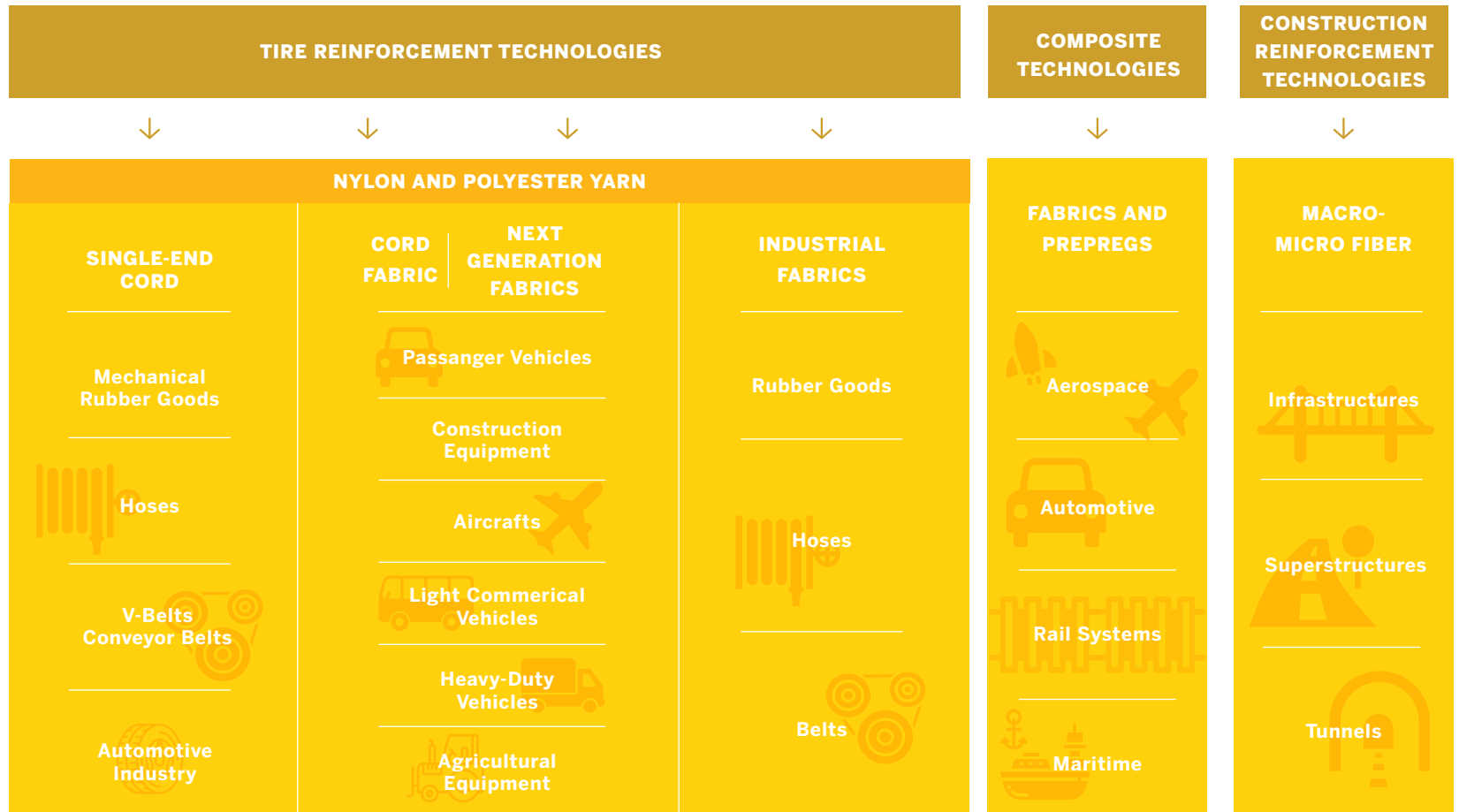
*Data represents white-collar employees. Among all employees, the rate of women is around 11%.

PRODUCTS, INDUSTRIES, MARKETS

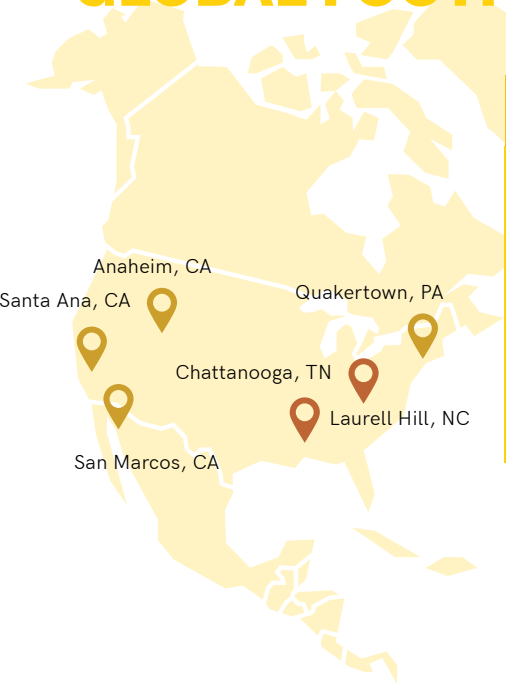
Our strategic insights on tire reinforcement technologies, leadership in our market, R&D works, and open-innovation approach positioned Kordsa as a strategic business partner for the world's largest tire producers.

Kordsa develops innovative intermediary products to use in the aerospace, automotive, sport, marine, and other industries in composite technologies.

We touch people's lives through our more durable and more practical construction reinforcement solutions for infrastructure and superstructure projects.



GLOBAL FOOTPRINT



NORTH AMERICA

Products
 NY6.6, TCF, Composite Fabric, Honeycomb Core, Prepreg

Turnover
TL 958 Million



EMEA

Products
 NY6.6, PET, SEC, TCF, Kratos, Prepreg, Composite Fabric, Sandwich Panel

Turnover
TL 1,366 Million

SOUTH AMERICA

Products
 PET, SEC, TCF

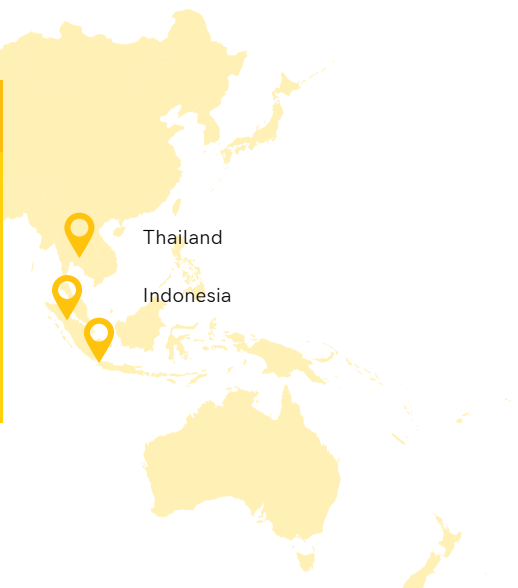
Turnover
TL 491 Million



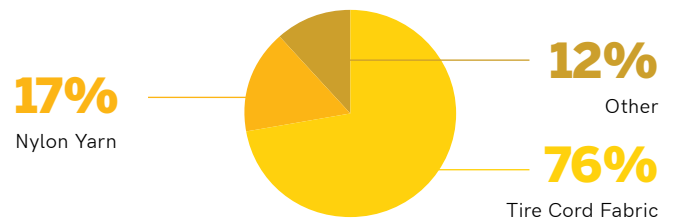
ASIA PACIFIC

Products
 NY6.6, PET, TCF

Turnover
TL 1,133 Million



REVENUE SPLIT BY PRODUCT SEGMENT



- Tire Reinforcement
- Composite Technologies
- Construction Reinforcement
- R&D Centers

R&D AND INNOVATION

FIGURES OF R&D



FACTS ON R&D AND INNOVATION

Objectives

- » Differentiate products and services
- » Offer our customers more competitive and innovative products
- » Achieve production efficiency on materials, processes and equipment
- » Position Kordsa as the market and technology leader

Contribution to Sustainability Targets

Develop environmentally friendly new products and technologies that increase energy efficiency and reduce carbon emissions.

Brands and Products of Our R&D Centers

Before 2015: Twixtra, Monolyx, Capmax, Hartech and Kratos

2015: The Reinforcer

2016: Registered our green cord's industrial design

2017: Established a concrete laboratory for Construction Reinforcement Business Unit. Produced prepregs by weaving carbon fiber materials at our Composite Technologies Business Unit.

2018: The products we registered;

- » Epoxy resin with high glassy transition temperature to be used in aerospace industry (Product code: EF12)

- » Resin developed to be used for composite trunk covers of mass transportation vehicles (Product code: OM12)

- » Resin to produce non-autoclave prepregs to be used automotive and ancillary industry (Product code: CM12)

In 2018, we partnered two Horizon 2020 projects;

- » PolynSPIRE: Demonstration of Innovative Technologies Towards A More Efficient and Sustainable Plastic Recycling
- » DiCoMI: The Directional Composites Through Manufacturing Innovation

University Collaborations

We protect all projects through confidentiality agreements; and we meticulously consider the ethical aspects and intellectual property issues.

Tire and Construction Reinforcement R&D Center

Aachen Institute of Technology
Boğaziçi University
Çankaya University
İstanbul Technical University
Kocaeli University
METU Main Laboratory
Sabancı University
Sakarya University
Süleyman Demirel University
University of Texas
Tokyo Institute of Technology
Uludağ University
Yıldız Technical University
Purdue University

Composites R&D Center

RWTH Aachen University
Anadolu University
Boğaziçi University
Loughborough University
Sabancı University
Uludağ University
Cluj-Napoca Technical University
Technical University of Valencia
Lund University
National Aerospace University "Kharkiv Aviation Institute"

INNOVATIVE PRODUCTS OF KORDSA



CAPMAX

Capmax® which is developed at Kordsa facilities in 2014, is a ready to use product that can be directly applied at the tire building machinery without the need of coating rubber. Capmax® decreases the production costs and increases efficiency, by eliminating many stages in tire production such as calendaring and cutting. By reducing rolling resistance which contributes to the reduction in fuel consumption, Capmax® also creates cost advantage for the end users. The potential market for Capmax®, is the global light vehicle tires market, where cap ply is utilized.



TWIXTRA

Products with combination of different kinds of fibers in one cord are called hybrid cords. Kordsa launched Twixtra® that can be acknowledged as the world's lightest hybrid cord product, in 2013. The manufacturers' choice in high performance tires is the Aramid-Nylon 6.6 hybrid cord structure. The product is very much lighter compared to its predecessor, it allows the tire to be produced with less raw materials. Lighter tires lead to less fuel consumption.



MONOLYX

Monolyx® is a protective cladding developed by Kordsa for use in radial tires fitted to trucks that need to operate under off-road conditions. Field trials have demonstrated that Monolyx®-clad tires are 46% less prone to punctures caused by the impact of stones in truck tires. As a tire cladding, Monolyx® is also highly robust and resists corrosion. Because it has only one-seventh the weight of a steel cord with the same volume, Monolyx® also offers significant cost advantages. Steel-belted radial tires clad with Monolyx® also have longer useful lifetimes because of the way that the material protects the steel elements.

Positive sustainability impacts created by these products are;

Economic

- » New style ready to use product
- » Efficient and faster production process
- » Improved total cost of use

Social

- » More safety for all rubber goods
- » Comfortable ride in higher speeds

Environmental

- » Lower fabric usage so less weight of goods
- » Higher endurance and so less pollution

Corporate

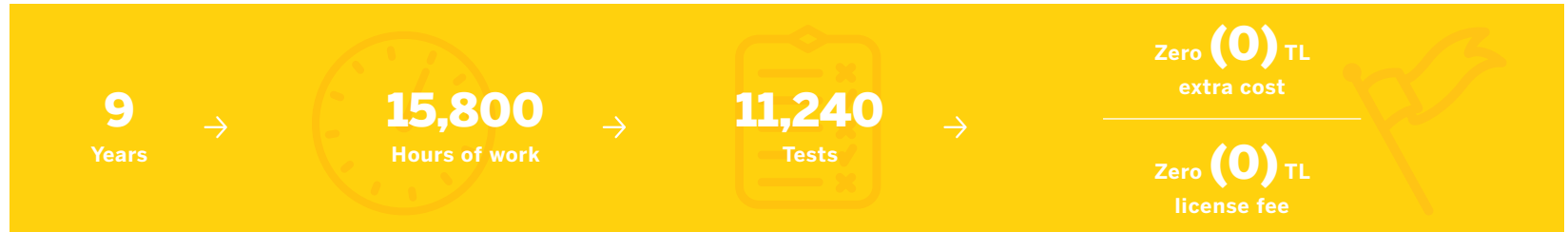
- » High value-added product in portfolio
- » Leverage for know-how
- » Reputation



We aim CoKoon Dip Technology to be sector's new adhesion standard. We are offering innovation not only in the product, but also in the business model to achieve this target. The free-licensing model that we established encourages everyone to have access to this technology with ease and to further develop it. By doing this, we will be able to carry our technology forward, and expand its use in other sectors while establishing a standardization within our own sector.

Ali Çalışkan

Kordsa CEO



CoKoon

Kordsa and Continental joined forces in the new eco-friendly dip technology, CoKoon. Aiming to transform the tire industry with their open innovation approach, Kordsa and Continental got together and developed a new dipping standard that can replace a century old formula which is still in use across the sector to bond rubber-based composites and textile reinforcement materials together. With the CoKoon adhesion technology, it is now possible to bond textile and rubber without having to use resorcinol and formaldehyde and changing production equipment. This class of adhesives are used in the tire industry as well as in the production of mechanical rubber products such as hoses and conveyor belts.

Having built a commercial model along with the innovations in the CoKoon technology, Kordsa and Continental are sharing the technology they developed on a

royalty-free license basis with all tire manufacturers, mechanical rubber products manufacturers and textile companies who signed up to the patent pool established through an independent law firm. In return, the licensees agree to open their own patents to the other members of the pool for them to use them on a royalty-free license basis in the interest of helping this technology develop further. The companies that are interested can order from the first laboratory samples.

Continental is targeting to materialize the first mass production using this technology within 2020. Kordsa is meeting customer expectations with this technology, while preparing itself for the new regulations the tire industry will need in the near future.

Targeted Economic Gains

Reduced flex-fatigue and prolonged tire life thanks to the reduced solid material

amount loaded onto the cord compared to a standard RFL dip.

Targeted Social Gains

This resorcinol-and-formaldehyde-free formula will be the new industry standard and the developed technology will be licensed to all companies across the sector free of charge as an outcome of the open-innovation approach.

Targeted Environmental Gains

In the new technology, more environmentally friendly chemicals that are compatible with REACH regulations will be used.

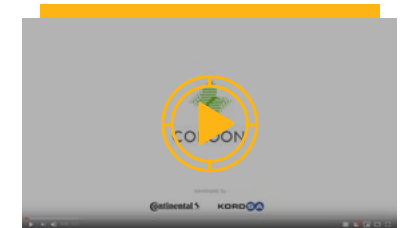
Targeted Corporate Gains

We have the pride in leading an innovation that will transform the sector we operate in.

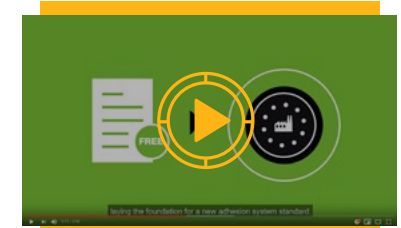


CoKoon Web Site

CoKoon Technology



Free Licensing Model



COMPOSITE TECHNOLOGIES CENTER OF EXCELLENCE

Composite Technologies Center of Excellence, conjointly established by Kordsa and Sabancı University in 2016, serves as one of the very few integrated manufacturing centers of the world. At Composite Technologies Center of Excellence, we develop innovative intermediary products primarily for aerospace and automotive as well as sports, maritime industries and industrial applications.

Composite Technologies Center of Excellence received LEED Gold Certificate in 2016 as a result of its qualities of being an environmentally friendly and sustainable building that uses the energy and water resources with maximum efficiency.

Targeted Economic Gains

We continue projects geared towards minimizing Turkey's dependence on foreign product development and manufacturing capabilities in strategic areas, in the short- and medium-term.



IN 2018, OUR PRODUCTION FACILITY AT THE COMPOSITES TECHNOLOGIES CENTER OF EXCELLENCE IS AWARDED WITH AS9100 CERTIFICATION, ATTESTING ITS CONFORMITY WITH THE AEROSPACE AND DEFENSE INDUSTRY QUALITY AND RISK MANAGEMENT STANDARD.



Targeted Social Gains

As a first in Turkey, we host such an industry-university collaboration structure, which covers all phases from R&D to production of high technology high performance composite products. We put our efforts to make this platform the technology base of Turkey and to export the technologies we develop to different parts of the world, besides making significant contribution to meet the need to qualified human resources in this field.

Targeted Environmental Gains

Composite materials enable vehicles to be more durable and lighter and so create energy efficiency. The technologies we develop at Composite Technologies Center of Excellence are environmentally friendly technologies.

