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KATİM A.Ş. FIRST IN TÜRKİYE!

KTM

CHEMICAL TECHNOLOGY CENTER

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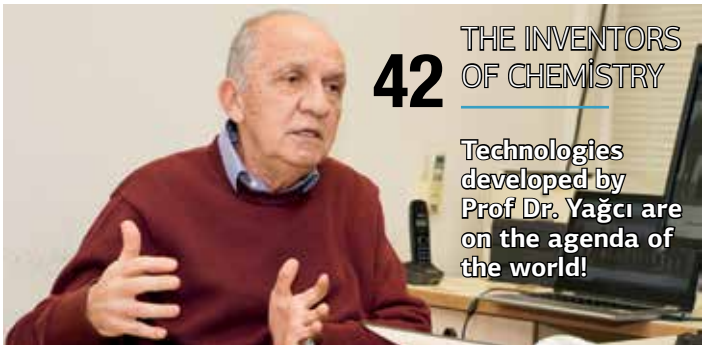

Message From The President

DATA, KNOWLEDGE AND BUILDING THE FUTURE...

Knowledge is the way we perceive concrete or abstract truths beyond its general definitions.

In general, there is a difference between fact and truth. Truth is relative, while truth is what is.

If we say that there is no sun in a dark night, this proposition is true, but not true. Because when the sun comes up, the sun is clearly in front of us.

Although we sometimes use information synonymously with data, this too is relative; because information can actually turn into meaningful information with the correct analysis of the data. So, we can say that when the data is raw, the information is the processed form of the raw.

In short, data is the name given to each of the multifaceted elements that do not have a meaning on their own, but that surround or frame information on the way to truth with a correct analysis.

In the new digitalized world order, data and information are now of great importance.

While accessing each and every one of the data and analyzing the collected data in order to create information in the previous eras covered long periods of time, collecting data now takes place in much shorter periods, starting from the 20th century and in the 21st century.

In particular, the rapid development of computers and, accordingly, communication technologies has created data science. While accessing data was no longer a problem, it gave rise to another area that we had to deal with. We define this field as the discipline of 'Data Analysis'.

With the development of communication and satellite technologies, there is such a rapid and large flow of data that our perceptions are no longer able to comprehend which is right and which is wrong.

At this point, the analysis of the data is more important than the data itself.

If we want to explain this situation with information, we can now collect and classify the data ourselves and create the information ourselves, while we were learning the information that was created and classified by others in the past.

It is a great advantage, but still finding the truth and the truth is still problematic...

Because the question of whether we have the information capacity to analyze the data correctly is stuck in our minds.

So, I think we wouldn't be making a mistake if we created a definition that data and information are processes that feed each other.

The digitized world is undergoing a holistic global transformation. Everything is moving very fast and very fast.

The invention of the computer and the internet in the last century, and Industry 4.0, which was introduced at the beginning of this century, has triggered a brand new economic era.

Again, the concept of Society 5.0 put forward in relation to this, tries to make it possible to create a social society that is compatible with developing technologies.

While the states, civil society and business world create the common ground in the realization of these opportunities, they have to establish this new Digital Society by taking advantage of the similarities and differences.

As a result, it is in our hands to be the playmakers of progress and the new order by obtaining and analyzing data and information in the most accurate way possible.

While the Digital Society stands before us as an undeniable reality, we have to fulfill our responsibilities as the business world. Only in this way can we progress and develop, and only then can we lay the foundations of such a new 'Information Society'.

Adil PELİSTER
İKMİB President

Awards were given to 170 companies that contributed the most to chemical exports

Successful companies that have achieved an 11.2 percent share in Türkiye's total exports in 2021 and contributed to becoming the second largest foreign sales industry have been awarded by the İstanbul Chemicals and Chemical Products Exporters' Association.

Successful exporting companies in the chemical industry, which added momentum to Türkiye's exports, were awarded. The chemical industry, which includes 16 sectors ranging from plastics to paints, cosmetics to pharmaceuticals, took an 11.2 percent share of the country's exports in 2021 and achieved a record foreign sales of $ 25.4 billion. This figure shows that there was a 39 percent increase in exports compared to the previous year, while the companies that contributed to this success and entered the rating were awarded by the İstanbul Chemicals and Chemical Products Exporters' Association (İKMİB) for incentive purposes.

2021 İKMİB Stars of Export Award Ceremony, organized by İKMİB for the seventh time this year and held online, was attended by Deputy Minister of the Ministry of Trade Rıza Tuna Turagay, Deputy Minister of the Ministry of Industry and Technology Mehmet Fatih Kacır, Chairman of the Turkish Exporters Assembly (TİM) İsmail Gülle, İKMİB President Adil Pelister and representatives of the companies receiving the award. Within the scope of the award ceremony, awards were given to 170 companies that ranked in the top 5 in a total of 34 categories in the sub-sectors and product groups of the chemical industry.

Speaking at the event, Deputy Minister Turagay said that Türkiye recorded a 32.9 percent growth in total exports in 2021, while the chemical industry achieved great success by rising above this by 38.8 percent. In his speech, Deputy Minister Kacır touched upon the importance of the chemical industry and recalled that it has made very critical contributions to the development of many sectors and has provided 77 of the 100 products it produces as inputs to other sectors. TİM President Gülle also emphasized the importance of the chemical industry in the success by stating that they closed 2021 with a great record in exports and that they aim to complete this year with 250 billion dollars..

"WE ARE READY FOR DIGITAL TRANSFORMATION"

Reminding that they streamed the 2020 award ceremony online and on digital platforms due to the pandemic, İKMİB President Adil Pelister emphasized that they organized the first digital purchasing committee, the first virtual fair organization, and the first digital 'Chemistry Industry Council' together with the Chemistry Industry Platform and that they were prepared for digital transformation. Stating that they have determined the 'Vision 2030' strategy for the new era in chemical exports, Pelister said in his speech, "Our goal is to increase our exports to the level of 50 billion dollars in 2030 and to place Türkiye first in exports on an industrial basis."

Export records from the chemical industry in April

The chemical industry broke an important record by exporting 3.3 billion dollars in April. In the first four months of 2022, the chemical industry, which grew by 44.7 percent compared to the same period of the previous year, realized foreign sales of 10.8 billion dollars in this process.

According to the data of the İstanbul Chemicals and Products Exporters' Association (İKMİB), the chemical industry achieved a record $3.3 billion export in April. The chemical industry, which rose to the leading industry position in March, maintained this title in April as well. Exports of the chemical industry grew by 53 percent compared to last year. Total exports in the first four months of this year, on the other hand, increased by 44.7% and reached 10.8 billion dollars.

Evaluating the export figures of the chemical industry in April, President of İstanbul Chemicals and Products Exporters' Association, Adil Pelister said, "As the chemical industry, our export performance continues to increase. We have been the leading industry in exports for two consecutive months. We broke our new export record on a monthly basis with 3.3 billion dollars in April. While our exports increased by 53 percent in April, our exports in the first four months increased by 44.7 percent and reached 10.8 billion dollars.

In April, we exported mostly mineral fuels, mineral oils and products, plastics and their products, and inorganic chemicals. The top three countries to which we export the most were the Netherlands, the USA and the Republic of South Africa. As long as we continue with this performance, we believe that we will easily exceed our year-end target of 28 billion dollars. On the other hand, the pressure exerted by the Russia-Ukraine crisis on commodity and energy prices indicates that rising prices will continue in this way for a long time. In addition, the pressure of global inflation is an important factor affecting us. Despite these challenging conditions, our exporters are trying to seize opportunities for countries such as the European Union and the USA to seek alternative suppliers. The fact that our Turkish products meet the increase in demand in these target markets is also reflected in our export figures. As İKMİB, we aim to produce high value-added products and raise our companies to a more competitive position with the Chemical Technology Center (KTM), which we plan to commission by the end of this year. Our goal will be to reach the first place permanently in the industrial sense in 2030, to increase our total exports over 50 billion dollars and our unit kilogram export value to over 1.5 dollars," he said.

138 Turkish companies took part in the Arab Health fair

138 Turkish companies participating in the Arab Health fair, which İKMİB organized as a national participation organization for the third time, sought the opportunity to open up new markets by exhibiting their products.

138 Turkish companies participating in Arab Health 2022 Fair, which brings together the important players of the medical sector in the world, had a show of strength here. İKMİB , the İstanbul Chemicals And Chemical Products Exporters' Association which organized the national participation organization for the third time in the Arab Health Fair held on January 24-27, 2022 in the United Arab Emirates, has created opportunities for Turkish companies in their search for new markets.

The newest products for the health sector such as medical equipment and devices, disposable products, consumables, surgical equipment, orthopedic products, medicines and supplements were exhibited at the Arab Health Fair, the largest organization in the Middle East in its sector. Commenting on the fair, İKMİB President Adil Pelister said, "While 35 companies participated in the Arab Health Fair, which is the largest event organized in the health sector in the world, in 2022, under our national participation organization, 103 companies participated individually. While the main theme of the fair this year is the transformation in health, we can call this transformation 'digital data dominance'. In today's world, digital transformation is very closely related to the health sector, as it affects every aspect of our lives. From this point of view, we can say that transformation and digitalization is a process that accompanies all areas of the health sector, from production to consumption, from the patient's entrance to the exit from the hospital. While this process brings advantages such as time and cost savings in all aspects, it also conduces to the exponential increase in technological development."

Reminding that the pharmaceutical industry realized an export of 1.43 billion dollars in 2021 with an increase of 19.41 percent in value compared to the previous year, Pelister said, "Our pharmacy industry, which has the highest export kilogram unit value of 19.35 dollars among our sub-sectors, provides high added value to our country. It is one of the leading areas."

In addition to Pelister, Türkiye's Ambassador to Abu Dhabi Tugay Tunçer, Dubai Consul General Mustafa İlker Kılıç, İKMİB Medical Committee Chairman and Accountant Member Tayfun Demir, İKMİB Pharmaceuticals Committee Chairman and TİM Delegate Orhan Mutlu Topal, İKMİB Board Advisor Mehmet Ahmet Ünlü, İMMİB Secretary-General Dr. Selahattin Armağan Vurdu and Deputy Secretary General Aydın Yılmaz also attended and visited exporting companies and conveyed their wishes for success.

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Dental health and materials industry met at AEEDC fair

Türkiye participated in the AEEDC Fair, which stands out as the world's 2nd largest fair in the field of dental health materials and equipment, with a total of 36 companies, 18 within the scope of the National Participation Organization and 18 individually. AEEDC, which is one of the largest fair organizations in the Middle East, South Asia and North Africa Region, was held at the World Trade Center in the Emirate of Dubai. Many products related to the sector such as dental materials, instruments and equipment, dental technologies, dental laboratories, braces, filling materials, oral hygiene products, sterilization equipment, disposable materials, x-ray machines and accessories were showcased at the fair. Participating companies had the chance to establish new business connections at the fair, which also attracted great interest from Turkish companies.

At the AEEDC Fair, Deputy Minister of Trade Rıza Tuna Turagay, Türkiye's Consul General in Dubai Mustafa İlker Kılıç, INDEX CEO Anas Al Madani, İKMİB Board Member Ahmet Faik Bitlis, İKMİB Board Advisor Mehmet Ahmet Ünlü, DİŞSİAD President Erkan Uçar and DİŞSİAD Secretary General Erol Soydan came together with the participating companies and wished them success. On the second day of the fair, B.A.E. Deputy Prime Minister Sheikh Saif bin Zayed Al Nahyan and B.A.E. The officials of the Ministry of Internal Affairs also visited the İKMİB stand and received information about Turkish products.

Türkiye was the focus of attention of Latin American visitors at Expocomer

Expocomer 2022 General Trade Fair, which is among the most important fairs for Latin American countries, was held in Panama City. 18 participant companies took part in the fair, which was organized for the third time by the Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB), the national participation organization of Türkiye. The companies, which had the opportunity to introduce Turkish products to the Latin American market, had the opportunity to cooperate with professional buyers mainly from Latin American countries. The Turkish Pavilion, the largest country pavilion at the fair, managed to become the focus of attention of Latin American visitors. In the 360 square meter Turkish pavilion, the newest products and brands in the cosmetics, personal care, cleaning, household and kitchenware sectors were introduced to potential buyers.

Making evaluations about the fair, Adil Pelister, President of İKMİB, said, "Approximately 500 participants took part in Expocomer, which hosts many sectors from consumer electronics to pharmaceuticals, from medical devices to household goods, from furniture to clothing, from jewelery to sports equipment, from foodstuffs to technology. Our chemical industry exports to Latin American countries took a 13.4 percent share last year, reaching 724 million dollars. We will continue our support to increase the exports of our industry."

