



# Chemist

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## CHEMICAL INDUSTRY IS TOUCHING TÜRKİYE'S FUTURE!

### SECTOR

Cleaning and washing  
equipment industry  
Grows in all areas

### CHEMISTRY OF THE JOB

Behruz Vatandost:  
Creates a global brand  
from Tahtakale

### TRAVELLER

Organic chemicals industry  
focuses on one: Billion dollars  
in exports

### TRAVELLER

A visual journey with the  
eastern express!

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Prof Dr. Akkaya:  
follower of the studies  
that were considered  
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# Message From The President

## MTP AND CHEMICAL INDUSTRY FUTURE VISION

Medium Term Programs (MTP) are the preparation processes of central government budgets.

The basis of the MTP is the policy work that includes the appropriations of the public administration and macroeconomic policies and the holistic economic forecasts for the next three years in line with these policies. In this context, the Presidency Strategy and Budget Department published the new MTP for the 2022-2024 period in September 2021 and put it into effect.

We believe that we can create a new vision by thoroughly addressing the most important issue, which may pose a risk to us in the future, by making reference to the “Green Transformation” as well as the “Growth,” “Employment,” “Inflation,” “Financial Stability” and “Balance of Payments” and “Public Finance” segments, the main elements of the MTP.

In 2018, the vision of the future to be created with the existing was discussed in a very broad framework in the “Chemistry Industry” projection (which was very widely included in the Eleventh Development Plan) by the Ministry of Development of the period.

As the Chemical Industry, our biggest problem is the need for external raw materials. We see almost all other issues as problems that we can overcome by designing and developing high value-added products based on ‘Advanced Technology’, allowing us to produce and export these products in our country.

We, as İKMİB, try to create all our works, strategies and plans in this direction. As a matter of fact, while we implemented our Chemistry Technology Center project, we planned to overcome these issues.

### **KTM WILL BE AN R&D CENTER**

Although our Chemistry Technology Center (KTM) is known for its ‘International Accredited Laboratory’ services, this project will complement itself with an R&D

innovation center and the design and inventions of products containing ‘High Technology’. Because both our industry and our economy will only be able to grow by producing and exporting such high value-added products.

Green Transformation complements this high added value. Within the framework of changing climatic conditions, the way of producing global economic value and the way this value affects all world economies in a chain shape is also changing. It is obvious that this change will create a negative feeling in every sense of humanity if the necessary precautions are not taken on time.

In the 1970s, “Sustainability” was a supplement to the global economic model. “Environment,”

“Society,” “Technology” and “Economy” had to be addressed together, which is why we at the

Chemical Industry place the necessary emphasis on “Green Transformation” and create our vision for the future in this direction.

We demonstrate our determination to turn our Chemical Technology Center into one of the most well-equipped centers under the titles of ‘Green Transformation’ and ‘Green Economy’ as a requirement of this transformation.

As İKMİB, we have determined our 2030 export target as 40 billion dollars in parallel with the developing and changing global socio-economic changes and transformations. Believe me, it will not be difficult for us to reach or even exceed this goal. Because, as İKMİB management and employees, we foresee the future and shape all our work in order to be the creator of the game in the future.

Until today, we have always tried ‘to do the right thing’.

From now on, we will continue to ‘do the right thing for our industry and our country’.

In the new period, we will continue to work, produce, export and be the pioneer of innovations as the İKMİB family.



**Adil PELİSTER**  
İKMİB President



## Packaging industry seeks new market

Aiming to open new market doors for companies in the packaging industry, the Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB) organized a buying mission at the International Eurasia Packaging Fair and brought together 15 companies from 9 countries with 194 Turkish packaging industry representatives, Company representatives from Bahrain, Bulgaria, Kyrgyzstan, Kosovo, Macedonia, Moldova, Niger, Tanzania and Greece came together with Turkish exporters for bilateral business within

the scope of the 'Packaging Industry Buying Mission, which was organized with the coordination of the Ministry of Trade and İKMİB. While evaluating new cooperation opportunities in bilateral meetings, İKMİB President Adil Pelister said; "Packaging industry means machinery industry, it means the food industry, health, informatics, textile, metal industries. The fact that packaging industrialists and exporters touch every aspect of our lives shows the importance of the industry."



## The cosmetics industry reached \$1.4 billion in exports in 2021

53 companies took part in the Beautyworld Middle East fair held in Dubai with the national participation organized by the Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB). With the participation of 29 individual companies and a total of 82 sector representatives represented Türkiye in this fair. This year, 17 country pavilions from 54 countries took part

in the fair where cosmetics, perfumery, health, beauty, personal care and cleaning products were exhibited. Turkish brands had the occasion to showcase their newest technologies and products at the fair, which offers a very important opportunity to enter the Middle East market. As of the end of 2021, the cosmetics industry reached an export of 1.4 billion dollars.

## Turkish wind at Medica 2021

This year, 3,000 exhibitors from nearly 70 countries participated in the Medica 2021 exhibition in Düsseldorf, Germany, while 158 Turkish companies participated in the event and offered their products to buyers. 34 companies participated in the fair, which was held between 15-18 November, with the national participation of the Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB). Türkiye's national participation in the MEDICA fair, where products ranging from medical devices to consumables, from hospital furniture to surgical equipment, from orthopedic products to pharmaceuticals and software products were exhibited, paved the way for the increase in the exports of the industry. The interest in Turkish products at the fair caused the views that the exports of the industry would increase.



## Great interest to the Turkish medical industry at Arab Health Fair

Arab Health 2021, the Middle East's largest medical fair for the medical, pharmaceutical and medical device industries, whose importance has become more apparent with the pandemic, was held in Dubai. 76 companies from Türkiye participated in the Arab Health 2021 fair, which was held for the 46th time and the national participation organization was held for the second time by the Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB). Turkish products were met with great interest by the visitors at the fair.

28 Turkish companies participated in the fair with the national participation of İKMİB, while 48 Turkish companies participated individually. The fair was held with the participation of professional buyers and visitors from many countries around the world. Turkish companies participated in the Arab Health fair, the largest medical fair in the MENA region dedicated to medical, pharmaceutical and healthcare tourism, had the opportunity to showcase their latest products.

## İKMİB opened a new door for Turkish plastic companies in exports



A buying mission program was held at the 30th International Istanbul Plastics Industry Fair at Plast Eurasia, which brings together the international plastics industry. Purchasing representatives of Bulgaria, Algeria, Kosovo and Chilean companies held bilateral meetings with Turkish plastics industrialists in the buying mission program organized by the Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB) under the coordination of the Ministry of Trade. Foreign company representatives had the chance to get to know Turkish products closely by visiting the stands at the fair as well as bilateral business meetings.

While 137 Turkish companies participated in the fair, which could not be held last year due to the pandemic, the sector had the opportunity to meet after a long break. Making an evaluation about the fair, İKMİB President Adil Pelister said, "We organized a buying mission as part of the fair to bring together buyers from potential countries and the Turkish plastic industry for export. Exports volume of plastics and products reached \$8.14 billion in the January-November period this year, an increase of 43.12 percent compared to the same period of the last year. We foresee that the performance of our industry will continue in the upcoming period."



## Chemical industry closed 2021 with a double record

*Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB) has announced its export data for 2021. Accordingly, new records were reached on a monthly basis with \$2.49 billion in December, and on an annual basis with exports of \$25.3 billion in 2021.*

The chemical industry broke records in exports in 2021. According to İKMİB data, exports reached \$2.49 billion in December, breaking a record on a monthly basis. While the chemical industry achieved an increase of 38.24 percent in December compared to the same period of the previous year, it also strengthened the hopes for the future. On the other hand, when export data are considered on an annual basis, 38.79 percent growth compared to 2020 caused foreign sales to reach 25.3 billion dollars. With this record broken on an annual basis, the chemical industry continued to be the second largest industry in Türkiye overall exports, after the automotive industry. These records signaled that the 40 billion dollars export target envisaged within the scope of 2030 vision of İKMİB President Adil Pelister will be attainable for the chemical industry.

According to the data, Iraq was the most exported country in December. Other countries in the top ten following Iraq in December were Germany, Lebanon, USA, Italy, Greece, Spain, Belgium, France and Israel. In December, the highest increase among the top 10 countries was in Greece with 140.09 percent.

Chemical exports to Iraq in December amounted to 146 million 205 thousand dollars, which has increased by 37.41 percent compared to the same period in 2020. The top five product groups exported to Iraq in December are 'plastics and their products', 'mineral fuels, mineral oils and products', 'essential oils, cosmetics and soap', 'pharmaceutical products' and 'paint, varnish, ink' and its preparations".

The countries with the highest chemical exports were the Netherlands, Germany, Iraq, the United States, Italy, Greece, Belgium, Spain, the United Kingdom, and Lebanon, in the January-December 2021 period. On the other hand,



on the basis of product groups, exports of plastics and their products ranked first in chemical industry exports in December with 848 million 509 thousand dollars. Mineral fuels, mineral oils and products took the second place with exports of 629 million 480 thousand dollars, while inorganic chemicals exports ranked third with 186 million 847 thousand dollars. Other sectors in the top ten following inorganic chemicals were 'pharmaceutical products', 'essential oils, cosmetics and soap', 'rubber, rubber goods', 'various chemicals', 'paint, varnish, ink and preparations', 'organic chemicals', ' and 'washing preparations'. In December, the highest increase in exports in sub-sectors was realized in mineral fuels, mineral oils and products with 113.87 percent.





# CHEMICAL INDUSTRY IS TOUCHING TÜRKİYE'S FUTURE!

*İKMiB which adopts the programme of industry thrust of the Ministry of Industry and Technology as a road map, develops many important projects from increasing added value to reduce current deficit.*

Türkiye has big targets in exports. It is aimed that exports will play the locomotive role in the development of the country and in the increase of welfare. The way to achieve such a goal is to focus on products with medium and high technology... While R&D, innovation and design stand out in every platform, the chemical industry ranks first among the industries that can provide all these. As it is known, in the Medium Term Program (MTP), which was announced a while ago, it is predicted that Türkiye will close 2022 with 230.9 billion dollars in exports. In the 100th anniversary of the establishment of the Republic, the export target is expected to be 242 billion dollars in the MTP. Within the scope of all these targets, many sectors that make up the chemical industry are carrying out many projects from R&D to design, from infrastructure to technological investment, in an effort to add value to Türkiye's exports and economy. Senior executives of non-governmental organizations, who are the voice of these sectors, also share their activities in achieving Türkiye's goals with Chemist magazine.



*While the pharmaceutical industry is trying to adapt rapidly in this field in terms of infrastructure, technology, legislation, know-how and human resources, it will also reach an advanced level in the processes of Industry 4.0, making a great contribution to the economic future of the country and the health of the society.*



İstanbul Chemicals and Chemical Products Exporters' Association, which primarily includes 16 sectors within the scope of the MTP, closed the year with foreign sales of 25.3 billion dollars, while exporting to 228 countries or regions in 2021, and İKMİB was proud to reach this figure, which it set as its 2022 target, one year earlier. After this development, an export of 25 billion dollars is expected in 2022 according to the MTP, while this figure will be exceeded and increased to 27 billion dollars, which indicates that expectations will be exceeded.

While İKMİB exports its products mostly to many countries, from the USA to Germany, which shape the world economy, the success behind this is its ability to keep the pulse of the global markets well and respond to the demands. On the other hand, İKMİB, which motivates and directs its members in the way of R&D, innovation, design and branding, plays a leading role in both the MTP and longer future projections of Türkiye. İKMİB, which has carried out a project that will increase the added value of the chemical industry, especially with the Chemical Technology Center project, believes that this center will work like an R&D and innovation base and will

make a great contribution to the development of the chemical industry.

**THE PHARMACEUTICAL INDUSTRY WILL PEAK IN ADDED VALUE WITH BIOSIMILAR DRUGS**

The pharmaceutical industry, which is one of the important sectors of the chemical industry, is among the important actors in creating added value for the



#### KİPLAS MEMBERS IMPROVE THE QUALITY PERCEPTION OF TURKISH PRODUCTS

Another stakeholder of the chemical industry is the Turkish Chemical, Petroleum, Rubber and Plastic Industry Employers' Association (KIPLAS)... KIPLAS is home to companies with the highest R&D expenditures. As such, it contributes to the development of many innovative products. KIPLAS is a member of a wide range of products that have been manufactured in the pandemic, including Turkish-patented special gel products, tissue glue, antigens, COVID-19 test kits, antimicrobial products and interior wall paints. The products are being developed in line with the company's high quality perception.

country's economy by increasing the export value per kilo to the level of 30.5 dollars. If the sector can develop and start producing biosimilar drugs in a short time, which it has recently invested in, it will be able to increase its export value per kilo to 1000 dollars. While the pharmaceutical industry is trying to adapt rapidly in this field in terms of infrastructure, technology, legislation, know-how and human resources, it will also reach an advanced level in the processes of Industry 4.0, making a great contribu-

tion to the economic future of the country and the health of the society.