Targeted Corporate Gains

We aim to be a part of composites industry and a strong company that serves the global sector as a manufacturer of intermediate products, and to continue positioning Kordsa as the technology and innovation leader also in composite technologies market.



Outputs of 2018 Works at Composite Technologies Center of Excellence

At our R&D center located in Composite Technologies Center of Excellence, we developed a resin technology that reduces curing time and increases efficiency in the automotive industry. Known as CM14, this next-generation resin technology achieves superior visual quality by eliminating water-spot and white-spot problems. Formulated specially to achieve a high-quality carbon look, this new resin technology makes it possible to use pre-impregnated composite materials in automotive industry mass production applications.

In 2018, our production facility at the Composites Technologies Center of Excellence is awarded with AS9100 certification, attesting its conformity with the Aerospace and Defense Industry Quality and Risk Management Standard.

KORDSA SUPPORTS ENGINEERING CLUBS OF UNIVERSITIES!

Objectives

- » Enhance communication between universities and industry
- » Contribute to the development of engineering and material technologies

Projects Our Composite Technologies Business Line Supports

Yıldız Technical University (YTU) MAKTEK Student Club

YTU Racing Team participated in the Formula Student Competition with its fourth vehicle in 2017. YTU Racing Team, among sixty teams participated, took its place among the top twenty at Formula Student Italy in 2018.

Yıldız Technical University (YTU) Wind Power Club's Wind Car Project Bora

Participated one of the world's biggest sustainability themed competition Racing Aeolus.

Kocaeli University Turkish Mechatronics Team

Achieved to decrease the weight of the new dual-engine vehicle by 45% to 240 kilograms, using Kordsa's fiber materials.

In 2017, won TUBITAK's (The Scientific and Technological Research Council of Turkey) design award of Efficiency Challenge Electric Vehicle Competition.

Scope of Our Support

As Kordsa, we supply carbon fabric and prepreg material besides providing technical consultancy in composite part designs for the above projects. We plan to continue supporting university projects and supplying materials.

Targeted Social Gains

Enhance communication with universities and student groups.

Targeted Environmental Gains

Achieve fuel efficiency in Formula Student project; draw attention to wind power (clean energy) resources in Bora project.

Targeted Corporate Gains

Increase knowledge accumulation and awareness on material technologies in Turkey.

2018 R&D PROJECTS

Sustainability Category	Materials Management
Project Name	Development of Glass-Fiber Reinforced Nylon 6.6 Engineering Plastics
Leader - Application Location	R&D Center (İzmit)
Objective	Adding value to the scraps that come out during the manufacturing of PA66 strings by reinforcing them with glass as per original equipment manufacturers' specifications
Results and Gains	<p>Economical: We took advantage of the opportunity to offer our clients products with higher specifications in comparison to the existing products available in the market, and provide them with products that meet their demands.</p> <p>Social: We started to contribute more to the national economy by adding an important base material of the Turkish automotive sector, PA66, back to the supply chain with an increased added value as an export item.</p> <p>Environmental: We put our mark on a project that has very positive impacts on environment through enabling the reuse of an important engineering polymer, PA66, and stopping scraps from being a waste and gaining them back to the production.</p>

Sustainability Category	Sustainable Growth and Waste Management	Sustainability Category	Waste Management
Project Name	Diminishing the Occurrence of the Edge Peeling in Polyester Rubber Fabric and Developing New Adhesive Solutions to Improve Visual Appearance in Bonding with Rubber	Project Name	Developing Innovative Technologies for a More Efficient and Sustainable Plastic Recycling (H2020 - EU Supported Project)
Leader - Application Location	R&D Center (İzmit) - Production	Leader - Application Location	R&D Center (İzmit)
Objective	<p>Eliminate the tip rise problem seen in polyester cord fabrics and improve the cosmetic appearance of the bonding between polyester fiber and rubber.</p> <p>Protect the adhesive bonding durability between polyester fiber and rubber and reach bonding levels at high temperatures that meet customer expectations in tire production.</p>	Objective	The environmental pollution caused by the plastics thrown into nature with the ubiquity and the increased consumption of fossil-fuel based polymers, and the dependence of the oil/gas prices on geopolitical factors is creating global environment and supply risks. The aim of the project is to develop technologies that can offer solutions to these global problems.
Results and Gains	<p>Economical: We foresee that there will be a rise in demand to this product group from our existing and new clients, which will increase Kordsa's share in domestic and international polyester (PET) markets. We are anticipating an increase in Kordsa's polyester cord fabric sales, which is preferred by tractor, truck, pick-up and SUV tire manufacturers in particular besides passenger car tire, in the interest of client diversification.</p> <p>Social: We will increase employment in qualified workforce through new investments we made in polyester production. We will also be instrumental in the reduction in traffic accidents due to poorly performing tires.</p> <p>Environmental: We foresee an improvement in the fatigue resistance values of the tires with polyester fiber thanks to their high bonding and easier process properties. Consequently, we are also expecting a reduction in potential tire waste.</p>	Results and Gains	<p>Economical: We will accumulate know-how in chemical recycling technologies. We will establish an alternative against the potential risks in monomer supplies in the future.</p> <p>Social: We have built a network across the EU on this issue. We will gain an important reference for the Horizon projects that may be initiated in the future.</p> <p>Environmental: We will contribute to the depletion of the amount of waste on a global scale by enabling the recycling of thermoplastics which have a wide use and create environmental pollution, using chemical and mechanical techniques.</p>

Sustainability Category	Energy Efficiency	Sustainability Category	Energy Efficiency
Project Name	Developing a Prepreg to Be Used in Composite Trunk Lids for Public Transport Vehicles	Project Name	Developing a Hot-Melt Prepreg with Self-Bonding Properties with Metals for The Production of Metal Composite Hybrid Components through Compression Molding
Leader - Application Location	Composite Technologies Center of Excellence R&D Center (Istanbul) - Production	Leader - Application Location:	Composite Technologies Center of Excellence R&D Center (Istanbul) - Production
Objective	Reducing the weight of buses by manufacturing trunk lids out of composite material instead of metal.	Objective	Due to the increasing need for weight reduction in the automotive sector, the use of metal composite hybrid structures is rising. This project is aimed at developing a fast curing prepreg material that is suitable for the compression molding as preferred by the industry and serving the target life cycle demanded by the automotive sector.
Results and Gains	<p>Economical: We developed and produced the resin and the prepreg. Since the resin system is just starting to be commercialized, sufficient data is not yet available to evaluate its economic output.</p> <p>Social: In order to reduce H&S risks during the production of prepreg and composite parts, we are using solvent-free resin which is a production method that has positive effects on employee health and safety and environment.</p> <p>Environmental: We forecast a reduction in fuel consumption and increase in the number of passengers and the amount of load carried thanks to this light weighting technology.</p>	Results and Gains	<p>Economical: Since the resin system is just starting to be commercialized, sufficient data is not yet available to evaluate its economic output.</p> <p>Social: Since the resin formula under development is consisting of vinyl ester "hot melt" resins that do not cause hazardous emissions like styrene, its hazardous emissions will be much lower than the materials that have been in use before.</p> <p>Environmental: Since the prepreg material under development cures outside the autoclave, the energy consumption will be reduced, and thanks to the use of low-density prepreg instead of metal parts, carbon emissions will be lower in parallel to the fuel consumption.</p>



STRATEGY AND GOVERNANCE

**“
WE OPERATE
IN CONFIRMITY
WITH CORPORATE
GOVERNANCE
PRINCIPLES
AND WITH THE
AWARENESS
OF SOCIAL AND
ENVIRONMENTAL
RESPONSIBILITY.
”**

AS KORDSA IN EVERY GEOGRAPHY WE OPERATE, WE EXECUTE ALL OUR ACTIVITIES BY COMPLYING WITH REGULATIONS AND CORPORATE ETHICAL VALUES AS WELL WITH THE AWARENESS OF OUR SOCIAL AND ENVIRONMENTAL RESPONSIBILITIES THAT WE DISSEMINATE TO ALL OUR EMPLOYEES. KORDSA PERFORMS ITS OPERATIONS IN CONFORMITY WITH THE CORPORATE GOVERNANCE PRINCIPLES PUBLISHED BY THE CAPITAL MARKETS BOARD WHICH ARE TRANSPARENCY, FAIRNESS, RESPONSIBILITY AND ACCOUNTABILITY.

AWARDS AND ACHIEVEMENTS



BIST SUSTAINABILITY INDEX



Kordsa, among the **50** companies with the highest corporate sustainability performance, entered Istanbul Stock Exchange Sustainability Index for the **3rd** time.



SUSTAINABILITY REPORT AWARD



Sustainable Business Awards 2018 Turkey
Sustainability Report Category
1st Place



SUSTAINABILITY REPORT AWARD

Asia-Pacific Excellence Awards 2018

Integrated Annual and CR Report Category

1st Place



SUSTAINABILITY REPORT AWARD



LACP (League of American Communications Professionals)
Inspire Awards

Sustainability Report Category
1st Place
Platinum

CORPORATE GOVERNANCE

Our Board of Directors consists of six members in total where one of them is female and two of them are independent members. One independent member is the chair of Early Risk Identification Committee and member of Corporate Governance and Audit Committees. The second independent member is the chair of both Corporate Governance and Audit Committees and member of Early Risk Identification Committee. All members except independent members hold executive functions.

SUSTAINABILITY TALKS Business Ethics



INTERNAL STAKEHOLDER VIEW

80% of our employees who responded to the sustainability assessment survey think that...



Kordsa manages all its business processes in line with corporate governance principles, being transparent, fair, accountable and responsible.



Committees Reporting to the Board	Responsibility on Economic Topics	Responsibility on Social Topics	Responsibility on Environmental Topics
Audit Committee	Sustainable Growth Supply Chain Management	Compliance and Anti-Corruption Customer Privacy	-
Corporate Governance Committee (Female members: 17%)	Sustainable Growth Supply Chain Management	Compliance and Anti-Corruption Employment Human Rights	-
Early Risk Identification Committee	Sustainable Growth Supply Chain Management	Compliance and Anti-Corruption Occupational Health and Safety Customer Privacy	All environmental topics

BUSINESS ETHICS

The Code of Business Ethics that regulates Kordsa's relationships with its customers, employees, shareholders, suppliers, business partners, competitors, the environment and society cover four main topics, namely legal obligations, integrity, confidentiality and conflict of interest. Kordsa Code of Business Ethics is available in the native languages of the countries we operate in (Turkish, English, Bahasa, Thai, and Portuguese) and is published on our website. In 2018, 618 employees were trained on business ethics.

Stakeholders who would like to report an incident or file a complaint can find the names, e-mail address (etik.tr@kordsa.com) and phone numbers of our Code of Ethics Consultants on our company's website.

The processes of ethics management are also explained on our website.



Kordsa Code of Business Ethics

Compliance Management

The Legal Obligations topic under the Kordsa Code of Business Ethics governs the principles of compliance management in our company. We realize all our domestic and international operations and transactions in line with national legislations and international law, and provide accurate, complete and clear information to the official bodies and institutions in a timely manner.

At Kordsa, we have not received any monetary or administrative penalties during the reporting period for breach of any laws or regulations, including those on the environment. There was not any case brought to our attention through conflict resolution mechanisms, either. Our goal is to continue our 'zero negative impact' performance of 2018 in the coming years.

Anti-Corruption

Anti-corruption is one of the ten fundamental principles of the UN Global Compact that Kordsa signed in 2014.



OUR CODE OF BUSINESS ETHICS IS AVAILABLE IN THE NATIVE LANGUAGES OF THE COUNTRIES WE OPERATE IN AND IS PUBLISHED ON OUR WEBSITE. IN 2018, 618 EMPLOYEES WERE TRAINED ON BUSINESS ETHICS.



We published Kordsa Anti-Corruption and Anti-Bribery Policy in 2015, which is based on Turkish law, covering all our employees, suppliers and customers. It is publicly available on our web site.

Communication and trainings on anti-corruption in Kordsa cover all our employees in line with our Code of Business Ethics. Ethics Committee and Internal Audit functions monitor cases on anti-corruption, whistleblowing being also in charge of sanctions and reports to Sabancı Holding Ethics Committee.

In the reporting period, there were not any confirmed corruption or bribery cases concerning our operations; any cases where an employee was dismissed or given a disciplinary penalty on charges of corruption; any contract with business partners that was terminated or failed to be renewed due to violations related to corruption; or any public lawsuit opened against our company or our employees because of corruption.



Kordsa Anti-Corruption and Anti-Bribery Policy

INTERNAL STAKEHOLDER VIEW

85% of our employees who responded to the sustainability assessment survey think that...



Kordsa's policies, trainings and audits on compliance including anti-bribery and anti-corruption are adequate.



SUSTAINABILITY MANAGEMENT

Within the scope of our 2020 Sustainability Road Map and with the devoted efforts of our employees, we continuously improve our processes by balancing the use of our global resources and continue to grow creating sustainable value for all our stakeholders.

KORDSA SUSTAINABILITY ROAD MAP 2020

At Kordsa, considering our material sustainability topics, we prepared a five-year sustainability road map which was approved by Executive Leadership Team during the last quarter of 2016. Taking 2016 as the base year, we planned our sustainability management actions towards 2020. We review our targets annually, revise our action plans when necessary and share our performance results with our stakeholders through this report.

SUSTAINABILITY TASK FORCE

With the participation of specialists and managers from different disciplines and departments, we established Kordsa Sustainability Task Force in 2014. Members of the team are selected in accordance to our material sustainability topics.

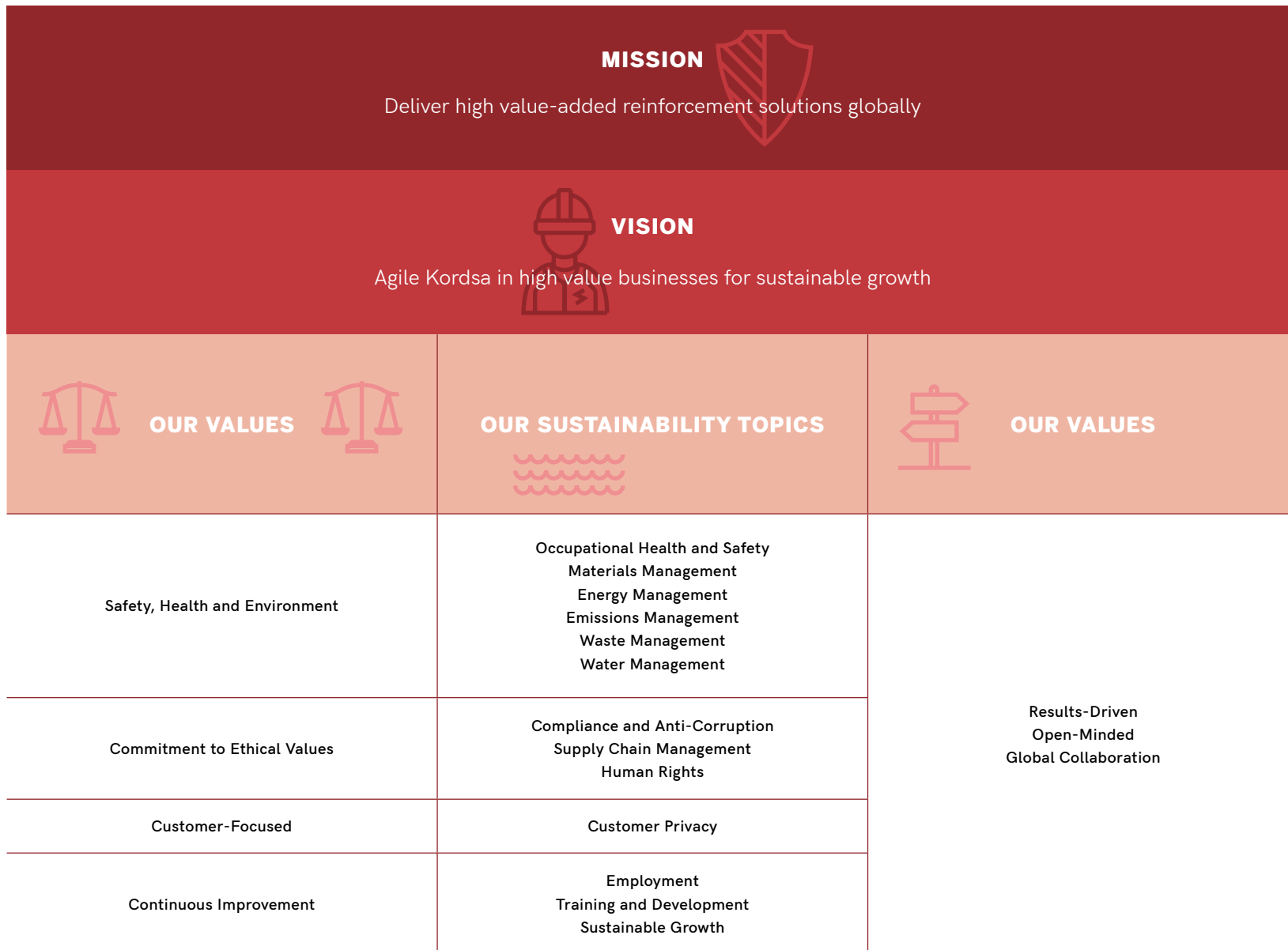
Sustainability Task Force plays an important role in implementing the sustainability strategy of our company along with the Executive Leadership Team and contributes to the development our sustainability reports.