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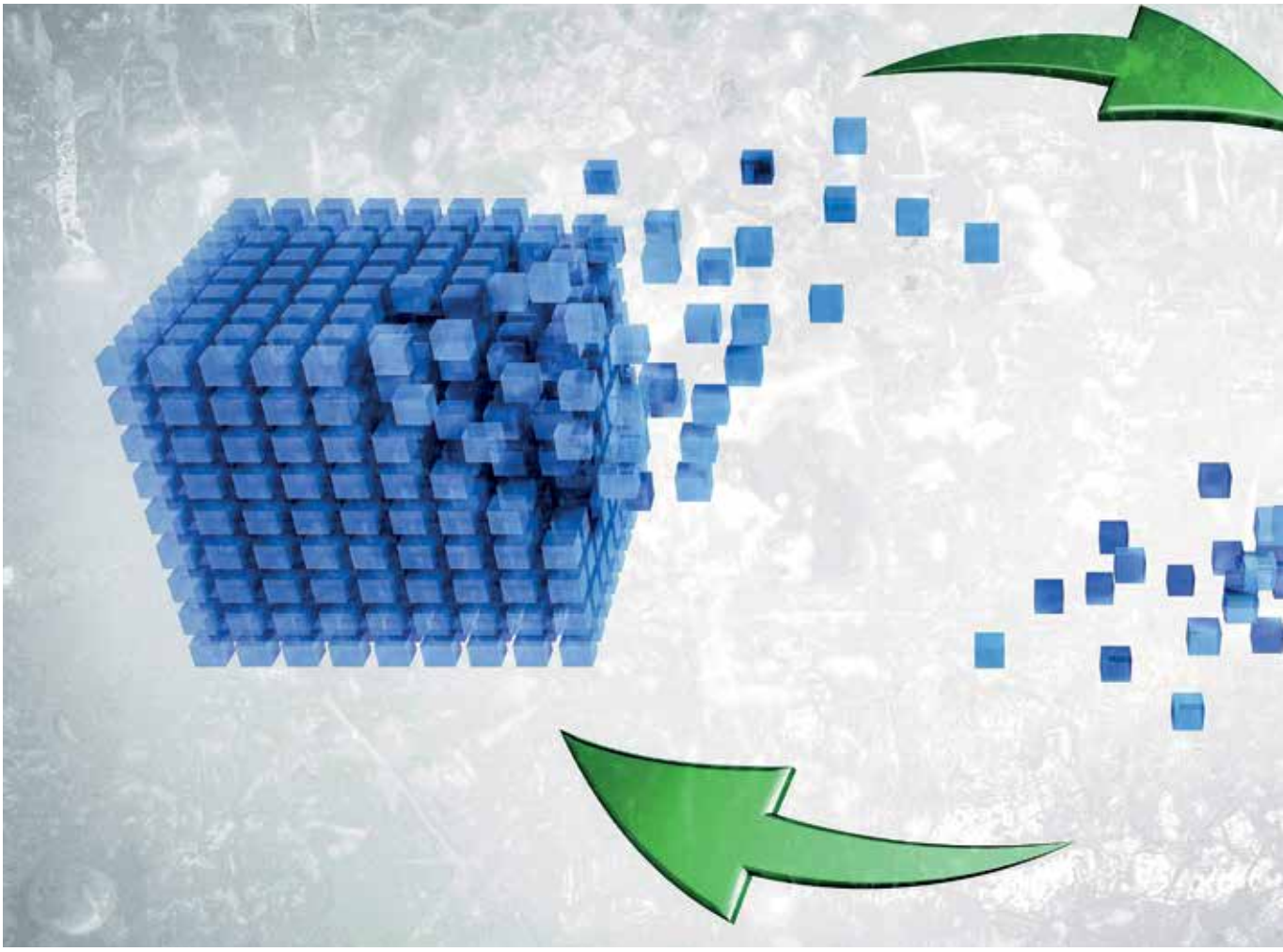
THE NEW CAPITAL OF COMPANIES IN THE DIGITALIZING WORLD: DATA!..

In a world where all kinds of transactions are digitized, data management also increases its importance. Companies that achieve success in business processes with data management, which is defined as the collection, storage and use of data in a safe, efficient and cost-effective way, also come to the fore in creating value. Data management, which is also defined as a new type of capital for companies in the digital world, provides significant advantages over competitors.

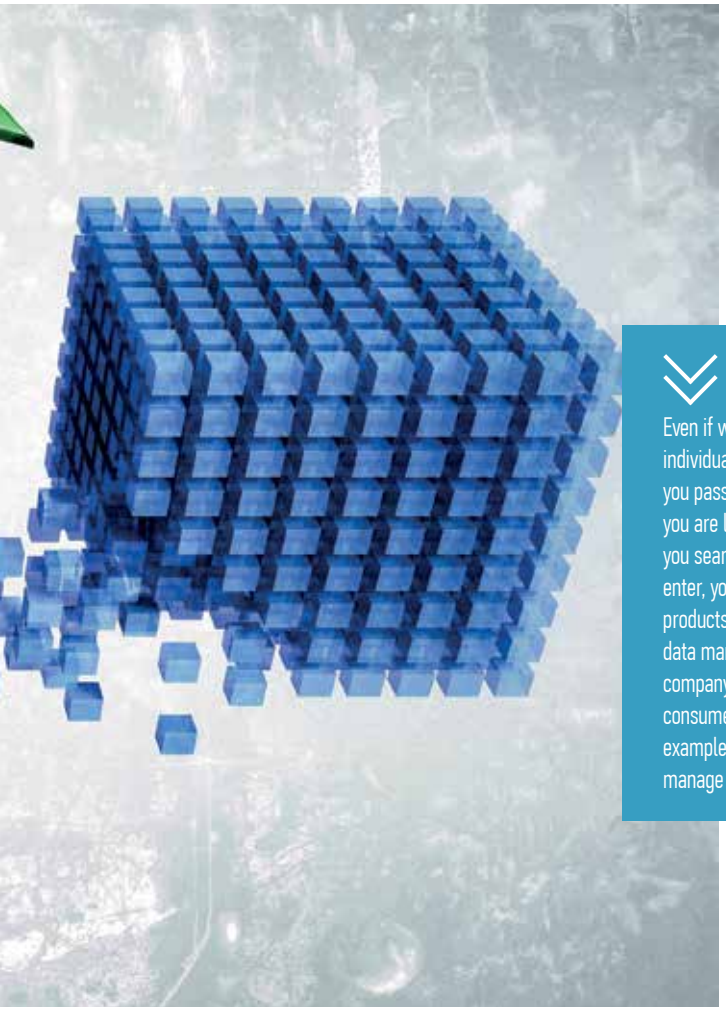
Production, trade, cash flow, logistics, human resources, in short, all applications in production processes have been built on digitalization for a while. Companies that have been living with Industry 4.0 for about 10 years, while taking important steps towards digitalization, are also restructuring their production processes with the Internet of Things (Internet of Things) applications. Within the scope of digitalizing processes, studies are carried out in many areas from time and cost savings to optimization of business processes, from pioneering and innovative systems to the development of new business models. The most popular business model of recent years, which feeds these studies and plays an important role in ensuring development, is 'data management'. When we enter the digital world, the data in industrial sense, logistics, finance, energy and human resources may seem exaggerated, but they become rich enough to reach infinity. There is so much data in these fields that predicting, managing, reading and applying them now requires a separate skill and a scientific touch. Data management; from now on, it becomes as important as the capital of companies in increasing the productivity of companies, in competition, in target markets, in financing, in short, in every field. Companies that make progress in this regard will be able to position themselves differently in global markets and ensure their sustainability. It may not be possible to talk about the future with hope of companies that do not realize or are not successful in data management.



Data management; While it was a set of processes in which companies reviewed and evaluated a few of the information they had years ago and tried to make a difference, today it has an indispensable position in the decision-making process of the same companies. Because today, accessing data in the digitalized environment is so fast and includes such rich information that knowing and feeling which of them is beneficial to the company, which is unnecessary, or which will brighten business processes with a magic touch requires a deep experience and expert staff in data management. While talking about the expert staff, the trainings given under the name of 'data management' in universities, foundations and private institutions for data management are now the areas that attract the most attention. Thanks to these trainings, qualified human resources are trained, who can analyze the data, make inferences from it, and give the company an advantage over its competitors. Thus, data management and analysis can be evaluated under the best conditions with trained and qualified human resources. All the data in the hands of the company can be categorized in the best way by the experts and great opportunities can be created from even the smallest information.

NO CLASSIC PRODUCTION AND MARKETING

While important companies of the digital world such as Facebook, Google and Amazon have become important sources for many information and data that can be easily accessed by everyone through social media, it is signaled that production and marketing will no longer remain in the classical sense as before. While the pandemic period experienced in the acceleration of this digital development process, which is also called big data, is also effective, many applications that are



By analyzing the data at hand, many data such as what actions to take during the production stages, from whom the raw materials of the products will be obtained in the most advantageous way, their supply methods, and the energy to be used can be used optimally, and it can be ensured that efficiency has a positive effect on profitability between 4 and 6 percent.

SUCCESSFUL DATA MANAGEMENT IS REFLECTED ON YOUR SCREEN

Even if we are not aware of it, data management is reflected on almost every individual's mobile phone or computer screen. Especially in the retail industry, when you pass a store or search for a product on social media, information about the product you are looking for starts to appear on your mobile phone or computer. For example, if you search for a holiday or if you are doing research to buy a car on the websites you enter, you will instantly be exposed to the advertising flow of the brands related to these products. In other words, relevant brands take your requests from social networks with data management and take advantage of the opportunities to serve you instantly. The company is trying to stay ahead of its competitors for product sales by following the consumer in the direction of their demands with data management. Going through this example, it is an indispensable method in the digital world for global giant companies to manage data to their advantage.

expected to become widespread after years are rapidly taking their place on the world's agenda. While e-commerce applications in particular were advancing slowly with the 'is it possible or not?' approach before the pandemic, digitalization, which develops globally with the sudden emergence of prohibitions and restrictions, becomes the priority issue of the business world. Thus, data management, which feeds digitalization and forms its infrastructure, is brought to a sensitive point by all segments.

So to speak, it is an indicator of where data management has reached in a period when grocery stores and restaurants have all kinds of information from which brand product their customers prefer, when and what they will request, and even their addresses, and take action to meet the demands in the fastest way possible. Because the aforementioned grocery store is aware of the need to have some data in order to respond to the demands of the customer, and is aware of how it will carry out its business processes in this context. As such, it is out of the question for giant companies fighting to exist in the global arena to fall behind in this field.

Starting from here; Being aware of all kinds of expectations of their customers with the data in hand, companies can show the ability to make the right moves by predicting when they will demand which product and in what way. Especially thanks to the data managers who can analyze the data well, what actions will be taken during the production stages, which trends will come to the fore, from whom the raw materials of the products will be obtained in the most advantageous way, their supply methods, the optimum use of many data such as the energy to be used, the efficiency is positive between 4 and 6 percent. causing effect. Considering these data shared by experts; It is better understood how data management has become an important asset for companies.

WHAT CAN BE DONE FOR OPTIMUM DATA MANAGEMENT?

While the volume, speed and diversity of the data that can be accessed in the digitalizing world are increasing rapidly, companies also bring some obligations to handle and evaluate them in the most effective way. This brings up a wide variety of tasks, rules, processes and practices in order to manage digital data in an institution. Thus, applications such as 'creating, accessing and updating data in various data layers', 'storing data in multiple cloud environments and within the enterprise', and 'providing high availability and disaster recovery' are needed within the scope of data management studies. In addition to these, working methods such as 'using data in increasingly diverse application software, analytics and algorithms', 'providing data privacy and security', 'archiving and destroying data in accordance with storage programs and regulatory compliance requirements' are also important parts of data management. draws attention.

Within the scope of these developments, another initiative to be made for data management stands out as the follow-up of the constantly changing legislation compliance requirements that differ from country to country in the global sense. It is important that companies can easily review the data, learn about all new or changed conditions and regulations and follow the developments. Compliance with global privacy regulations, which have become even more stringent recently, is another area to be considered for companies.

DEVELOPING DATA SCIENCE AND MANAGEMENT

Data science; It is an interdisciplinary field where scientific methods, processes, algorithms and systems are used to derive value from data. Data experts; It combines a range of skills, including statistics, computer science and business knowledge, to analyze data collected from the web, smartphones, customers, sensors and other sources. Data management, in turn, leads to the new position in the value chain, which is achieved if these skills are used well, for organizations to actively seek better ways to derive value. For companies working in the digital field, all these values are gaining value as a kind of working capital of the companies.

In a period of data bombardment; If it is not known what data is available, where it is located and how it will be used, it may not be possible to provide the expected benefit. This is the biggest indicator of the importance of data management.

In order to overcome possible difficulties due to all these processes that need to be implemented, trainings on data management are given and awareness is being raised. Because companies know that in the face of rapidly increasing data wealth, if they do not know what information and data they have, where they are located and how to use them in the fastest way, this wealth will not be of any use to them. On the other hand, the fact that competitors constantly store more data and use it positively, increasing their performance also necessitates investing in this area.

PROCESSES TO BE CONSIDERED IN DATA MANAGEMENT!

The processes that need to be considered in the duties of information technology teams and database managers are also important for data management solutions in basic systems that enable the collection and analysis of large volumes of data in an institution on data management platforms. According to this;

- Data management platforms,
- Detecting, notifying, diagnosing and solving malfunctions in the database system or infrastructure,
- Allocating database memory and storage resources,
- Making changes in database design,
- Optimizing responses to database queries for faster application performance,

The increasingly popular cloud data platforms can enable companies to scale up or down quickly and cost-effectively. These solutions can also give companies the opportunity to save more.