#### PLASTIC INDUSTRY PROVIDES INPUT TO 30 SECTORS

The plastics industry, on the other hand, not only provides input to the chemical industry, but also supplies many conceivable industries. As such, the plastics industry, which provides input to the production of 30 industries, has great goals. With medium-sized companies in particular, this industry is very dynamic and can quickly detect periodic needs and take quick reactions accordingly. The plastics industry has the 2nd largest production capacity in Europe and 7th in the world. The sector is waiting for KTM, a project of İKMİB, to come into play for a moment in order to show this size in added value. The sector, which attaches great importance to R&D and innovation, expects to strengthen its hand and make a big move in this regard with the involvement of KTM.

#### PACKAGING INDUSTRY EXPECTS 20 BILLION DOLLARS IN EXPORTS BY 2030

The hygiene issue, which has increased in importance due to the pandemic, accelerates the growth and exportation of the packaging industry, and paves the way for the sector representatives to develop consciously by giving more importance to automation and Industry 4.0. In this context, the packaging industry, which prepares its future projection, prepares the road map for the long-term period as well as the MTP without wasting time and is advancing on this path with firm steps. The industry expects to increase its market size from \$25 billion to \$30 billion in 2023. The packaging industry, which plans to reach a market of 50 billion dollars in 2050, determines its exports in this period as 20 billion dollars. Another important component of the chemical industry for packaging is the hard plastic packaging industrialists. The industry is willing to make a positive contribution to improve the export and industrial capacity that is one of Türkiye's medium-term plans. The industry has knowledge, know-how, experience and an appetite for investment. The sector, which has made the technical personnel investments necessary for its growth in recent years, invested in machinery and equipment, focused on digital infrastructure investments, and focused on automation investments and R&D studies, will also play a role in shaping the future.

## “We are among the five target sectors in the export master plan

*The Istanbul Chemicals and Chemical Exporters' Association adds value to Türkiye exports. It plays a leading role in the development of the country's economy with the increase in unit prices per kilogram, new target markets such as the USA and China, the launch of the Chemical Technology Center in 2022 and many other activities.*

Stating that they are aware of Türkiye's targets, Adil Pelister, President of Istanbul Chemicals and Chemical Exporters' Association (İKMİB), underlines the importance of the chemical industry's contribution to the country's economy by showing its success in exports in recent years. Stating that exports, which were 22.9 billion dollars in the 11-month period of 2021, reached 25.3 billion dollars at the end of the year, Pelister says, “We grew by about 40 percent in this period.”

While the chemical industry ranks second with the success it has achieved in Türkiye general exports, Pelister noted that they aim to rank first with the successes to be achieved in the future, adding, “We undertake a strategic task in the economy together with our 16 sub-sectors, which are the stakeholders of our industry. For this reason, we are among the 5 target sectors in the ‘Export Master Plan’. We make a great contribution to our economy. We are almost playing in the first league of the global industry with our industry's exports to important countries that shape the world. While exporting to 228 countries and regions in 2021, we made foreign sales of 1.3 billion dollars to the Netherlands, 1.2 billion dollars to Germany, 1.17 billion dollars to Iraq and 1.14 billion dollars to the USA. Especially, our exports to the USA increased by 36 percent compared to 2020. All of these are indicators of where we are as a chemical industry.” Reminding that the growing chemical industry also makes positive contributions to employment, Pelister



**Adil Pelister - President of Istanbul Chemicals and Chemical Exporters' Association (İKMİB)**

states that there was an increase of more than 10 percent in employment in 2021, and that the number of employees, which was 375 thousand in 2020, exceeded 400 thousand in 2021. On the other hand, pointing out that the unit prices per kilogram have also increased, Pelister said, “With the increasing demand after the pandemic, our country, which is in a logistically advantageous position, has come to the fore. Our exporters focused on increasing their production capacity as much as possible, producing and increasing exports. With the redefinition of the supply chain, which has been disrupted by the effect of the pandemic, our Turkish products have become more preferred in terms of both quality and price. Therefore, deferred requests were expected to be reflected in sales in 2021. On the other hand, mostly production and sales made at high unit prices were also effective in the increase in our exports. While our unit prices per kilogram were 0.75 dollars in 2020, it increased to 0.94 in 2021”.

### EXPORT TARGET IN 2022: \$27 BILLION

Emphasizing that they aim to further their success within the framework of all these developments, Pelister points out the targets in the MTP and draws attention to the future works of the chemical industry in this direction. "Our export target for 2022 is to exceed the 25 billion dollars determined within the scope of the MTP and reach 27 billion dollars. We anticipate that in the first half of 2022, logistical difficulties, raw material supply and price problems, as well as the negative effects of new variants of the corona virus will continue to show. On the other hand, the improvement of the economic environment is of great importance in terms of investments to be made in our sector and ensuring the sustainability of our increase in exports," said Pelister, emphasizing that they will increase their targets in 2022 and 2023 and add value to exports.

In this context, they plan to organize 15 fair national participation organizations, 1 fair info stand participation, 2 foreign fair visits, 4 sectoral buying missions, 6 Clustering projects, 2 trade missions under clustering projects 2 workshops and various activities in order to increase exports in 2022. Pelister said, "These are our routine activities. In order to achieve our goals, we must also move forward by building on them. For this, we follow the 'European Green Deal' closely. We believe that relations with the European Union should be strengthened and developed. We carefully monitor the regulations that are planned to be implemented within the framework of the memorandum and the changes being made in the EU Chemicals Legislation. Because the EU market,

to which we export the most, constitutes 40 percent of our total chemical exports. For this reason, the EU market is an important market for our industry. In addition, the USA, China, Russia, Mexico and India are among our priority target countries.

### "OUR CHEMICAL TECHNOLOGY CENTER WILL CONTRIBUTE TO REACHING OUR GOALS"

Reminding that their investments in the Chemical Technology Center (KTM) have been going on for a while, Pelister emphasizes that this center is of great importance for the future in terms of value-added products. "We continue to work on our KTM project, which is important for the future of our chemical industry and will primarily serve on behalf of our plastics, cosmetics, paint and rubber industries. Our efforts continue without slowing down to put KTM into operation in 2022, which will include a digital library, reference laboratories that will provide certification services with international accreditation, an R&D center and an entrepreneurship incubation center. When we look at developed countries, we see that the chemical industry is also developed. In this respect, the chemical industry needs to be given special importance. Therefore, we believe the Türkiye Chemistry Agency should be established in our country. We think that the Turkish Chemistry Agency will take our chemical industry forward, thus contributing to other sectors and providing a very important support to the development of the country." Pelister underlines that development would not be possible without the chemical industry.





**Selçuk Gülsün - President of Turkish Plastics Industrialists' Association**

## Türkiye, Europe's 2nd largest manufacturer of plastics

*Turkish plastic sector, which is the 2nd largest manufacturer in Europe and 7th in the World, is believed to be paved the way with value-added production with the commissioning of the Chemical Technology Center project initiated by İKMİB.*

The plastics industry, which is one of the important sub-groups of the chemical industry, has a dynamic structure as it provides input to more than 30 sectors and has mostly medium-sized enterprises. While the dynamic structure is seen more clearly, especially with the pandemic, the Turkish plastics industry's protection of value and employment, which it has demonstrated through the actions it has taken, enables it to respond to the needs of this period. Evaluating all these developments, Turkish Plastics

Industrialists' Association (PAGDER) President Selçuk Gülsün says, "In this direction, we predict that the plastics industry will close the year with an increase of 20% in exports on quantity basis and 40% on value basis".

While talking about a global economy for years, PAGDER President Gülsün emphasizes that due to the pandemic conditions under the influence of the whole world, they see that regional development gains value and they realize the importance of regionalism. "However, despite all the threats, there are great opportunities in our industry. As you know, we faced a Türkiye advancing towards its goal of becoming a new production base. We have realized that our industry, due to its geographical location, can develop its relations with Europe, its main market, in the future and increase its share in

exports. Meanwhile, untapped markets such as Africa are important for boosting exports,” said Gülsün, noting that the plastic industry is looking forward to its future as part of its MTP targets.

Gülsün reminded that the unit prices for plastic products in Türkiye were \$2.81/kg in the third quarter of 2021, while they were \$18/kg in Japan, \$6.67/kg in Germany, \$4.24/kg in China. “In addition to this list, when considered in value terms of plastic product exports, we are number 16 and number five in quantity. This means that we must once again improve added value. We have to work on an infrastructure where we can use our current capacity more efficiently.

#### **KTM WILL BE EFFECTIVE IN INCREASING ADDED VALUE**

Expressing that they are a growing sector within the scope of these data, Gülsün said, “The Turkish plastics industry has the 2nd largest capacity in Europe and the 7th largest in the world. Unfortunately, the share of value-added production in total production is under our expectations. On the way to value-added production, we think that the Chemical Technology Center (KTM) project initiated by the Istanbul Chemicals and Chemical Products Exporters’ Association (İKMİB) will be effective and will pave the way for us. We hope that our industry can reach its needs by building a test center that will be launched, and by developing R&D and university-industry collaborations. Because we know that in order for the Turkish plastics industry to develop and move forward, it needs to prioritize value-added production instead of increasing capacity.”

Expressing his hopes for the future in this way, Gülsün also reminds that one of the most ambitious goals of the EU is carbon neutral, and continues: “The way to these goals, which the EU has set, is actually again through the efficient use of plastic. For example, compared to alternative materials for insulation systems to be used in residences, plastic saves more than 150 times the energy used for its production. In addition, wind panels, one of the energy sources to be used for renewable energy, also contain plastic. At this point, circular design plays a big role. Therefore, in order not to have to regenerate the source, whether internally or externally, we must adapt to this developing economic model and consider the continuity of the

recycling sector. Our Turkish plastic industry, which is open to changes in production style due to its dynamic structure, will be able to adapt to the Green Agreement if it takes the right position, makes investments in compliance with the regulations and adapts to them. In addition, the Chemistry Technology Center and R&D center support that will be provided to us by İKMİB, as well as the training to increase our export capacity, will be the resources that need to be considered for value-added production”.

#### **CHEMICAL INDUSTRY RANKS FIRST IN EXPORT**

Gülsün draws attention to the indirect exports of the chemical industry and puts forward a striking fact. “Considering the indirect trade, it will be seen that the chemical industry ranks first among the industries in exports. To give an example, plastic and other chemicals are used very intensively at close to 175 kg of each automobile. These examples can be easily multiplied when all sectors to which the chemical industry is related are evaluated. For this reason, the production and export graph of the chemical industry always shows an increasing trend. Especially the sectors that play a key role in today’s industrialization are chemistry and machinery. The machinery sector, which follows the technological developments and develops, will definitely pave the way for industrialization and growth together with the chemistry sector,” Gülsün once again underlines the importance of the plastics industry in the targets set for 2023 within the scope of the MTP.





Savaş Malkoç - Secretary General of the PHARMACEUTICAL MANUFACTURERS ASSOCIATION OF TÜRKİYE (İEİS)

## The pharmaceutical industry will become a medicine for the Turkish economy!

*The pharmaceutical industry stands out with its export value of \$30.5 per kilo, being ahead of many other sectors in Industry 4.0, and investments in biotechnological medicine. While all these advantages bring to mind the rhetoric of the pharmaceutical industry, “It will become a medicine for the Turkish economy!”, the industry is a candidate to make significant contributions to the country’s economy and welfare both within the scope of the MTP and in the long run.*

The Turkish pharmaceutical industry is one of the leading strategic sectors that support Türkiye’s industrialization goals with its more than a century of history, scientific knowledge, investments, production power, qualified human resources, advanced technology and high value-added structure. The pharmaceutical industry, which operates approximately 680 organizations, 103 pharmaceuticals and 11 raw material production facilities at international standards, and 37 R&D centers accredited by the Ministry of Industry and Technology, exports to 180 countries, mainly to the European Union, Commonwealth of Independent States, North Africa and the Middle East. In this context, the share of the pharmaceutical industry will be great in carrying Türkiye to its future goals. Savaş Malkoç, Secretary General of the PHARMACEUTICAL MANUFACTURERS

ASSOCIATION OF TÜRKİYE (İEİS), says that the main goal of the IEIS is to become a regional and then a global pharmaceutical production and export base by implementing the successful localization model in the defense industry in the pharmaceutical industry as well. In this context, he reminds that they support the localization practice in medicine, which was implemented in 2016 under the leadership of the Ministry of Health, but this practice was stopped due to the European Union’s complaint before the World Trade Organization. Mentioning that there were very successful developments in the localization process, Malkoç evaluates that period as follows:

**EXPORTS INCREASED BY 27.3 PERCENT IN 2020**  
“New production facilities and companies have entered the industry with the implementation. The

idle capacity in the production facilities was brought into use. In this process, domestically produced medicine increased their share in value above 50 percent for the first time. On a box scale, this rate has increased from 79 percent to 88 percent. According to the industrial production index data, production in the manufacturing sector grew by 15.4% between the years 2015-2020, while production in the pharmaceutical sector increased by 52.4%. In fact, in the 2015 – 2020 period, when Türkiye’s exports grew by 12.3%, pharmaceutical exports displayed a strong performance with an increase of 64.7 percent. At the end of 2020, our exports reached the level of 1.84 billion dollars with an increase of 27.3 percent, completing the year at a record level. This breakthrough in exports for the pharmaceutical industry, which has a high value-added, has pushed the export-to-import ratio to its highest level in its history. The pharmaceuticals’ share in the foreign trade deficit declined from 13.9 percent to 7.6 percent.”