Member Name	Job Title
Ayhan Karakoca	Global Finance Manager
Ayşe Gürsoy	Brand Marketing and Corp Com Specialist
Bülem Boyacı	Global Sourcing Manager
Cansu Yalçınkaya	Market Development Specialist
Ece Tokat	Lawyer
Elif Gönenç	Lean Manufacturing Engineer
Erhan Kop	Project Coordinator
Ferhat Uzun	Continuous Improvement Coordinator (Quality)
Havva Bayraktar	SHE Technician
Miray Gönülşen	Human Resources Specialist
Müge Metinöz	Market Development Specialist
Nevra Aydoğan	Brand Marketing and Corp Com Manager
Yoga Mardiansyah	Global SHE - Sustainability Manager

Note: The names of the members are in alphabetical order.

SUSTAINABILITY STRATEGY AND OUR CORE VALUES

Our corporate values support the foundations of our vision and strategic initiatives. Our priority topics that shape our sustainability strategy match perfectly with our corporate values that we based our growth strategy on.



INTERNAL STAKEHOLDER VIEW

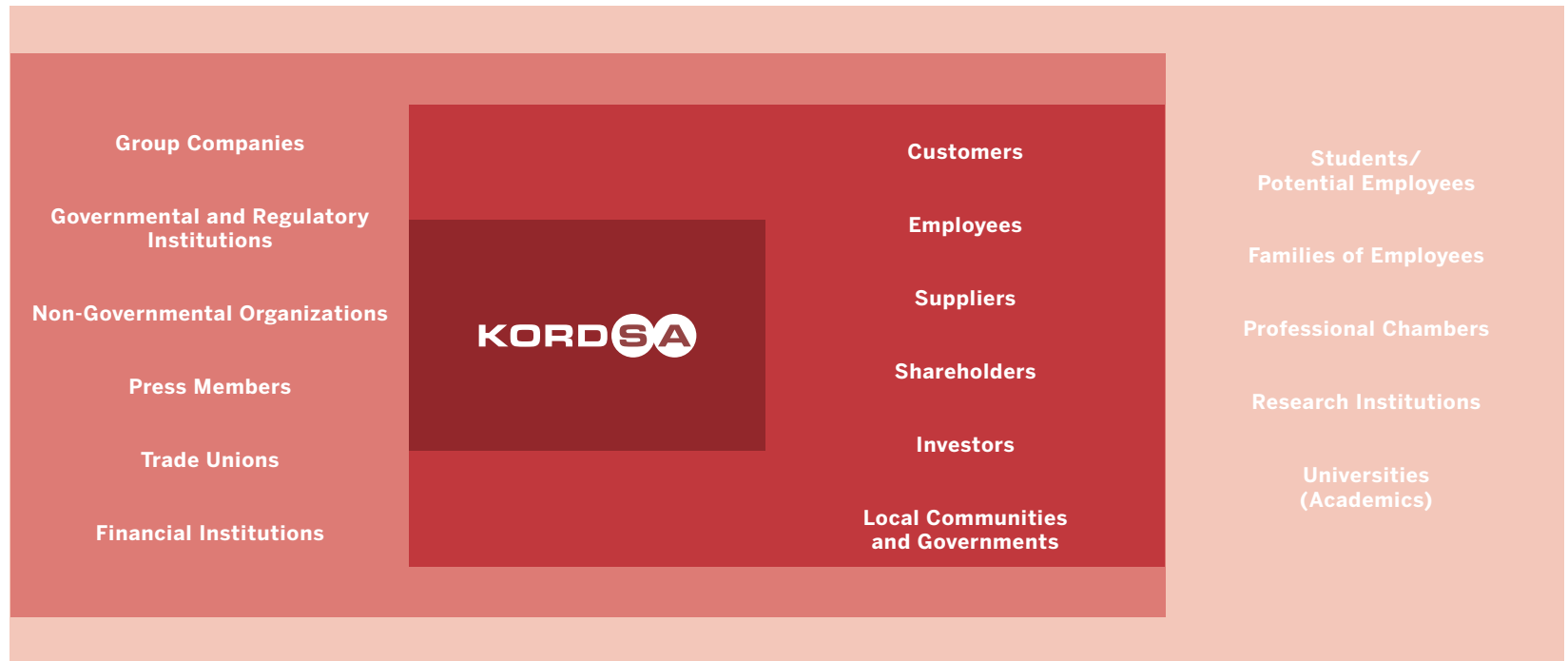
75% of our employees who responded to the sustainability assessment survey think that...



Kordsa's communication platforms to find out about the ideas/suggestions or expectations of key stakeholders (excl. employees) are adequate.



COMMUNICATION WITH OUR STAKEHOLDERS



We define our stakeholders as people and organizations that are influenced by our activities, and at the same time that have impacts on our company to achieve its business targets. While striving for sustainable growth at Kordsa, we aim to render the benefits we create for all of our stakeholders sustainably as well.

We conducted a sustainability strategy survey during the first reporting period in 2015. Then, at one-on-one interviews with Executive Leadership Team and during the sustainability workshop held with Sustainability Task Force in 2017, we reviewed all our key stakeholders that had an intensive economic, social,

and environmental interaction with our company concerning our strategic topics.

We grouped our key stakeholders by the extent they were influenced by our company's activities and their impacts on our company's efforts to achieve its business targets. We plan to review

our stakeholders every two years as we review our priority topics.

Sustainability Communication with Our Customers

Starting from the first year of our sustainability reporting we engage with our customers to either receive feedback regarding Kordsa’s sustainability performance or the strategic topics focused. Every year we aim to increase the number of our customers that we engage on sustainability.

In the first year of sustainability reporting, we have interviewed our major customer representatives and received their feedback about our performance on sustainability. We have also asked their concerns on which topics Kordsa should focus on. Engaged customers brought up the issue of supply chain management on social and environmental impacts. We took this feedback into consideration and again took actions to better manage this topic. The details of our actions take place under *Supplier Assessments* topic.

In 2017, we conducted a survey with the participation of 50% of our major customer representatives. Results showed that the top priority topics for our customers are compliance and anti-corruption, occupational health and safety, human rights and customer privacy.

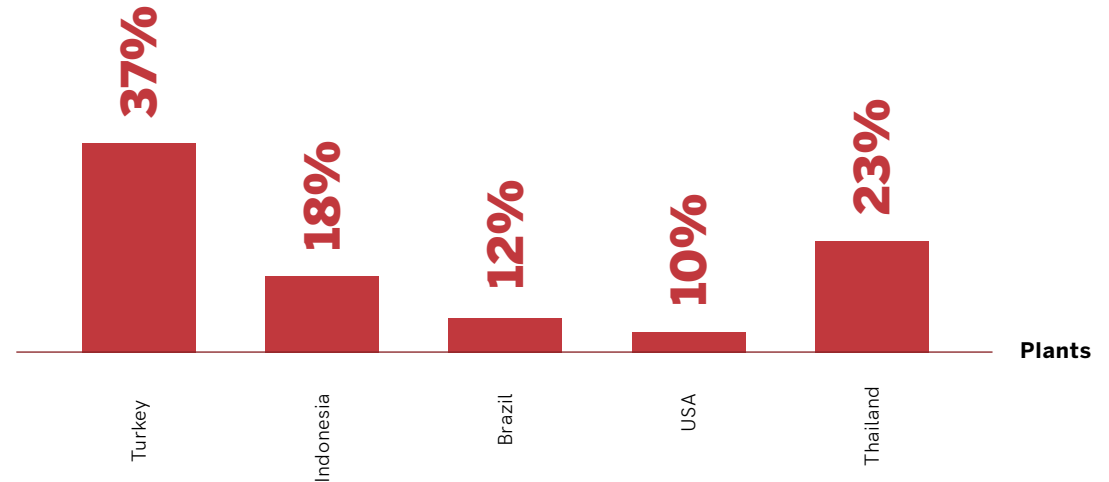
Sustainability Communication with Our Employees

We conduct a sustainability assessment survey annually to raise their awareness of our employees on sustainability and our company’s impacts. Through this survey, we collect our employees’ opinions on our company’s sustainability performance and we share these views in the relevant sections of our report. The participation level to our sustainability survey gradually increases each year since 2015.

331 white-collar employees including engineers, specialists, supervisors, managers, directors, and top management, 38% of which has been working for Kordsa for more than 15 years, participated in the survey to assess 2018 performance. Participants also selected the topics of their concerns and prioritized them.

The communication platforms we employ for our employees and other key stakeholders, together with their content and communication frequency, are given in the *Communication Platforms with Our Stakeholders* table.

SURVEY PARTICIPATION



Priority Topics of Our Customers	
1	Compliance and Anti-Corruption
2	Occupational Health and Safety
3	Human Rights
4	Customer Privacy
5	Supply Chain Management

Priority Topics of Our Employees	
1	Occupational Health and Safety
2	Compliance and Anti-Corruption
3	Sustainable Growth
4	Human Rights
5	Customer Privacy
6	Training and Development
7	Employment

COMMUNICATION PLATFORMS WITH OUR STAKEHOLDERS

Our Stakeholders	Communication Platforms	Objective / Content of Communication	Communication Frequency
Customers	Sustainability Survey	Sustainability strategy	Once a year
	Sustainability Report	Sustainability performance	Once a year
	Reinforcer Magazine	To share developments about the company, sector and technology	Twice a year
	Annual Report	To review the performance of the company in the previous year	Once a year
	Press section on website	To announce new developments about the company through press releases	Continuous
	Magazines and newspapers	To announce new developments about the company through press releases and interviews in both national and international publications	Continuous
	Social media	To share news about the company, products and developments	Continuous
	E-Newsletter	To share developments about the company or collaborations exclusive to Big 6 segment	Four times a year
	Trade fairs	To establish contact with existing and new customers	Several times a year
Employees	Sustainability Evaluation Survey	Materiality and performance	Once a year
	Sustainability Report	Sustainability performance	Once a year
	Plant newsletters such as the Kordsa Magazine	To announce important developments about the company	Several times a year
	People Clip	To make notifications about the company	Continuous
	E-mails by CEO	To share important developments	As needed
	Yammer	To enhance CEO communication and sharing developments about the Kordsa with employees	Continuous
	Intouch	To enhance CEO communication	Three times a year
	All Stars	To select the best projects and most successful activities within the company	Once a year
	Global Leadership Summit (Kordsa GLS)	To review the previous year and share the vision of the next year	Once a year
	Social media	To share news about the company, products and developments	Continuous
Suppliers	Face-to-face contact	To discuss business issues	At least once a month
	Trade fairs	To discuss business issues	Several times a year
	E-mails	To discuss business issues	Continuous
	Factory visits	To inspect, to discuss business issues	Several times a year
	Social media	To share news about the company, products and developments	Continuous

Our Stakeholders	Communication Platforms	Objective / Content of Communication	Communication Frequency
Shareholders	Earning Calls	To announce mid-year results	Two times a year
	General Assembly	To announce annual results	Once a year
	E-mail by request	To convey information on e-mail for those shareholders who request	Several times a year
Investors	Analyst Meeting	To share important developments about the company in a meeting with the participation of top management	Once a year
	Newsletters	To announce important developments about the company through the media	Continuous
	TV programs	To announce important developments about the company	Several times a year
	Magazines and newspapers	To announce important developments about the company	Several times a year
	Website	To announce important information	Continuous
	Public Disclosure Platform	To publish the report of the Capital Markets Board	Four times a year
		To announce special situations	As needed
	Telephone/e-mails	To respond to investors' request for information about the company	Upon request from the investors
	Social media	To share news about the company, products and developments	Continuous
	Local Communities and Governments	Newsletters	To announce important developments about the company through the media
TV programs		To announce important developments about the company	Several times a year
Website		To announce important information	Continuous
Kordsa Magazine		To announce important developments about the company	Several times a year
Newsletters		To share news about the company, products and developments	Continuous
Group Companies Governmental and Regulatory Institutions	Sabancı Holding Newsletters	To announce important information	Continuous
Non-Governmental Institutions	Newsletters	To announce important developments about the company through the media	Continuous
Press Members			
Trade Unions	TV programs	To announce important developments about the company	Several times a year
Financial Institutions	Website	To announce important information	Continuous

MATERIAL SUSTAINABILITY TOPICS

We reviewed our strategic sustainability topics with a sustainability strategy survey conducted with the participation of the Kordsa Executive Leadership Team and the Sustainability Task Force. Consequently, we conducted employee and customer engagement surveys and considered their opinions as our key stakeholders while preparing our materiality matrix.

Considering the BIST Sustainability Index requirements, we have added biodiversity and climate change in the evaluation process. Actions towards climate change are given under the *Emissions Management* topic in our report. As our sites are located within industrial zones, biodiversity is not in our area of impact. So, we disclosed our general approach regarding this issue on our web site for BIST evaluation. Supplier assessments, as a topic brought up by our major customers in the previous years, its place again in the matrix under Supply Chain Management topic this year.

The upper right-hand part of the matrix displays the first group of topics that are of high importance for both our employees, customers and Kordsa, and which influence our company's performance directly and significantly.

In the matrix, compliance and anti-corruption topics are covered under Business Ethics.

The second group of topics, although not prioritized by our key stakeholders, are also material as a consequence of Kordsa's environmental approach and also have financial impacts on Kordsa. All these topics constitute the main headlines of the relevant sections of our report, and we provide the relevant data on our company's performance in the report extensively.

The main objective of creating such a matrix was to clearly identify issues important for both our company and our key stakeholders, and to develop our plans and set our targets around these topics. In the coming terms, we aim to exchange ideas with a higher number of stakeholders and to further develop the topics we will focus on and our related targets.

Topic Boundaries and Limitations on Reporting

The list of topics that we include on our materiality matrix are all relevant for all our global operations. Externally our suppliers and contractors also have impacts on these topics. Nevertheless, we include these groups only under the coverage of *Supplier Assessments* topic.

KORDSA MATERIALITY MATRIX



For economic performance, we provide some figures which are not country-specific but represent the company as a whole. Last year we also included our product value chains in our report to identify the boundaries of our material topics.

Group 1: Topics both material for Kordsa and key stakeholders (Given in two groups according to level of significance.)

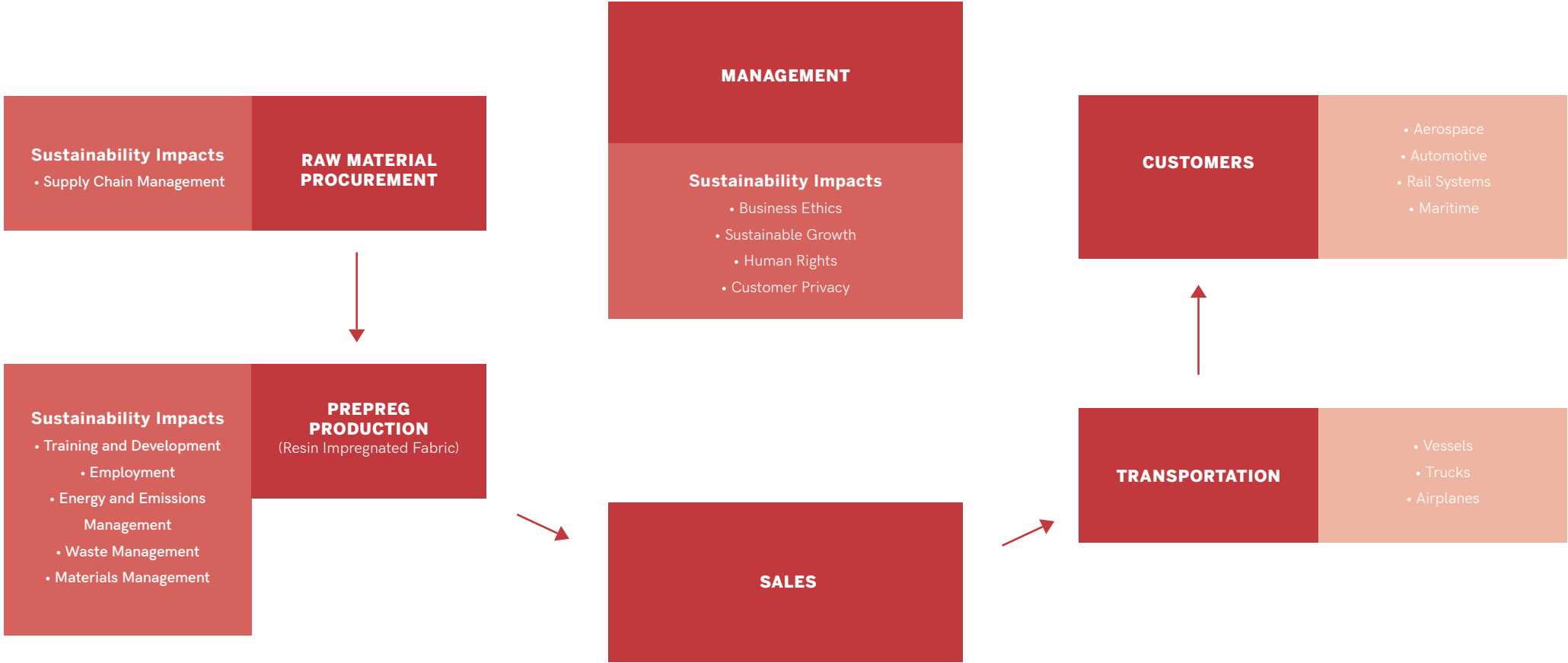
Group 2: Topics material for Kordsa but not prioritized by key stakeholders

Group 3: Topics material for one key stakeholder but not material for Kordsa

KORDSA SUSTAINABILITY IMPACTS ALONG THE VALUE CHAIN (TIRE REINFORCEMENT TECHNOLOGIES)



KORDSA SUSTAINABILITY IMPACTS ALONG THE VALUE CHAIN (COMPOSITE TECHNOLOGIES)



WE SUPPORT UN SUSTAINABLE DEVELOPMENT GOALS!