BIG DATA INTEGRATION WILL INCREASE OPPORTUNITIES

Big data integration, which is important in batch processes, provides the opportunity to provide important outputs by bringing different types of data to the stream, transforming existing data. Big data management, which stores and processes data efficiently, securely and reliably in a repository or data warehouse, often using object storage, contributes to the smooth running of processes. Thus, big data management unlocks new insights with the right analytics and analytics, using machine learning and artificial intelligence visualization to build models. Companies use big data to improve and accelerate product development, predictive maintenance, customer experience, security, operational efficiency, and more. As big data grows, it prepares the ground for increasing opportunities.

Many of the challenges in data management come from the faster work progress and the accelerating data growth. As the variety, speed, and volume of accessible data is constantly growing, companies are forced to seek more effective management tools to keep up with the situation. Accordingly, one of the biggest difficulties faced by companies is that they do not know what data they have due to the intense data flow. Because, as the number and variety of data sources such as sensors, smart devices, social media and video cameras increase day by day, incoming data is collected and recorded. However, if the company has difficulty in knowing what data it has in this flow, which can be called as

INSURANCE PRODUCT IS DEVELOPED TO PROTECT DATA IN THE DIGITAL WORLD

An insurance product was also developed to cover data security against attacks and risks that may arise in the face of developments in the world, where digitalization accelerates. While providing protection against risks in the digital environment with its "Financial Cyber Protection Insurance" product, it also offers a comprehensive assurance to its insured. Commenting on the 'Financial Cyber Protection Insurance' product, Türkiye's Insurance Strategy, Digital Transformation and Marketing Deputy General Manager Bilal Türkmen stated that the demand for cyber protection insurance will increase in the future and shares the following information: It shows that it has increased exponentially in 2021 with the effect of the pandemic period. At this point, Türkiye is among the countries most affected by cyber attacks in the world. Ransomware, phishing thefts, web-based attacks, malicious APT and phishing attacks are the most common cyber attacks we encounter today. These attacks cause loss of reputation and money. We are implementing our 'Financial Cyber Protection' Insurance product to protect our customers from these attacks and to secure their data in the digital world."

data bombardment, where it is located and how to use it, the expected benefit may not be achieved. This shows that all the data is not very useful.

REMARKABLE APPLICATIONS IN DATA MANAGEMENT

A discovery layer must be created to identify data: Having a discovery layer on top of the firm's data layer allows analysts and data scientists to search and examine datasets to make the data useful.

A data science environment should be developed that will efficiently bring data into new uses: The data science environment facilitates the creation and evaluation of data models by automating data transformation efforts as much as possible. By eliminating the need for manual transformation of data, a set of tools can accelerate the assumption and testing of new models.

Autonomous technology should be used to maintain performance levels in the expanding data tier: Autonomous data capabilities use artificial intelligence and machine learning to constantly monitor database queries and optimize indexes as queries change. This allows the database to maintain fast response times, freeing database administrators and data scientists from time-consuming manual tasks.

To keep up with regulatory compliance requirements, discovery should be leveraged: New tools use data discovery to examine data and identify the link chains that need to be identified, tracked and tracked for compliance in different countries. As compliance demands increase around the world, this skill will become increasingly important to risk and security guards.

A common query layer must be used to manage the many and varied forms of data storage: New technologies are enabling data management stores to work together, blurring the distinctions between them. A common query layer that covers many types of data storage; It enables data scientists, analysts, and applications to access data without knowing where it is stored and without the need to manually convert it into a usable format.

Gökhan Mataracı- Data, Analytics and Digital Leader, Partner of KPMG Türkiye

How to manage data is a topic that comes to the fore the most and is on the agenda of all institutions independent of the sectors.

If we think briefly about the concept of digitalization, this concept is generally considered as a transformation that creates more data at its core. Personally, I approach the subject a little differently. The main purpose here; Should already be getting more data. When we look at the largest global companies, we see companies whose way of doing business is to generate data and create value from it. As a natural result, they use the most innovative technologies. Their goal is to collect data and turn it into revenue. When we set out with this principle, managing the increasing volume and variety of data is actually as important as managing our income. In summary, we see that institutions aiming to manage data as a ‘valuable asset’ are more successful. When we choose to manage data as one of our valuable assets, of course, one of the issues to be considered is data security. All of the cyber attacks are caused by not securing data that is not classified correctly with adequate precautions. My suggestion is that at the very beginning of everything, institutions should determine what data they have and classify this data based on the value they have for themselves. It is of great importance to determine the steps to be taken with this study and then to make the necessary technological investments according to the criticality of the data, the systems used and the possible weaknesses of these systems. In addition, it is another important point to note that not every technology may be the best option for every institution. Therefore, the needs for security should be determined first, and then the technology should be decided.

EACH STEP IN DATA MANAGEMENT REQUIRES EXPERTISE

Although it is mostly handled under the management of technology teams, each step from data hosting to processing, classification to architectural structure, analysis to retirement requires separate expertise. Recently, we see that special programs have been opened for some data fields in undergraduate education. In fact, institutions include their employees who consume and manage data in special programs.

However, sufficient quality and quantity of human resources has not been reached yet. In the new age, I think we have become more deaf to another word than the word digital. However, we do not have sufficient quality and quantity of human resources to adapt. Here we are talking about an issue that needs to be addressed at the level of state policy. It is necessary to adapt to the digital age with an important transformation starting from the primary education ages.

WHO CAN'T MANAGE DATA, CANNOT MEASURE THEIR OWN PERFORMANCE

I do not think that there is an institution that does not fully attach importance to data management, perhaps it may not be aware of it or it may not be able to manage it yet. I think that institutions in such a situation will disappear completely in a very short time. Because an institution that does not manage data cannot measure its own performance, because it means that it cannot collect healthy data. It can't spot new opportunities because it means it can't analyze enough data. It can't act agile because it doesn't have enough depth data to adapt to ever-changing conditions. Examples can be multiplied, but when we look at it in summary, there are institutions that develop their digitalization strategy to collect more data, while companies that do not take advantage of this potential will lag far behind in the competition.

ATTENTION TO THE CONCEPTS OF DATA MANAGEMENT AND DATA GOVERNANCE!

On the other hand, I would like to deal with the data issue with two concepts. One is data management and the other is data governance... Data management mostly includes activities such as acquiring, hosting, processing, analyzing and similar data operationally. Data governance, on the other hand, can be said to operate the subjects such as determining the data strategy of the institution, becoming an institution that can make decisions based on data, and gaining the ability to consume data with all its functions. Therefore, we can make the management efficient by setting up data governance correctly. I liken it to the giant boats with lots of oars that we read about in history. The giant boat is the institution here, the oars are given, and the rowers who steer them are the workers. If each rower pulls the dat in the other direction, that boat will not go in the desired direction, but if you coordinate and all the oars point to the right target, you will steer in the right direction at top speed. What enables this is data governance. I think most institutions in Türkiye manage data. We cannot think otherwise. However, very few of these institutions are capable of data governance. Since 2015, we see that the sectors that directly affect the global economy have been working in the field of governance for data governance. This has not yet been reflected in the real sector. Of course there are examples, but I see it as an area that needs improvement.

Institutions sometimes cannot use the data they have in the activity they want. Sometimes they cannot access this data or convert it into the presentation form they want. Precisely for this reason, data governance policies should be established to develop data strategy and set rules for managing data. With the governance framework to be created, it may be possible to ensure the harmonious work of the teams that consume and manage the data and to use the data efficiently. At the same time, when managing data, only information technology teams should not be considered as fully authorized... In fact, data is an asset formed on the basis of business functions and used by business managers who make strategic decisions. I can say that an important milestone that will enable organizations to take a significant step will be possible by changing their perspectives and treating data as a business asset rather than a technology asset. This means a serious cultural transformation. We can talk about the fact that data usage can be managed properly after increasing data literacy at every level from employee to manager and implementing it with a governance framework.

Dr. Selahattin Armağan VURDU
Secretary General of İMMİB

'Masters' of Data

> *EU-US cooperation studies are carried out on issues such as new technologies that enable good processing of big data, increasing the durability of supply chains, protecting consumer rights and removing unnecessary trade barriers.*

Digitization generally means that everything changes. Cecilia Bonefeld-Dahl, General Manager of DigitalEurope, says that today, data is the fuel of digitalization, technologies that connect people and devices such as the internet; highways, and we can define artificial intelligence as a driver. A creative illustration that explains data management quite well...

DigitalEurope is an organization that represents approximately 35,000 businesses, including leading companies in semiconductors, software, hardware, green technology, healthcare and manufacturing. This year, as last year, a competition will be held between technology companies called 'Unicorn' and growing very fast. The software developed by the company, which won the competition last year, helps doctors in choosing the most appropriate treatment method to be applied to patients by using artificial intelligence technology. It is clear that artificial intelligence will revolutionize many areas of our lives, and this competition is a clear example of how competence in data management affects competitiveness... There are 981 "Unicorn" companies in the world. The vast majority of these firms are US-based; China follows the USA in second place. The EU is in third place and India is in fourth place. By 2021, the share of the EU in the total number of unicorn companies is 13 percent, and it is aimed to increase this rate to 25 percent by 2025.

In line with the goal of accelerating the green transformation by using digitalization, with the recognition that green transformation will not be possible without digitalization, approximately 20 percent of the EU's pandemic recovery fund in 2020 was allocated to digital transformation and approximately 37 percent to green transformation.

The period between 2020 and 2030 has been addressed as Europe's 'digital decade'. A large amount of investment is made for this goal and modern regulations are implemented to guide Europe's digital sectors. Within the scope of the EU's economic recovery plan, 'NextGenerationEU', it is planned to invest more than 125 billion Euros in digital sectors. The European Commission has a target of 75 percent of companies in Europe to use 'cloud computing', 'big data' and 'artificial intelligence' technologies by 2030. Commission President Ursula von der Leyen; He calls this project the 'Marshall Plan' of digital Europe.

Europe hosts 2 of the 3 largest companies in the world in terms of telecommunications infrastructure (Nokia and Ericsson). When the world's top 10 technology companies are analyzed in terms of market value, it is seen that 5 of them are US-based and 2 are China-based. The EU-US Trade and Technology Council (TTC) play an important role in the relations between the EU and the US. While the EU and the USA compete with each other commercially, they also cooperate in many areas where they have common interests. The council in question carries out studies on cooperation between the EU and the USA on issues such as new technologies that enable good processing of big data, increasing the durability of supply chains, protecting consumer rights and removing unnecessary trade barriers. The data flow between the USA and the EU is another issue that is not a part of the TTC, but is equally important. Within the scope of these data flows, a joint agreement to be provided by both parties on a legal basis will both contribute economically and increase the efficiency of the TTC. is considered to increase.

ORGANIC CHEMICALS PROVIDE RAW MATERIALS TO MANY INDUSTRIES

THE ORGANIC CHEMICALS SECTOR, WHICH PROVIDES THE RAW MATERIAL NEEDS OF MANY SECTORS SUCH AS CHEMISTRY, ELECTRONICS, TEXTILES, PAINT AND AGRICULTURE, HAS MANAGED TO INCREASE ITS EXPORTS TO 920 MILLION DOLLARS WITH AN INCREASE OF 75 PERCENT IN 2021, AND AIMS FOR DOUBLE-DIGIT GROWTH EVERY YEAR.

920
MILLION DOLLARS
EXPORTS OF THE SECTOR IN 2021

75%
THE SECTOR'S EXPORT INCREASE IN 2021

244
COUNTRY OR REGION OF EXPORT

Organic chemicals are one of the indispensable product groups of production, which provides the raw material supply needs of various fields from many sectors such as food, electronics, textiles, paint, agricultural chemicals, fuel additives, pharmaceuticals, rubber, polymers to the products reaching the end users, as well as the chemical industry. Thanks to the organic chemicals used in these sectors, the products can also be provided with properties such as stickiness, corrosion and non-flammability. Thus, the use of organic chemicals paves the way for the production of high value-added products in many sectors.

There are approximately 975 companies operating in the organic chemicals sector in Türkiye, including large-medium and small scales. The organic chemicals sector, which achieved an export of 920 million dollars in 2021 with an increase of 75% compared to the previous period, is successful in making sales to approximately 244 countries or regions, primarily EU countries and Turkic Countries. The sector, which always continues its search for new markets, targets a double-digit growth rate every year compared to the previous period. The sector, which sets these targets by closely following the developments abroad and the need for raw materials, carries out its studies to increase its effectiveness in the global market.

R&D HAS BEEN A MUST

While scientific developments in the field of chemistry create new application areas on a wide scale from the aerospace industry to automotive and electronics, it becomes a necessity for the organic chemicals industry to attach importance to R&D in order to develop in this context. The fact that the economic life of products that are constantly developing in the face of expectations is generally limited to 15 years necessitates the continuity of R&D activities. Competition at the global level; encourages companies to include more knowledge and high added value chemicals in their capital-intensive portfolios. Increasing competition and falling profit margins increase the need for efficient use of the budgets allocated to R&D activities. While solutions such as university-industry cooperation and R&D-based spin-off companies stand out especially

in branches with high development potential in the field of materials science, organic chemicals are among the indispensable sectors in this field.

ORGANIC CHEMICALS ARE ESSENTIAL FOR CLEANING AND COSMETICS INDUSTRY

On the other hand, when the structure and usage areas of organic chemicals are examined, it is observed that nearly 30 percent of them are directly used as raw materials or intermediate products in the chemical industry. Organic chemicals, which supply close to 30 percent to the consumer chemicals segment, which includes cleaning and cosmetic products, which is also one of the sub-sectors of chemistry, are used in various products such as soap, detergent, shampoo, perfume and cosmetics. In addition, organic chemicals, which are among the indispensable products of the service sector at a rate of 15 percent, basic metals, mining, machinery and electronics at a rate of 9 percent, agriculture at a rate of 9 percent, textiles at a rate of 6 percent, construction at a rate of 5 percent and automotive industry at a rate of 5 percent, are important for many sectors. provides input.