Malkoç points out that when pharmaceutical raw material imports and drug finished product exports are analyzed, the contribution of the pharmaceutical industry to the country’s economy is more evident. He points out that in 2020, exports of 1.79 billion dollars were realized despite the raw material input of 815 million dollars. On the other hand, according to TUIK data, Türkiye’s total employment increased by 1.9 percent in 2020, while employment in the pharmaceutical industry increased by 8.2 percent and exceeded 42 thousand people, Malkoç also mentions that the qualified workforce is high. Reminding that after all these successes, a stagnant period was entered in 2021 and the expectations were not met. Malkoç underlines that the price pressure should be eliminated, the bottleneck in the licensing processes should be resolved and the localization practice should continue from where it left off in order to regain the growth momentum. On the other hand, Malkoç reminded that with its advanced technology and high value-added structure, the export value per kilo of the pharmaceutical industry is above many other sectors, and said, “The export value of our pharmaceutical industry is 30.5 dollars per kilo. This clearly demonstrates the added value of our industry.”

#### **BIOTECHNOLOGICAL MEDICINE WITH STRATEGIC PRIORITY**

In addition to all these successes, Malkoç also underline, biosimilar drugs with very high added

value must be developed and produced in order to achieve their goals faster. Our greatest desire is to add valu-added biotechnological products whose weight export value is over 1000 \$ in our country export with an average weight of \$1.32 and continues his words as follows:

“The pharmaceutical industry is in the era of biotechnology. The market share of biotechnological drugs in the world pharmaceutical industry has reached 30 percent in a very short time. The usage rate of these products is increasing in our country. Today, 25 percent of the market is biotechnological drugs. Unfortunately, we import almost all of the biotechnological drugs in our country’s pharmaceutical market. The development and production of these medicines in our country is very important in terms of competitiveness and economy of our country and access of our patients to every drugs. As a country, we must quickly adapt to this field in terms of infrastructure, technology, legislation, know-how and human resources. In this context, as an industry, we have positioned this area as our strategic priority and we are making very high-volume investments.”

Stating that companies should combine incentive mechanisms and supportive policies for the development of their industries in return for their investments in the field of biosimilars, Malkoç expresses that they believe they will be successful in this area. Malkoç said, “Investments in biotechnology are high-volume, advanced technology-intensive investments. In order to compete with our strong competitors in this field, we need our public authorities to provide more effective support to our investments”.

#### **PHARMACEUTICAL INDUSTRY IS ALSO ASSERTIVE ABOUT INDUSTRY 4.0**

Emphasizing that the pharmaceutical industry has incorporated technologies such as air conditioning automation, ITS QR code system and unmanned warehouse into their business processes, Malkoç draws attention to the fact that they are extremely advanced in the field of automation and computerized systems. Stating that they are ahead of many sectors in this field, Malkoç says that they have deficiencies in the field of robotic systems. Within the scope of all these developments, Malkoç states that their contribution to the country is great both for the future and within the scope of the MTP, and that they will continue to do so in the future.



**Zeki Sarıbekir- President of Turkish Packaging Manufacturers Association (ASD)**

## Packaging industry aims \$20 billion export by 2030

*The packaging industry, predicts that it will reach a size of 50 billion dollars and export 20 billion dollars by drawing its vision for the future until 2030. For this reason, the sector, which gives great importance to R&D and innovation, will make a significant contribution to the national economy as well as public health.*

The protection and hygiene of the products from the supply process to the end consumer increases the importance of the packaging. While the effects of the Covid-19 pandemic, which has affected the world especially in the last two years, reveal the importance of packaging, the sector that produces in this field is also improving itself. While production wheels stop in Europe during the pandemic process, the sector in Türkiye continues to produce by taking all precautions against the virus during this period and prevents the supply chain from breaking. While

this success of the packaging industrialists provides positive returns to the country's economy, the sector also bases its long-term vision on growth until 2030, especially in the MTP.

Zeki Sarıbekir, President of the Turkish Packaging Manufacturers Association (ASD), says that they export to a very wide geography by providing the advantage in terms of logistics and price-quality balance, and that they successfully continue this during the pandemic period. "With the change in supply chains that started with the pandemic

period, a demand orientation from the world to Türkiye has occurred. As in 2021, we are striving to ensure that this is managed correctly and become permanent for our industry in 2022. The importance of packaged foods, which keep human health away from environmental risks and protect it, has emerged once again in this period, and the pandemic has seen a great transition from unpackaged products to packaged products. Saribekir points out that their industries are growing in this context, as they are now focusing on purchasing packaged products.

### **THE INDUSTRY HAS PREPARED ITS VISION FOR 2030**

Saribekir said “ Turkish packaging industry exported \$5 billion 147 million in 2020 and achieved an increase of 12 percent in quantity and 9 percent in value compared to the previous year In the first 10 months of 2021 sector exported 5,3 billion dollars and 2,5 million tons By the end of October the foreign trade surplus of our sector was 2,3 billion dollars.

Within the scope of these figures, we have set our 2021 year-end target to be at least \$28 billion in market size and \$6.5 billion in export revenue. In 2023, the 100th anniversary of the establishment of our Republic, we aim to increase the market size of Turkish packaging sector from 25 billion dollars to 30 billion dollars, consumption per capita consumption from 298 dollars to 380 dollars and our export from 5.15 billion dollars to 8 billion dollars. We set our target for 2030 sector size as \$50 billion and our export size as \$20 billion. We will continue to work with all our strength to increase our exports and contribute to our country's economy in the coming years.”

Saribekir stated that they aim to make a great contribution to the country in production, export and healthy products and trust the strong infrastructure of the sector with competence to compete with companies in the world. He also declared that they constantly invest in R&D / innovation and also organize international congresses, conferences and competitions about environment, sustainability issues, Industry 4.0 on behalf of the sector because of the competition in global markets Saribekir, who expressed that they developed by being fed from the activities they carried out in this context, said “The unit price of our packaging industry in exports is 2 dollars/tonne on average, \$3/ton for metal and \$2.8/ton for plastic. But we still have a long way to

go. We understand that design should be prioritized in the production of value-added products. It is the design of the packaging that adds value to the product and brings it to the fore,” and emphasizes that the packaging design is as important as the product.

Saribekir also noted that “sustainability” and “environment” issues have reached a critical point in packaging production, and that they continue to focus on these areas to maintain their production. “The European Green Agreement for a sustainable environment keeps the circular economy and recycling vision on its agenda. Countries that make the necessary preparations for a sustainable environment even in the midst of an ongoing pandemic, at a time when uncertainty and risk increase, strengthen their credibility in the international arena. Recycling of packaging is very important in order to contribute to our country's economy and environment. Packaging is not garbage, on the contrary, it is materials that create economy. Therefore, we should strengthen our country's recycling infrastructure. As ASD, we continue our awareness-raising activities with different projects”.

### **ASD WILL MAKE SIGNIFICANT CONTRIBUTIONS TO THE ECONOMY AND PUBLIC HEALTH**

Saribekir added that they believe packaging waste recycling should be prioritized separately, so that a clean environment can be reached and waste imports can be reduced gradually. “At this point, recycling is the most important building block for the continuation of the circular economy and zero waste approach. In order to develop the recycling sector, everyone needs to be aware of this issue. Recycling with good quality can be achieved by collecting waste separately at its source and separately by local governments. The factors affecting the purchasing decisions of consumers are now different. The days were left behind where profit maximization is targeted for companies. In the new world order, the profits of the companies began to progress in parallel with the observance of social interests. The most important point within the scope of sustainable development goals is ‘Responsible Production and Consumption’. The world will no longer be the same. For this reason, as the packaging industry, we have determined working as our main agenda by giving importance to recycling and sustainability, technology, quality and product diversity.”

# SEPA members are enthusiastic about new investments

*Being aware of Türkiye's target, the rigid plastic packaging industry is aware of the necessary equipment for its growth and does not refrain from investing in many areas from technical personnel to machinery and equipment, from digital infrastructure to automation, from R&D studies to environmentalist approaches.*

SEPA Secretary General Gülçin Kazak stated that the benefits of plastic and packaging in the COVID-19 pandemic have increased the importance of their industries with the re-recall of hygiene. 'As of The Rigid Plastic Packaging Industrialists Association, we have supported our sector to ensure that the supply chain continues by taking into consideration the health of our members and industrialists. In this regard, it is our priority to provide our companies with the fastest access to information regarding health risks.

"Despite the obstacles caused by the distance of the raw material to the source, Kazak stated that they closed the year 2020 with 2 billion 294 million dollars of exports, and said, "We have successfully left this period behind as an export target. We indirectly contributed to the export capacity of our partner sectors to reach 22 billion 383 million dollars. With these values, our industry, which realizes 45 percent of the direct exports of the packaging and plastics industry and 12 percent of the exports of the chemical industry, has realized 1.84 percent of the world's sector capacity. This rate was 1.59 percent in 2019 and 1.52 percent in 2016," adding, that their acceleration with these data points to stable growth.

Expressing that they are one of the sectors that introduce Türkiye to the world not only with their products but also with their business culture, Kazak draws attention to the fact that they reach everywhere in the global sense by exporting to more than 190 countries. Stating that the rigid plastic



**Gülçin Kazak - Secretary General of The Rigid Plastic Packaging Industrialists Association**

packaging industry has been working 24 hours a day, 7 days a week, in the last 2 years full of the obscurity of Covid-19, Kazak said that they did not stop despite the disruptions in the logistics process in 2021, the breaks in the raw material supply chain and the problems in the currency volatility triangle. We had to slow down and review the current business volume on the axis of efficiency," adding, that despite this, their industry does not avoid new investments on the way to reach the targets.

## **THE SECTOR IS INVESTING IN EVERY FIELD FROM MACHINERY AND EQUIPMENT TO R&D**

"Our industry is enthusiastic about new investments that make the technical personnel investments necessary for its growth, invest in machinery and equipment, focus on digital infrastructure investments, focus on automation investments and R&D studies... Kazak, who stated that our sector, in which it operates, has the knowledge, experience,



**The newly appointed SEPA Board members (from left) are Vice Chairman of the Board Mustafa Kınacı, Board Member Emre Canoğlu, Board Member Gülşen Turan Kök, Board Member Hakan Özhu, Board Bookkeeper Ali Fırat Özadam and Board Member Hakan Dirgeme.**

and investment appetite that will contribute positively to the development of export and industrial capacity, which are among Türkiye's medium-term plans, said that their sectors focus on innovation, R&D, design and technological developments. However, Kazak also draws attention to the uncertainties created by the economic fluctuations caused by the conjuncture and the weaknesses in the foreign-dependent raw material supply chain, and states that they progress with a solution-oriented approach, even though there are difficulties in these matters.

Reminding the efforts to reduce foreign dependency in the chemical industry, Kazak states that these are very important, meaningful and result-oriented, and that she believes that investments that will provide medium and long-term profits will intensify. Stating that it is obvious that there will be no obstacles for the chemical industry to become the leading sector

in exports with these studies, Kazak draws attention to the fact that the targets can be reached more easily by focusing on the environment issue and continues as follows:

“We anticipate that the new period, in which we will focus on the European Green Agreement, circular economy, increasing export capacity, strengthening the supply chain, and training activities to strengthen the employment of technical personnel, will make a difference in the development of both our association and our industry. As Türkiye; We sincerely believe that we will set new export records in all sectors, especially in the rigid plastic packaging industry, packaging, plastics industries and the chemical industry, with the sustainable development strategies focused on people, the environment and industry, and the common language created by the public, industrialists and government institutions, and the synergy achieved.”

# Chemical industry can dominate exports

*KİPLAS members believe that the chemical industry can become the first industry to dominate exports, with a series of improvements from strategic workforce planning and digital transformation to realizing strategic investments and supporting the development of existing investments.*

One of the important non-governmental organizations of the chemical industry, the Turkish Chemical, Petroleum, Rubber and Plastic Industry Employers' Association (KİPLAS), represents a wide business area with high production and market diversity, as its members provide inputs to many sectors. In this context, it is observed that domestic and foreign investors are interested in the sector, which has high growth and export potential. The strong capacity in the main sectors such as textile, carpet, automotive, medicine, detergent provides a great advantage to KİPLAS members. KİPLAS President Levent Kocagül said, "Despite the disadvantage of our industry due to foreign dependency on raw materials, we have strong strengths. Our country's location-based logistics advantage, our ability to manufacture at a higher quality compared to eastern competitors that do not produce at EU standards, advantages such as export-based growth model and public support offer many opportunities for our industry," he said, emphasizing that they add strength to the country's economy.

