

JUNE - DECEMBER 2023

NO: 11

Wool Road

Y YÜNSA
CREATION OF FABRICS
— 50 Years —

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OUR ACTIVITIES



Dear Stakeholders and Colleagues,

2023 was a successful year in which we enthusiastically celebrated the 50th anniversary of our company and the 100th anniversary of our republic. However, worrying regional conflicts continue to disrupt the order of companies, countries and our world, increasing uncertainty.

In this difficult and challenging environment, the business world is also undergoing a critical process and transformation. We want to make a success of this process by focusing on efforts that will strengthen the hands of all our leaders in management on this journey with common sense, by reshaping the principles and strategies of our company. In European Leadership 2025, our most valuable asset is undoubtedly our people. Based on research that shows an increasing need for employees to be happy and well, we are striving to design our strategies and goals with people in mind.

Sustainable products stand out, accounting for 30% of the products we produced this year. We continue to increase our knowledge and awareness at all levels of strategic issues such as reducing our carbon and water footprint in production processes. Our priority is to emphasise and increase our sustainability and ESG (Environmental, Social, Governance) objectives and to raise awareness among all our employees of their responsibilities; we aim to maintain industry leadership in this area. We have commissioned our investments under the Ministry of Energy and Natural Resources' VAP (Efficiency Improvement Project), which will both support our energy efficiency targets by increasing the level of automation in our facilities and managing all our air handling units with automation, as well as our weaving machines, which will reduce our technical waste by 50%. We have designed our 2024 investment plans to support our strategies and have started feasibility studies and negotiations to commission them.

On the other hand, we evaluated our digitalisation maturity with a matrix that allows us to compare ourselves with similar industries in 16 different dimensions under the headings of organisation, process and technology, in line with globally accepted criteria. We identified our priorities and created a roadmap for ourselves. We will continue our digitalisation efforts in line with our roadmap in the coming period.

I firmly believe that with our joint efforts, we will successfully realise our goals and projects and lead our company to global leadership.

Engin SARIBUYUK
Operations Director

Dear Stakeholders and Colleagues,

As Yunsa R&D Centre, we are with you with the 11th issue of our Wool Road magazine, which is one of our most important communication tools where we share the activities in a certain period, the priorities of the company and good practice examples.

With the awareness of transparency, openness, accountability, participation, efficiency, compliance with the law and social responsibility required by good governance, we continued our activities in the second half of 2023 with respect for the environment. Yunsa has been listed in the Corporate Governance Index since September.

In the second half of the year, which was marked by a significant decrease in our water resources, droughts, floods, problems of agricultural inefficiency and the climate crisis, we tried to raise awareness about sustainability. In this context, we participated in the International Congress on Sustainability and Technological Developments in Textile as Yunsa R&D Centre and gave four oral presentations. We raised awareness by emphasising the importance of sustainable material selection in the textile industry and its impact on the calculation of emissions in the supply process, sustainability reporting according to the Global Reporting Initiative (GRI) standards and greenhouse gas reporting.

We continued to work on sustainable, environmentally friendly product designs using recycled raw materials. We obtained a certificate guaranteeing the traceability of flax fibres. We continued to produce special designs of REPREVE® fibre blends made from recycled pet bottle waste. We increased our recycling rate from 9% to 22%. By 2023, 10.488.742 pet bottles will have been converted into fabric, replacing 206.911 kg of synthetic raw materials. Thanks to our R-Pet usage rate through Life Cycle Analysis, 450.000 kg of CO2 emissions have been avoided and 7.030.000 litres of water have been saved.

By certifying our products to the Responsible Wool Standards (RWS) standard for wool, we continued to support the treatment of sheep with best practices in terms of welfare, management and soil protection, increasing the usage rate from 12% to 21% in 2023.

As an R&D centre for textile solutions that add value to life in the innovation ecosystem in line with our Corporate Sustainability Principles, we continued our environmentally friendly product and machine-based designs with the aim of creating value for all our stakeholders, taking into account our social and environmental responsibilities. In October, we were granted 1 more patent, bringing our total to 6 patents and 5 utility models.

As Yunsa R&D Centre, which strives to shed light on the engineering mission, we continued our work in the sustainable innovation ecosystem to come up with better projects, and we will do so in 2024.

Dr. Duygu Yavuzkasap Ayakta
R&D Center Supervisor

Project Management and Intellectual Property Platform Activities

In line with our strategic objectives, in 2023 we continued our product- and machine-based designs with the aim of creating value for all our stakeholders by fulfilling our ESG responsibilities as an R&D centre in the innovation ecosystem.