While access to low-cost raw materials in the petrochemical industry is one of the most fundamental factors determining competitiveness, organic chemicals also play an important role at this point. The chemical industry, like many other sectors, stands out as indispensable products of many industries and service areas by interacting with various internal and external factors such as general economic cyclicity, raw material and energy costs, globalization, mergers and acquisitions with the contribution of organic chemicals.

ORGANIC CHEMICALS CONTAIN CARBON AND HYDROGEN

Organic chemicals stand out as products that include the branch of chemistry that studies the structures, properties, reactions and synthesis pathways of carbon-based compounds. These chemicals, which are compounds containing carbon (C) and hydrogen (H), can be divided into three main groups. These; 'Base', that is, basic chemicals, are classified as 'Petrochemical product derivatives' and 'Essential inorganic products'. Basic chemicals, which are produced in high quantities and have a relatively low added value, have a wide range of uses in both chemical and other manufacturing industry production. On the other hand, special chemicals, namely performance chemicals; It draws attention as compounds that are formulated with sensitive chemicals specially produced to contribute to product performance in different sectors, produced in low quantities and have relatively high added value. Contrary to basic chemicals, these chemicals, which are used in batch production technique and evaluated according to their functions rather than their content, are specially used in end-user sectors such as electronics, textiles, paint, agriculture and oil field.

CARBON LOOP!

Carbon is the main component of biological compounds, as well as the main component of many minerals such as limestone. Therefore, the carbon cycle; It is a cycle with a biological and geological chemical structure formed by carbon exchange between biosphere, pedosphere, geosphere, hydrosphere and atmosphere. Along with the nitrogen cycle and the water cycle, the carbon cycle is also important for the continuation of life on earth. Therefore, organic chemicals, due to their carbon-containing compounds, are also an important part of the carbon cycle.

Günkem growth focusing on global markets

Günkem Gündüz Kimyevi Maddeler İthalat Sanayi ve Ticaret A.Ş., which supplies organic chemical raw materials to the paint and construction industry, carries out its growth plans step by step by focusing on global markets as a domestic and national brand.

Osman Yıldız, General Manager of Günkem Gündüz Kimyevi Maddeler

Operating in the organic chemicals sector, Günkem Gündüz Kimyevi Maddeler İthalat Sanayi ve Ticaret A.Ş. generally supplies products in response to demands in the fields of paint chemicals and construction chemicals. Günkem Gündüz Kimyevi Maddeler, which has been importing and exporting in its sector for 32 years as a domestic capital, carries out its activities with the goal of growth by focusing on new markets every year.

Osman Yıldız, General Manager of Günkem Gündüz Kimyevi Maddeler, said, "As organic chemicals, we mainly serve the paint industry. We are especially involved in the paint industry with our products in solvent groups, binders and some agent groups. In addition, we supply the construction sector due to our cellulose and additive products and carbon compounds, which are included in the hydrogen group in some of our raw materials. With these works, we aim our targets to different continents every year and we make growth-oriented plans by looking for new markets."

Providing information about the growth moves in the global markets, Yıldız reminds that they exported 18 percent of their turnover three years ago, and that they increased their foreign sales to 42 percent of their turnover in 2021 and said, We plan to increase it further by 5%. Due to the area we serve, we contribute to many sectors as a supplier. As a 100% domestic and national capital, we support and add value to our country with our products that reach many continents."

"INNOVATION IS PASSED IN OUR R&D DEPARTMENT"

Stating that they attach importance to innovative products in response to the demands and expectations of their customers, Yıldız states that they provide 38 employments in total and 6 of them work in the R&D department. Pointing to the high percentage of R&D employees in total employment, Yıldız continues: "We attach great importance to R&D. Because the basis of our sales is based on R&D studies. Therefore, R&D is an indispensable element for us. Since we are not a manufacturer in our R&D department, instead of producing new products, we carefully work on new raw materials that we can bring to the sector. Since Türkiye is a country mostly dependent on abroad for raw material supply, our work aims to minimize the foreign-dependent procurement process of our customers. To put it more clearly; We enable our customers to easily procure products that are imported and many of them have difficulties in importing processes, with domestic stocks. We develop these works especially according to customer demands and expectations, and we reach the target based on the desired products."

"WE WORK FOCUSED ON GROWTH"

Stating that they are focused on growth in global markets and that they have large-scale development plans in 2022, Yıldız states that they will achieve these goals thanks to new markets. Yıldız gives the following information regarding these goals: "As Günkem, we are advancing step by step within the scope of our global strategic plans. Our efforts to enter with our raw material portfolio, which we have expanded to new markets by increasing our share in existing markets, continue rapidly. In this context, we managed to achieve 54 percent growth in 2021 compared to 2020. In 2022, we have set a target that will reach 60% in our total business volume in line with the targets in foreign markets, and we are working hard for this target."

Kale Kimya extended from national to global in 7 years

Kale Kimya General Manager Keriman Albaha, who stated that they support many sectors from food to pharmaceuticals, from plastics to cosmetics, with the products they developed in their R&D centers, says that while substituting for the imports, they also contribute to the country's economy by achieving success in exports.

Kale Kimya, which has been the distributor of many leading global and regional companies in the personal care and detergent sectors in the field of organic chemistry for 45 years, stepped into the chemical industry with the decision it took as an institution in 2015. In the same year, the company started the production of amphoteric surfactants/betaines used in both personal care and detergent sectors in its facility established in Düzce Organized Industrial Zone, and then adds the production of different amineoxide derivatives used in the detergent sector, palm and cocoamid used in detergent and personal care products. Kale Kimya provides raw material support by supplying many domestic and foreign companies with these productions.

"While organic chemistry hosts a wide range of applications and industries that touch every aspect of our lives, it supplies many industries from food to pharmaceuticals, from pesticides to agrochemicals, from plastics to rubber, from paints to personal care and cosmetics. We continue to work on more than 10 new molecules in our production project list at our R&D center", Kale Kimya General Manager Keriman Albaha says that they attach importance to production with their own brands, starting from raw materials. Albaha states that they also offer the production of the mixture products they have created by making performance evaluations to be used in the same sectors, apart from the betaine, amine oxide and amide they produce in the R&D centers, and says, "Although we have only 7 years of history in the field of production, the share of our production in our total activities is increasing rapidly."

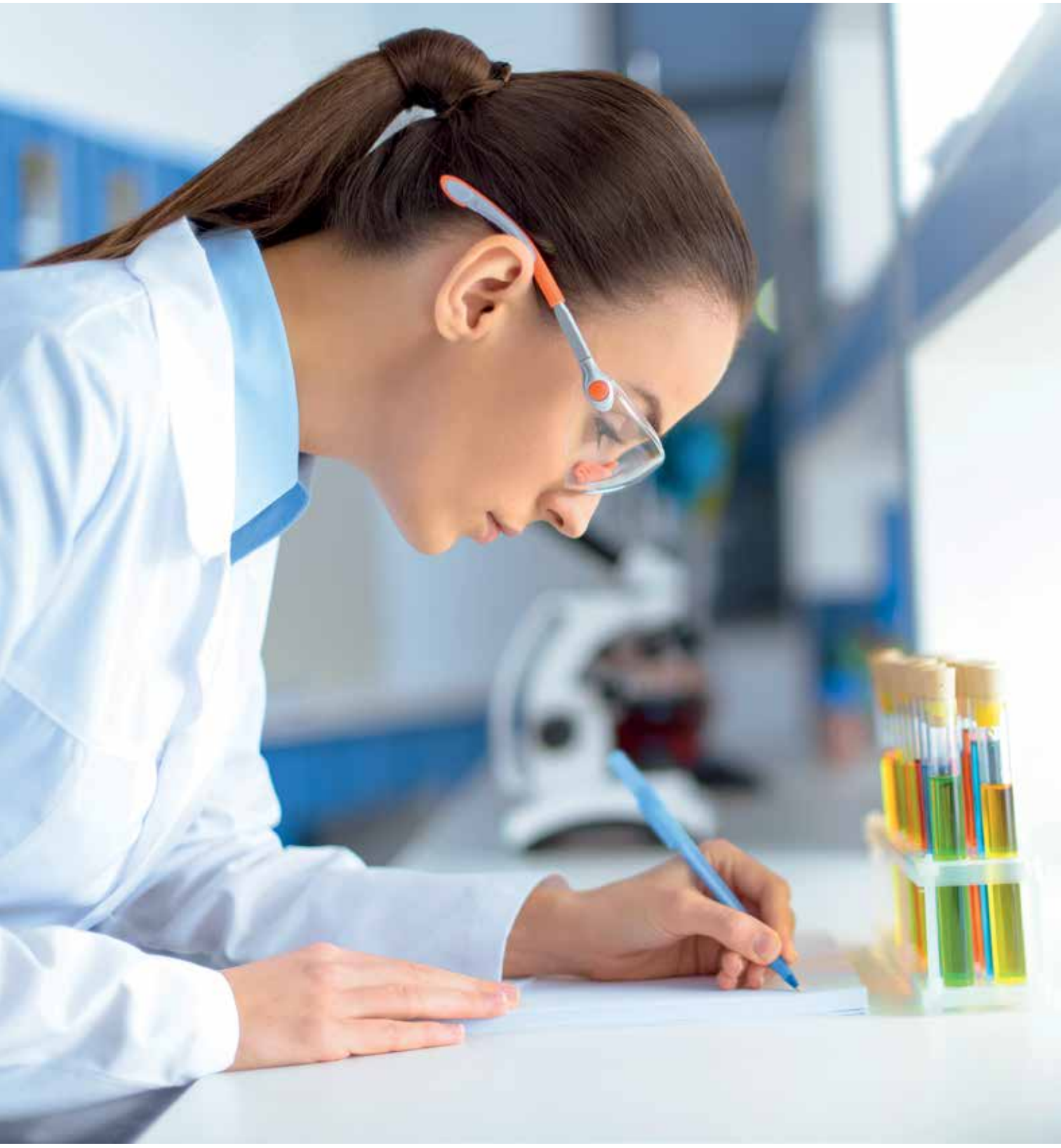
Stating that their production amount was 9 thousand tons in 2021 within the scope of organic chemistry, 31 percent of their exports were made from the sale of these products, and that they made sales to 35 countries, Albaha reminds that there are new opportunities in Uzbekistan and various African countries, which are among the countries they have recently focused on exporting.

Keriman Albaha - Kale Kimya General Manager

PRODUCTION IS TAKING PLACE TO REPLACE IMPORTED PRODUCTS

Albaha states that they employ 117 people in total and they have 15 employees in their R&D centers, and that they substitute products that the industry knows and have been imported for many years, with the products they synthesize here, and contribute to the country's economy. Albaha, on R&D studies, said, "Since the day we decided on production, R&D has come to a very important point for us. The R&D of all our new synthesis and mixture products that we plan to produce is first studied on a laboratory basis in our own center. Then, the formula is validated in our pilot facility, and finally, after industrial-scale validation productions are made under the supervision of our R&D staff and optimization is achieved, it is given to the responsibility of the production."

Informing that the number of companies in the sector they serve and supply has changed rapidly in recent years, Albaha underlines that Kale Kimya also plays a very important role in the development of the sector. Albaha continues: "So; many of our customers in our industry are small family businesses that need technical and commercial support or serve economic markets; medium-sized manufacturing companies that need product knowledge and laboratory support. Kale Kimya directly contributes to the development of the customer by analyzing these market realities very well, determining customer needs correctly, making quick decisions on every issue and applying them. Thus, we provide a balance element in the market by creating a competitive environment on the suppliers' side, and we also support customers in the new product development phase with our technical experience. In addition, we provide support to the sustainable growth of customers in accordance with market realities and indirectly to the national economy with flexible financial solutions after sales. In the absence of us and companies that have adopted the principle of working like us, I think that many new manufacturers trying to exist in the market will not be able to exist and the prices of the products on the shelves will be higher, since the customers and the Turkish economy will have to work with the strict rules of global companies."



KTM IS TARGETED TO BE OPERATIONAL IN 2022

SIGNIFICANT DEVELOPMENTS ARE UNDERWAY TO KICK-IN THE CHEMICAL TECHNOLOGY CENTER (KTM), ON WHICH THE ISTANBUL CHEMICALS AND PRODUCTS EXPORTERS' ASSOCIATION HAS BEEN WORKING FOR A LONG TIME. WHILE IT IS FORESEEN THAT KTM WILL START OPERATING IN 2022, THE CHANCES OF COMPANIES TO COMPETE WILL INCREASE WITH THE TESTS AND ANALYZES THAT WILL BE CARRIED OUT IN THE LABORATORIES HERE, AND THIS WILL ALSO CONTRIBUTE TO THE REDUCTION OF THE CURRENT ACCOUNT DEFICIT.