Pointing out that Türkiye has big targets in production and exports, Kocagül states that as KİPLAS, they also carry out activities in line with these targets: "According to the results of the 'Top 1000 Exporters of Türkiye 2020' research prepared by the Turkish Exporters Assembly (TİM), there are 13 KİPLAS members. According to the 2020 results of the "Top 500 Industrial Enterprises of Türkiye" research, we have a total of 23 KİPLAS members, 18 of which are in the top 500 and five in the



**Levent Kocagül- President of Turkish Chemical, Petroleum, Rubber and Plastic Industry Employers' Association (KİPLAS)**

second 500. When we look at the economic data recovered after the pandemic, I think that there will be a performance above the expected in the export of chemistry. We will continue to increase these successes."

Sharing that its members are working in areas such as R&D, innovation and branding in order to achieve the goals within the scope of the MTP, Kocagül said, "Turkish patented special gel products, tissue glue, antigen, Covid-19 test kits, antimicrobial products, as well as interior paints, produced especially during the pandemic period. Such products strengthened the perception of quality. Therefore, I think that we will see more products labeled "Made in Türkiye" in the global market. We need to maintain this momentum," he says.

### “WE MUST INCREASE THE UNIT KILOGRAM VALUE IN EXPORTS”

Reminding that the average export kilogram unit value of their sector is below one dollar, Kocagül states that they need to raise this level in order to reach their targets more easily and that it's of great importance to increase the added value. “Increasing added value is among our primary goals. In this context, we find the Technology Development and Solution Center GEBTEK very important, which was established by our member GEBKİM and aims to strengthen the position of the Turkish chemical industry in the global market, and to reduce foreign dependency in raw material needs. On the other hand, seven KIPLAS member organizations were included in the 2020 R&D 250 list, while 4 organizations were included in the 2020 R&D second 250 list. Ranking 6th in the top 100 according to the ‘Number of Projects Conducted in the R&D Center’, one of our members has developed an effective product against the corona virus. In addition, KIPLAS members are among the companies that spend the most on R&D,” said Kocagül, and believes that they will achieve important developments with these efforts.

Reminding that the chemical industry provides raw materials to many sectors from automotive to white goods, from textile to plastic, Kocagül draws attention to three issues as KIPLAS and continues as follows: “To crown our success, we can summarize our suggestions under three main headings; protecting employment and increasing employment, strategic workforce transformation in the industry, strategic workforce planning and digital transformation, supporting the implementation of strategic investments and the development of existing investments... This last item is very important for the chemical industry to become the first exporting industry to dominate exports in the near future. In addition, we hope that high-level approaches for trust, courage and coordination will continue to increase in order to make these investments in the right areas at the right time. For this purpose, we attach great importance to make arrangements to encourage investors in loans for businesses, and to the continuation of more active and applicable loan and support arrangements that will support and encourage new investments, especially the Development Bank (Kalkınma Bankası) and Eximbank, and the development of existing

investments. The most effective factor in this regard will be more agile, accelerating mechanisms, regulations and incentives that will eliminate bureaucratic obstacles.”

Reminding that the chemical industry is also included in the scope of the products included in the ‘Priority Product List’ of the ‘Technology Oriented Industry Move Program’ carried out by the Ministry of Industry and Technology, Kocagül said, “In this context, the transformation of automation, artificial intelligence and digital technologies, are high of importance. It is of great importance for the state to undertake a coordination mission in order to act in an integrated and rapid manner at the national level within a method.”

Pointing out that the EU Green Deal will create opportunities in the future, Kocagül mentions that the regulations will become more important in the EU and other markets, especially in 5-10 years. Kocagül said, “Our chemistry industry, which is compliant with the regulations, can gain an advantage over its global competitors, especially in the EU BauHaus (Renovation) project. Circular economy and Industrial Symbiosis will be the points we need to concentrate on. The chemical industry has become one of the most environmentally friendly industries thanks to the regulations it is subject to, developing technology and consumer perception. With its high technology-based product development capacity and R&D investments, our chemical industry has the potential to rapidly adapt to new applications and global competition,” he says, expressing his hopes for the future.





Dr. S. Armağan VURDU  
**Secretary General of İMMİB**

## 6 important transformations are aimed in the EU!

“Transformation targets within the scope of sustainability focused on the EU, which is an important trade partner for Türkiye, will have different reflections in different sub-sectors of our chemical industry.”

The European Sustainable Development Report was published in December 2021 by the European Environmental Policy Institute and the Sustainable Development Solutions Network. The report analyzes the progress made by countries in the fields of Sustainable Development Goals (SDGs). For the first time in the report in 2021, European Union candidate countries including Türkiye, Albania, North Macedonia, Montenegro, Bosnia and Herzegovina and Serbia were also evaluated. First of all, it is stated that the Covid-19 pandemic has a very negative impact on the work in the field of sustainable development and that sustainable development goals should guide the way out and recovery from the pandemic. In order to achieve sustainable development goals, it's aimed to realize 6 important transformations in the European Union. These transformations are indicated in the following areas: education, skills, good working conditions and innovation; sustainable energy; sustainable societies, mobility and shelter; sustainable food production, healthy nutrition and protecting biodiversity; clean and circular economy with zero pollution; digital transformation...

In the European Union, which designs its economic model, trade policies and digitalization strategies by focusing on sustainability, it's important for us to take a position in the sustainable development report, as developments in this context will affect Turkish exporters closely... This transformation within the scope of sustainability focused on the EU, which is an important trade partner for Türkiye, will find different reflections in different sub-sectors of our chemical industry. For example, it is considered that the overall demand for chemicals could be negatively affected if there are serious applications for the circular economy, but this will of course vary according to each company's own product portfolio. In addition, as electrification increases the price of energy, demand may decrease as a result of excessive increase in production costs and its reflection on prices. On the other hand, considering the very broad framework of the chemical industry, these developments can be turned into opportunities with the right strategic moves. According to McKinsey, for example; The drastically reduced number of accidents with autonomous vehicles may no longer require cars to be made of steel and aluminum, and their bodies may be made of plastic. Another example of opportunity areas in the chemical industry in the sustainability transformation is the increasing demand for insulation materials, energy storage materials, construction chemicals to protect coasts, or biological-based or recyclable materials.

### **IS THERE UNCERTAINTY IN DIGITAL TRANSFORMATION FOR SUSTAINABLE DEVELOPMENT?**

The digital transformation required to ensure sustainable development has its own uncertainty. Boston Consulting Group analysis shows that 30 percent of the technology needed on the way to the net zero emission target by 2050 has not been “invented” yet, and this target is not attainable with current technology.

In the context of sustainable development goals, innovation in production processes, long-term strategies, technology and infrastructure investments, reviewing supply chains, establishing regulations and ensuring harmony with trade partners, creating sustainable financing resources stand out as preparation elements for the adaptation of our chemical industry to global transformation in the context of sustainable development goals.



# CHEMICALS REGULATORY COMPLIANCE IS A GLOBAL COMPETITION STRATEGY, NOT A FORMALITY!



- EU REACH & Turkish KKDİK OR Services
- SIEF-Consortia Management
- Chemical Safety Report & SDS Authoring
- EU Cosmetics Regulation RP Services
- CPNP Notification • PIF Preparation & Safety Assessment
- K-REACH, CSCL, MEP Order 7, TCSCA Representations

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THE CLEANING AND WASHING EQUIPMENT INDUSTRY IS GROWING IN PRODUCTION, EXPORT, INVESTMENT, DIGITALIZATION AND R&D ACTIVITIES, ESPECIALLY WITH THE INCREASING IMPORTANCE OF CLEANING AND HYGIENE DURING THE PANDEMIC PERIOD. THE INDUSTRY IS DEVELOPING VARIOUS PROJECTS FROM RECYCLABLE PRODUCTS TO REDUCING ITS CARBON FOOTPRINT DURING THE PANDEMIC PERIOD, WHERE THE ENVIRONMENTALIST APPROACH IS ALSO PROMINENT.

# CLEANING AND WASHING EQUIPMENT INDUSTRY

## GROWS IN ALL AREAS

While cleaning and hygiene are among the most basic needs of humanity, the pandemic, especially in the last two years, makes this need much more necessary. While the concept of cleaning has become very comprehensive such as 'hygiene, health, protection, purification' with the pandemic, the cleaning and washing equipment industry operating in this field manages to meet consumer demands and expectations by adapting to the changing market conditions in this process. In fact, while production has come to a standstill in many countries due to the pandemic, the Turkish cleaning and washing equipment industry is able to respond to global market demands with great effort.

The industry, which manufactures in various fields from soap to detergent, from hand and surface disinfectant wipes to antibacterial wipes, from household and vehicle cleaning products to baby and personal care products, also succeeds in growing in exports, investments and R&D. The fact that Turkish products are accepted in global markets in every continent from Europe to America, from Asia to Africa shows the quality of the industry and also increases its awareness. Behind this success is the production capability of the industry, which sees the change in shopping habits especially during the pandemic period and analyzes it well, meeting the needs. In addition, the industry's increasing interest in R&D, innovation and digitalization also plays a leading role in the development. Because it is observed that companies that don't take into account the digitalizing world and changing purchasing preferences are losing power against their competitors in both domestic and global markets. Aware of this, Turkish companies manage to compete with the global players of the industry by making the necessary investments. These developments, on the other hand, increase the brand value of the industry.

The industry also draws attention with its environmentally friendly and nature-friendly production and technological investments. The cleaning and washing equipment industry, which carefully monitors the environment and sustainability issues of the European Green Agreement, which occupies the agenda especially during the pandemic period, plans investments in this context and focuses on production within the framework of the requirements of the new period. Recyclable products, nature-friendly ingredients and an environment-friendly production approach are gaining acceptance in the industry day by day.

Taking into account the approach of responsible producers towards nature, industry representatives also work to reduce carbon and water footprints by adopting effective resource use, their recycling and waste management. In addition, some sector representatives, who also take initiatives in energy efficiency with cogeneration technology, manage to achieve 25 percent efficiency in their own energy production in this field.

### OVERSEAS INVESTMENT OF THE SECTOR INCREASES

Although the cleaning and washing equipment industry is accepted in global markets and increasing its exports, especially the increasing logistics costs slow down the acceleration of foreign sales. It is foreseen that the increase in exports may be greater if the industry representatives manage to find alternative routes in terms of logistics. While it is observed that some companies make warehousing investments in production or distribution from Bulgaria to Egypt, from the USA to Thailand in order to overcome the problem in logistics, the importance of bringing similar investments to the agenda by more companies throughout the industry is also mentioned. It is believed that with the increase of these investments, important steps can be taken towards becoming a global brand.

## Koruma Temizlik, advances production systems

*Koruma Temizlik A.Ş. carries out its activities with the aim of moving the production systems and management approach forward accordingly, by following the technological developments.*

One of Türkiye's largest bleach manufacturers and important players in the cleaning and washing equipment industry, Koruma Temizlik A.Ş. stands out with its wide product range in export activities and successful projects in new markets. In a period where not only the rate of product consumption but also the rate of information consumption has increased considerably, Protection Cleaning Inc. (Koruma Temizlik A.Ş.). It continues its activities with the aim of always moving forward its developing technology, production systems and management approach.

Koruma Temizlik A.Ş. General Manager Mehmet İmer Özer reminds that the demand for the cleaning industry has increased to a great extent with the Covid-19 pandemic and says that they aim to provide consumers with an accessible and quality product experience at all times. Özer said, "Especially in March-April-May 2020, great changes were observed in the shopping habits of consumers. With the increasing demand for bleach, Protection Cleaning Inc. (Koruma Temizlik A.Ş.), provided uninterrupted service to our consumers by producing 24 hours a day, 7 days a week in all our production facilities. Even though the pandemic seems



**Mehmet İmer Özer - Koruma Temizlik A.Ş. General Manager**

to have eased in social life with vaccination, there is still a high demand for bleach and surface cleaner products. In this process, our primary goal is to take quick action and deliver the highest quality product to the consumer."

### **ALL INTERNATIONAL REQUESTS HAVE BEEN MET**

Stating that there was a process that could not be evaluated as normal during the pandemic period, panic and anxiety occurred in consumers, and even emotional shopping motives emerged, Özer said that during this process, Protection Cleaning Inc. (Koruma Temizlik A.Ş.), underlines that they have succeeded in meeting all domestic and international demands with their expert experience and crisis management skills. Expressing that they attach importance to investment in technology and production systems in this process, Özer draws attention to the fact that companies that do not invest in this field in the digitalized world may experience difficulties.