Signing UN Global Compact in 2014, we started supporting its vision of “Sustainable and inclusive global economy” with our commitments. After the launch of Sustainable Development Goals (SDGs) in 2015 by UN, as Kordsa we aligned our material topics with these global challenges. Our material topics are directly related to 13 of the SDG’s where the rest are indirectly covered.

UN 2030 Sustainable Development Goals		Kordsa’s Related Material Topics
SDG 3. Good Health and Well-Being		Occupational Health and Safety
SDG 4. Quality Education		Training and Development
SDG 5. Gender Equality		Employment
SDG 6. Clean Water and Sanitation		Water Management
SDG 7. Affordable and Clean Energy		Energy Management
SDG 8. Decent Work and Economic Growth		Employment, Sustainable Growth
SDG 9. Industry, Innovation and Infrastructure		Sustainable Growth
SDG 12. Responsible Consumption and Production		Materials, Waste and Water Management
SDG 13. Climate Action		Emissions Management
SDG 14. Life below Water		Materials, Wastes and Water Management
SDG 15. Life on Land		Materials Management
SDG 16. Peace, Justice and Strong Institutions		Human Rights, Compliance and Anti-Corruption, Supply Chain Management
SDG 17. Partnerships for The Goals		Sustainable Growth

TARGETS AND COMMITMENTS

	Strategic Topic	Our Targets and Commitments	Performance in 2018	Targets Towards 2020
			What is achieved?	
Governance	Anti-Corruption	Disseminate Anti-Corruption and Anti-Bribery Policy at our plants	Completed distribution to all sites.	Completed.
		Maintain our performance of zero corruption cases at all locations	No cases occurred.	Continuous
	Compliance	Maintain our performance of zero non-compliance cases at all locations	No cases occurred.	Continuous
		Revise ethical rules and adapt them to current legislation if needed by following the latest developments in the Turkish legislation	Completed.	Continuous
Economic	Sustainable Growth	Increase EBITDA by 50% and sales revenues by 40%	Increased sales EBITDA by 83.1% and sales revenue by 58.8%.	Continuous growth
	Customer Privacy	Maintain our company's performance of zero complaints from customers about information security	No customer complaints recorded.	Continuous
	Supply Chain Management	Review the current supplier assessment system, update policy and procedures considering sustainability topics	Evaluated 13 major suppliers; 9 from raw material and 4 from machinery and equipment suppliers.	Increase the number of suppliers evaluated gradually
		Disseminate the use of Statement on Code of Business Ethics with the contracts of suppliers that we regularly do business with	Included all sites.	Completed.
Social	Occupational Health and Safety	Achieve a zero-accident rate at all our locations	Achieved 31.25% decrease in recordable cases at all sites compared to 2016.	Continuous
		Extend the Finishing Machinery Safety Project to include all plants abroad that have dipping units (Indonesia, Thailand, USA, Brazil), complete the risk analyses of these plants in 2015, and start implementations in 2016.	Completed risk analysis at all sites and mechanical closing have been installed at Kordsa Turkey, Indonesia, Thailand and Brazil.	Implement machinery safety at all yarn and fabric plants globally
	Human Rights	Maintain our performance of zero discrimination cases at all locations	No cases occurred.	Continuous
		Prepare a new Human Rights Policy that supports our Code of Ethics and disseminate it at all locations	Completed.	Completed.

Strategic Topic	Our Targets and Commitments	Performance in 2018		
		What is achieved?	Targets Towards 2020	
Social	Employment	Reduce the high-potential employee turnover rate in all our companies	Our employee turnover rate which was 11.2% in 2017 dropped to 10.1% in 2018.	Continuous
		Monitor the suggestion systems implemented at the plants and promote it to be more active	Collected 1,981 suggestion under sustainability; top three suggestions were from SHE, materials management and, training and development.	Promote suggestion system to be used effectively
	Training and Development	Expand the Global Mentoring Program increase its effectiveness, and ensure its continuity	In progress.	Continuous
		Improve the online platform and increase the number of KEEP training hours	In progress.	Continuous
Environmental	Materials Management	Monitor yarn recycle at all plants and sustain the process	Increased recycle rate by 34% compared to 2017.	Sustain yarn recycle rate
		Monitor fabric recycle or reused process materials from all plants	Increased recycle rate from 51% to 64%.	Sustain fabric recycle or reused material rate
	Energy Management	Increase the scope and effectiveness of the ISO 50001 Energy Management System	Continued data collection adding Brazil and two US plants.	Complete all sites by 2019
		Increase number of projects from all Kordsa plants to reduce energy consumption	Collected and executed 24 suggestions coming through from the system.	Continuous
	Emissions Management	Start data collection from all plants for CO ₂ calculation and continue CDP Reporting (Scope 1,2 and 3)	Achieved absolute change in CO ₂ /ton in Scope 1 and Scope 2 emissions.	Continue to decrease CO ₂ /ton every year gradually
		Start CO ₂ verifications	QSI prepared Turkey plant verification report. Started implementing ISO 14064 at all sites.	Complete all sites' verifications by 2020
		Continuously emit an emission that is under the national regulation limit	Sustained all plants' emission values below each local regulations' limits.	Continuous
	Waste Management	Comply and obtain ISO 14001 directive and local legislation	Increased waste recycle rate by 12% compared to 2017.	Continue to keep recycle rate above 50%
	Water Management	Monitor water usage and discharge of all global plants	Decreased total water withdrawal by 2%. Water use per ton production decreased from 4.4 m ³ to 4.2 m ³ /ton production.	Start Water Management Program in 2018 and disseminate at all plants by 2019

SUSTAINABILITY PROJECTS OF 2018

At Kordsa through different platforms our employees share ideas and suggestions to improve work environment and operational efficiency continuously. All these ideas help our company realize our sustainability commitments. We reward the ideas designed to create tangible gains annually through our global recognition and awarding system named All Stars.

Among the 30 projects awarded in 2018, we share the objectives and gains of the 7 projects among which 3 are from TPM teams and which serve directly to our sustainability targets.



Sustainability Category	Sustainable Growth and Energy Management
Project Name	Transformers
Leader / Application Location	Ring Bending Department / Kordsa Turkey
Objective	<p>In single and multi-layer bending machines:</p> <ul style="list-style-type: none"> • Reducing machine downtimes by 50% and increasing productivity • Improving ergonomic work conditions by 50% • Reducing the passage way-based adversities in quality by 5%
Results and Gains	<p>The modification time of a machine including all preparations was approximately 30 hours.</p> <ul style="list-style-type: none"> • With this work, we reduced the time down to 3.5 hours and achieved 88.3% improvement. • We provided a more ergonomic working environment for our employees.

Sustainability Category	Sustainable Growth and Energy Management
Project Name	Steam Production System
Leader / Application Location	Maintenance and Support Departments / Kordsa Turkey
Objective	<p>After our main steam energy provider Enerjisa terminated their steam production service, in order to fulfill our requirements, we have installed:</p> <ul style="list-style-type: none"> • Two steam tanks (one low-pressure and one high-pressure), a degasifier and feed water system (RO) in the existing support departments building for the NY Fabric and PET units, • One low-pressure steam tank and a feed water system in the existing support departments building for the NY string units
Results and Gains	<ul style="list-style-type: none"> • Targeted annual saving is USD 280 thousand. • We received support from the Chamber of Mechanical Engineers in placements of the equipment of the systems, their integration with peripheral systems, and identification of their environmental impact. • The wide area that will be opened following the removal of the old steam tanks will be turned to green field.

PET: Polyester
 NY: Nylon

Sustainability Category	Sustainable Growth and Waste Management
Project Name	Single End Cord (SEC) Dipping and Weaving to Produce High Modulus Nylon Cap Ply
Leader / Application Location	R&D / Kordsa Turkey and Kordsa Brazil
Objective	<p>The project is initiated to increase efficiency in SEC dipping and weaving processes. We aimed to;</p> <ul style="list-style-type: none"> • Achieve higher performance (modulus) • Eliminate cord and line breaks due to high tension and temperature at fabric dip units • Ensure efficient heat transfer at SEC dipping • Assure higher speed production and SEC dipping (60m/min to 100m/min) • Reach better coating quality at SEC dipping
Results and Gains	<p>Project targets are successfully realized;</p> <ul style="list-style-type: none"> • Found solutions to both existing and new customers' needs. • Achieved to get more customer approvals. • Established strong coordination and communication between two Kordsa sites. • Achieved less scrap during production.

Sustainability Category	Sustainable Growth and Energy Management
Project Name	Frost
Leader / Application Location	Prepreg Production / Composite Technologies Center of Excellence
Objective	<ul style="list-style-type: none"> • Keeping semi-finished products and related equipment in a steady heat desired • Preventing frosting inside the unit • Preventing deformation in the equipment • Using the determined shelf life effectively
Results and Gains	<ul style="list-style-type: none"> • We started to store the goods ready to ship more effectively and without problems. • We increased employee motivation with the elimination of certain problems previously associated with the inefficiencies in storage. • We are now achieving a safer and much more energy efficient storage at -18°C.


WE VALUE OUR EMPLOYEES' IDEAS AND SUGGESTIONS. IN 2018, WE AWARDED 30 PROJECTS IN ALL STARS AWARDS.


TOTAL PRODUCTIVE MAINTENANCE (TPM) INTEGRATION

TPM integration launched in 2015, is regarded as one of the most essential initiatives under sustainability management because of the positive economic, social, environmental and corporate benefits it generates.

TPM is designed to reach zero-accident target, to resolve quality problems and to identify root causes of reoccurring failures and develop stable solutions to eliminate them. It started at Kordsa Turkey facilities under the guidance of Tire Cord Fabric Production and Lean Management Department and turned to be a habit of doing business for all employees.

With TPM, we aimed to improve our staff's skills and competencies in monitoring, analyzing and taking timely action regarding their responsibilities; elevate the level of employee engagement at the factory in order to reach zero-failure target that will boost efficiency, and thus sustain customer satisfaction.

At each site we implement TPM, we invest in services with a value of USD 70-130 thousand annually ranging according to the size of the facility, including methods trainings and consultancy.

Our TPM integration targets, which are reflected to our individual targets cascaded towards supervisor level and in parallel to our performance targets coming from our strategic plans, started to create positive impacts in reaching our corporate goals.

In addition to the Autonomous Maintenance, Planned Maintenance and Focused Improvement activities depending on the deployment plans at the sites, we started the Office TPM activities in order to improve on our support departments processes such as Finance, Sales, Marketing, HR, Information Systems and Sales Operations

At our mother plant Kordsa Turkey in 2017, we opened the Reinforcement Center and started trainings, which enabled all our employees to learn the theories and the practicalities of 5S and Autonomous Maintenance approach

The TPM Sharing Portal went online, through which we were able to share our entire improvement works globally and open Kaizen, Kordsa Improvement Groups Projects and single point classes to access. We added TPM as a new category to the All Stars Awards in 2017, where we recognize and award the best practices globally.

During 2018 we monitored the positive impacts of TPM activities on our occupational health and safety, customer satisfaction on quality, overall equipment

efficiency (OEE) and, productivity and cost margin targets.

Results and Gains

Economic: We worked on preventing labor and machine loss, reducing costs due to high production based on increase in machine efficiency and increasing employee productivity as a result of effective use of labor time.

Social: We improved personal skills and competencies. The positive working environment created by zero- accident and zero quality defect targets, supported our company to be a preferred place to work and to increase communication among employees. As a result, similar perceptions strengthened team spirit and enhanced sharing and owning responsibilities among employees.

Environmental: We continued to manage waste effectively, increased perception of employees on waste, increased environmental sensitivity due to motivation created by contributing to environmental protection.

Corporate: Perceiving and owning corporate goals at the operator level contributed to a stronger corporate image and corporate culture.

ACTIVITIES IN 2018

Kordsa Turkey started to work on the 4th step of Autonomous Maintenance. Within this 4th step, we aimed at improving the skill levels of operators. We activated Office TPM pillar and provided trainings. As a result, all functions of the company are included in TPM activities. We activated Quality Maintenance pillar and provided trainings. So, we implemented the necessary pillar to achieve zero customer complaint target.

Kordsa Indonesia started to work on the 4th pilot step of Autonomous Maintenance and reached up to 4.2. We continued to work on active pillars.

Kordsa Thailand continued to work on the dissemination of current pillars. We determined the dates to activate the eight pillars and moved forward to 3rd step Autonomous Maintenance targets.

Kordsa Brazil activated Office TPM and FI (focused improvement) pillars in addition to current works. As a result, we provided all functions of the company to participate in the continuous improvement activities.

Kordsa USA (Laurel Hill & Chattanooga) Laurel Hill focused on the current 5S and Autonomous Maintenance activities while Chattanooga Plant continued to focus on 5S activities.

2018 All Stars Awards

Kordsa Indonesia Care Team
(Grand Award)

Kordsa Indonesia Super Start
(Grand Award)

Kordsa Brazil Spinning Team
(Honorable Mention)

Kordsa Thailand FI Finance Team
(Honorable Mention)

Kordsa Thailand PM Maintenance
(Honorable Mention)

Kordsa Turkey PM Mechanical Team
(Honorable Mention)

OUR FUTURE PLANS

We will keep up with the trainings where the pillars of the TPM are explained in detail in order to broaden the awareness and increase the leadership across all of our employees in our facilities. We will activate all TPM pillars where the committee leaders will play influential roles. We will continue to work for TPM Excellence Award application process and to collect the resources for the future Kordsa TPM Activity Book.

TPM PROJECTS THAT SUPPORT OUR SUSTAINABILITY GOALS

Sustainability Category	Sustainable Growth	Sustainability Category	Sustainable Growth and Energy Management	Sustainability Category	Sustainable Growth
Project Name	Care Team - Autonomous Maintenance 4.2	Project Name	Super Start Team - Autonomous Maintenance 4.2	Project Name	Autonomous Maintenance
Leader / Application Location	Production-Maintenance (Bending Process) / Kordsa Indonesia	Leader / Application Location	Production - Maintenance (Strings) / Kordsa Indonesia	Leader / Application Location	Spinning Team / Kordsa Brazil
Objective	<ul style="list-style-type: none"> Increasing the skills of the operators Bringing production up to an error-free, more efficient and higher quality level 	Objective	<ul style="list-style-type: none"> Increasing the skills of the operators Bringing production up to an error-free, more efficient and higher quality level 	Objective	<ul style="list-style-type: none"> To implement the TPM culture for all operators, To improve our site's operational results
Results and Gains	<p>Thanks to the improvement work (Kaizen), we reduced the times spent on the greasing, compacting and control checklists, thereby reducing the time spent on the routine autonomous maintenance work on the field.</p> <ul style="list-style-type: none"> Reduced the snapped cord number from 506 down to 321. Provided the employees a safer work environment. With the Autonomous Maintenance 4 steps we gained a different point of view at the field and supported our employees to spot the work accident likelihoods that they were not able to foresee before, in advance. 	Results and Gains	<p>Thanks to the Kaizens made with the new points of view gained after the trainings, the standard times spent on autonomous maintenance were reduced. Stoppage instance numbers also reduced.</p> <ul style="list-style-type: none"> Filling stops dropped from 1,291 down to 500. Warp stops dropped from 8,906 down to 6,000. Processes got easier with the visual management systems we developed. New greasing, compacting and control points were determined following a general control, which provided the employees a safer and cleaner work environment. 	Results and Gains	<ul style="list-style-type: none"> Decreased our waste level from 3.16% to 2.01% in 2018.

A photograph of a safari vehicle in a savanna at sunset. The sun is low on the horizon, casting a warm orange glow over the landscape. The vehicle is in the foreground, and the background shows acacia trees and tall grass.