Concrete steps are being taken for the Chemical Technology Center (KTM), which will increase the added value in the chemical industry and provide an advantage in competition with its competitors. The headquarters of KTM, for which the Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB) has been carrying out its feasibility studies for a long time, will be established on an area of 7000 m^2 in the Informatics Valley in Gebze. With the launch of KTM, chemistry exporters will be able to conduct a total of 209 different tests and analyses in seven laboratories in four focus sectors. With these studies to be carried out within the body of KTM, İKMİB member companies will be able to contribute to the reduction of the current account deficit by performing 39 tests and analyses abroad from now on, using national means.

KTM, which İKMİB attaches great importance to and leads, comes to an end. İKMİB, which works for the chemical industry to always go further and maximize its contribution to the Turkish economy, will also offer great opportunities to its members with the KTM that will come into play. At KTM, where R&D and innovation studies will be carried out, alternative and domestic production of raw materials imported by the chemical industry will be provided. As the first concrete step taken for KTM, which aroused great excitement in the chemical industry, the project partner Chemistry Research Technology and Innovation Center A.Ş (KATİM) was established, while the Rubber Association, the Paint Industrialists' Association (BOSAD), the Plastics Industrialists' Association (PAGDER), Koç University, Gebze Technical University, Marmara University and Informatics Valley will be the participants. In this context, important cooperation will be made under the roof of KTM in industry-university cooperation, and innovative products will be paved the way.

With the launch of KTM, chemistry exporters will be offered the opportunity to conduct a total of 209 different tests and analysis in seven KTM laboratories in four focus sectors, primarily paint, rubber, plastic and cosmetics. Of these 209 different tests to be performed, 100 will be accredited analyses. It is planned to provide service with a total capacity of 1,201,883 tests / year with the commencement of full efficiency works at KTM. Many advantages will also be gained within the scope of laboratory test and analysis services, which

are basically grouped as routine performance analysis and R&D qualified specifically. Within the scope of these analyses, which will be completely nationalized, tests that are subject to the certificates of foreign certification bodies and whose results are recognized by these organizations through bilateral agreements will also be carried out. In addition, accredited tests and analyses, tests carried out as the Ministry's 'Authorized Laboratory', reference laboratory tests confirming the accuracy of the analyses carried out by the exporters within their own bodies or subject to independent opinion in case of conflict, can also be performed here. After focusing primarily on these four sectors, studies on all sub-sectors of the chemical industry will be carried out at KTM in the future, and projects that will touch every sector will be developed.

39 TESTS MADE ABROAD WILL RESULT AT KTM WITH NATIONAL FACILITIES

Especially the fact that 39 tests conducted abroad will be concluded within national possibilities at KTM will provide a great advantage to companies and the chemical industry. With the completion of the studies on these tests at KTM, an annual contribution of 12.3 million dollars is expected to the current account deficit. Such an opportunity will be able to bring exporters to a competitive advantage over their competitors. These tests range from determination of volatile organic compounds (VOC) and SVOC content to antibacterial activity tests, antiviral activity to stability tests, plastics - differential scanning calorimetry (dsc) to plastics - determination of izod impact strength tests, eye irritation analysis (in vitro / in vivo) It extends to the fire resistance test methods tests of hose fittings.

In addition, many processes from the determination of allergen essences to the formaldehyde test, from the CIT&MIT preservative analysis to the determination of heavy metals, from AAS, ICP tests, from total and specific migration analyses to PAH analyses will be concluded in the laboratory environment.

Performing these tests with national means will also increase the competence in the chemical industry. In addition, these tests to be carried out in Türkiye will also contribute to the reduction of waiting times, which were prolonged due to going abroad before, and will save time and give the opportunity to get the results more quickly.

KTM WILL ALSO OPEN THE DOORS OF INNOVATION

While it is foreseen that KTM will be operational in 2022, many innovations will be paved with the works to be done here. In this context;

- KTM will have national software that can compete with the two most important laboratories in the world in terms of Laboratory Management Systems software.
- With the Istanbul Chemistry Device Inventory, a minimum of 70 per cent of the devices open to external use will be registered.
- A Chemistry Cooperation Consortium will be established with 10 organizations that comply with the KTM joint working rules and comply with the basic testing methodology. In this way, at least 30 devices that are idle or used at low capacity will be added to the ecosystem.
- One of the issues that the sector has the most difficulty in practice, access to consultants and a healthy consultancy will be solved with the assurance of KTM.

All these innovations will contribute to increasing the targeted added value, and the momentum will increase the effectiveness of the chemical industry in the world and the perception of quality.

COUNTRY ECONOMY WILL WIN WITH THE CHEMICAL INDUSTRY

During the establishment of the Chemical Technology Centre, İKMİB listened to the expectations of the chemical industry at the needs analysis meetings and workshops it held with its members, and provided concrete data with various surveys. Therefore, companies that can benefit from KTM, which was established entirely according to the needs and expectations of the chemical industry, will be able to receive support for R&D studies. In addition, studies can be carried out to develop domestic alternatives to imported raw materials. Important opportunities for university-industry cooperation, which is expressed on every platform, will be offered at KTM. 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. Thanks to all these advantages, both the chemical industry and the national economy will be able to achieve significant gains.

Aydın YILMAZ
Deputy Secretary General of İMMİB

Direction of chemistry export

> *In order to increase the share of chemical industry exports and value-added product exports, it is important to review the markets and product groups we will focus on, and to shape our production structure and education system in this direction.*

The chemical industry realized an export of 25.4 billion dollars in 2021, an increase of 38.79 percent compared to 2020. This figure indicates a 23 percent increase compared to 2019 before the pandemic. While the plastics industry had the largest share in chemistry exports with approximately 6 billion dollars, mineral fuels and oils were 5.5 billion dollars, inorganic chemicals 2 billion dollars, rubber 1.5 billion dollars and pharmaceutical products 1.4 billion dollars.

While the composition of exports on the basis of sectors was like this, the top 5 countries we exported to were the Netherlands, Germany, Iraq, the USA and Italy. These countries were also recorded as countries where we were able to exceed the export figure of 1 billion dollars. The share of the first 5 countries in total exports was 23 percent, while the share of the first 20 countries was 62 percent. These rates were 21 percent and 53 percent, respectively, in 2020. From the point of view of market diversification, it is important for a more balanced export structure to reduce the share of the countries we traditionally export to and to carry out studies for the countries that we have not yet entered the market.

In 2020, global chemical industry trade amounted to 4 trillion 325 billion dollars. China, USA, Germany, Japan and India are the biggest importing countries. However, when we exclude crude oil, natural gas and their products in the customs system, the global volume drops to $2.6 trillion, while the largest importers are the USA, China, Germany, Belgium and France. Although we have been processing crude oil and exporting mineral fuels to a large extent with our increased refinery capacity in recent years, we need to increase the export share of our products outside of this product group so that our exports can be less affected by seasonal effects and global commodity price movements.

IRELAND AND SWITZERLAND MUST BE EXAMPLE

The top five countries with a surplus in the chemical industry's foreign trade are Saudi Arabia, the United Arab Emirates, Russia, Ireland and Switzerland... The top three countries owe their position to their oil and natural gas reserves. It is necessary to examine in detail and take an example of how Ireland and Switzerland could have a surplus without having such an advantage and how they achieved this.

When we look at the countries that have a surplus in the chemical sector, excluding the mineral fuels and oils product group, Germany, the Netherlands, Belgium and South Korea follow Ireland and Switzerland. The foreign trade surplus of these countries in this area also forms the basis of their economy. For example, Ireland has a foreign trade surplus of 95 billion dollars and Switzerland 67 billion dollars only in this area. When we look at the main export items of these countries, it is seen that Ireland and Switzerland achieved this success with pharmaceuticals and organic chemicals, Germany, Belgium, Netherlands and Singapore with pharmaceuticals and plastics, and South Korea with plastics and cosmetics exports.

In order to increase the share of chemical industry exports and value-added product exports, it is important to review the markets and product groups we will focus on in the light of the above data, and to shape our production structure and education system in this direction.

REACH REGULATION TO BE UPDATED BY END 2022

In order to fulfil the commitments made in the 'Chemicals Strategy for Sustainability' within the scope of the European Green Consensus, the European Commission is working on the revision of the REACH Regulation by the end of 2022 and has initiated a number of consultation processes.
With the deadline for feedback set to 15 April, the EU authority is seeking comment on the various proposals first put forward in the initial impact assessment in May last year. These:

- Review of registration requirements – analyzing options, including requesting more information on hazards of concern, documentation for safe use, and registration of specific polymers.
- Facilitating communication across supply chains, interested parties will consider ways to improve safety data sheets (SDSs), including compliant electronic formats.
- Review of provisions on dossier and substance assessment – options include the possibility of revoking registration numbers for ineligible registrations and allowing authorities to conduct tests to obtain hazard information.
- Review of implementing provisions – The Commission will consider setting minimum requirements for national controls and enforcement, including stricter border controls, and monitoring member state practices.
- Reforming the authorization and restriction processes, including broadening general approaches to risk management and introducing the concept of core use, and introducing the application of the mixture assessment factor (MAF), which is strongly opposed by many industry groups representing downstream users of chemicals.

The initiated public consultation process will inform the Commission's impact assessment and will be completed by the summer. Following this, the final proposal will be submitted to the Council and Parliament by the end of the year.

FOUR NEW ITEMS ADDED TO SVHC LIST

Substances that meet one or more of the criteria defined in Article 57 of the EU REACH Regulation are defined as 'Substances of Very High Concern (SVHC)'. These substances carry a high risk for the environment and human health.
The circulation of products containing one of the substances on the SVHC List is subject to authorization in EU countries. In the event that a final decision is made after the studies carried out, these substances are removed from the SVHC list and included in the 'prohibited, restricted or authorized substance list'.
On January 17, 2022, the European Chemicals Agency (ECHA) added four new substances of high concern (SVHC) to the Candidate List on the grounds that they have hormone-disrupting properties in humans, bringing the total number of entries to 223.
Click for SVHC Substance list.
https://echa.europa.eu/candidate-list-table

NEW PROHIBITED SUBSTANCES ON THE WAY IN THE EU COSMETICS REGULATION

The European Commission has announced that it will soon ban the use of 12 new raw materials in the form of nanomaterials in cosmetic products, in line with the negative opinions of the Scientific Committee on Consumer (SCCS), within the scope of Regulation (EC) No. 1223/2009.
Below you can find the list of related raw materials,
1. Styrene/Acrylates Copolymer, 2. Sodium Styrene/Acrylates Copolymer, 3. Copper, 4. Colloidal Copper, 5. Hydroxyapatite, 6. Gold, 7. Colloidal Gold, 8. Gold Thioethylamino Hyaluronic Acid, 9. Acetyl Heptapeptide-9 Colloidal Gold, 10. Platinum, 11. Colloidal Platinum, 12. Acetyl Tetrapeptide-17 Colloidal Platinum
It is also important to note that if the relevant substances are included in the Appendix 2: List of Prohibited Substances in Cosmetic Products, it will be necessary to make a formula change in your products containing these substances, and therefore to update the product information files (Product Information Files), safety reports (Safety Assessment Reports) and the notifications made on the CPNP portal. We want to remind.

THE CITY THAT WITNESSED EPIC LOVES AND WARS: TROY

THE ANCIENT CITY OF TROY, WHICH WAS ACCEPTED TO THE "WORLD CULTURAL HERITAGE LIST" BY UNESCO, CARRIES ITS TRACES TO TODAY AS THE SUBJECT OF EPIC LOVES AND WARS WITH A HISTORY DATING BACK FIVE THOUSAND YEARS. THE HISTORICAL CITY, ABOUT WHICH EPICS HAVE BEEN WRITTEN AND FILMS HAVE BEEN MADE, DRAWS ATTENTION WITH ITS ARCHAEOLOGICAL RICHNESS AFTER LEAVING MANY CIVILIZATIONS BEHIND.

The Aegean coast is one of the most generous lands in Türkiye and the world in terms of historical and cultural richness... Every step you take on the Aegean coast can take you back thousands of years. The ancient city of Troy, which is at the forefront of these historical and cultural riches that are the subject of movies, novels and epics, and which has been declared as a 'National Historical Park', has achieved an international reputation and interest by being included in the 'World Cultural Heritage List' by UNESCO in 1998. The city which dates back to 3000 BC, says hello to life after every destruction, even though it has seen so many wars and disasters. While the archaeological excavations over 150 years still continue, it is observed that the city, which was rebuilt after each collapse, reached up to 10 layers, and each layer left behind a separate living heritage, civilization.

When Paris, the Prince of Troy, kidnapped Helen, the wife of King Menelaos of Sparta; It was not expected that the love between them would leave such a mark in the history of the world. King Menelaos, who thought that he was betrayed after this love, did not know that he would make an epic signature in the history

of the world when he came to the shores of Troy with an army that filled hundreds of ships to get his wife back. King Menelaos, who could not take Troy and his wife in this legendary war that lasted for 10 years, leaves the impression that he left here with his ships by leaving the giant wooden horse which is among the important figures of mythology, in front of the castle walls. However, the Trojans, who took this wooden horse into their castle without understanding the trick, were not aware that they were preparing their end after the soldiers hiding inside opened the castle gates at night. After such a mythological story, while Homer was writing the epic of the Iliad, many literary figures from Virgil, one of the masters of Latin literature, to the English playwright Shakespeare, were influenced by this work and dealt with epic stories with their poems, plays and novels. While the Trojan war is also the subject of movies, the ancient city, which is rich in love, war, history and culture, maintains its importance until today. Those who have visited Troy thousands of years after the epic war may feel themselves in these movie scenes in this magnificent environment, or they may feel so deep as to think that they are one of the heroes of the Iliad epic they read, such as Achilles, Paris, Helen, Menelaos. When we look at the cultural richness in Troy, it is seen that the first settlement level dates back to the early Bronze Age, 5,000 years ago. While the archaeological excavations in this magnificent archaeological city, the first excavations of which were started by Heinrich Schliemann in 1871 and continued by W. Dörpfeld, C.W Blegen, are still continuing, it is also determined that the city has reached deep layer by layer. In Troy, which reached 10 layers in the last stage, the social life in BC. With the 85's, A.D.. It is estimated to reach up to 500. Then, in the Eastern Roman period, it is recorded that the city was completely abandoned.