As part of the R&D Centre, 11 projects were carried out in 2023 in collaboration with various universities, institutions and disciplines, as well as the research and development of 31 equity projects.

The 2023 Technology Platform carried out research and development projects in the fields of energy, materials, quality, occupational safety and labour efficiency, with a focus on sustainability and digitalisation. In cooperation with the Maintenance and Energy Department, successful studies on digitalisation and re-processing were carried out in the Yarn and Finishing Departments through industrial-scale dissemination and contributed to the studies of the Sustainability Platform.

In the New Product Development and Innovation Platform, the project results of the studies carried out in the field of technical textiles were translated into commercial sales and sales successes were achieved. In Yunsa, for the first time, the product developed in the Technical Textiles area was transformed into an industrial product used in another sector. Studies on this subject are being deepened and research on different sectors is being continued.

By the end of the 13th activity period, 37 national and 2 international funded projects had been successfully completed. 6 patents and 5 utility models were registered. 88 articles and papers were published.

Since 2012, 17 United Nations Sustainable Development Goals have been added to the Project Evaluation Committee Form used to evaluate Kobetsu Kaizen improvement work carried out within the framework of Total Productive Management (TPM). The aim is to assess the contribution of the improvements made to the performance indicators in the ESG dimension of the Sustainability Roadmap.



R&D 2023 in figure	V
No. of R&D Center Employees	32
No. of Ministry of Industry and Technology Projects	31
No. of Patent Applications	1
Studies with Universities	11 Project, 9 Articles, 4 Papers

Sustainability Platform Activities



GRI (Global Reporting Initiative), one of the most comprehensive sustainability reporting standards, is an initiative that demonstrates sustainability performance from three main perspectives. The contributions of the GRI sustainability reporting standard to the company and/or organisation are transparency, systematic information sharing, accountability, trust/reputation, target strategy development and stakeholder relationship development. Yunsa, which has been reporting according to the GRI standards since 2016 as part of its corporate objectives, has started working on the sustainability report for 2023.



As Yunsa, we have been awarded a certificate that guarantees the traceability of top quality flax fibre grown in Europe. The European Flax Certificate is a registered trademark of the European Flax and Hemp Confederation. The EUROPEAN FLAX® Charter, signed by all flax producers, guarantees local production that respects the environment and commits to zero irrigation, zero GMOs and zero waste.



The water footprint shows the type of water used in production and the purpose for which it is used. The water footprint is treated under three different headings: blue, green and grey. The blue water footprint covers resources, namely surface water and groundwater. It shows the amount of groundwater and surface water used in production. The green water footprint refers to the use of rainwater. It shows how much of the water you use in a product or in your daily habits comes from rainwater. The grey water footprint is available. It is the value that expresses the water pollution caused by the production of the product; it is the water pollution caused individually in daily activities. Based on the 2023 Water Footprint calculations, the employees of the Yunsa R&D Centre were trained to calculate the Water Footprint. Thanks to the training, they have gained competence in calculating the water footprint. In the first quarter of 2024, Yunsa will make the first water footprint calculations and report the verification studies in the sustainability report.



Sustainability Platform Activities

On September 12, within the scope of the ZDHC (Zero Discharge of Hazardous Chemicals) CMS (Chemical Management System) Framework Training for Suppliers Training held in our company, information was obtained on the chemical management system, its requirements and its implementation at facility level. At the end of the training, all participants received a valid grade in the exam taken online from the ZDHC Academy website and were entitled to receive a certificate.



We participate in the HIGG environmental and social verification process, which we carry out every year at the request of our customers. Our HIGG scores, which are included in our annual targets, increased by around 35% points; HIGG FSLM and HIGG FEM scores were 77% and 72% respectively. We are preparing for the verification processes that will take place in 2024.

As Yünsa, we have successfully completed Supplier to Zero (Level 1) and met the foundational level requirements which is based on ZDHC (Zero Discharge of Hazardous Chemicals) Chemical Management System and how to implement ZDHC Solutions. You can click the link. (<https://www.yunsa.com/supplier-to-zero>)