ECONOMIC PERFORMANCE

“
**WE GROW BY
CREATING
SUSTAINABLE
ECONOMIC
VALUE.**
”



AS KORDSA, WE CONTINUED TO OFFER VALUE TO OUR STAKEHOLDERS BOTH WITH THE ECONOMY WE CREATED AND WITH OUR INVESTMENTS IN 2018. WE GREW IN ALL THREE LINES OF BUSINESS AND CREATED POSITIVE IMPACTS ON THE GLOBAL MARKETS THROUGH THE TECHNOLOGIES WE DEVELOPED. AT KORDSA WE INCREASED OUR OPERATING PROFIT BY 88.8% IN 2018 TO ENSURE SUSTAINABLE GROWTH. ON ONE HAND, WE FOCUSED ON EFFICIENCY IN PRODUCTION AND COMPETITIVENESS IN COST, BACKED UP WITH OUR TPM PRACTICES, AND ON THE OTHER, WE IMPROVED OUR ECONOMIC PERFORMANCE WITH OUR DIFFERENTIATION STRATEGY.

AWARDS AND ACHIEVEMENTS



EXPORT CHAMPION AWARD

Recognized with our contributions to Turkey's foreign trade and national economy, we received the Export Champions Award in textile category from the Turkish Exporters Assembly.



INDUSTRY 4.0 AWARD IN PLATIN GLOBAL 100

We are recognized among Turkey's top 100 global companies and received Industry 4.0 award in the textile category.



AMONG INDONESIA'S TOP 100 FASTEST GROWING COMPANIES

We took our place as one of the top 100 fastest-growing companies among 355 publicly-listed companies list prepared by Infobank, one of Indonesia's prominent finance magazines.



SUSTAINABLE GROWTH

INTERNAL STAKEHOLDER VIEW

80% of our employees who responded to the sustainability assessment survey think that...



Kordsa creates significant economic value for its key stakeholders.



In 2018 and with an investment of USD 100 million in composite technologies, we acquired three firms, Fabric Development, Textile Products, and Advanced Honeycomb Technologies, which are among the strategic suppliers serving the top brands of the world's commercial aviation industry.

In January 2018, in tire reinforcement technologies, we commissioned a polyester cord manufacturing line in Indonesia with 30-million-dollar investment and we will commission our Turkey line in the first half of 2019.

In both the nylon 6.6 market, which grew by 2.5% in 2018 compared to the previous year, and in the polyester market, which similarly grew by 3.5%, we increased our market shares to 28% and 11% respectively.

In construction reinforcement technologies, we continued to expand our product line with new products which provide high-performance advantages.

We commissioned the polypropylene monofilament line at our Turkey plant in 2018.

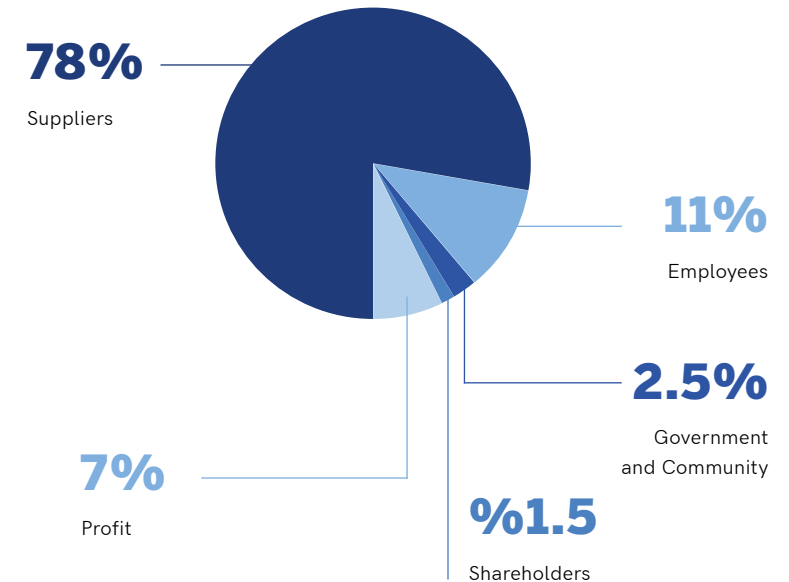
We received around TL 75.6 million government tax discounts and incentives in 2018.

THE VALUE WE DISTRIBUTE TO OUR STAKEHOLDERS

In proportion to the increase in profits in 2018, our community investments rose by 96%. We donated TL 24.22 million to educational institutions like Sabanci University and selected educational institutions in need, as well as NGO's like TEV (The Turkish Foundation for Education).

Just like the previous years, our suppliers received the highest share of the economic value we distributed to our stakeholders in 2018 by 78% and employees followed by 11%.

ECONOMIC VALUE DISTRIBUTED



CUSTOMER PRIVACY

INTERNAL STAKEHOLDER VIEW

85% of our employees who responded to the sustainability assessment survey think that...



Kordsa's practices, audits as well as employee awareness-raising activities to ensure and protect customer privacy are adequate.



As one of our values that support our strategic initiatives, being 'customer-focused' includes not only offering innovative, accurate and tailor-made solutions to our customers and also protecting the privacy of these solutions. In that context, we ensure the privacy of our customers, and keep an equal distance to all of them and strive for a "zero complaints" target in order to make sure they are satisfied.

At Kordsa, we manufacture tailor-made products for our customers with the properties they specify because, due to the nature of the tire industry, customer requirements vary according to their own production know-how and technology. As our main customers are competitors in the tire industry, it is critical that the production - product standards and technical specifications our customers require are kept confidential. This is safeguarded with both the confidentiality agreement we sign with our customers, and the fact that the security of this category of information falls under the responsibility of the whole

senior management team and all staff in contact with customers. Rules concerning the protection of customer privacy are included in the code of business ethics signed by all Kordsa employees.

Feedback on customer privacy is elicited from our customers through satisfaction surveys conducted on a regular basis in writing or in face-to-face settings, and the results are reviewed and evaluated by the senior management as well. In addition to that, customer privacy is also examined in customer audits (external audits) and quality audits (internal audits), and practices are checked to meet customer expectations.

Complaints concerning any violations of customer privacy and loss of customer data are handled through the customer complaints management system. Our customers' complaints decreased by 26% in 2016 and 38% in 2017 and 3% in 2018. We have not received any feedback regarding failure on maintaining customer privacy during the reporting period.

SUSTAINABILITY TALKS

Customer Privacy



SUPPLY CHAIN MANAGEMENT

INTERNAL STAKEHOLDER VIEW

79% of our employees who responded to the sustainability assessment survey think that...



Kordsa's policies, trainings and audits on human rights concerning its suppliers's operations are adequate.



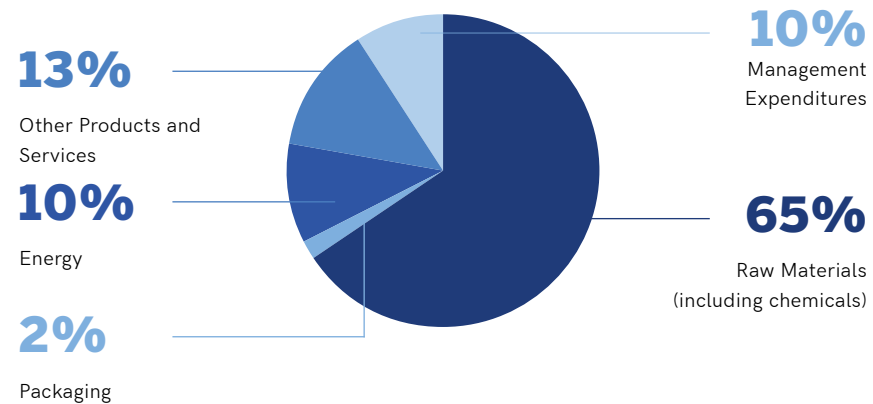
PROCUREMENT PRACTICES

The global purchasing function, located at our headquarters in İstanbul, is responsible for the procurement of the raw materials used in at least 2 of the 8 plants in 5 countries and/or whose supply is considered strategic, in addition to capex and service procurements above a specific budget.

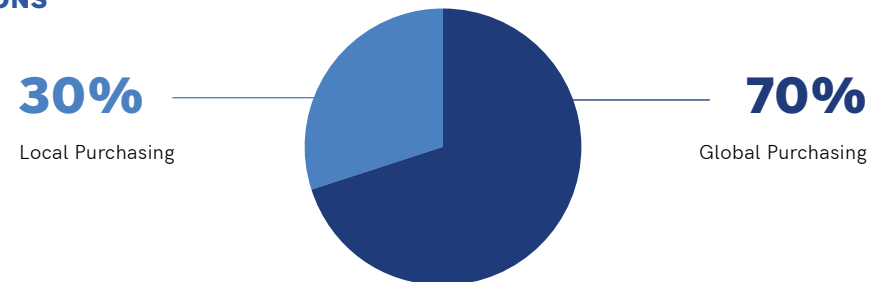
Local purchasing departments are responsible for the supply and follow up of all services and raw materials other than the above-mentioned items. The suppliers of which the trading terms are specified by Global Purchasing Department are also managed by local purchasing departments in terms of operational order processes. The consolidated import ratio of all Kordsa operations is 70%.

As Kordsa produces nylon and polyester yarns, cord fabric, single end cord, concrete reinforcement fiber and composite, our main procurement items consist of raw materials and energy.

BREAKDOWN OF PURCHASING EXPENDITURES



SHARES OF PURCHASING FUNCTIONS



SUPPLIER ASSESSMENTS

As Kordsa we require our suppliers and business partners to operate in accordance with the principles in the Statement on Code of Business Ethics we prepared based on Kordsa Ethics Code. This code outlines our company's expectations for the undersigned conduct regarding labor and human rights, health and safety, environmental protection, ethics, and management practices.

Till the end of 2017, we questioned the availability of OHSAS 18001 occupational health and safety management systems certification and ISO 14001 environmental management system certification at our suppliers on the assessment checklist and during the year-end assessments. We also ask for these certifications from our suppliers that are not included in the assessments.

We also included the implementation of a more comprehensive sustainability impact assessment in addition to our current processes. We directly integrate the sustainability scores of suppliers to our current assessment system.

We completed 2018 Sustainability Supplier Assessment with the cooperation of all Global Supply Chain and Global Sustainability Departments.

We implemented this year's evaluation with the participation of our biggest suppliers. The participation level of our suppliers is listed below. We aim to increase the number of participating suppliers and the level of participation in the coming years.

Assessment Survey Results

We invited 9 raw materials and 4 machinery/equipment suppliers to the survey. 3 raw materials suppliers did not respond. The participation level of suppliers are as the following;

High participation

3 raw material and
1 machinery/equipment

Medium participation

1 raw material and
2 machinery/equipment

Low participation

2 raw material and
1 machinery/equipment

 *Supplier Assessment Procedure*





**SOCIAL
PERFORMANCE**

“

**WE CARE FOR
OUR EMPLOYEES.
WE PROTECT
THEIR RIGHTS
AND WE DEVELOP
OUR TALENTS
TOGETHER.**

”



AT ALL KORDSA PREMISES OUR PRIORITY IS TO PROVIDE SAFE AND HEALTHY WORK ENVIRONMENT FOR ALL OUR EMPLOYEES AND TO PROTECT ALL THEIR RIGHTS BOTH AS HUMANS AND AS EMPLOYEES. WE STRONGLY MIND RETAINING OUR TALENTED EMPLOYEES AND INVESTING IN THEIR DEVELOPMENT. WE MANAGE OUR HUMAN RESOURCES OF ABOUT 4,500 PEOPLE INCLUDING SUBCONTRACTORS IN FIVE COUNTRIES, WITH PRACTICES BASED ON OUR GLOBAL SUSTAINABILITY STRATEGY.

AWARDS AND ACHIEVEMENTS



AMONG THE BEST EMPLOYERS IN BRAZIL



Kordsa is listed among the Best Employers in Brazil 3rd time in a row by Great Place to Work Institute



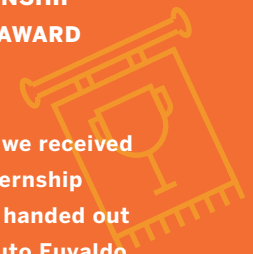
BEST EMPLOYER TO START WORK LIFE

As a result of a survey run among employees of 18-26 age group, Kordsa Brazil was once again named among the “Best Employers to Start Work Life” list published by Você S.A.



BEST INTERNSHIP PRACTICES AWARD

As Kordsa Brazil, we received the “Best Internship Practices” award handed out by Brazil’s Instituto Eivaldo Lodi for the 3rd time.



OCCUPATIONAL HEALTH AND SAFETY

INTERNAL STAKEHOLDER VIEW

89% of our employees who responded to the sustainability assessment survey think that...



Kordsa takes necessary measures sufficient to oversee and secure health and safety of its employees.



Health and safety of our employees comes first among our company's strategic sustainability priorities. The common and only goal of all our people and departments in charge of occupational safety is to attain zero occupational accident and zero occupational disease.

We implement "The 10 Golden Rules of Occupational Safety" we identified to prevent employee injuries across all our plants. There have not been any fatal accidents in any of our plants or subcontractors during the reporting period.

We have Management-Worker Health and Safety Committees in all our facilities with the same operating structure. 100% of our workforce is represented in these committees.

The majority of the project ideas regarding occupational health and safety come from our employees. In 2018 at Turkey plant, we received 216 ideas, in Thailand 82 ideas and in Indonesia 88 ideas to improve safety conditions of our employees. With these ideas we took more precautions towards accidents before they occur.

SUSTAINABILITY TALKS Occupational Health and Safety



MICRODIP

Quality and R&D teams at Kordsa monitored high test result variations between internal and external customers at microdip process and developed a project to install new machinery in order to automate test methods. This project won one of the 30 All Star Awards.

Results and Gains

Economic: Operator occupancy dropped by 33% and number of test steps reduced (less material) usage.

Social: Maintained less chemical exposure to human and less ergonomics and health problems due to reduced manual work.

Environmental: Risk analysis score dropped to 8% .

Corporate: Production, Quality, R&D and Labs at other sites will also benefit from the new system.

SAFETY EXPERIENCE CENTER

Safety Experience Center is series of training simulators, that is developed to make people "experience" the accidents and "feel" its aftermath when it occurs. Our aim is to train all employees and contractors in order to achieve our injury-free days and as a result to create positive indirect economic impact on our company due to reduced lost days.

We initiated this project at Indonesia plant in 2015 and at Turkey and Brazil plants in 2016 and Thailand plant in 2017. Later in the same year we shipped the center to US Chattanooga and US Laurel Hill to train our employees at these sites.

BEST ACHIEVED INJURY FREE HOURS AT KORDSA FACILITIES

	2016	2017	2018
Turkey - İzmit	1,964,071	1,964,071	1,964,071
Thailand	3,210,448	3,210,448	3,210,448
USA - Chattanooga	818,902	818,902	818,902
USA - Laurel Hill	648,316	724,920	724,920
Indonesia	2,923,648	2,923,648	2,923,648
Brazil	1,252,333	1,252,333	1,252,333
Turkey - CTCE	n.a.	168,995	168,995

OHS TRAINING HOURS / EMPLOYEES

	2016	2017	2018
Turkey - İzmit	7	11	17,6
Thailand	17	13	11
USA - Chattanooga	6	5	8
USA - Laurel Hill	13	2	8
Indonesia	12	14	12
Brazil	32	12	10
Turkey - CTCE	n.a.	1,8	4

CTCE: Composite Technologies Center of Excellence

n.a.: data not available

MANAGEMENT-WORKER HEALTH AND SAFETY COMMITTEES

Name of Committee	Definition	Legal / Voluntary	Participants
Emergency Response Team	Organized for all shifts in the plant.	Legally required	Blue and white-collar employees
Energy Committee	Monitors energy use and ISO 50001; prepares energy reports and manages energy reduction projects.	Legally required	White-collar employees, and Maintenance Manager as Chairman
Electrical Safety Committee	Lays down all rules and standards on electricity hazards in the plant; makes inspections and provides training.	Company initiative	Mostly white-collar and also blue-collar employees
Process Safety Management	Carries out activities and inspections for explosions, fires, leaks and occupational accidents that may arise from the production process. Have annual targets.	Company initiative	White-collar employees
OHS Committee	Official meeting of the representatives of the employer and employees. All legal decisions are made by this committee.	Legally required	Employer representatives, union representatives, managers, subcontractor representatives
OHSES (Occupational Health & Safety, Environment & Sustainability) Management Committee	Works to improve OHSES performance, disseminate OHSES culture, manage improvement and development activities, and review performance.	Company initiative	All department managers and representatives, and Operations Director as Chairman
Hazardous Chemicals Committee	Identifies hazards wherever chemicals are used, conducts risk analyses, sets safety markings properly and provides trainings on chemical hazards.	Company initiative	White and blue-collar employees

HUMAN RIGHTS

INTERNAL STAKEHOLDER VIEW

83% of our employees who responded to the sustainability assessment survey think that...



Kordsa's policies, trainings and audits on human rights in its locations are adequate.