ANCIENT ARTICLES OF TROYA ARE SAVED ABROAD

Archaeological excavations in Troy started for the first time in 1871 by the merchant and archaeologist Heindirch Schliemann, within the scope of the permission obtained during the Ottoman period, and unfortunately the first artefacts unearthed here are taken abroad. It is known that the merchant Schliemann smuggled these works, including the Troy treasure, to Greece and then to Germany. On the other hand, after the defeat of the Germans in the Second World War, these valuable historical artefacts are moved to Moscow this time. In addition to these artefacts, artefacts unearthed during the excavations carried out in later periods are exhibited in the Çanakkale Museum.

ARCHEOLOGICAL EXCAVATIONS HAVE ALSO BEEN 'HISTORIC'!

While the excavations of the city reveal a 'historical' process since it took 150 years, it is observed that the defence walls around the castle, which draws attention among the ruins, include 23 sections, eleven gates, a stone-paved ramp and the lower parts of five defensive castles. On the other hand, it is predicted that the city remains unearthed during archaeological excavations mostly belong to the second and fourth layers. On the other hand, the traces of a part of the first wall from the first layer show that this place is near the south gate. In addition, within the scope of the excavations carried out in recent years, it is understood that there was a lower city to the south of the mound, which was included in all prehistoric periods, and that it spread to approximately 30 hectares in the Late Bronze Age. Many historical artifacts, including the temple of Athena and the recently excavated sanctuary, are also part of this Greek and Roman city fabric in Troy. The market place of the city, the agora, the concert area, the odeon and the nearby council building bouleuterion are among the works that complete the historical texture.

EACH LAYER OF TROYA HAS ITS OWN RICHNESS

Troy, which was destroyed periodically throughout its history and rebuilt in the same place, reaches 10 layers as a settlement phase during its existence. While the first

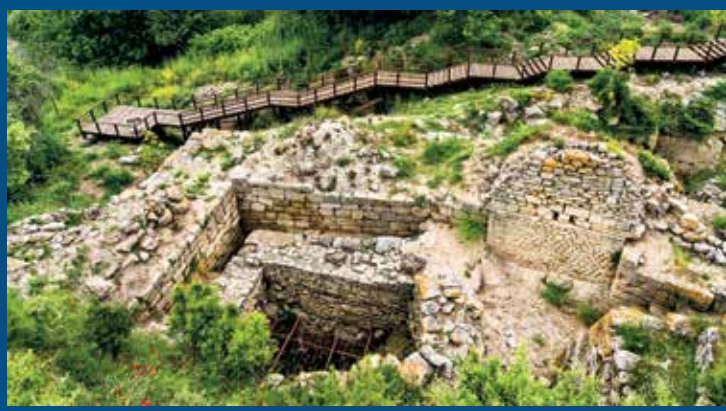
layer is dated between 3000 and 2500 BC, there are walls with towers that are determined to be from this period. In addition, the remains of houses from the same period attract attention during the excavations. The traces of the second layer are dated between 2500-2200 BC. The traces of the second layer are dated between 2500-2200 BC. It is observed that the layout and architecture of this layer was more developed than the previous period. As a result of the excavations, multi-room houses and partially smaller houses are located side by side in narrow streets. The so-called megaron type house with a columned courtyard and a multi-room is also observed, where the use of columns in architecture was first identified. Archaeological findings document that this layer was destroyed after a great fire. The third layer of the city, which was established in the same region after this, marks the period until 2050 BC. It shows an unplanned city formation where the settlement in this layer was spread over a wide area.

While the other layer of the city is dated between 2050-1900 BC, it is recorded as being heavily damaged due to the excavations of the archaeologist Schliemann. It is observed that the fifth layer which is dated between 1900 and 1800 BC is more developed in terms of architecture and urbanization compared to the previous two periods. It is also determined in the excavations that the houses here are planned, with several rooms and have a courtyard and a large hall.

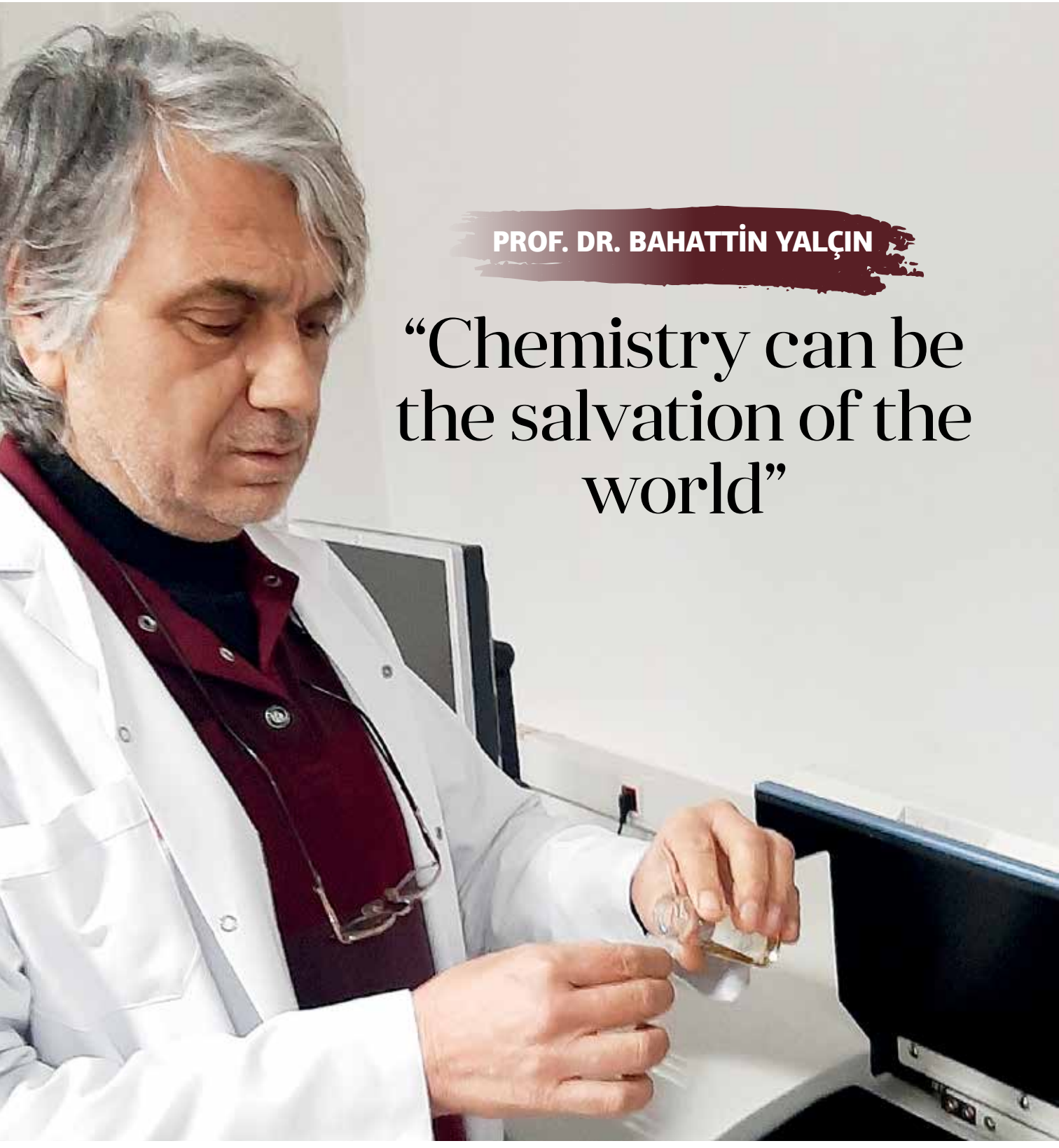
TRACES OF THE TROYA WAR ARE IN THE SIXTH LAYER

In the sixth layer which is dated between 1800 and 1300 BC, the development of architecture with the presence of the Hittites in Central Anatolia is remarkable. The house with two rows of column bases, the cistern and the 8-meter-deep well, which have an Anatolian-specific architecture, are recorded as structures from this period. The meticulous craftsmanship of the limestone walls, on the other hand, and their support with towers show the importance in terms of surveillance and defence. It is also predicted that the Trojan war, which has become a legend, coincides with this period. However some scientists point to a great earthquakethat took place at that time about the destruction of the city.

On the other hand, the seventh layer of the city is dated between 1300 and 1100 BC as part of the excavations. However, in this period, it is recorded that the city lived with disasters and was exposed to destruction in the face of fire and destruction. It is estimated that there was no settlement in the city for several hundred years after these disasters, and the eighth layer of the city is dated between 700 and 85 BC. The most important artefact



found in these dates, which coincides with the period of the Persians and later the Macedonian King Alexander the Great, stands out as the Temple of Athena. However, it is estimated that the place where the temple is located was destroyed by Schliemann, and the large pit formed during the excavation here is called the 'Schliemann Pit'. Troy's dated period from 85 BC to 500 AD constitutes the ninth layer. In this period, which coincides with the period of the Romans, Troy becomes one of the important trade centers. The bouleuterium, which is a theatre and council building from the Roman period, is still among the remarkable works. The last layer of the city is mostly seen as belonging to the Eastern Roman period, and later on, Troy lost its importance in history and was abandoned and remains a historical monument until today.



PROF. DR. BAHATTİN YALÇIN

“Chemistry can be the salvation of the world”

Expressing that the chemical industry touches every sector, President of the Turkish Chemistry Society Prof. Dr. Bahattin Yalçın also points to the environmental issue and says, "If we can develop and expand greener, safer and more sustainable production processes from the laboratory to the facility, chemistry can be the salvation of the world."

The President of the Turkish Chemistry Society, who constantly sets new goals for himself, conducts research, and pursues innovations with a sense of curiosity; Prof. Dr. Bahattin Yalçın is one of the important names of the chemical industry... Prof. Dr. Bahattin Yalçın talks about how he met chemistry, what needs to be done to further develop the Turkish chemical industry, his duties in the international arena, and his advice to young people through Chemist magazine.

Can we get to know Prof. Dr. Bahattin Yalçın who is one of the important names of the chemical industry,?
I was born in Istanbul in 1967. I graduated from Istanbul University, Faculty of Engineering, Department of Chemistry in 1991. I completed my master's and doctorate degrees at Marmara University, Department of Chemistry. I served as a Member of the Board of Directors at the Nature Plants and Aquaculture Application and Research Center in 2009 and at the Environmental Problems Application and Research Center in 2010. I have been working as a professor at Marmara University Chemistry Department since 2015. While I have publications in SCI and SCI-Expanded journals in the field of inorganic chemistry research, I have been working as a chemistry manager in the 'Monitoring of Changing Oceanographic Conditions of the Marmara Sea' Project since 2009. Since 2016, I have been the Chairman of the Board of the Turkish Chemistry Society.

Can we learn about your adventure in the chemical industry? When and how did you become interested in this field?
My adventure in the chemical industry started as an amateur when I was a university student. At the beginning of the 1990s, together with Eyüp Kartal, a friend of mine from the same department at the university, we took the active ingredient of bleach in the basement of their apartment and made bleach with this substance. In my first years as an assistant, we produced dish soap, fabric softener and automatic dishwasher detergents. At the beginning of my academic life at the university, I started to prepare the emission reports of the chemical industry and other industrial enterprises under the leadership of my advisor, Prof. Dr. Adnan Aydın. In this context, my adventure in the chemical industry has accelerated by examining the production stages, the stages it has gone through from raw material to product and by examining all processes to determine where and which emission parameters will be measured, and to report them.

Can we learn what you have contributed to the chemical industry as the Turkish Chemistry Society?
Turkish Chemical Society; He has been a member of the International Union of Pure and Applied Chemistry (IUPAC), the world's largest and most important chemical organization, since 1958. In addition,our Society has been a member of European Chemical Sciences - EuCheMs which was formerly known as Federation of European Chemical Societies, FECS since 1970, the Federation of Asian Chemical Societies (FACS) since 2013 and represents Türkiye in these institutions. Thanks to their membership in IUPAC, EuChemS and FACS, the scientists of our country have the opportunity to work with successful and important scientists in the field of other countries in the working groups of these unions.Thus, the Turkish Chemical Society successfully represents the Turkish chemical industry both at home and abroad..