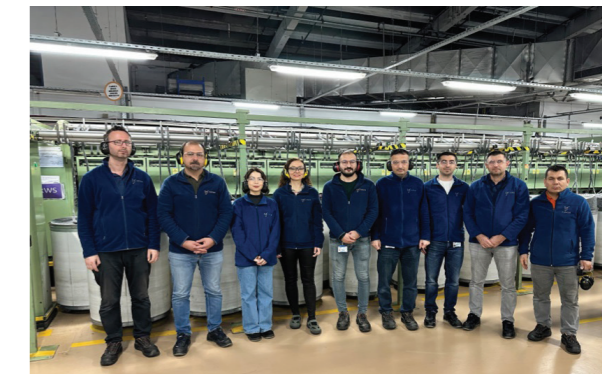
We began publishing our Carbon Disclosure Project (CDP) report in 2010, upgrading our emissions management efforts from legal compliance to internationally recognised and accepted measurement and monitoring standards. We have a CDP (Carbon Disclosure Project) water report for 2022, which was finalised last year with a B- score. In the new period, the data for the Water Security and Climate Change Report has been completed.



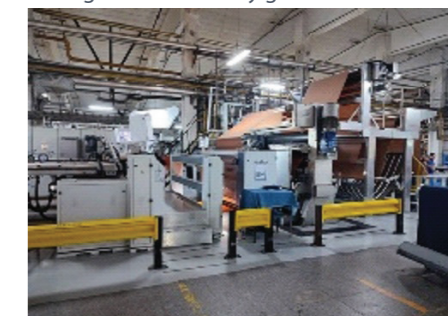
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Technology Platform Activities

We applied to the Ministry of Industry and Technology's Efficiency Project Awards competition with our project titled "Making Cover Suction Fans in Finishing Machines Driven and Suction Optimization". A site visit was made during the referee evaluation process. As a result of the evaluation, our project qualified for the finals.



As part of the moving trough project initiated in the finishing department, design studies have been carried out to reduce cleaning set-up times and to make the machines easier to clean. Thanks to the moving trough system manufactured by our company, improvements have been observed in cleaning related rework processes as well as easy and fast cleaning. In addition, the consumption of water, chemicals and energy used during rework has been reduced, directly contributing to sustainability goals.



As part of our project "Improving the energy efficiency of air handling units through structural changes in fans", supported by the Ministry of Energy and Natural Resources Efficiency Improvement Projects (VAP), the air conditioners in all air handling units were replaced with new types of efficient fans. On the building automation side, a system has been created that allows us to monitor and intervene remotely.

New Product and Innovation Platform Activities



As part of our project to develop filter fabrics with improved performance characteristics, the effects of yarn type and fabric structure, which are among the basic production parameters, on woven filter performance have been investigated. The relationships between basic fabric parameters and woven filter efficiency have been concretely demonstrated and high performance filter fabrics for the mining industry have been developed. Industrial trials of the developed filter fabrics were carried out and successful results were obtained. Following the successful results of the industrial trials, the first bulk order was received. It was decided to accept the final report of our project which was supported by TUBITAK ARDEB 1002- Rapid Support Programme and it was successfully completed by TUBITAK.



TÜBİTAK-ARDEB 1002-A Hızlı Destek Modülü

Our project entitled "Development of a Wearable Technology T-Shirt (Trackshirt) and Artificial Intelligence Based Decision Support System for Tracking and Improving Athlete Performance", which was included in the scope of TUBITAK's support in ARDEB 1001-Scientific and Technological Research Projects Support Programme Sports Research Tender, is continuing. We have participated in Bigg Sports Awards and Basaksehir Innovation Competition regarding the project results. The interview of Assoc. Prof. Dr. Tolga Aksit, faculty member of Ege University Faculty of Sports Sciences, who is one of the project partners, took place in the press.

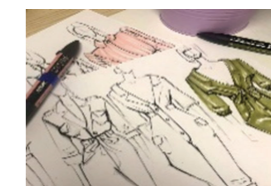
You can click the link below for the news which was released only in Turkish language. (<https://www.hurriyet.com.tr/gundem/bu-tisort-cok-akilli-nabiz-olcuyor-adim-sayiyor-42345079>)



New Product and Innovation Platform Activities



Textiles are an important part of our lives and have a significant impact on the environment. The textile industry is one of the most polluting sectors in the world, consuming 10% of the world's energy and generating 30% of all industrial waste. To tackle environmental issues, we need to focus on sustainable textiles that can reduce pollution and resource consumption while still functioning as a textile material. There are many ways to make textiles more sustainable, such as using recycled materials or natural fibres instead of synthetic ones, reusing old ones, etc. The use of sustainable fabrics is a very important aspect of the fashion industry. Sustainable fabrics are textile materials that are produced with minimal or no negative impact on the environment. As Yunsa, we have shown our sensitivity to the environment by developing sustainable designs.