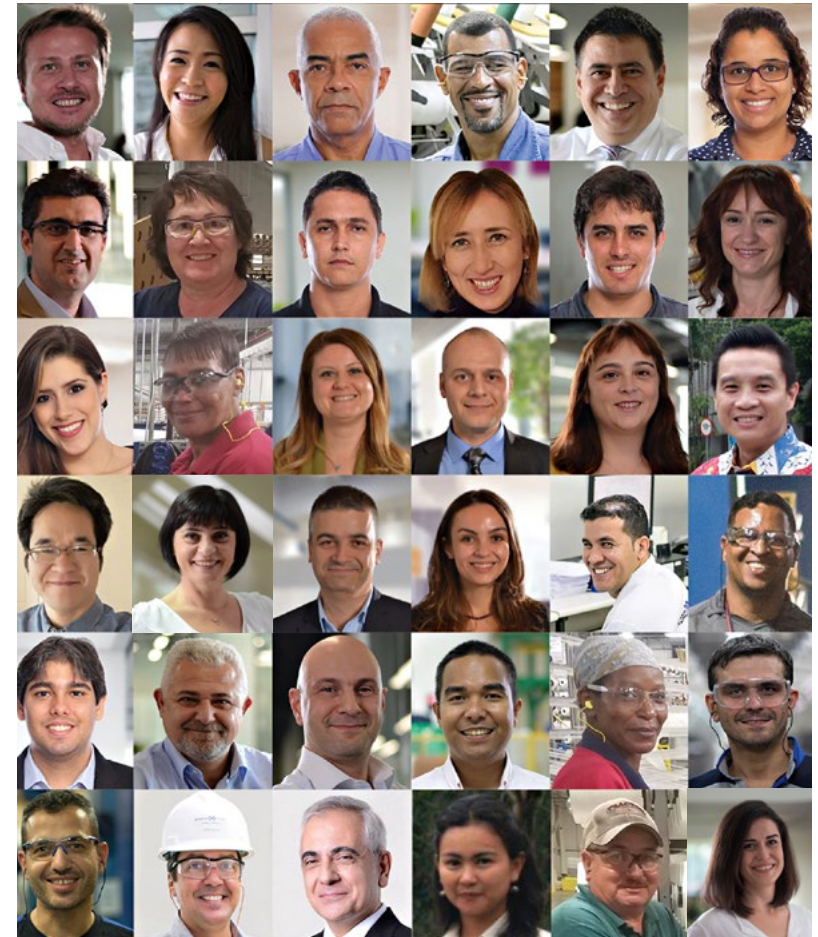
At Kordsa, our approach towards our people is honest and fair. We commit to a non-discriminative working environment for all, making sure our people enjoy their employee rights fully and properly.

Kordsa Code of Business Ethics is our company's guiding policy for human and employment rights. The policy is valid for all Kordsa locations, companies and suppliers. Additionally, Kordsa's employment and labor practices follow all applicable laws and regulations in countries we operate.

Like all our employees, our security staff is also trained on code of ethics including our human rights policies upon recruitment. Human rights risks and complaints in the company are audited both internally and externally by third parties. In line with our Code of Business Ethics and company policies, forced or involuntary labor and child labor are strictly prohibited across all Kordsa locations.

Employees who feel or suspect a violation of our Fair Working Environment Policy, which is a part of our Global Code of Ethics, must notify their line managers, other managers, the Local Code of Ethics Consultant, the Global Code of Ethics Consultant or the Ethics Committee. We have not received any complaints regarding human rights violations or discriminative practices from our employees at any of our locations in 2018.

The total number of employees under any type of collective agreement in Turkey, in Indonesia, and in Brazil is 2,291 with a ratio increasing from 48% to %66 in 2018. Our employees in USA, Thailand and China are not unionized. Kordsa supports freedom of association and there has been no incidence of violation for freedom of association in 2018. Our operations do not bear any apparent and significant risk concerning these issues.



EMPLOYMENT

INTERNAL STAKEHOLDER VIEW

83% of our employees who responded to the sustainability assessment survey think that...



At Kordsa, the communication channels for employees to share their ideas and opinions with the management are adequate.



We see our human resources as the most valuable capital of Kordsa. From recruitment to retirement our priorities are to secure their health and safety, to enhance personal and occupational development and to provide them with a pleasant work environment where their employee and human rights are fully assured.

Employee Satisfaction

We monitor our employee satisfaction through employee engagement surveys, roundtable meetings with the CEO and ELT where they listen to employees' opinions and receive their feedback and also with white-collar / blue-collar interaction meetings.

We began to observe the positive outcomes of these practices by our biennial employee satisfaction survey we executed in 2018. The engagement ratio in 2014 raised from 44% to 62% in 2016 and to 68% in 2018.

Long Term Tenures

The average employee tenure across Kordsa plants is 12 years and this period is extended by 10 months compared to 2017. As of 2018, the longest period is 14.3 years in Thailand and 14 years in Indonesia. Our employee turnover rate which was 11.2% in 2017 dropped to 10.1% in 2018.

Performance Evaluation

All Kordsa all employees are subject to regular performance and career development evaluations.

Equal Opportunities

At Kordsa, we mainstream equality from recruitment to retirement providing equal work environment for men and women. Besides the fair working environment for hiring and career planning for women, we also offer private health insurance that covers childbirth, and lactation rooms for their convenience. We provide health services, health insurances and retirement plan for all our full-time employees.

all human resources issues taking into consideration both the local approaches and practices and also the global trends.

Internal Career Opportunities

We provide overseas assignments to ensure the personal development of employees, defined as 'talents', and to develop a common culture across all Kordsa plants.

Detailed data on employment changes at all our plants can be found in the *social performance tables*.

SUSTAINABILITY TALKS Cultural Diversity



In 2017-2018 period 7 female and 63 male employees used their maternity leaves and returned their job to work at least another 12 months in our company.

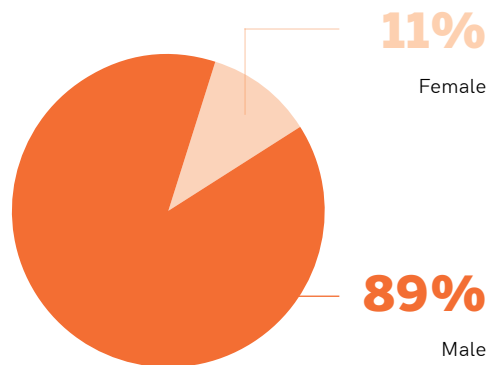
Diversity

Diversity and differences on our global human resources constitute the corporate culture of Kordsa. We manage

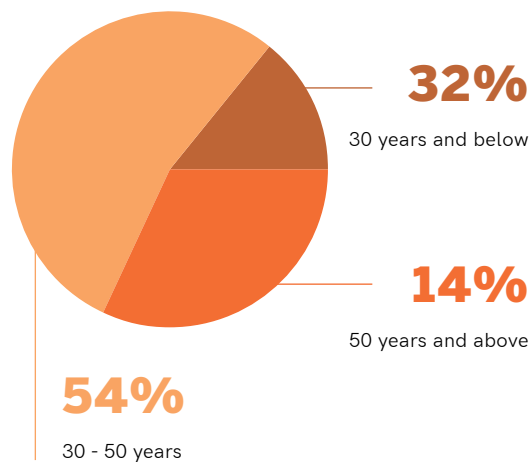
Employee Communication Platforms	Event	Target Group	Duration	Purpose	Place	Participation
Women's Club	Informative sessions under "Me First" topic, covering issues like personal and spiritual development, family-child development and health	All women employees	All year around	To support women employees in social life outside business life	İzmit, Turkey Plant and Istanbul Teknopark Office	90 women employees
Reinforest	Happy Hour at Reinforest Vitamin Bar	All white-collar employees	1 hour / week	To enable the employees, get together and socialize	İzmit, Turkey Plant Fabric Lobby	Average target of 60% attendance, 140 employees

“
**THE AVERAGE
 EMPLOYEE
 TENURE ACROSS
 KORDSA PLANTS
 IS 12 YEARS
 AND THIS PERIOD
 IS EXTENDED
 BY 10 MONTHS
 COMPARED
 TO 2017.**
 ”

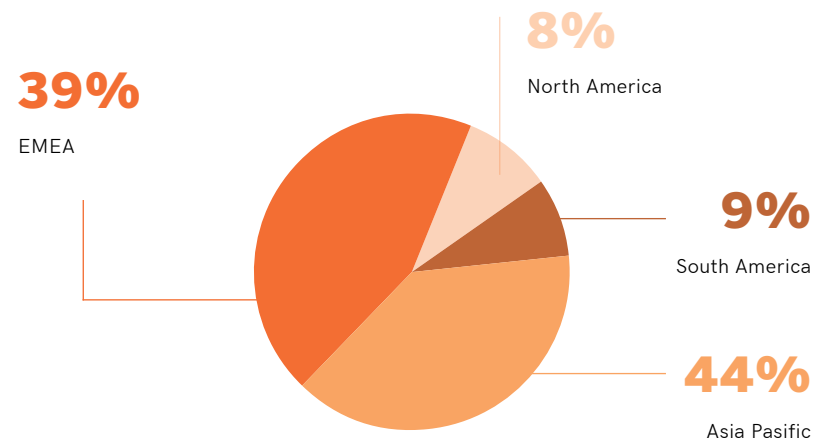
EMPLOYEES BY GENDER



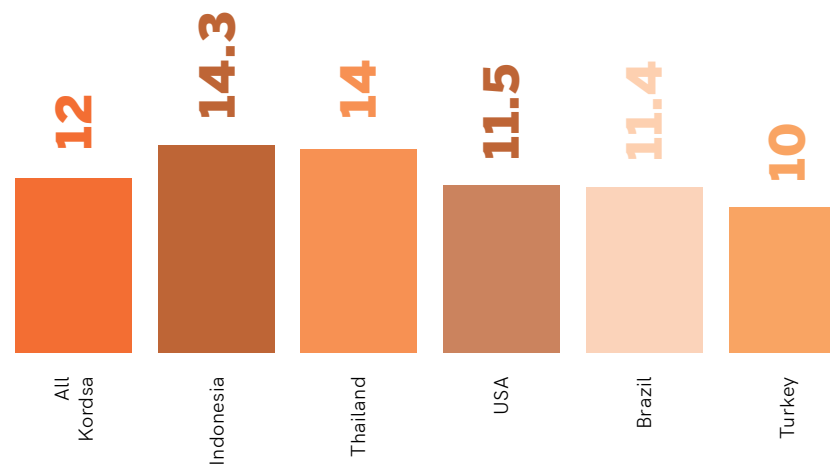
EMPLOYEES BY AGE GROUP



NUMBER OF EMPLOYEES



AVERAGE LENGTH OF SERVICE (YEARS)



KORDSA REINFOREST

In 2016, we grouped processes of climate, culture and engagement surveys under the roof of Reinforeset brand and began to conduct our human resources activities with this internal brand's framework.



The Reinforeset concept is derived from the words rainforest which regulates earth's climate, and our market placement Reinforcer, which represents Kordsa's reinforcement products. Reinforeset is promptly embraced by our staff. We intend to empower our employees via Reinforeset brand, which we developed by integrating Kordsa's reinforcer positioning with climate, culture and engagement components that interact and trigger each other, and with our practices that support it.

ALL STARS

Since 2006 at Kordsa, we reward successful projects, employees who take part in these projects, and high performing Kordsa sites globally and annually under 'All Stars Awards' scheme.

We pay utmost attention to implement this fair, inspiring recognition and rewarding strategy since we know it is critical to retain the skilled, talented employees at all responsibility levels. All Stars is a Global Recognition and Rewarding practice run by Global

Human Resources on top of local recognition and rewarding processes managed by each county's human resources teams.

Each employee is encouraged to participate with any project of her taste. The process starts at the end of each year. After evaluation by judging team, ELT reviews the results. Submission of projects and evaluation take approximately two months. All employees are invited to awards ceremony that takes place in the following year.

All Stars is very popular across all of our premises due to its engaging and encouraging scheme. Since 2014, the award ceremony is broadcasted live through video conference, which elevates the excitement and engagement by everyone at each of our locations around the world.

In All Stars 2018, we rewarded USD 100 thousand to 30 projects where 830 employees participated with 104 different projects.

WOMEN'S CO. (EQUALITY AT WORK PROJECT)

In 2016, our Human Resources Department launched Women's Co. Project for women employees at Kordsa plants across the globe. The primary concern of the project is to raise awareness and consciousness among employees, starting from the top management, regarding gender equality. Our objective is to design a systematic approach in equality at work and integrate all our efforts under this framework.

The actions we took to incorporate these practices in our processes are; identification of local and global targets, detailed analysis of women-men employees, observation of women's expectations through surveys and their satisfaction level regarding the current situation and designing development programs in line with the survey results. We determined 5 years objectives for the project that cover numerous cultures in four continents.

Targeted Social Gains

Empower women employees to become more competent in their work and private lives.

Targeted Economic Gains

Increase women employment where the ratio is low.

Targeted Corporate Gains

Create opportunities for women employees to be more effective in decision making mechanisms that will lead us to reach our corporate objectives.

TRAINING AND DEVELOPMENT

INTERNAL STAKEHOLDER VIEW

67% of our employees who responded to the sustainability assessment survey think that...



Kordsa's personal development and training programs provided for its employees are adequate.



At all Kordsa facilities, we implement various practices to align training and education activities, to meet local requirements and needs, and to support employees in realizing their career goals as they perform their duties safely and effectively.

We use performance and competency evaluation results, employee development and career plans, and similar resources to identify employees' training needs and to devise training plans. We always consider company needs and legal requirements besides employees' individual requests.

Among the tools and platforms, we use as feedback to improve our training and development processes are the employee engagement survey, training assessment results, post-training development evaluations, trainer feedback, and performance evaluations.

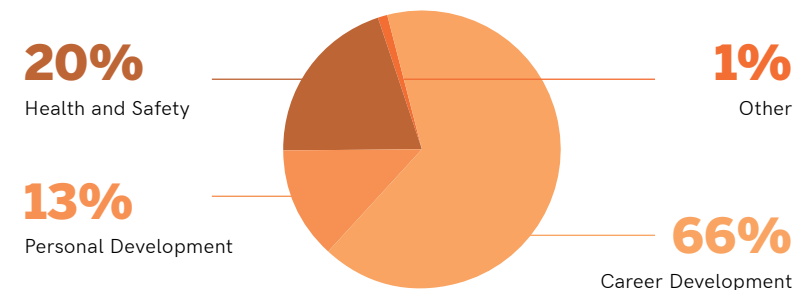
The total hours of training provided to our employees reached 200,401 hours in 2018. The majority of the trainings with 66% covered career development topics.

Detailed information about training can be found in the *social performance tables*

SUSTAINABILITY TALKS Development Programs



TRAININGS



Talent Management - Development Programs	Participants
Kordsa Mentorship Program	25
Generation Next (Specialists and Engineers)	26
Leadership Fundamentals (Middle Management)	158

TALENT MANAGEMENT AT KORDSA

Kordsa offers various talent management and lifelong learning programs to improve competencies of employees in the talent pool and to facilitate long-term employability. Alongside internal global development programs, trainings, and mentorship, we also provide financial support, as specified in our procedures, to our employees for MA/MB, PhD, and certification programs they wish to attend depending on the type and institution of training.

Global Development Programs

are; Generation Next for specialist-engineer level; Global Alignment for middle-level management; and SALT Sabancı Leadership Team for upper-level management. Global Development Programs focus on developing technical expertise and leadership.

With the Global Alignment Program, we initiated in 2017, we aimed to bring the leadership qualifications of our global plant managers on a common ground. We designed the program, which is comprised of seven complimentary modules, to be completed in three years. After each module, there will be follow up and home works besides group mentorship to reinforce the desired qualifications.

In 2018, we completed the Global Alignment Program with two trainings; personal awareness and development of skills for team management. The management team who participated in Team Dynamics Training developed their leadership skills and during the personal awareness training they practiced "mindfulness" exercises with a Zen Master from South Korea.

Training: Besides internal training programs, we also encourage our employees to take part in development programs organized by Sabancı Holding for specialist - engineer level, such as the Young Sabancı Program or Group Mentorship Program.

SUSTAINABILITY TALKS

Executive Programs



“

OUR EMPLOYEES TOOK 873 HOURS OF TRAINING OVER KEEP IN 2018.

”

KEEP (KORDSA E-LEARNING & EMPOWERMENT PLATFORM)



Since 2010, KEEP serves as an easily accessible and individualized training program tailored to our company, and to cascade the technical expertise of the world leader in the industry to all our employees in a more efficient method.

All employees with a corporate e-mail address can access the e-learning sessions delivered over the KEEP system in local languages on various categories anytime they want, in or outside company premises, on all our locations.

Our employees can join personal development, technical development, corporate integrity, and other development trainings over the KEEP system, as well as managing their training plans, apply for classroom trainings, and suggest new trainings. As the classroom training-planning module has been designed to run over the KEEP system, employees can manage all training development activities over the system in a 'self-service' mode.