"OUR INTERNATIONAL COMPETITIVENESS IS INCREASING"

How do you evaluate the chemical industry based on your experience? Could you explain the development of chemistry to new generations, especially by passing it through your filter?
When we look at the development of the chemical industry in our country, there were small scale local productions in areas such as soap, oil and rose oil before the Republic. After the Republic, there was not enough capital accumulation for the industry in the private sector, and the state laid the foundations of the chemical industry by investing in areas where needs came to the fore. Later, for example, in the 1960s, the private sector started to produce products that primarily met consumer needs. Our industry has come a long way in the delayed industrialization

"Our industry is an important industry that increases our standard of living, provides protection and treatment against diseases, contributes to cleanliness and hygiene, and meets the needs of humanity in dressing and nutrition."

process of our country. The share of our industrial products in general exports has reached almost 90 percent.
The chemical industry is an immersive and supportive industry for all other manufacturing industries, even the construction industry and agriculture-livestock farming. The development of the chemical industry improves all areas of production. Today, almost a third of the chemical industry has already achieved an advanced level of digitalization and integration. From this point of view, our international competitiveness is increasing day by day. In addition, our chemical industry has gained a structure that has an important power in our region.

What does the chemical industry, which touches every aspect of life, mean to you?
The chemical industry has an important role in the economy as an industry branch that provides intermediate goods and raw materials to many sectors, as well as the final products it provides in many fields from plastics to cosmetics, from drugs to dyes. Our industry is an important industry that increases our standard of living, provides protection and treatment against diseases, contributes to cleanliness and hygiene, and meets the needs of humanity in dressing and nutrition. Our industry has the power to support not only the manufacturing industry but all sectors in the economy with its large annual sales volume.

How do you evaluate the chemical industry in Türkiye when you look at the world? Is our country successful?
Despite the fact that chemical industry products generally consist of products with high added value due to their high technology content, the production of our country's chemical industry consists of products with relatively low added value. For this reason, there is a significant lack of production and investment in chemistry in Türkiye. In order to find solutions to these problems, the production of chemicals with high added value should be the priority of the chemical industry. However, in order to achieve these goals, we must ensure the coordination of university-industry cooperation more effectively and efficiently. Effective action plans should be established in order to increase industrial research, commercialize intellectual property rights, increase entrepreneurship and innovation index, encourage graduate students to take part in industrial research, and develop cooperation between industry and universities. Appropriate models should be developed to meet the R&D needs of companies by using the infrastructure of research centers and research laboratories of universities, without investing in R&D infrastructure. Thus, I think that universities can do R&D for the needs of the industry and contribute to the transformation of research projects into practice.

What would you like to say about the developments in the chemical industry due to the Covid-19 pandemic?
The pandemic brought with it potential opportunities as well as problems. In this period, the chemical industry gained the trust of the public, especially with its contributions to the health sector, and its place and importance in the supply chain was once again clearly understood. Many countries had difficulties in the supply of masks, respirators, disinfectants, gloves, and other medical supplies necessary for healthcare workers. Our country, on the other hand, continued its production by reacting quickly in this regard, and was proud of a sector that could meet the increasing product demands due to this virus and also succeeded in increasing its exports.

As a veteran academician, do you think the Turkish chemical industry has achieved its goals? In which areas can we go further?

Today, the chemical industry has a wide range of products... In addition to consumer goods such as cleaning products, paints, cosmetics, drugs, fertilizers and pesticides for the agricultural sector, organic and inorganic chemicals needed by the manufacturing industry, including the chemical industry, dyes, laboratory chemicals, thermoplastics and similar products are produced. In order for the chemical industry to develop and achieve its goals, we need to develop new products from basic information to technology. For these, it is seen that the need for large-scale strategic investments continues. New investments should be made especially in areas such as petrochemicals, plastics, composites and advanced materials. The production of graphite, carbon and its allotropes should be started in order to support the production of other high-tech products in addition to silicon.

YOUTH SHOULD KNOW AT LEAST ONE FOREIGN LANGUAGE

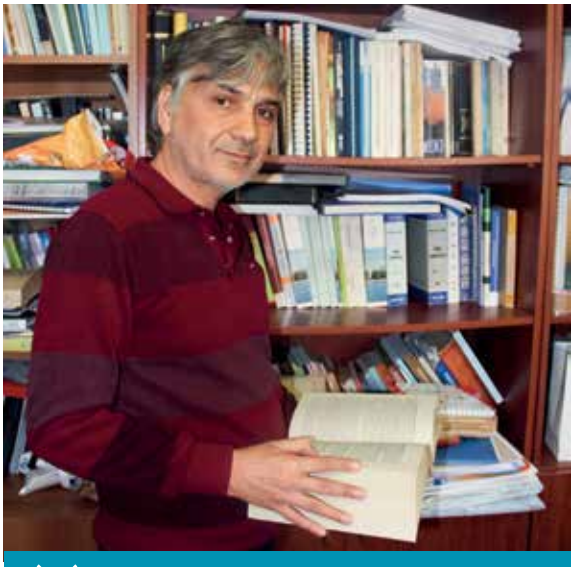
Do you have any advice for young people who want to work in the field of chemistry?

Today, chemical engineers and chemists in the world carry out their professions in a wide range from supply chain to marketing chain, including raw material quality control, production control and research and development and product development processes. During these processes, they continue to work in contact with a wide range of professions such as chemistry, mechanical and materials engineering, pharmacy, biology and medicine.

Students who start to work as chemists or chemical engineers usually either do not know the analysis tools in the laboratories or do not know how to use them. Students declare that they have seen them theoretically at universities, but they have never had the opportunity to use them. Therefore, they should increase their competencies by meeting their training needs regarding the use of these devices, in line with their possibilities.

I recommend the students develop themselves for the Environmental,Transport and Occupational Safety Regulations (Sevesso Directives, REACH, CLP, ADR etc.). In addition, general and industrial concepts such as rheology and viscosity need to be learned well. It is seen that subjects such as production cost and production efficiency, which are very important in industry, are not taught in universities. Young people should definitely improve themselves on these issues.

In order for chemists and chemical engineers to integrate with the world, I recommend them to be at a level where they can easily use at least one foreign language, especially English. The most important thing for those who want to work in the field of chemistry; I recommend that they have personal characteristics such as curiosity, analytical thinking, self-confidence, and problem-solving skills and develop these aspects.



CHEMISTRY CAN BE THE SALVATION OF THE WORLD

The environment and climate factor has come to the fore in recent years, and the field of chemistry draws attention in this context. Will chemistry be the salvation of the world?

There is a general scientific opinion that the average world temperature has been accelerating in the last century. The first step towards minimizing environmental impacts is, of course, design systems, processes that are more efficient in terms of material and energy use. If biorefineries are used extensively, the transition to sustainability in society can be facilitated by changing the use of renewable materials. Chemistry can save the world if we can develop and expand greener, safer, more sustainable production processes from the lab to the plant.

Can we learn about your criteria that lead you to success in business and academic life?

The main criteria that make me successful in business and academic life; I can say that it is because I am curious and constantly doing researches and following the latest developments in the scientific field. In addition to being aware of scientific developments by constantly examining the published articles, I constantly make risk assessments in my life and set goals for the future. In addition to these, working hard is among the biggest criteria that lead me to success.

Mehmet Akif ORUÇ
Industry Expert of İKMİB

The impact of the Covid-19 pandemic on the plastics industry

> *The most important effect of the pandemic in the plastics industry was the development in the plastic packaging industry after the change in consumer behaviour in this period. The increase in the consumption of single-use plastics in terms of hygiene in the pandemic has provided an increase in production in this area.*

Plastics, which are an important component of economy and trade, producing solutions for rapidly changing consumer needs, and an important building block in reaching safe food and health-friendly health materials, have been an inseparable part of human life since the 19th century when it was invented. In fact, the annual plastic production in the world, which was 2 million tons in 1950 and reached 367 million tons in 2020, is an indicator of the importance of the industry and the need for the industry. Today, 32% of the world's plastic production belongs to China, 52 percent of which is realized by Asian countries, while 3% belongs to Türkiye and 15 percent is made by European countries. Türkiye ranks second among European countries with this production rate.

The Covid-19 pandemic, which has been going on for about two years, has caused deep changes and effects in the society on a global scale, but these changes have had and continue to have individual, social and economic outputs. In the first year of the Covid-19 pandemic, the restrictions imposed by countries, closures to prevent the epidemic and various measures taken caused disruptions in international trade as well as social life. In this process, the rupture of supply chains, the slowdown in logistics and the emergence of the problem of container supply in international trade, followed by the problems in the supply of raw materials, caused great increases in raw material prices. These increases resulted in an increase in the prices of plastic raw materials in the plastics industry, and the increases directly affected the plastic finished products and the industries where plastic raw materials are inputs.

THE PANDEMIC CHANGED CONSUMER BEHAVIOR

The most important effect of the pandemic in the plastics industry is that the change in consumer behaviours during the pandemic period reveals the importance of the plastic packaging industry. The increase in single-use plastics in the pandemic caused an increase in production in the plastic packaging industry, unlike most industries. It was observed that the use of personal protective equipment and the consumption of plastic in food packaging increased with the increase in the importance given to personal health. As a matter of fact, while the prohibition of single-use plastics was on the public agenda before the pandemic, it was inevitable that it came to the fore as the most suitable product to be used in terms of health during the pandemic period. To reduce dependence on single-use plastics prior to the Covid-19 pandemic, many of the bans, restrictions and regulations on the use of single-use plastics have been delayed or withdrawn in various countries.

On the other hand, the increasing consumption of single-use plastics has increased the damage of plastic waste to the environment. While 14.5 million tons of waste was collected in 2018 in European Union countries before the pandemic, this figure reached 29.5 million tons in 2020. Of the waste collected in 2018, 42 percent was recycled and 18.5 percent was garbage. In 2020, only 34.6 percent of the collected waste could be recycled and 23.4 percent became garbage. So much so that although less plastic waste was collected before the pandemic, the recycling rate was high, while the amount of waste increased and the recycling rate decreased in the pandemic. In

addition, it was noteworthy that the rate of garbage in the collected wastes increased significantly.

PLASTIC EXPORTS INCREASED ABOVE THE TURKISH AVERAGE

The trade volume of the world plastics industry decreased by 4 percent in 2020, the first year of the pandemic, compared to 2019, less than the total trade volume of the world goods. This shows that the world plastics industry is less affected by the pandemic compared to other industries. Despite the pandemic, unlike the world average, the Turkish plastics industry exported approximately 6.3 billion dollars in 2020 with an increase of 4.29 percent compared to 2019. In 2021, it gained a great speed and reached 9 billion dollars of exports. While Türkiye's general exports decreased in 2020, when the pandemic showed its greatest impact, exports of the plastics industry increased. In 2021, the growth of the sector at the level of 42 percent, which is more than the average increase in exports of Türkiye, which is 32 percent, did not go unnoticed. Despite the difficulties experienced, the effects of the increase in the importance of plastic during the pandemic period and the developments in the export, production and consumption of the sector revealed the importance and potential of the plastics industry. In addition, the fact that an increase in plastic production and consumption will increase plastic waste should not be forgotten, and it will become even more important for the plastics industry to recycle and reuse these wastes. Therefore, all these should not go unnoticed.

EVALUATION IN TERMS OF INTERNATIONAL FAIRS

Due to the pandemic, the economic and commercial potential of the fair organization sector is greatly damaged; the advantages of the fairs, such as reaching new customers, following the sector and innovations, finding new markets and increasing their shares in existing markets, were lost. With this result, companies were adversely affected in terms of sales figures, acquiring new customers, reaching marketing targets and keeping up with innovations.