On the other hand, highlighting the importance of the environmental factor, Özer said, "The nature-friendly contents and the nature-friendly production approach are becoming more widespread in the sector day by day. Especially with the European Green Consensus, every company in the sector is increasing their investments on environment and climate day by day. As a company, we pay attention to these and carry out the necessary work".

## Hayat Kimya, increases the perception of quality and trust in Turkish products

*Giving life to many brands in the cleaning and washing preparations sector, Hayat Kimya continues its efforts to popularize Turkish brands and to spread the perception of quality and reliable Turkish products to the world.*

Having brands such as Molfix, Molped, Bingo, Evony, Papia and Familia, Hayat Kimya continues its production with 34 years of experience in the cleaning and washing equipment industry. General Manager of Hayat Kimya Türkiye Enes Çizmeci, pointing out that people's cleaning frequency and attention to details in the cleaned areas have increased in the new period, says, "This approach, which came with the pandemic, was reflected in the increase in demand for our products." He says, especially wipes, detergent, baby care categories are the most demanded products in domestic and foreign markets.

Emphasizing that Hayat Kimya has had many successes, Çizmeci states that they are the world's 5th largest branded diaper manufacturer and the largest tissue paper manufacturer in the Middle East, Eastern Europe and Africa. Reminding that in addition to Türkiye, they employ 9 thousand people in their production facilities in Egypt, Iran, Algeria, Russia, Nigeria, Pakistan and Vietnam and in sales and distribution companies in Morocco, Bulgaria, Kenya, Malaysia and Thailand, Çizmeci said, we are in the 45th place in the "Türkiye's Top Exporters" list with our exports to more than 100 countries and 39th in the "Türkiye's Top 500 Industrial Enterprises" list with our production performance.

Emphasizing that they continue their investments both in Türkiye and in the world in their journey to become a global player, Çizmeci emphasizes that they have increased the capacity of the paper factories in Mersin and continues: "We are making investments in non-woven facilities in Egypt and paper facilities in Algeria and Russia. We will continue to be the country's largest tissue paper producer with our new



**Enes Çizmeci - General Manager of Hayat Kimya Türkiye**

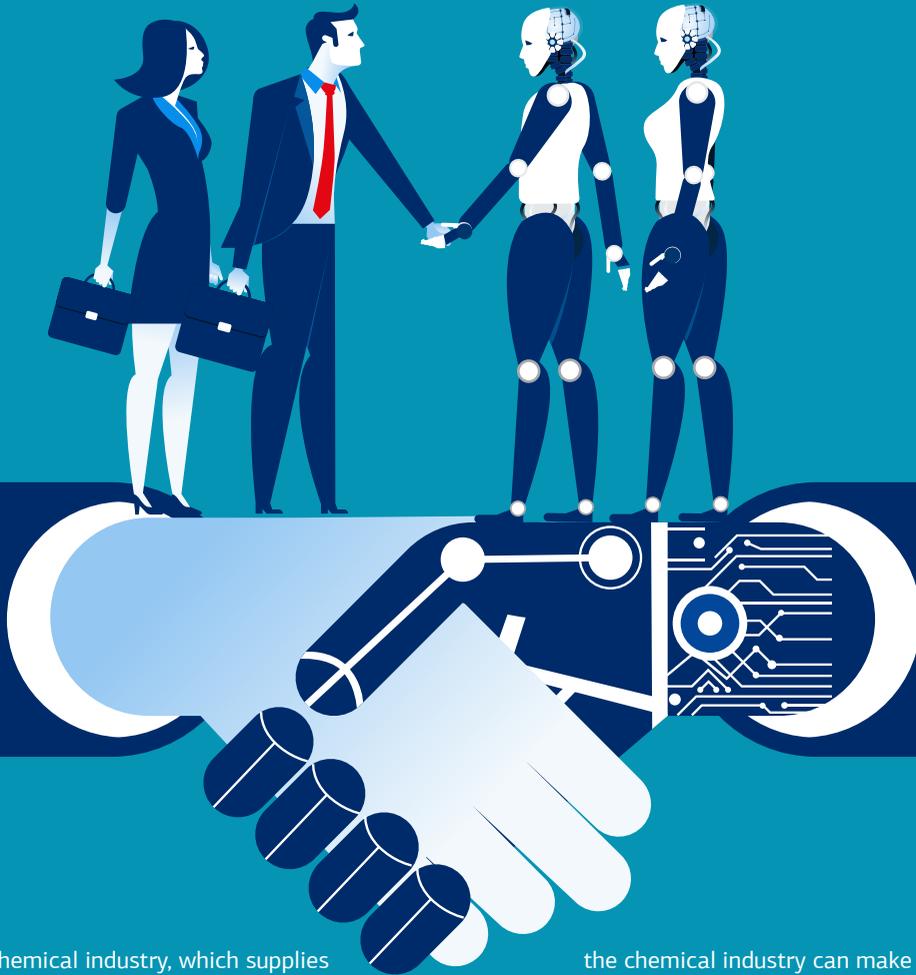
investments in Russia and Türkiye. With a strategic understanding, we opened a diaper factory in Vietnam. As one of the leading companies in the sector in line with our vision of globalization and sustainable growth, we will continue to work to popularize Turkish brands and to spread the perception of quality and reliable Turkish products to the world, while contributing to our economy in the fields of production, employment and exports."

### **"THE PANDEMIC HAS LED US TO A NEW CATEGORY"**

Stating that the pandemic caused them to transfer their experience in the hygiene sector to a new category, Çizmeci said, "We were a non-woven manufacturer, which is the raw material of baby diapers. By processing the same raw material, we entered the surgical mask category in a short time. We have an annual production capacity of 6 billion masks. As a new player, we have won the appreciation of consumers by offering protection and comfort together with our Evony brand in the sector we entered.

In addition to all this, Çizmeci said "We are making an efforts to protect nature with many more projects, reducing our carbon and water footprint" and reiterated their sensitivity to the environment and also reminded their projects ranging from reduction of groundwater to energy efficiency and raw material recycling.

# CHEMICAL INDUSTRY WILL FOCUS ON R&D, WITH CHEMICAL TECHNOLOGY CENTER (KTM)



The chemical industry, which supplies raw materials or semi-finished products to household appliances, automotive, electronics, mineral oil, construction, paint, medicine and many imaginable sectors, touches many products that every individual uses in his daily life. Therefore, the chemical industry, which has become an indispensable part of modern life, becomes the key point of production, development, export, employment and added value. Being aware of all these processes, Istanbul Chemicals and Products Exporters' Association (İKMİB) gives great importance to R&D and innovation in order to increase competition both at the chemical industry level and globally. İKMİB, which developed the Chemical Technology Center (KTM) project so that

the chemical industry can make a difference in R&D and innovation and increase added value, continues the necessary feasibility studies for this. It is planned that KTM, which continues to work entirely in line with the demands of chemical industry representatives and İKMİB member exporters, will respond to common needs from different sectors and provide services received from abroad. Within the scope of these services, it is planned to start related studies in these four areas, since the paint, rubber, plastic and cosmetics sectors are primarily determined in the needs analysis studies at KTM. However, in the future, it is envisaged that all sub-sectors of the chemical industry and all sectors that receive service related to chemistry will be served.

With KTM, which will provide the necessary infrastructure for especially small and medium-sized enterprises, which have difficulties in carrying out product development and testing studies because their R&D competencies are not at a sufficient level, many companies will be a pioneer in the development of value-added products. KTM will also act as a bridge by establishing a connection both within the relevant sector and between the sector and universities in terms of R&D, and with such a study, it will ensure that the existing resources are used more efficiently. With the coordination to be provided between universities and the sector, companies that lack R&D infrastructure will be able to provide guidance on the infrastructure opportunities and research topics of universities. As a result of the work to be done here, it will be aimed to develop alternative and domestic products that can be substituted for imported raw materials for the chemical industry. The added value of the chemical industry will increase with the innovative studies to be put forward. The R&D infrastructure and opportunities to work in this field, which KTM will

offer upon its activation, will provide services at more affordable prices than abroad. In this way, companies will have the opportunity to transfer more resources to R & D activities. Considering that testing costs abroad constitute a serious expense even for large-scale companies, the fact that small and medium-sized companies, which make up the majority of the sector, will also have the opportunity to benefit from KTM, will pave the way for increasing their R&D competencies. In this context, it will be ensured that the foreign currency paid in significant amounts for transactions made abroad remains in the country. For example, drinking water certification such as Wras in the paint and rubber sector, services that can be classified as the common needs of certifications such as Lloyd's in the shipping sector, and the fact that many services such as these will be available in Türkiye after KTM's commissioning will provide many advantages to companies. Thus, there will be an increase in efficiency with the provision of joint services, and at the same time, the sustainability of the demand for services will be ensured.

*Istanbul Chemicals and Chemical Products Exporters' Association will support its members' R&D and innovation studies with the launch of the Chemical Technology Center (KTM), for which it carries out feasibility studies. The added value will be increased in the chemical industry through the efforts in KTM by aiming for alternatives to imported raw materials and domestic production.*

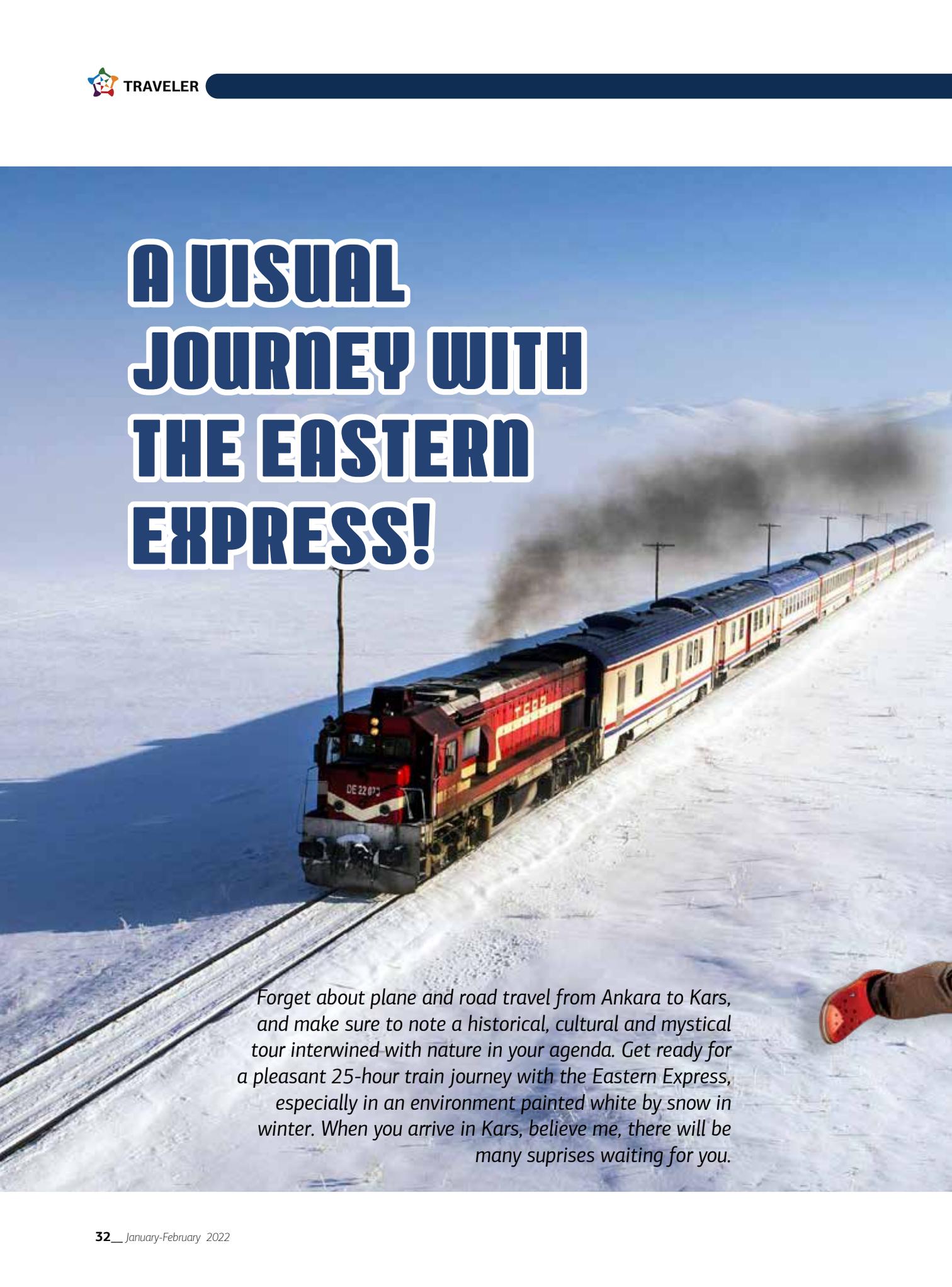
#### **KTM IS ESTABLISHED ACCORDING TO THE EXPECTATIONS OF INDUSTRY REPRESENTATIVES**

İKMiB, which always keeps R&D and innovation on the agenda for the chemical industry, listened to the voices of all segments by organizing surveys and workshops with the participation of its members for the establishment of the Chemical Technology Center. İKMiB carries out KTM activities by putting the expectations of its members in the foreground within the framework of the data revealed after these activities. Accordingly, based to the survey data of İKMiB, about KTM, which sees the needs of the chemical industry, the work in the field of test and analysis services came to the fore with a rate of 95 percent among the services expected from the center to be established. According to the survey data from KTM, another important detail was expected along with training services (67 percent) and certification services (63 percent). Thus, İKMiB will enable the testing and analysis that its members expect and need within the scope of the KTM project. At KTM, companies will

also be able to receive support for R&D studies, work to develop domestic alternatives for imported raw materials, and find the opportunity of university-industry cooperation.