We regularly share all updates and notices with our employees since the launch of the system through e-mails, videos, and posters hung up in our plants, screensavers, intranet announcements, and various rewarding activities. In 2018, our employees took 873 hours of training over KEEP.



ENVIRONMENTAL PERFORMANCE



**“
PROTECTING THE
ENVIRONMENT
IS ONE OF THE
SEVEN VALUES
KORDSA'S
GROWTH
STRATEGY
BASED ON.
”**

ONE OF THE SEVEN VALUES UNDERLYING KORDSA'S GROWTH STRATEGY IS TO PROTECT THE ENVIRONMENT. WE INVEST IN CLEAN TECHNOLOGIES TO REDUCE EMISSIONS AND OTHER WASTES AND TO DEVELOP PROJECTS FOR THE EFFICIENT USE OF ENERGY AND WATER. AT OUR SITES LOCATED OUTSIDE INDUSTRIAL ZONES OR WHICH HAVE HIGH POTENTIAL ENVIRONMENTAL RISKS, WE HIRE PROFESSIONAL SPECIALISTS TO RUN ENVIRONMENTAL IMPACT ANALYSES.

IN 2018, WE INVESTED NEARLY USD 790 THOUSAND FOR ENVIRONMENT PROTECTION IN TURKEY. OUR PLANT IN TURKEY HAS ISO 14001 CERTIFICATION AND OUR PLANT IN INDONESIA IS CERTIFIED IN 2017. WE ALSO OBTAINED ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION IN THAILAND AND BRAZIL SITES IN 2018.



GLOBAL COOPERATION FOR PLASTIC RECYCLING

Kordsa became a part of a new project named PolynSPIRE: Demonstration of Innovative Technologies Towards A More Efficient and Sustainable Plastic Recycling, under the European Union's "Horizon 2020" R&D and innovation program along with twenty-two partners. The project is initiated to strengthen research and technology-development capabilities in Europe while encouraging university-industry collaboration.

The targets of this project, which aims to develop innovative technologies towards a more efficient and sustainable plastic recycling are; to decrease fossil fuel consumption to produce polyester, polyamide and polyurethane by 33% and to decrease fossil carbon resources at electric-arc furnaces by 80% through using plastics as carbon resources in steel industry.

[PolynSPIRE Web Site](#)



MATERIALS MANAGEMENT

INTERNAL STAKEHOLDER VIEW

72% of our employees who responded to the sustainability assessment survey think that...



Kordsa's practices for efficient use of raw materials are adequate.



Selection and efficient use of raw materials rank among the top indispensable elements of our company's production. Raw material expenditures constitute about 65% of our total procurement.

The targets we set with regard to materials management include improving materials handling systems, enhancing warehouse organization, conducting field audits of the contracts concluded with suppliers, and improving the system established for just-in-time delivery of raw materials.

We work on the efficient use of materials, producing the same quality product with less materials, enabling reuse of materials if possible, and using, transporting and disposing of materials as to minimize their environmental impacts.

We implement projects to reuse materials and to decrease the consumption of raw materials we use in the production.

NY Yarn	Number of Reused Paper Tubes	Savings (USD)
2014	640,329	384,197
2015	833,879	500,327
2016	1,154,218	692,531
2017	926,280	555,768
2018	1,108,127	664,876

PET Yarn	Number of Reused Paper Tubes	Savings (USD)
2014	874,720	524,832
2015	1,166,407	699,844
2016	980,055	588,033
2017	1,090,581	654,349
2018	1,927,993	1,156,796

TCF	Number of Metal Shells Used	Number of Metal Shells Re-Used
2017	43,763	22,513
2018	45,081	28,952

NY: Nylon
 PET: Polyester
 TCF: Tire Cord Fabric

PROJECT TO REUSE PAPER TUBES AND METAL SHELLS

In this project that we developed for Kordsa Turkey plant in order to increase the reuse of paper tubes our yarn products are wound around, we contribute to the corporate budget and natural resource savings.

We have duplicated this project in the rest of our plants in the following years. In the chart on page 56, the data of NY yarn product includes Turkey, Indonesia and US Chattanooga plants and the data on PET yarn product includes Turkey, Indonesia and Brazil plants. Through this project besides directly creating a positive impact on the conservation of natural resources, we saved USD 1.82 million in 2018.

In 2017, we also started collecting and reusing metal shells that we use to package our TCF product group. In the first year we managed to collect and reuse %51 of the metal shells that were shipped to our customers. In 2018, this ratio increased to %64.

PROJECT TO REDUCE USE OF MATERIALS

As a result of monitoring our performance in the use of materials and our efficiency efforts, we achieved significant improvements in the use of chemicals and flake rates at our plants since 2014, our baseline year.

Although Kordsa continued to improve its capacity optimizations in USA, Brazil and Indonesia and R&D programs ran in Turkey, there has not been any significant increases in chemical consumptions and we achieved to decrease chemical use at some of our plants.

The table below shows the ratios of data of materials and chemicals used at our plants.

KORDSA MATERIALS MANAGEMENT

Materials	Plants	2016	2017	2018	
TCF Chemical Ratio	Dipping NY - Turkey	1.14	1.14	1.32	
	Dipping PET - Turkey	1.23	1.24	1.38	
	Dipping - USA - Laurel Hill	1.19	1.03	1.06	
	Dipping - Brazil	1.16	1.09	1.13	
	Dipping TCF1 - Indonesia	1.17	1.17	1.18	
	Dipping TCF2 - Indonesia	1.27	1.23	1.18	
	Dipping - Thailand	1.06	1.08	1.06	
Materials	Plants	2016	2017	2018	
NY Salt - Flake Ratio	NY Yarn Line 1 - Turkey	1.18	1.17	1.20	
	NY Yarn Line 2 - Turkey	1.02	1.03	1.02	
	NY Yarn Line 2 - Turkey	n.a.	1.02	1.03	
	NY Yarn - USA - Chattanooga	1.22	1.23	1.23	
	Yarn - Brazil	n.a.	0.57	1.01	
	NY Yarn - Indonesia	1.00	0.99	1.00	
	PET Yarn - Indonesia	n.a.	1.05	1.00	
	Materials	Plants	2016	2017	2018
	SEC Chemical Ratio	SEC - Turkey	1.28	1.27	1.54
SEC - Brazil		1.17	1.14	1.14	

n.a.: data not available

TCF: Tire Cord Fabric

PET : Polyester

NY: Nylon

SEC: Single End Cord

ENERGY MANAGEMENT

INTERNAL STAKEHOLDER VIEW

71% of our employees who responded to the sustainability assessment survey think that...



Kordsa's investments and projects to assure energy efficiency are adequate.



IN TURKEY AT OUR NYLON YARN SITE, AS A RESULT OF NEW FURNACE INVESTMENTS, WE ACHIEVED HIGHER ENERGY EFFICIENCY AND SAVED ABOUT USD 204 THOUSAND IN 2018.



At Kordsa, electricity, natural gas and steam are the main types of energy we use as input for production. Our goals of achieving energy efficiency and reducing energy use per ton of product is strategically important for us. Taking 2011 data as the base year, we monitor our energy consumption trends of our plants and manufacturing processes. We make our calculations based on ISO 50001 standard.

After the significant reductions of 2011-2014 period, we managed to reduce our natural gas consumption in all our plants. The highest reductions are achieved by 43 to 51% in our Turkey, US, Thailand and Brazil plants' dipping processes. In nylon yarn production we achieved a 50% reduction in energy consumption per ton of production in US Chattanooga plant. This saving reached up to 17-18% in Turkey and Indonesia plants. In polyester yarn processes of Indonesia, Turkey and Brazil we achieved to reduce energy

consumptions by 34 to 51%. All related data can be found in the *Environmental Performance* tables.

At Kordsa Turkey in 2017 we saved about USD 121 thousand value of energy through transition to more efficient magnetic armatures and various machinery improvements. In 2018, at nylon yarn site as a result of new furnace investments, we achieved higher energy efficiency and saved about USD 204 thousand.

SUSTAINABILITY TALKS Environment Vision



EMISSIONS MANAGEMENT

INTERNAL STAKEHOLDER VIEW

68% of our employees who responded to the sustainability assessment survey think that...



Kordsa's projects and preventive measures to monitor and reduce emissions are adequate.



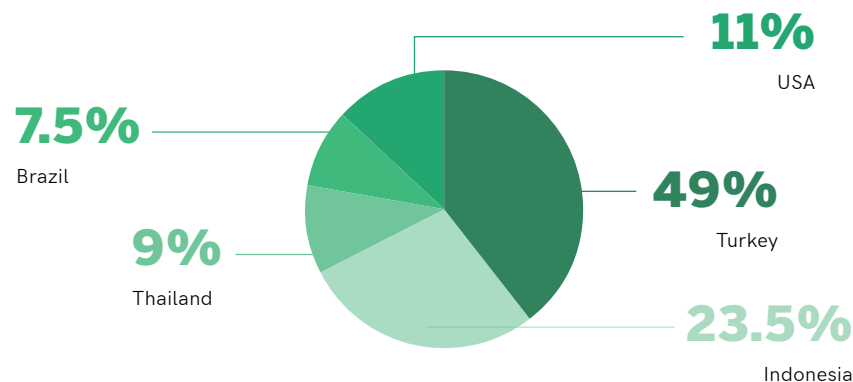
Considering the negative impacts of climate change we started emission management by measuring and monitoring our wastes. We started calculating our greenhouse gas emissions in Kordsa Turkey in 2014, approved by the Ministry of Environment in line with the GHG Regulations and initiated CDP Climate Change reporting.

We started calculating and monitoring our direct emissions (Scope 1) of Indonesia and Thailand plants in 2015 and the rest of the plants in 2017. We plan to complete data collection from all plants for scope 1, 2 and 3 by 2020.

In 2018, we decreased our absolute GHG emissions by 41% in Brazil, 12.5% in USA-Laurel Hill and 7.5% in Thailand facilities, through our TPM and Kaizen projects focused on energy efficiency.

At Kordsa, we will continue to monitor and calculate our emissions per unit of production and keep on making systematic improvements on emission reduction.

GHG EMISSION SPLIT



KORDSA EMISSIONS MANAGEMENT (SCOPE 1)

Kordsa Plants (tCO ₂ e)	2014	2015	2016	2017	2018
Turkey - İzmit*	30,533	36,695	35,802	35,995	39,038
Indonesia	n.a.	12,394	17,113	18,577	18,936
Thailand	n.a.	6,670	7,078	7,768	7,189
Brazil	n.a.	n.a.	6,411	11,737	5,988
USA - Chattanooga	n.a.	n.a.	14	24	5,093
USA - Laurel Hill	n.a.	n.a.	3,810	4,560	3,986

*2018 Scope 1 emissions of our Turkey plant is verified by QSI. The verification report is located [on page 76](#). All data is calculated based on natural gas, diesel and LPG consumption. n.a.: data not available

WASTE MANAGEMENT

INTERNAL STAKEHOLDER VIEW

74% of our employees who responded to the sustainability assessment survey think that...



Kordsa's practices to manage waste and wastewater to prevent environmental pollution are adequate.



In Kordsa plants, disposal, recovery and reuse of production wastes and wastewater are among our regular activities as specified by law. We dispose 100% of the wastes created at our plants through recycling, reclamation, landfill, incineration and direct disposal based on national regulations.

Other priorities include reduction of hazardous waste, increased recovery rates, and creating reuse opportunities. At least 65% of wastes arising in Kordsa Turkey are either recoverable or re-usable.

In the rest of our operations, in accordance with national regulations, we segregate our waste based on hazardous and non-hazardous criteria. We started recording waste data from all sites in 2016.

In 2018, our hazardous waste amount decreased significantly in Turkey plant by 38% and in US Chattanooga plant by 14% and Thailand facility by 2%. We achieved some of our waste reduction by reusing our product wastes in the production.

In 2018 we continued to efficiently use our corporate resources and also prevented environmental pollution with our ongoing projects to recover some of our materials and reuse them in the production.

Hazardous Waste (tons)	2016	2017	2018
Turkey - İzmit	1,714	1,757	1,091
Indonesia	1,069	886	866
Thailand	111	220	216
USA - Chattanooga	466	14	12
USA - Laurel Hill	112	171	189
Brazil	9	7	8
Turkey - CTCE	n.a.	3	2

n.a.: data not available

CTCE: Composite Technologies Center of Excellence

USE OF THE REPROCESSED CHIP MACHINE

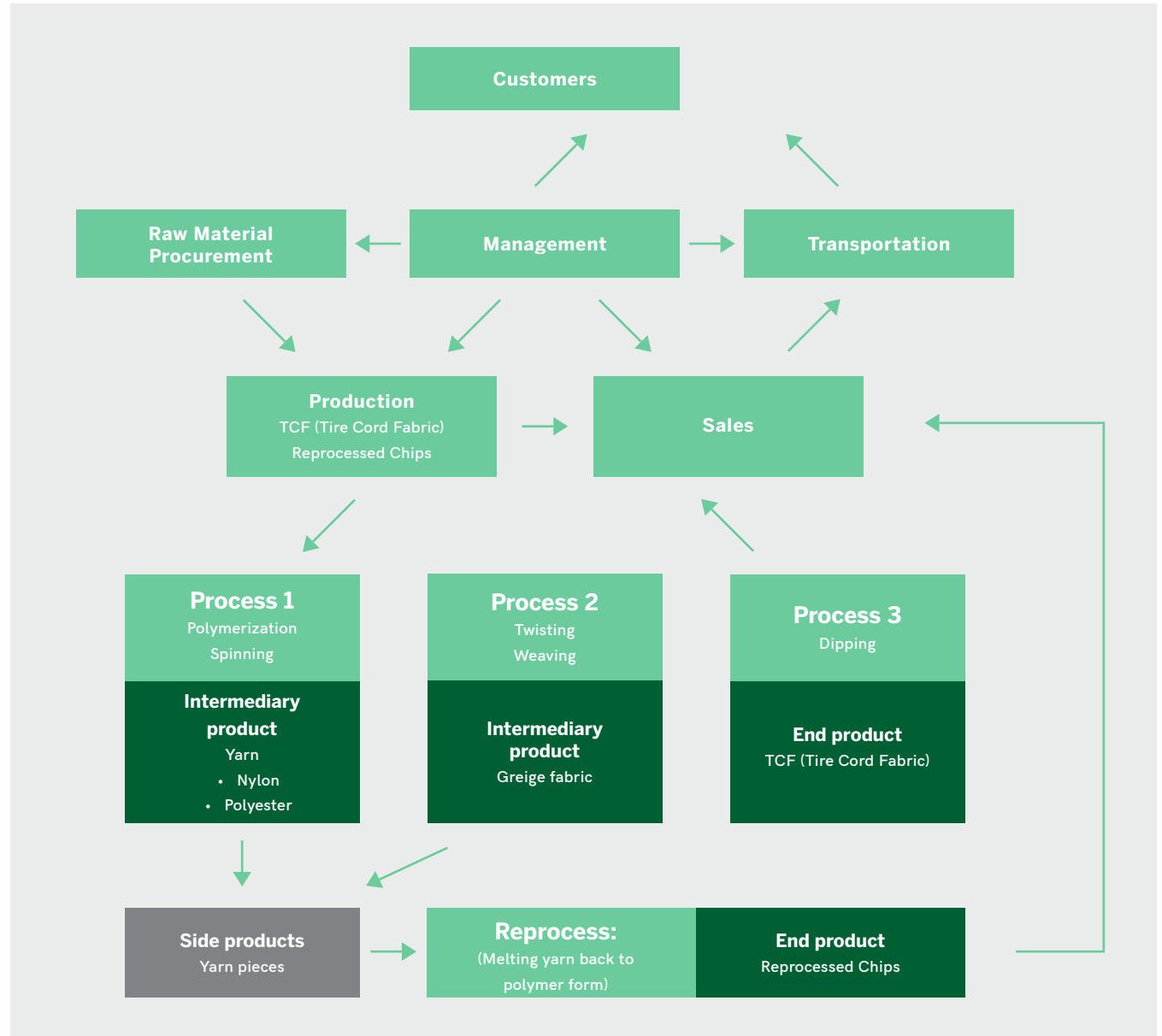
We produce Nylon 6.6 chips from yarn production side products to be used in engineering plastics industry. By this conversion, we are adding more value to side products of a yarn plant.

In 2018, we included other Nylon 6.6 sites into project and continue to reduce our global carbon footprint.

Results and Gains

Economic: We turned Nylon 6.6 yarn by products into a high value-added product, thus its profitability is increased. Engineering plastics compounders now import less Nylon 6.6 raw materials and they are able to increase their profitability by decreasing raw material costs.

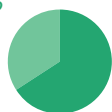
Environmental: Since 2014, we gradually increased the amount of converted side product, from 688 tons to 2,316 tons in 2018. As a result, we both saved approximately USD 13.8 million in 5 years and also took another step towards our sustainability targets by contributing to circular economy.



WATER MANAGEMENT

INTERNAL STAKEHOLDER VIEW

66% of our employees who responded to the sustainability assessment survey think that...