Sustainability, in addition to the use of recycled raw materials within the collection, different groups have been developed with moisture management, giving softness to the skin with the collagen content of the qualities developed with sustainable viscose raw materials.



Linen is a raw material with extremely important sustainability potential, as it uses much less water than other raw materials and can be produced almost without the use of chemicals. Due to its durability, it contributes to the circular economy by allowing garments to be used for a long time, while at the same time it can be preferred for healthy product designs as it is hypoallergenic. As part of the sustainable collection, fabric development studies have been carried out on flax fibre.



June 8th WIN EURASIA - World of Industry Fair was visited at Istanbul Expo Centre. Companies producing many industrial products such as advanced metal processing, automation and control systems, hydraulic and pneumatic systems, energy and environmental technologies, etc. were contacted. In addition, conferences and seminars organised by industry experts on the latest trends were attended.



We participated to Corlu Chamber of Commerce R&D and Design Centres on July 19th. Baykar, Aselsan, Tusas and Makine Kimya Endustrisi companies shared information about their activities and cooperation in procurement.



The International Defence Industry Fair (IDEF), which took place from 25 to 28 July, was attended, sectoral developments monitored and potential cooperation meetings held.



On the 9th of August, the seminar on current TUBITAK calls and tips on project preparation, organised by Sistem Global Consulting at the Entertech Istanbul event area and presented by Prof. Dr. Onur Balci, was attended. Within the framework of the seminar, the current call calendar of TUBITAK TEYDEB and 1505, 1702, 1704, 1707 and 1801 opportunities, industrial opportunities with 1005 in TUBITAK ARDEB projects, important tips on preparing projects for TUBITAK, different funding sources for industrial R&D projects were learned.



On 23 August, the Sustainability Platform participated in the Chemical Input Management Refresher Training organised by H&M in Maslak, Istanbul. During the training, the participants had an overview of the general chemical management system, where company expectations such as chemical use, inventory management, chemical data entry, site visit plans, audits and verifications were shared.



On 7 September, the Cerkezkoy Digital Organised Industrial Zone Meeting provided information on new generation production methods and energy efficiency. Efficiency issues were discussed at the event.



The Digital Organised Industrial Zone Meetings Seminar, which was jointly organised by the Cerkezkoy Organised Industrial Zone Directorate and Smart Factories Consultancy Company, was held on 13 September. The participants were informed about the importance given to smart factories by the economies of developed countries in order to increase productivity and reduce costs in factories and the studies that have been carried out.



On 13 September, we participated in the Digitopia event organised by Digitopia Consultancy at the Istanbul Swissotel. Ideas were received on the importance of digital transformation in the developing world economy, how to determine the level of digital maturity and how to take the process forward as a result of the measurements.



Izmir MINEX (Mining Natural Resources and Technologies Fair) took place from 13th to 16th September. The filter fabrics developed by us were presented to the machine manufacturing companies. Meetings with the companies were then organised.



IITAS 2023 (International Izmir Textile and Apparel Symposium), which was held for the 16th time in Izmir-Cesme on 25-27 October, was organised by Ege University, Faculty of Engineering, Department of Textile Engineering. IITAS 2023, to which Yunsa also contributed with various support, was attended by more than 450 academics, middle and senior managers working in the textile and garment industry, employers and students from 20 countries, including 38 foreigners. Joint sessions were held by well-known speakers from Turkey and abroad, followed by oral and poster presentations in three parallel sessions where innovative studies in the field of textile engineering were discussed by researchers. In these sessions, 68 oral presentations and 22 poster presentations were made by 24 company research teams and 44 academics. Information was exchanged on current and scientific issues in the field of textiles. A panel discussion was organised on "Opportunities and Threats for the Turkish Textile and Apparel Sector in the 100th Year of the Republic". You can access the proceedings booklet from the link below. (<https://textile.ege.edu.tr/tr-10330/iitas.html>)



26 October ISK-SODEX - International HVAC&R, Insulation, Pump, Valve, Installation, Water Treatment, Fire, Pool and Solar Energy Systems Fair was attended at the Istanbul Expo Centre. Relevant companies were contacted and ideas were exchanged on topics that could contribute to the project work of the Sustainability and Technology Platform.



EIF (Energy Is Future) Energy Congress was attended on 15-17 November. Information on energy in Turkey and the world, low carbon hydrogen use, current situation and future vision in renewable energy markets, innovation / new technologies in energy, storage technologies in energy transformation, nuclear energy, energy production from waste and geothermal energy were obtained and discussed with companies about the technologies that can be applied.