# A VISUAL JOURNEY WITH THE EASTERN EXPRESS!



*Forget about plane and road travel from Ankara to Kars, and make sure to note a historical, cultural and mystical tour intertwined with nature in your agenda. Get ready for a pleasant 25-hour train journey with the Eastern Express, especially in an environment painted white by snow in winter. When you arrive in Kars, believe me, there will be many surprises waiting for you.*

Whether you skate on the frozen surface of Lake Çıldır whether you fish or visit the Ani Ruins under the white blanket of snow. If these are not enough, visit Türkiye's first cheese museum and have tastings here. If you wish, visit the monument of 90 thousand martyrs in Sarıkamış. The only adress for you to realize all these activities is to travel to Kars with the Eastern Express.



Ankara-Kars line, one of the most popular travel routes of recent years with the Eastern Express of the State Railways, is one of the favorite tours especially in winter months... Traveling on this line in other seasons of the year is also beautiful and enjoyable, but in winter natural beauties covered with a white quilt must be seen. The journey of the Eastern Express starting from Ankara and following the route of Kayseri, Sivas, Erzincan, Erzurum and reaching Kars at the end of its route, takes 25 hours. This route, which attracts the attention of adventure lovers, travelers and photography enthusiasts, has a rich content that will meet all expectations. Don't worry about the journey being 25 hours, because all kinds of possibilities are thought of on the Eastern Express, where there are pulman, covered bunk and dining wagons. If you wish, you can sleep in your bed in couchette wagons, and if you travel in pullmans, you can take a sleeping position by tilting your seat. In the dining car, you can watch the scenery by tasting the delicious breakfast dishes prepared by the chefs, or photograph the natural beauties if you wish.

#### THE TRAVEL BEGINS

The Eastern Express, which will offer a unique experience, starts its journey from Ankara by blowing its whistle at 17.55, if you are in the covered bunks and sleeping cars, it means you set off feeling like at home. You can also enjoy your tea and coffee in these wagons, which have the necessary facilities for your needs.



### FISH LIKE ESKIMOS IN ÇILDIR LAKE

Lake Çıldır, which is about an hour away from Kars by car, will be one of the different experiences for you. You can skate on the ice-covered lake or have a different experience with sleigh rides. If you want a more stable environment, you can only walk on the ice. Located on a peak at an altitude of 1960, Lake Çıldır also offers its visitors the opportunity to fish in Eskimo style with its depth of 42 meters. However, with the support of the local people, you can reach your goal by making skillful moves through the hole to be drilled on the ice.



If you are awake during the journey, except for night travel, you can witness the sunrise after passing Sivas. After the sunrise, you can enjoy the natural texture of Anatolia, the rivers, mountains and forests from the window of your wagon. After passing first Erzincan and then Erzurum, you will not be able to take your eyes off the enchanting view of Allahuekber Mountains. But right after, you will remember the touching story of Sarıkamış and you will feel the cold on your face that caused the 90 thousand Mehmeds who set out to fight the Russians in 1914 to freeze to death here. After these emotional moments, you will see that you have reached the Kars plateau where the Yahni Mountain is located in an environment where the Çam Mountains rise and you will find yourself in the center of the city.

### SEVEN THOUSAND YEARS OLD RUINS OF ANI

Ani Ruins is one of the must-see places in Kars after the fairy-tale Eastern Express journey. The historical city, which is included in the UNESCO World Heritage Tentative List, has hosted many civilizations and has seen many wars. Ani Ruins, also known as the 'City of 1001 Churches', is home to the works of period states such as the Armenian Bagratuni Dynasty, Byzantines, Karsaks, Seljuks, Georgians, and Ottomans within the walls surrounding the historical city. According to the findings obtained from the archaeological excavations, the history of the region dates back to 5 thousand BC.

It will be fantastic to visit the Ani Ruins with such a texture under the snow.

### WITNESS TO BALTIC ARCHITECTURE

Kars, after being under Russian occupation for 40 years after the Ottoman-Russian War of 1877-1878, also experienced changes in the city's architecture. The structures built by the Russians in this period added a different value to Kars apart from Ottoman architecture. Many buildings with Baltic Architecture features, with their façades designed from dark basalt stones and different roof types, have been restored today and serve the guests of the city as businesses such as hotels and restaurants. You can see it in buildings such as the Revenue Office, Provincial Directorate of Health, Fethiye Mosque, formerly known as Alexander Nevski Cathedral, and Kafkas University State Conservatory.

### SELJUK AND OTTOMAN TRACES IN KARS CASTLE

Kars Castle, one of the historical places of the city, has been on the highest peak of the city for centuries. The castle, which was built by the Saltuks of the Seljuk State in 1153, was restructured in 1579 by Lala Mustafa Pasha with the order of the Ottoman Sultan Murad III, after it was destroyed in various periods. The castle, which has three gates, Su, Kağızman and Behram, was destroyed during the Russian occupation and came to this day. Although it is a little difficult to reach the

castle, it is worth visiting for the visual feast this place offers you.

### **JOURNEY FROM KARS MUSEUM TO THE CHILLED STONE AGE**

Those who are interested in cultural trips should definitely include the Kars Museum in their program. While this city, which is the gateway of Anatolia to the Caucasus, is home to many civilizations, it is also important to keep this rich culture alive. The region, which is also on the route of the historical Silk Road, is home to many valuable artifacts. If you visit Kars Museum, you will be able to watch works of archaeological and ethnographic value here. Various objects such as Paleolithic artifacts, dinosaur bones, and Urartian Period finds will take visitors back to prehistory.

### **VISIT NAMIK KEMAL HOUSE**

Do not forget to visit the house where Namık Kemal, the master of Turkish literature, stayed with his grandfather during his childhood in the 1850s. It's claimed that this house and Kars were also influential in the development of Namık Kemal's passion for poetry and literature, who stayed here for about 1.5 years. Visit this house knowing that there is a 'lovers fight' from time to time. In fact, if you come across such a shootout, definitely watch it.

### **DON'T FORGET THE CAUCASIAN FRONT WAR HISTORY MUSEUM**

One of the places visited by those who visit Kars on the Eastern Express in terms of cultural trips is the Caucasian Front War History Museum. The museum has significant details with presenting the national struggle and foundation of Republic of Türkiye, including many valuable data from the decor to historical narrative, wax sculptures and letters.



### **YOU CAN TASTE AT THE CHEESE MUSEUM**

There is no one who doesn't know and taste Kars cheese! While you are in the city, don't forget to stop by the Ekomuze Zavot - Cheese Museum which is the first and only cheese museum located in Boğatepe, one of the village of Kars and remember to buy and taste stager and gruyere. While you are in Boğatepe, you may have breakfast with natural and organic products such as roasted meat, cheese, honey which are prepared by the villagers and Boğatepe Environment and Life Association.

### **SARIKAMIŞ MARTYRY IS VERY CLOSE TO KARS**

You can write a painful and emotional event in your memory at Sarıkamış Martyrs' Cemetery, that takes place in important pages of history and cannot be forgotten. In the martyrdom, you will feel the sad story of 60 to 90 thousands of Turkish soldier (Mehmetçik), who set out to retake Kars from the Russians in December 1914, and could not pass the Allahuekber Mountains in cold weather and froze to death.

Sarıkamış Martyrs' Cemetery, which is about an hour away by car and tells about such a sad event, should also be visited. You can even experience emotional moments by participating in the commemoration march organized by Kars Municipality every year in January.



### **SKI PLEASURE IN SARIKAMIŞ!**

With its crystallized snow quality, Sarıkamış, which looks like the ground of the ski resorts in the Alps, is among the first in the list of ski resorts in Türkiye. When you come to Kars and if you have a passion for skiing, you should definitely stop by Sarıkamış. Here, you can enjoy all kinds of winter sports as well as enjoy the magnificent natural beauties.



## BEHRUZ VATANDOST

# Creates a global brand from Tahtakale

Behruz Vatandost, one of the veteran names of the plastics industry, has been growing by becoming a giant in his industrial adventure that he started in 1956. Behruz Vatandost, carrying out its activities with the understanding of “Success or failure does not come by placing responsibility or blaming someone else. I am responsible in any good or bad situation”, has transformed Vatan Plastik into a brand that produces in five facilities, exports to 100 countries, and leads the ways in Türkiye. Vatandost shares its achievements for Chemist magazine readers.

### **Who is Behruz Vatandost? Can we get to know you briefly?**

I am originally Iranian Azerbaijani... I am 82 years old and still continue to work. I came to Istanbul to study, but I could not read. My brother was trading in sacks in Istanbul Asmaaltı. I started working with him. In 1956, a man from Kasımpaşa came and talked about the skirt

button business with press we continued the sack business and rented a place in Büyükkorhan numbered 51 in 1957. There we started making shirt buttons and rattles for children with presses. At that time, any color of scrap PVC tape was wrapped around the steering wheels... We also produced tapes from PVC. Then Master Vayonez was making a water hose machine at that time. We bought this machine. On the other hand, old booties were brought from Nevşehir and sold. We washed these booties pieces and started to produce plastic hose and PVC tape. In 1962, a master made a domestic film machine. We started the production of films from polyethylene for packaging. At that time, we had a workshop in Tahtakale. We made some progress with this packaging film production and expanded our business by moving to Rami. In 1972, we bought the 25 thousand square meter land in Kartal, which is our center now. In 1974, we established our facility and moved here.

THE PRODUCTION ADVENTURE OF BEHRUZ VATANDOST, CHAIRMAN OF THE BOARD OF VATAN PLASTİK, WHICH STARTED IN TAHTAKALE IN 1956, IS CROWNED WITH THE SUCCESS OF EXPORTING TO 100 COUNTRIES TODAY. VATANDOST, WHICH HAS ACHIEVED MANY FIRSTS IN THE PLASTICS INDUSTRY IN TÜRKİYE, CARRIES OUT ITS WORKS BY BELIEVING THAT THE RESPONSIBILITY BELONGS TO ITSELF IN ANY GOOD OR BAD SITUATION.

#### LEADING MANY WAYS IN TÜRKİYE

**You have more than 60 years of activity in the plastics industry; you are a doyen in the industry... What have you contributed to this industry?**

The Turkish Grain Board used to put a tarp for 36 liras per mistress to cover the wheat. At that time, we built a film machine in this sector in 1966, and the film, which was 4 meters with it, became 8 meters when it was opened. TMO bought a large amount of films from us for 150 cents per meter at that time. Both, us and TMO were profitable. On the other hand, we started to make greenhouse covers in 1966. Its thickness was 200 microns. I reduced it to 100 microns by researching and experimenting. We've reached semi-thinness. For example, instead of 100 tons of raw materials, 50 tons came.

Today, we are making this shrink 60 micron. In other words, Türkiye saves on raw material imports in this sense. Cost goes down. I also invented the ultraviolet. We tested this cover, which we took out as a UV-IR greenhouse cover, in Antalya Kumluca. I put normal film on the greenhouse on one side and UV-IR film on the other. One month later, we saw that the greenhouse with our UV-IR product started to yield a month earlier than the other, since it gives off heat at night. Production time is shortened as it takes the heat during the day and gives it away at night. We have made many innovations in the sector like these.

#### **Are these innovations a first in Türkiye? How did you develop these inspirations?**

I made these innovations first in Türkiye. I discovered it by researching and developing. As we reduce the import of raw materials, we contribute maybe 300-400 million dollars to the Turkish economy, we provide added value. We use our products for both domestic consumption and export. We export about 10 thousand tons per year. This year, we will export 75 million dollars. We sell our products to 100 countries from Vietnam to Mexico, from Kazakhstan to France.

#### **How much is your total production?**

We have five factories. Two of them are in Kartal, the others are in Tuzla, Ömerli and Bilecik, as well as our land was bought for a new facility in this city. Our monthly production in all our factories reaches 25-30 thousand tons according to the period. We manufacture products such as greenhouse cover, shrink film, stretch film for food, garbage bag, PE compound with calcite filled film, stretch hood.