Kordsa's practices to manage and efficiently use water resources are adequate.



Water use is of paramount importance for the manufacturing processes at Kordsa plants and auxiliary operations. Water quality, accessibility and preservation of usable water resources are essential for the sustainability of our production and cost control.

In all our operations, we treat all the water we use at water treatment plants before discharging it to river or any local government piping. Our investments ensure that our water treatment capacity will meet the demand of future expansions.

Our water resources, which may vary according to the plant's location, include municipality, ground, seas, rivers and lakes. In Turkey and Brazil our main withdrawal source is ground and city water while it is rivers and ground water in Indonesia and city water in Thailand and US plants.

At all plants and offices, we put efforts to use water more efficiently, we encourage industrial reuse of treated water through reverse osmosis system. In Turkey, we have treated and reused approximately 200 thousand m³ water in 2018.

In 2017, we started reviewing our water monitoring methods for more accurate data gathering and we plan to start a water monitoring program for better water management at all our locations in the coming years. In 2018, we added water discharges among our water data.

2018 (m ³ /year)	Ground Water	City Water	Water from Rivers	Recycled Water	Water Discharge
Turkey - İzmit	333,371	6,047	144,036	150,830	87,594
Indonesia	2,029	n.a.	358,599	38,607	1,023
Thailand	n.a.	100,593	n.a.	n.a.	80,474
USA - Chattanooga	n.a.	123,404	2,179,276	n.a.	212,613
USA - Laurel Hill	n.a.	4,232	n.a.	n.a.	2,756
Brazil	80,400	6,340	n.a.	n.a.	40,780
Turkey - CTCE	n.a.	8,673	n.a.	n.a.	114

n.a.: data not available

CTCE: Composite Technologies Center of Excellence

PERFORMANCE INDICATORS



“
**THROUGH OUR
SUSTAINABILITY
ROAD MAP,
WE CONTINUOUSLY
IMPROVE OUR
PERFORMANCE**
”

ECONOMIC PERFORMANCE INDICATORS

Economic Value Created & Distributed ('000 TL)	2016	2017	2018
Economic Value Generated (Net Revenues)	2,162,533	2,658,594	4,059,715
Economic Value Distributed to Stakeholders			
Operating Expenses	1,646,863	2,037,652	3,160,181
Benefit to Employees	292,597	360,519	463,502
Benefit to Government	36,429	35,829	73,265
Benefit to Providers of Capital	57,662	66,885	68,085
Benefit to Community	8,530	12,371	24,222
Economic Value Retained (Profit)	120,451	145,338	270,459
Financial Assistance Received From Government			
Turquality	635	1,339	2,505
Tax Reliefs	20,776	27,854	37,458
Incentives	20,500	24,238	35,637

SOCIAL PERFORMANCE INDICATORS

EMPLOYEES				
By Type of Employment	Unit	2016	2017	2018
White-collar - Women	People	213	244	263
White-collar - Men	People	492	455	462
Blue-collar - Women	People	204	207	200
Blue-collar - Men	People	2,881	2,968	3,270
Total	People	3,790	3,874	4,195
By Location	Unit	2016	2017	2018
Turkey - Women	People	109	114	138
Turkey - Men	People	1,270	1,321	1,496
Indonesia - Women	People	69	79	77
Indonesia - Men	People	1,225	1,233	1,360
Thailand - Women	People	100	112	106
Thailand - Men	People	286	275	284
Brazil - Women	People	51	53	44
Brazil - Men	People	366	329	352
USA - Women	People	85	89	94
USA - Men	People	225	265	242
China - Women	People	3	3	1
China - Men	People	1	1	1

EMPLOYEES				
By Gender	Unit	2016	2017	2018
Men	People	3,373	3,424	3,735
Women	People	417	450	460
By Age	Unit	2016	2017	2018
30 Years and below	Women	71	87	109
	Men	846	1,145	1,245
30 - 50 Years	Women	275	272	259
	Men	2,067	1,875	1,969
50 Years and above	Women	71	91	86
	Men	460	404	515
By Other Groups	Unit	2016	2017	2018
Expats	Women	1	0	0
	Men	13	12	15
Persons with disabilities	Women	0	0	0
	Men	31	36	40

EMPLOYEES				
By Management Category	Unit	2016	2017	2018
Executives (ELT)	Women	2	2	1
	Men	8	8	9
Director	Women	1	5	6
	Men	10	12	14
Manager	Women	31	31	36
	Men	104	103	102
Engineer & Specialist	Women	102	123	132
	Men	210	206	218
Supervisor & Technician	Women	8	11	9
	Men	136	138	145
Officer (White-collar)	Women	76	85	89
	Men	92	90	107
Operator	Women	192	193	172
	Men	2,818	2,867	3,155

MANAGEMENT STRUCTURE	Unit	2016	2017	2018
Board of Directors and ELT				
Women	Ratio	%0.05	%0.05	%10.00
30 Years and below	Ratio	%0.00	%0.00	%0.00
30 - 50 Years	Ratio	%0.16	%0.16	%70.00
50 Years and above	Ratio	%0.11	%0.11	%20.00
Expats	Ratio	%0.03	%0.03	%0.00
Employees with disabilities	Ratio	%0.00	%0.00	%0.00

EMPLOYEE HIRES and DISMISSALS	Unit	2016	2017	2018
All Kordsa				
New hires - Women	People	49	49	88
Dismissals - Women	People	41	51	56
New hires - Men	People	338	403	529
Dismissals - Men	People	301	339	366
Total - Dismissals	People	342	390	422
Total - New hires	People	387	452	617

KORDSA TRAINING INVESTMENTS	All Trainings	2016	2017	2018
By Employee Category				
Executives (ELT)	Hours/Employee	14.2	10	8
Director	Hours/Employee	95.6	90.6	80
Manager	Hours/Employee	97.3	92.1	118.6
Engineer & Specialist & Officer	Hours/Employee	207.9	190.2	172.3
Supervisor & Technician	Hours/Employee	219.2	206.7	170.1
Operator	Hours/Employee	253.8	242.4	203.5
By Gender				
Men	Hours/Employee	260.3	241.9	204.1
Women	Hours/Employee	114.7	109.6	93.2

KORDSA TRAINING HOURS	Unit	2016	2017	2018
Career Development	Hours	136,401	130,753	132,607
Personal Development	Hours	21,431	22,768	26,682
Health and Safety	Hours	40,007	41,109	40,012
Other	Hours	1,340	967	1,100
Total Training Hours	Hours	199,179	195,597	200,401

KORDSA OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

Facilities		Turkey			Thailand		
Incidents	Unit	2016	2017	2018	2016	2017	2018
Frequency	Rate	0.31	0.23	0.21	0.00	0.00	0.00
Severity	Rate	7.76	6.91	4.70	0.00	0.00	0.00
Type of Recordable Case	Number (Kordsa)	1 MTC, 2 LWC	3 LWC	3 LWC	0.00	0.00	0.00
	Number (Contractor)	2 LWC	3 LWC	1 LWC	0.00	0.00	0.00

Facilities		USA - Chattanooga			USA - Laurel Hill		
Incidents	Unit	2016	2017	2018	2016	2017	2018
Frequency	Rate	1.03	0.00	0.00	0.00	0.00	0.00
Severity	Rate	2.07	0.00	0.00	0.00	0.00	0.00
Type of Recordable Case	Number (Kordsa)	1 MTC, 1 LWC	0.00	0.00	0.00	0.00	0.00
	Number (Contractor)	0.00	0.00	0.00	0.00	0.00	0.00

Facilities		Indonesia			Brazil		
Incidents	Unit	2016	2017	2018	2016	2017	2018
Frequency	Rate	0.36	0.08	0.37	0.74	0.31	0.31
Severity	Rate	3.35	1.46	4.63	4.46	0.00	0.00
Type of Recordable Case	Number (Kordsa)	4 LWC	1 LWC	4 LWC	3 LWC	1 RWC	1 RWC
	Number (Contractor)	0.00	0.00	0.00	2 LWC	0.00	0.00

CTCE (Composite Technologies Center of Excellence): 2 LWC

Lost Workday Case (LWC): When the worker cannot return to work the first workday following an occupational accident resulting in injury.

Medical Treatment Case (MTC): When an accident occurs that require medical treatment and the injured person can return to work the first workday following injury.

Restricted Workday Case (RWC): When the injured can return to work the first workday after injury, but is asked to work on another task, as he cannot perform his/her regular task.

Frequency Rate: (Number of recordable case / Total working hours) x 200,000

Severity Rate: (Number of lost days / Total working hours) x 200,000

All accidents up to and including first aid level are not calculated within the accident frequency rate. Fatal accidents are not calculated within the accident frequency rate. Lost days are calculated based on calendar days. Lost day count starts the day after the accident.

ENVIRONMENTAL PERFORMANCE INDICATORS

KORDSA WASTE MANAGEMENT					
Turkey - CTCE	Wastes By Type (Tons)		2016	2017	2018
	Hazardous Waste		n.a.	3.1	2
	Non-hazardous Waste		n.a.	5.7	6
	Total Waste		n.a.	8.8	8
	Wastes By Disposal Method		2016	2017	2018
	Recycling		n.a.	5.7	5.82
	Reclamation		n.a.	2.7	2
	Landfill		n.a.	0	0.08
	Incineration		n.a.	0.4	0.10
Total Disposed Waste		n.a.	8.8	8	

KORDSA WASTE MANAGEMENT					
Indonesia	Wastes By Type (Tons)		2016	2017	2018
	Hazardous Waste		1,069	886	866
	Non-hazardous Waste		2,793	1,379	2,262
	Total Waste		3,862	2,265	3,128
	Wastes By Disposal Method		2016	2017	2018
	Recycling		2,793	1,379	2,262
	Reclamation		1,069	885	866
	Landfill		0	0	0
	Incineration		0	0.8	0
Total Disposed Waste		3,862	2,265	3,128	

Turkey - İzmit	Wastes By Type (Tons)		2016	2017	2018
	Hazardous Waste		1,714	1,757	1,091
	Non-hazardous Waste		3,157	2,385	2,557
	Total Waste		4,871	4,142	3,648
	Wastes By Disposal Method		2016	2017	2018
	Recycling		3,156	2,379.4	2,553
	Reclamation		1,691	1,755.5	1,075
	Landfill		1	0.6	0.80
	Incineration		23	6.7	19.20
Total Disposed Waste		4,871	4,142	3,648	

Thailand	Wastes By Type (Tons)		2016	2017	2018
	Hazardous Waste		111	220	215.64
	Non-hazardous Waste		187	1	0.80
	Total Waste		298	221	216.44
	Wastes By Disposal Method		2016	2017	2018
	Recycling		186	0	0
	Reclamation		111	220	215.5
	Landfill		0	0.14	0.14
	Incineration		1	0.81	0.80
Total Disposed Waste		298	221	216.44	

n.a.: data not available

CTCE: Composite Technologies Center of Excellence

KORDSA WASTE MANAGEMENT				
	Wastes By Type (Tons)	2016	2017	2018
Brazil	Hazardous Waste	9	7	8
	Non-hazardous Waste	1,15	702	1,046
	Total Waste	1,158	709	1,054
	Wastes By Disposal Method	2016	2017	2018
	Recycling	1149	701.3	1,045.1
	Reclamation	5	2.5	4.6
	Landfill	3	5	2.6
	Incineration	2	0.5	1.7
	Total Disposed Waste	1,158	709	1,054

KORDSA WASTE MANAGEMENT				
	Wastes By Type (Tons)	2016	2017	2018
USA / Chattanooga	Hazardous Waste	303	14	12
	Non-hazardous Waste	10	6	6
	Total Waste	313	20	18
	Wastes By Disposal Method	2016	2017	2018
	Recycling	10	6	5.6
	Reclamation	303	13	12
	Landfill	0.2	0.3	0.2
	Incineration	0	0.3	0.2
	Total Disposed Waste	313	20	18

	Wastes By Type (Tons)	2016	2017	2018
USA / Laurel Hill	Hazardous Waste	112	171	189
	Non-hazardous Waste	5	0	0
	Total Waste	117	171	189
	Wastes By Disposal Method	2016	2017	2018
	Recycling	5	0	0
	Reclamation	112	171	189
	Landfill	0	0	0
	Incineration	0	0	0
	Total Disposed Waste	117	171	189

n.a. : data not available

KORDSA ENERGY EFFICIENCY					
Dipping NY - Turkey	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	53.3	41.7	35	29.7	26
Other Energy Consumption (kwh/ton)	88.4	84.8	88.1	94	95.7
Dipping PET - Turkey	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	83.6	78.6	82.9	87.1	93.6
Other Energy Consumption (kwh/ton)	98.4	85.3	85.1	86.4	94.7
Dipping - Laurel Hill / USA	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	88.7	69.5	60.6	49.8	39.4
Other Energy Consumption (kwh/ton)	91.4	87.4	87.1	84	83.1
Dipping - Brazil	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	64.8	54.7	41.8	31.5	23.2
Other Energy Consumption (kwh/ton)	89.3	79.7	65.1	50.3	38.5
Dipping TCF1 - Indonesia	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	74.4	67.8	73.4	80.3	85.2
Other Energy Consumption (kwh/ton)	85.9	74.3	68	64.6	56.6
Dipping TCF2 - Indonesia	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	n.a.	100	96.3	88.9	74.4
Other Energy Consumption (kwh/ton)	n.a.	100	79.6	62.7	48
Dipping - Thailand	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	58.5	47.5	37.1	29.6	23.9
Other Energy Consumption (kwh/ton)	84.5	71	57	44.9	36.7
NY Yarn Line 1 - Turkey	2014	2015	2016	2017	2018
Energy (kwh/ton)	75.2	73.4	72.1	62.7	54.6

KORDSA ENERGY EFFICIENCY					
NY Yarn Line 2 - Turkey	2014	2015	2016	2017	2018
Energy (kwh/ton)	112	151	181	217	239
NY Yarn - Chattanooga / USA	2014	2015	2016	2017	2018
Energy (kwh/ton)	68.8	58.9	42.7	33.6	
NY Yarn - Indonesia	2014	2015	2016	2017	2018
Energy (kwh/ton)	113	108	96	83.1	72.9
PET Yarn - Turkey	2014	2015	2016	2017	2018
Energy (kwh/ton)	64.3	51.5	41.3	31.4	23.3
PET Yarn - Brazil	2014	2015	2016	2017	2018
Energy (kwh/ton)	70.5	60.3	50.8	37.3	21.5
PET Yarn - Indonesia	2014	2015	2016	2017	2018
Energy (kwh/ton)	82	71.6	61.9	54.2	44.2
SEC - Turkey	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	60.7	43	33	24	17
Other Energy Consumption (kwh/ton)	96.8	79	88	89	73
SEC - Brazil	2014	2015	2016	2017	2018
Natural Gas (kwh/ton)	77.6	67.8	66.2	56.3	51.2
Other Energy Consumption (kwh/ton)	76.7	69.1	60.6	38.6	20.4

n.a. : data not available

NY: Nylon

PET: Polyester

TCF: Tire Cord Fabric

SEC: Single End Cord

ANNEXES



MEMBERSHIPS

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CONTACTS



MEMBERSHIPS

TURKEY

ACC Legal Consultants Association

DEİK Foreign Economic Relations Board

Equality at Work Platform

İSO İstanbul Chamber of Industry

İTO İstanbul Chamber of Commerce

İTKİB The General Secretariat of İstanbulTextile & Apparel Exporter's Associations

İTHİB Turkish Textile Employer's Associations

KALDER Quality Association

Rubber Association

KİD Corporate Communication Professionals Society

Kocaeli Chamber of Industry

Kocaeli Chamber of Commerce

Turkish Composites Manufacturers Association

LES Turkey Technology and License Executives Society

PERYÖN Personnel Management Association of Turkey

TBCSD Turkish Business Council of Sustainable Development

TİDE The Institute of Internal Auditing Turkey

TMMOB Turkish Chamber of Mechanical Engineers

TTSİS Turkish Textile Industry Employers' Union

TÜSİAD Turkish Industry & Businessmen Association

TÜYİD Turkish Investor Relations Society

UN Global Compact

INDONESIA

APINDO The Employers' Association of Indonesia

HIBERKIBRA - Neighborhood Corporate Association

Indonesian Public Listed Companies Association

THAILAND

AEO Thai Authorized Economic Operator Importer & Exporter Association

FTI The Federation of Thai Industries

TNSC The Thai National Shippers' Council

DFT Department of Foreign Trade, Ministry of Commerce

Ayutthaya Personnel Management Group

BRAZIL

Bahia's Spinning and Weaving industries Union

COFIC - Industrial Foment Committee of Camaçari

FIEB/CIEB

ABRAFAS - Brazilian Association of Producers of Artificial and Synthetic Fibers

American Chamber of Commerce

USA

AFMA - American Fibers Manufacturers Association

ISIFM - International Society of Industrial Fabric Manufacturers

Turkish American Coalition

LBG Scotland County Chamber of Commerce

GRI CONTENT INDEX

For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The service was performed on the Turkish version of the report.



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