On the 15th of November, the European Enterprise Network (EEN) information meeting of the European Union SMP - COSME project was attended as part of the university - industry cooperation activities organised by Tekirdag Namik Kemal University. It aims to transfer academic knowledge to industry and contribute to the commercialisation of knowledge.



On November 23rd, the Ministry of Trade of the Republic of Turkey organised a training seminar on export processes and the new generation of government support. The seminar was organised in four sessions covering market access barriers, technical barriers to trade, inward processing regime and customs applications related to exports.



On 14 November, a training session on the Carbon Regulatory Mechanism at the Border was held at Cerkezkoy Chamber of Commerce and Industry. Six sectors with high carbon emissions (iron and steel, fertilisers, aluminium, electricity, hydrogen and cement) will be covered by the transition period from 1 October 2023. For carbon emissions, the first target is a 55% reduction worldwide by 2030 compared to 1990, and zero by 2050. In order to achieve these targets, new sectoral criteria and tax applications will be gradually introduced. The actual start of implementation is 1 January 2026, with submission and tax calculation by 31 May 2027. Importers will be required to calculate their carbon footprint on a quarterly basis. Taxation models and calculation methods will be calculated and administered through the publication of weekly coefficients to be determined by the European Union. After 2026, companies below the carbon emission limit will be able to sell their remaining limits to companies with high emissions.



On 23 November, we participated in the IV. Sustainability Summit organised by TIHCAD (Textile Exporters and Employees Association) at Nisantasi University. During the summit, which was held under the theme "Journey to the Future of Textile with the Awareness of the Future", sustainability strategies, implementation methods and requirements of the new and sustainable world were discussed with various textile companies and valuable speakers who are intertwined with textiles and shape sustainability.



Innovative by nature

On 22 November, the IIIrd Lenzing Meetings Seminar was held in Turkey. Lenzing, a producer of wood-based cellulosic fibres, held an interactive seminar where it presented its innovations, solutions to the sustainability problems of the sector, certification processes, technical details of the production processes and the properties of its products.

On 28 November, the Sustainability Talks conference was attended. Companies' studies on sustainable development and carbon reduction targets were mentioned. Examples of good practice by companies in recycling and reuse were presented in order to leave a sustainable life and a habitable nature for future generations.



On the 20th of December, we participated in the DMI (Digital Maturity Index) Case Clinic Workshop, where the production sector was discussed under the moderation of Digitopia DMI Certified.



On 21 December, we participated in the Robot Investments Summit and Exhibition. Robot investments of different companies, smart factory solutions, energy production investments, process automation technologies, their experiences in maintenance and the ways they follow, storage technologies were shared.

On 13-15 October, we participated in the TESTEG 2023 International Congress on Textile Sustainability and Technological Developments with four oral presentations. The topics we participated in the congress are; Extending the Lifetime of the Finisher Apron Cage in Wool Yarn Production, Sustainability Reporting in the Textile Sector according to GRI Standards, Importance of Greenhouse Gas Emission Reporting in the Textile Sector and Supply of Wool Fibre with Low Carbon Emission for Wool Fabric Production.



An HIV/AIDS information seminar was held in Yunsa on 1-6 December by Dr Julide Vatansever with the support of the Cerkezkoy Health Directorate as part of AIDS Awareness Week. The deadly and contagious disease caused by HIV (Human Immuno Deficiency Virus) and known as AIDS (Acquired Immune Deficiency Syndrome) first appeared in the United States of America in 1981. Since its first outbreak, the disease has continued to spread rapidly and Turkey has been the country with the highest increase of 460% in the last 10 years. The best thing to do is to avoid catching the disease, for which there is no vaccine or treatment. If you do contract the disease, which is spread through bodily fluids and blood, supplements to boost the immune system can make you feel better, but there is no full treatment.



On 12 December, a seminar was held in Yunsa by psychologist Leyla Akdogan on how to deal with child injury and abuse. The seminar raised awareness by providing general information about types of abuse, prevention methods, actions to take in case of abuse and institutions to contact.



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Yünsa Yünlü Sanayi ve Ticaret A.Ş.

Centre: Vadistanbul 1B Blok Kat: 23 34396 Ayazağa / İstanbul T: +90 (212) 365 65 00 - F: +90 (212) 282 50 68
Factory: Çerkezköy OSB 2. Cadde No:9 59500 Çerkezköy / Tekirdağ T: + 90 (282) 726 80 01 - F: + 90 (282) 726 63 85

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