*Behruz Vatandost is together with his employees.*

### “I AM RESPONSIBLE IN ALL CASES”

#### **What are your criteria that lead you to success?**

I achieved success with discipline. There are some values that I believe in. For example, “What you do not control is not yours”. So, since I am the owner of this company, everything should be asked from me. I have to control everything, no one else. Success or failure does not happen by placing responsibility or blaming someone else. Good or bad, the responsibility is mine. I owe my success to this perspective. For example, there are statements that I believe in. Such as “There is a

lot of work, there is no work according to your liking”, “The employee controls the lazy trusts”, “The only condition for success is that you will look for the wrong in yourself”... These are my words and I try to instill this understanding in our employees.

#### **As a doyen, where do you think the development of the chemical industry has come from since the 1960s?**

The chemical industry has advanced a lot. How can we improve our work, how can we do it cheaper and better? We are investigating these. We are looking at what we can mix and improve. We have been doing R&D since the past. In 1982, I brought an ‘aging test’ from abroad in order to extend the life of plastic. We started to extend the life of plastic. Türkiye is in the second position in the world in the plastics industry. So it is in a very good place. I can briefly summarize the point we have reached as follows.

Let me continue with a memory: I went to Japan in 1970. I bought the machine that shoots PP film for 20 thousand dollars, which Italy sold for 90 thousand dollars, and we made a similar machine here. The whole market started to make the same machines. Our progress in machinery in Türkiye is incredible. It has developed so much... Quality, qualified and cost-effective production is carried out in plastics, and many machines are produced and exported.

#### EXPRESSIONS FROM BEHRUZ VATANDOST

- “What you don’t control is not yours”
- “There is plenty of work, there is nothing for your taste”,
- “Employee controls, lazy trusts”,
- “The only condition of success is to look for the wrong in yourself”

#### VATAN PLASTIC’S FIRSTS:

- 1985: Werner Pfleider line came to Türkiye for the first time. Production of all additives of greenhouse cover
- 1972: Shrink production for the first time in Türkiye
- 1996: The first stretch production in Türkiye
- 2007: Production of calcite filled film PE compound for the first time in Türkiye

**As the plastics industry, could we create a world brand?**

For example, we sell goods to Kenya. They were also buying goods from Israel, but now they like our goods more. Nobody is bigger than us. I am a man who always looks for the wrong in himself. It is necessary to ask the world, not us, whether we can become a world brand. We can do whatever we want. I think we are among the world brands.

**“WE MUST ADVANCE WITH BIGGER TARGETS”  
Have we achieved our goals in the plastics industry as a country?**

Of course, achieving goals is not that easy. We set new goals every day. There is a world that is constantly renewing itself, and those goals are constantly changing, new ones are coming. Therefore, we must move forward by constantly raising the targets.

**What would you say about the qualified workforce in the sector?**

In Türkiye, you ask for a job without training. If you are going to employ a person, you will first teach and then ask him for a job. Education is very important... For example, there was a 60-year-old man in Germany who was making a sponge machine. He employed 200 workers. He said “I will come at 5 in the morning and give the work to the workers.” But there is no such thing in Türkiye. Employer means preparing the job and giving it to the worker. The owner of the job should prepare and give the job to the worker. While asking for a job from young people, there should be an understanding that will raise them in this direction.



**Behruz Vatandost with Nazenin Onur, Vatan Plastic Deputy Chairman of the Board of Directors and his daughter.**

**What do you do to relieve work fatigue and stress?**

I do sports every day when I wake up in the morning. I have my own exercises, I do them. I'm not leaving without making those moves. I warm up my body. Just as the machine does not work without warming up, so does the body...

**Is there a message you want to give about the industry?**

We do not look at what our competitors are doing. We are only trying to increase production and make a difference. Export is also essential. We have to do everything ourselves. We need to take advantage of global production. It is important to reduce costs and produce and sell this product everywhere...



**Behruz Vatandost carefully protects their first machines, which they started production in 1957 and laid the foundation of today.**

# PROF DR. AKKAYA: FOLLOWER OF THE STUDIES THAT ARE CONSIDERED UNSUITABLE IN TÜRKİYE



There is a famous question that little ones are always asked; “What will you be when you grow up?” Undoubtedly, all children immediately close their eyes with excitement and give answers such as “Football player” or “Soldier”. For Prof. Dr. Engin Umut Akkaya, the answer to this question was “Chemist” in primary school. Prof. Dr. Engin Umut Akkaya has managed to become one of the most important scientists in his field today by passionately pursuing the decision he made at a young age. The owner of many awards, including the ‘TÜBİTAK Science Award’, Prof. Dr. Engin Umut Akkaya is still working as a faculty member at Dalian University of Technology in China, contributes to the training of future chemists as the voice of Türkiye.

Prof. Dr. Akkaya, in the field of chemistry, is particularly interested in activable photodynamic photosensitizers,

changing the photodynamic action against new cancer drugs, information processing, that is, smart therapeutic agents and molecular studies. In 2009, he was awarded the TÜBİTAK Science Award for his outstanding work at the international level. Prof. Dr. Akkaya says, “I am conducting my research with the idea of what might be a work that will surprise people and leave a trace in 20 years.” Receiving The World Academy of Science (TWAS) Chemistry Award for his contributions to ‘overcoming the natural limitations of photodynamic cancer therapy’, Prof. Dr. Akkaya defends the view that “Chemistry is a field that not only shapes the way we live today but also defines our future”.

#### EVERYTHING STARTS AT A YOUNGER AGE

Sharing the information, “My interest in positive sciences and especially chemistry sprouted at a very early

HIS INTEREST IN CHEMISTRY STARTED FROM HIS PRIMARY SCHOOL DAYS. DR. ENGIN AKKAYA SAID, “CHEMISTRY IS A FIELD THAT NOT ONLY SHAPES THE WAY WE LIVE TODAY BUT ALSO DEFINES OUR FUTURE,” AND PURSUED STUDIES THAT WERE DEEMED IMPOSSIBLE IN TÜRKİYE.

### Who is Prof. Dr. Akkaya?

Prof. Dr. Engin Umut Akkaya was born in Istanbul in 1961 and after completing his high school education in Kadıköy Anatolian High School in 1980, he received his undergraduate degree from the Department of Chemistry at METU. He completed his MA and PhD at Ohio State University. Accepting the position of lecturer in the Department of Chemistry at Middle East Technical University in 1995, Prof. Dr. Akkaya returned to Türkiye and continued his work. Akkaya, who was promoted to professorship in 2003, took office at Bilkent University in 2007. Since September 2018, Akkaya has been continuing his research at the Pharmaceutical Science and Technology Laboratory at Dalian Technology University in China. Akkaya, who is also a member of the Academy of Sciences, was selected as a Fellow of the Royal Society of Chemistry by the United Kingdom (U.K.) Royal Society of Chemistry in 2014.

age, in primary school”, and said in an interview, “My curiosity changed from being childish to being scientific in a short time. In the fourth grade of primary school, I bought sulfur and saltpeter (potassium nitrate) from herbalists, completely on my own. I made gunpowder by mixing them with charcoal, which I had pulverized in various proportions. My goal was to build a solid fuel rocket. What strikes me today is that I found out what this material is and where to buy it, and went to the herbalist in Üsküdar bazaar myself as a 10-year-old child, and the fact that I had done secret combustion-exploration experiments alone in the garden of our house. In as little as a year, my experiments became even more chemical. Among those I synthesized before I finished primary school to see what they were like were iodoform, ethyl acetate, acetylene, diethyl ether, and phenol. Each of them had characteristic odors; That’s how I knew what I was getting. Moreover, I was doing all of this on my own when I was 11 years old. When my demands started to increase, my father started to work as my assistant. This is how chemistry attracted me.”

With his interest in chemistry, in 1979, when he was in the second year of high school, Prof. Dr. Akkaya participated in TÜBİTAK project competitions and received the second prize in the first year with Fredrick Wöhler’s





## Some important researches of Prof. Dr. Akkaya:

- ▶ He found “new stimulants that can be stimulated with red light” that allow cancer drugs to be transported to the tumor area and to act only on the tumor area without harming healthy areas of the body.
- ▶ The synthesis and characterization of nanotechnology-based molecules that can be developed as drugs, which greatly increases the effectiveness of the photodynamic therapy method, which is shown as a hope in cancer treatment, was awarded the TÜBİTAK Science Award.
- ▶ Molecules, which are one of the smallest building blocks of matter, made mathematical processing possible, leading to the development of information-processing (automaton) medicines.
- ▶ In recent years, it has changed the 120-year paradigm of photodynamic therapy and developed a series of new compounds that give the same therapeutic effect without the need for oxygen and light.

Source: *Bilkent Journal and Science and Technical Journal*

project on “Protein synthesis from inorganic substances”, which he presented in order to take urea synthesis one step further. Re-joining the same competition a year later, Prof. Dr. Akkaya also won the first prize this time with his project “Autocatalytic condensation of formaldehyde and evaluation of the product”.

### **PIONEERING RADICAL DEVELOPMENTS IN MEDICINE AND PHARMACY**

While it is known that chemistry is in a central position among all sciences and studies the properties and transformation of matter, Prof. Dr. Akkaya says that he believes that basic science studies are very important for this reason. “The topics should not be chosen with career concerns, but in a way that will create great innovations, important contributions and results in order to truly understand nature. Because we all love nature. When we think of nature, we all think of endless greenery, flowers, cute animals, and sparkling streams. For some reason, we never think about the cold 40 degrees below zero, the storms, the chilling darkness of the night, the wild animals after us, hunger, microbes that can kill us at the slightest infection, cancer. However, they are all parts of the same nature. Along with these, chemistry; It protects us from the arbitrariness of nature by providing a roof over us, warm

clothing, abundant agricultural products, medicines, heating and much more. In fact, we think that nature is a beautiful thing, thanks to the results of chemistry. If this distinction is not made correctly, basic sciences are ignorantly despised. In this context, a large part of our work leads to radical developments in the field of medicine and pharmacy.”

Sharing information about the research area, Prof. Dr. Akkaya said, “My research area is about what organic molecules do after they are excited by light. The most convenient way of transferring energy to molecules is to enable the molecules to interact with light. Thanks to their high energies, excited molecules formed after this energy is transferred, can provide benefits in a wide range from cancer treatment to new generation solar cells. Our most prominent research is drug prototypes that are activated when critical thresholds are exceeded by monitoring the surrounding health-related parameters.”

Prof. Dr. Akkaya mentions that in order to be a successful scientist, first of all, determination and motivation, and persistence are required. “Despite their difficulties, we should not forget the excitement of the day when we got the first positive test result, over a career. A

vision must be needed to see innovative and creative topics besides a successful period of doctorate and post-doctorate research for being a good researcher. said Prof. Dr. Akkaya, pursued research that was deemed impossible in Türkiye for many years. However, he still carries out his studies in China, believing that in 2018, the limited research opportunities in Türkiye, and the proposals coming from abroad will provide much more opportunities for his scientific research.

## Awards received by Prof. Dr. Akkaya:

- ▶ Parlar Foundation Incentive Award in 1995
- ▶ TUBITAK Incentive Award in 1999
- ▶ Parlar Foundation Science Award in 2005
- ▶ TUBITAK Science Award in 2009
- ▶ TEB-Pharmacy Academy Science Award in 2017
- ▶ COMSTECH Chemistry Award in 2017
- ▶ Elginkan Foundation Technology Award in 2018
- ▶ TÜSEB-Aziz Sancar Science Award in 2018
- ▶ Czarnik Award in 2018
- ▶ TWAS (The World Academy of Science) Chemistry Award for 2022,



# ORGANIC CHEMICALS INDUSTRY FOCUSES ON ONE: BILLION DOLLARS IN EXPORTS

*The organic chemicals sector increased its exports by more than 83 percent in the January-November 2021 period compared to the same period of the previous year, exceeding 830 million dollars in foreign sales. The new target of the industry is to exceed one billion dollars and make it sustainable.*



2021 JANUARY-  
NOVEMBER PERIOD  
EXPORTS  
**830**  
MILLION \$

MOST EXPORTED  
COUNTRY: ITALY  
**141**  
MILLION \$

MOST EXPORTED  
MONTH: AUGUST  
**93**  
MILLION \$

**ORGANIC CHEMICALS TÜRKİYE MONTHLY EXPORT DATA**

	2019	2020	2021
Month	Value FOBUSD	Value FOBUSD	Value FOBUSD
01-January	50.687.392	62.815.297	60.880.959
02-February	51.093.395	26.326.789	46.571.091
03-March	44.172.099	37.614.192	70.408.836
04-April	47.402.467	25.499.346	68.791.262
05-May	58.884.715	29.657.377	71.255.035
06-June	41.691.784	28.954.130	79.140.726
07-July	58.914.719	39.147.282	71.939.918
08-August	64.453.762	39.604.566	93.971.947
09-September	46.371.715	40.367.307	86.836.774
10-October	46.703.247	60.767.481	91.030.788
11-November	34.306.674	62.204.758	89.294.245
<b>TOTAL</b>	<b>525.581.602</b>	<b>452.958.527</b>	<b>830.121.582</b>

Although the organic chemicals industry, which plays a very important role in the chemical industry, is not well known among people because it does not reach the end consumer. However, in reality, it supplies raw materials or semi-finished products to the products used indirectly by every household and most consumers. Organic chemicals are used in many fields such as medicine, drug, petrochemistry, paint, cosmetics, textiles, agriculture, as they contain the carbon element and carbon compounds that give a large number of compounds. Foreign sales of the organic chemicals sector also play an important role in the chemical industry's achievements in exports in 2021.

While the organic chemicals industry increased its exports at high rates as of January-November period in 2021, compared to previous years, it also provides raw materials for many industries. According to the data of the Istanbul Chemicals and Chemical Products Exporters' Association (IKMIB), the organic chemicals sector, which achieved foreign sales of more than 525 million 581 thousand dollars in 2019, realized an export of 452 million 460 thousand dollars in 2020 with a loss of 16.84 percent. While the pandemic period was undoubtedly effective behind the export loss in this period, although there were problems in many areas in the process, the figures revealed by the industry still show that this difficult period was successfully managed. The year in which the organic

chemicals industry explodes in exports is 2021. The organic chemicals industry, which achieved an increase of 83.27 percent in the January-November period of 2021 compared to the same period of 2020, gives the good news of a new record with its exports exceeding 830 million 121 thousand dollars in the 11-month period.

**MOST EXPORT TO INDUSTRIAL GIANT ITALY**

In the organic chemicals industry, which is led by Petkim, one of the important representatives of the industry, and to which approximately 2000 companies export, Turkish products are of the desired quality, while the demand from all over the world attests to this success. Exports to approximately 170 countries, from the USA to Egypt, from Greece to China, from Brazil to Qatar, reveal the market network reached by the organic chemicals industry. In the January-November period of 2021, the sector manages to realize the highest export to the industrial giant Italy, with an increase of 124.3 percent compared to the previous year and 141 million 29 thousand dollars. Greece follows Italy with an increase of 53.54 percent and 67 million 119 thousand dollars in the same period. Spain ranks third in the same period, with a high rate of increase of 167.41 percent and purchasing 53 million 218 thousand dollars of organic chemical products. These countries are followed by Portugal, the United Kingdom, the United States, Egypt, the Netherlands, Bulgaria and Libya, respectively, in terms

of the top 10 export markets. Considering the country-based export data of IKMIB; In the same period, sales of 22 million 644 thousand dollars with a growth rate of 2 thousand 78% to Libya, which stands out especially with its increase rate, do not go unnoticed. On the other hand, exporting 37 million 600 thousand dollars to the United Kingdom within the scope of an increase rate of 260 percent symbolizes the success of the industry. In addition to these successful figures, the interesting export figures are also reflected in the data. For example, symbolic sales of 37 dollars to Papua New Guinea, 40 dollars to Niger, 73 dollars to Gambia and 105 dollars to Iceland show that the exporter reaches every market without hesitation and without hindrance.

#### AUGUST: THE MOST FERTILE MONTH IN EXPORTS

In 2021, the organic chemicals industry sold abroad in the following month: exports reached 93 million 972 thousand dollars in August. This month, compared to the same period of the previous year, there is an increase of 137.28 percent. When monthly data are analyzed, the month of January, which experienced a decrease of 3 percent in exports compared to the same period of the previous year and foreign sales of 60 million 880 thousand dollars, stands out. On the other hand, the month with the highest growth in 2021 is June with a rate of 173.33%.

#### DIOCTYL TEREPHTHALATE AND BENZEN BY STRONG LEAD ON PRODUCT BASIS

Diocetyl terephthalate takes the first place in 2021 when it is analyzed on the basis of product group in exports. According to IKMIB data, this product manages to increase its exports by 278.14 percent



in the January-November period of 2021, compared to the same period of the previous year, to 142 million 479 thousand dollars. Diocetyl terephthalate is followed by benzene (benzol) with a growth of 86.76 percent in the same period and a sales volume of 128 million 746 thousand dollars. These products, which take the first two places, are far ahead in exports compared to other products. These are followed by ethylene glycol (ethanediol), ethyl acetate, propene, and pentaerythritol, respectively. Accordingly, in the same period, ethylene glycol stands out with 38 million 305 thousand dollars, ethyl acetate 34 million 206 thousand dollars, propene 29 million 231 and pentaerythritol 27 million 202 thousand dollars.

#### TOP TEN COUNTRIES IN ORGANIC CHEMICALS EXPORT

	2020	2020	2021 (January-November)
Country	Value FOBUSD	Value FOBUSD	Value FOBUSD
Italy	87.766.802	62.876.141	141.029.508
Greece	43.567.647	43.715.219	67.119.003
Spain	19.400.397	19.901.190	53.218.264
Portugal	25.884.387	19.391.716	48.585.053
United Kingdom	11.473.533	10.454.185	37.600.839
United Kingdom	69.064.082	41.501.143	37.524.199
Egypt	13.213.455	18.116.903	33.727.651
Holland	15.895.010	19.759.811	32.558.390
Bulgaria	14.128.526	11.463.244	29.854.200
Libya	8.362.674	1.039.467	22.644.642



2021 GROWTH  
EXPECTATION  
**%45**

BUDGET  
ALLOCATED TO  
INVESTMENT IN 2021  
**30**  
MILLION EURO

EUROPE'S 4TH LARGEST  
MANUFACTURER OF  
WET WIPES:  
**SAPRO**

STANDING OUT WITH ITS PRODUCTS IN MANY AREAS FROM HAND AND SURFACE DISINFECTANT WIPES TO ANTIBACTERIAL WIPES, FROM HOUSEHOLD CLEANING TO BABY AND PERSONAL CARE PRODUCTS, SAPRO TEMİZLİK ÜRÜNLERİ VE SANAYİ TİCARET A.Ş., CONTINUES ITS INVESTMENTS AS EUROPE'S FOURTH LARGEST MANUFACTURER, ESPECIALLY IN WET WIPES PRODUCTION.

In a period when personal care and hygiene stand out, Sapro Temizlik Ürünleri Sanayi ve Ticaret A.Ş., is the fourth largest producer in Europe of wet wipes production. The company stands out in many areas including Türkiye's 45 percent high employment rate for women and a 2 percent share of its R&D investments. The company is on the way to become a global brand in its production journey that started in Istanbul Silivri since 1997. The medium-term goal of the company is to make headlines in Asia and the Middle East. The company has expanded with the commissioning of a new facility in Bulgaria, a storage network in Europe, and expanding operations in Africa and the United States.

Sapro Temizlik Ürünleri Sanayi ve Ticaret A.Ş., Ceyhun Zincirkıran, Chairman of the Board of Directors, reminds that despite their export-oriented structuring, they have been producing for the domestic market for the last 21 years for Türkiye's big retail companies and brands. Stating that they have a wide range of products including hand and surface disinfectant wipes and antibacterial wipes, home cleaning, baby and personal care, vehicle care, patient care, pet care, industrial use products, Zincirkıran said, "As Sapro, we produce in private label area and we dominate 40% of the market. We work with a strong vertical integration system within



**Ceyhun Zincirkıran, Sapro Temizlik Ürünleri Sanayi ve Ticaret A.Ş., Chairman of the Board of**

our group. We produce parcels and display cases in our Tetra factory, plastic production in our Multipak factory, and nonwoven fabric, which is the raw material of wet wipes, in our Lotus Technical factory".

Emphasizing that their production capacity is 120 million leaves per day and that the turnover of the companies within the group has increased by 40 percent compared to 2019, Zincirkıran said, "This year, we aim to grow by 45 percent compared to 2020. Sapro is an export-oriented company. We foresee the ratio of exports to turnover to be between 75-80% in 2021. We are currently exporting to more than 70 countries in 6 continents. Our main foreign market is Europe. Since 1997, we have been advancing mainly in Europe. We have a sales office in England to improve our exports in Europe. In addition, we have 9 warehouses in Europe in order to provide regular and fast service based in Türkiye".



### OPENING TO EUROPE WILL BE THROUGH BULGARIA

Expressing that they give great importance to Europe, Zircirkiran reminds that as Sapro, they have been developing new expansion plans for this market for several years and that they have decided to open a factory in Bulgaria in 2020. However, Zircirkiran, stating that they had to postpone this opening due to the pandemic, says that they did not give up on their goals in Bulgaria, and that they started their factory in the first month of 2021 and continues: only 300 kilometers away from our facilities in Silivri. It has saved us a lot in terms of both time and costs. We aim to increase our annual production of 45 million packs of wet wipes in this factory further in 2022. On the other hand, in order to expand to the African continent in 2021, we established a sales team responsible for South and East Africa. In addition to these, our most important export target for 2022 is to grow in the United States. We established a company under the name of Sapro USA for more effective work. In the next three-year plan, we aim to grow further in Asia and the Middle

East out of American continent. Expressing that they are among the most important players of the sector in this field, especially since they are one of the four largest manufacturers of wet wipes in Europe, Zircirkiran states that they constitute an important criterion in the competition race in this context.

Noting that they provide products of high quality and above a certain standard to both the Turkish and global markets, Zircirkiran said, "In order to achieve these, we, as Sapro, work on the basis of R&D and we allocate approximately 2 percent of our investments to R&D every year. In this context, we carry out important scientific studies in our laboratories on being biodegradable of wet wipes in nature and we are working on projects to reduce carbon emissions. The power of global competition is R&D and innovation. In order for our country to catch up with the world's technology, it needs to pay attention to activities such as product development, designing new products, developing production methods/processes, and designing new methods. Along with these, it is very important to be able to produce the science that is the source of technologies. As Sapro, while we continue to develop



*We had allocated an investment budget of 30 million euros for 2021. We planned to use a large part of this budget for the production of environmentally friendly wet wipes with export investments, and we achieved this to a large extent.*

cooperation with different solution partners globally, we continue our growth in global markets with our special studies that we have developed for the environment and environment-friendly products for the changing world as well as standard products.

#### **“THE PANDEMIC HAS INCREASED INTEREST IN OUR PRODUCTS”**

Reminding that the pandemic deeply affected all sectors in 2020 and 2021, Zincirkiran said, “However, during this period, there has been a great increase in demand for hygiene sector products. In order to meet the intense demand, we have made machinery investments in the country and abroad to increase our capacity by 30-35%. In addition, we made a new line investment in our Lotus company to strengthen our spunlace production. We had allocated an investment budget of 30 million euros for 2021. We planned to use a large part of this budget for the production of environmentally friendly wet wipes with export investments, and we achieved this to a large extent. Zincirkiran, emphasizing that the pandemic has made environmental and sustainability issues a priority, states that they, as Sapro, will also invest in this direction. In this context, Zincirkiran, who stated that they received an investment loan with the joint venture of the EBRD and the Turkish Industrial Development Bank for the production of nature-friendly ‘biodegradable’ wet wipes in November 2020, said: With this credit, the installation of high technology machines has begun for the production of wet wipes which are biodegradable, environment friendly and supporting sustainability. We aim to put our new line into operation in 2022”.



#### **“SUSTAINABILITY IS ONE OF OUR PRIORITY TOPICS...”**

Expressing that sustainability is one of the top priorities especially due to the sector they are in, Zincirkiran said, “As Sapro, we prepared our first ‘Sustainability Report’ in 2020. In order to make our priorities a reality, we are taking an important step towards environmental awareness with the production of biodegradable wet wipes. In addition, this year, we signed a joint social responsibility project with Turmepa – DenizTemiz Association, one of the leading non-governmental organizations in Türkiye operating in the field of environmental awareness. Together with our employees, we carried out coastal cleaning in Silivri region in order to draw attention to environmental cleanliness. In the coming period, we will undertake new projects both with the association and with other institutions.”

#### **45 PERCENT OF EMPLOYEES ARE FEMALE**

Expressing that as Sapro, they provide 850 employment within their organization, and that they have microbiology specialists, chemists and chemical engineers, graduate and undergraduate employees in R&D, P&D, microbiology laboratory and analysis laboratories, Zincirkiran draws attention to the fact that they provide women with a positive privilege. “The high number of female employees at Sapro is another source of pride for us. While women make up 45 percent of the employees, this rate reaches 55 percent among white-collar employees. We foresee a 12% increase in employment with the investments we will make in 2022,” said Zincirkiran, and informs that the growth targets will continue.

Reminding that Türkiye is a very strong country and that it has brought many important brands to the world from textile to food, from hygiene to cosmetics, Zincirkiran states that as Sapro, they are an important brand, especially in Europe. Emphasizing that it is a must to follow technology and science closely in order to become a global brand, Zincirkiran said, “We carry out important studies in terms of both R&D and strategy in order to rank higher, first in Europe and then in the world. Digitalization is one of the important steps of this... By completing Industry 3.0, we accelerated our digitalization projects in all processes within the scope of Industry 4.0. We believe that 2022 will be a year in which we will make much bigger breakthroughs.”