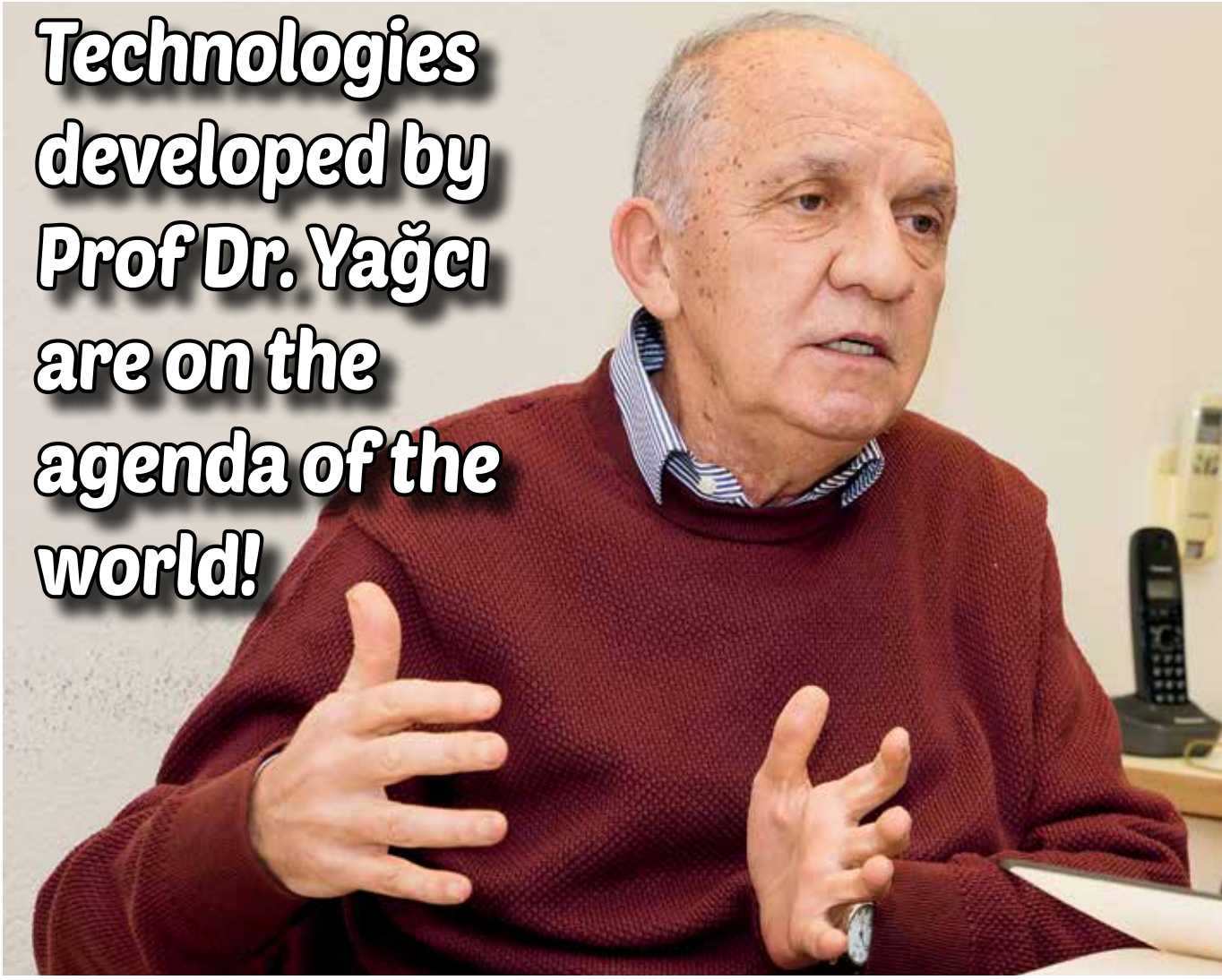
From the perspective of both the plastics industry itself and many industries where plastics are used as inputs, at least half of the fairs organized around the world, directly or indirectly, concern the plastics industry. Considering that according to the data of 2019, when the conditions are normal, approximately 32.000 fairs are held in the world every year, the level of impact of the plastics industry from the negative effects of the pandemic in the fair organization sector is quite remarkable.

While traveling, being in a crowded environment, and face-to-face meeting are indispensable conditions for physical fair participation, applications such as travel restrictions, stopping flights, closing their borders and banning being in public areas, due to the most favourable conditions for the spread of the virus, have been compulsory since the beginning of the pandemic. Cancelled or postponed one by one. According to the research, the revenue generated by the fair industry globally in 2020 is 29 percent of 2019. The sector, which recovered a little in 2021, managed to generate 41% of revenue in 2019. With greater hope, it is estimated that this rate will be around 70 percent in 2022. Still, it seems like it will have to wait a few more years for the fair industry to return to its old days.

It should also be noted that another effect of the pandemic on the exhibition industry is that the concepts of virtual or digital exhibitions have come to the fore. Virtual or digital fair organization was an activity that has been talked about for years, but remained a niche next to physical fairs. However, the pandemic has brought about a change that has never been experienced before for the traditional physical fair organization. Although virtual fairs will not replace physical fairs, it is inevitable that they will have more places in the fair sector in the future compared to the previous period.

SourceS:
** TÜİK - Data of Turkish Statistical Institute 2021, https://www.tuik.gov.tr/*
** Plastics Europa Association of Plastics Manufacturers, Plastics – the Facts 2021, Bkz. https://plasticseurope.org/knowledge-hub/plastics-the-facts-2021/*
** UFI Global Exhibition Barometer 28th Edition 2022, The Global Association of the Exhibition Industry (UFI). Bkz. https://www.ufi.org/archive-research/the-global-exhibition-barometer-february-2022/*

Technologies developed by Prof Dr. Yağcı are on the agenda of the world!



Concentrating his scientific studies on polymers, Professor of the Faculty of Arts and Sciences at İstanbul Technical University. Dr. Yusuf Yağcı has achieved many successes, from TÜBİTAK Science Award to Japan Polymer Association International Science Award, from Alexander von Humboldt Research Award to being selected as a 'Fellow' by the UK Royal Society of Chemistry. Developing projects from the healthcare field to the aviation sector for many global chemical companies and achieving successful results, Prof. Dr. Yağcı has important collaborations, publications and projects with many countries from France to Germany, from England to Algeria and Tunisia, from China to Japan.

Dedicated to science, Prof. Dr. Yağcı reminds that according to the practice in Türkiye, professors should retire at the age of 67, but according to the YÖK Law introduced in recent years, the retirement age of academics who contribute to and produce international science can be postponed. "Due to the retirement age, which can be extended every year, it is possible to continue academic studies. My term of office has been extended for the fourth time. "I am very happy to be given the opportunity to continue my studies." Reminding that the studies carried out in the infrared (Near Infrared) region, which require sunlight and higher wavelength and less energy, have gained importance recently. Yağcı says that they also have pioneering research in this field that will contribute to world science and they have developed initiating systems. prof. Dr. Yagci shares the following information with Chemist magazine, giving examples of these works:

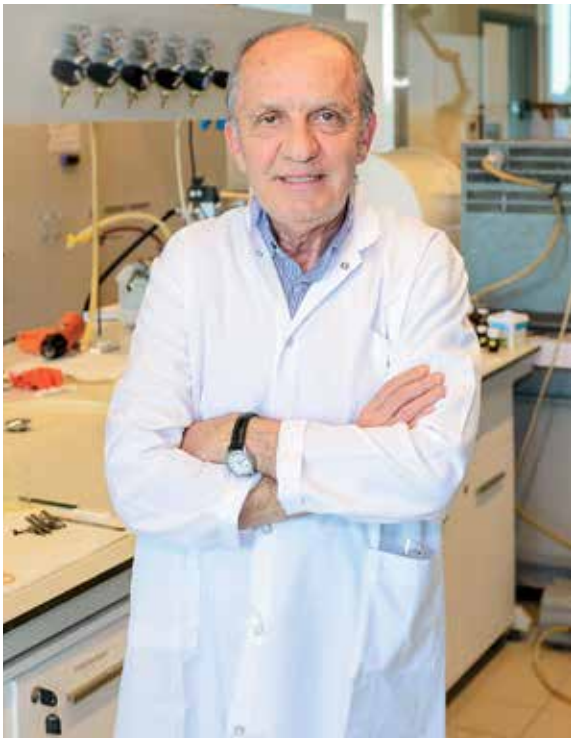
Prof. Dr. Yusuf Yağcı conducts successful studies on technologies that can be applied in many fields such as polymer production with light sources, coating, printed circuits, adhesives, three-dimensional printing, electronics, dental filling, and the majority of these technologies attract attention from global companies.

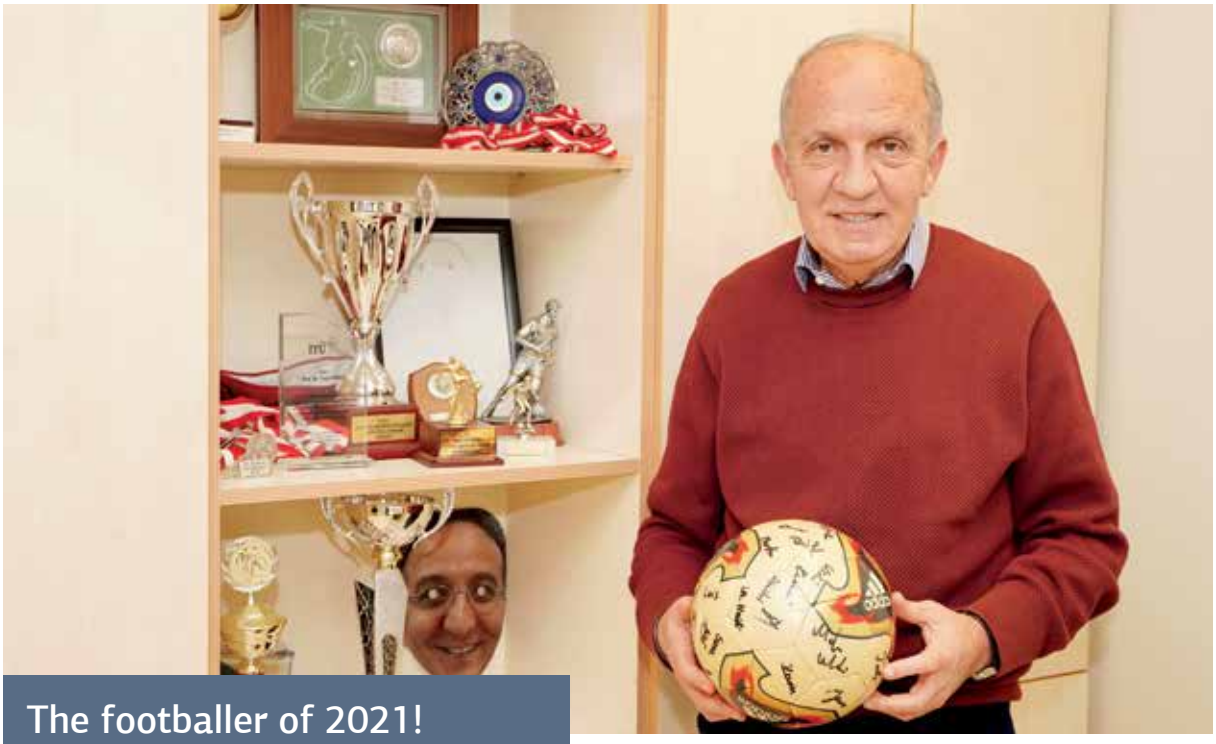
COVID TEST WITH PHOTO-SENSITIVE POLYMER

"Currently, we have a publication on Covid and the Delta variant that we have submitted to an international journal and some minor corrections have been requested. We have synthesized a polymer that can examine whether there is Covid or not, even on paper, with a sample taken from saliva or nose. When illuminated, this polymer fluoresces because of a special interaction with the virus, and it is quickly determined whether the person has the Covid or Delta variant. Currently, work continues on the Omicron variant with the same material. Although there are other test methods in the world, our method is easy, simple and fast, which provides an important advantage. I am not a scientist related to medicine or biology. After the polymer was synthesized in our group, the biological and medical aspect of the study was carried out by Prof. Dr. Suna Timur and Assist. Assoc. Dr. Made by Emine Güler Çelik. It shows that this situation is a concrete indicator of how scientific and technological contributions can be made by combining expertise in different fields."

Emphasizing that his other studies on Covid was implemented by Kubilay paint company in Izmir, Prof. Dr. Yağcı said, "Silver nanoparticles are the substances that show the highest antimicrobial and antiviral properties. This company has developed a paint that is effective against bacteria and viruses containing silver nanoparticles, using a study we have published before, and turned it into an industrial product. The company exports these products to some countries as a health-friendly coating paint material.

On the other hand, stating that Ivoclar Vivadent dental company, which operates in the field of dental materials in Lichtenstein, invited them by following their publications, Prof. Dr. Yağcı said, "When you go to the dentist, they shine a blue light in your mouth and fill it... They invited me because they know that I have studies on polymerization with light. We collaborated within the framework of a project and carried out research and joint publications. The project also provided chemical materials and scholarship opportunities to my students. A similar collaboration was also made with the Swiss company Ciba, Specialty Chemicals. Our industrialists





The footballer of 2021!

In addition to his intense academic studies, being a football enthusiast, Prof. Dr. Yağcı is the midfielder of the Faculty of Arts and Sciences team in personnel football tournaments at İTU... Saying that he has awards from football as well as the ones he has won in science, Prof. Dr. Yağcı was selected as the most valuable player in the 2021 tournament. Being a licensed player in the over 40 aged league in Germany for a while, Prof. Dr. Yağcı also received awards in the matches he participated in while he was serving in this country in 2002. Academics, who signed the same ball played in the 2002 world cup matches, gave this ball to Prof. Dr.Yağcı as an award for his performance. Yagci is also a good tennis player...

should likewise follow academicians and benefit from them. However, instead of this quick financial income; there should be projects in the form of developing innovative technologies," he adds.

GLOBAL COMPANIES CARES ACADEMICIANS

Arguing that industrialists in Türkiye do not show the expected sensitivity to academic studies, Prof. Dr. Yağcı also gives examples by underlining that there is a different understanding abroad.

"Namely; Germany's Henkel company was interested in the publications about the production of high temperature resistant thermoset polymers we made with Assoc. Dr. Barış Kışkan. These polymers have been successfully tested at Airbus and Boeing. It is non-flammable on the surface and has chemical resistance. We obtained a patent on this subject with Henkel company. They invited us to Germany, we gave seminars. In fact, Henkel has another important approach. The firm has established a scientific structure called the international European Scientific Advisory Board (ESAP) in the fields suitable for it. In this structure, there are also professors from the chemistry, machinery and automotive sectors. I was also a member of that board for a while. In this board, we firstly; They used to say, "Tell me about your work on this and that". We used to go to meetings twice a year. Telling us about they would inquire whether we could make contribution on this matter or whether we could make a presentation about the subjects they wanted to learn. I think this understanding should be in many Turkish industrial companies in order to catch up with new developments."

A TREATMENT METHOD AGAINST BABY ALZHEIMER

Dr. Antonio Puglis who earned his doctorate in Italy, worked in England and now works as a researcher after doctorate in our laboratory with the support of İTÜ and TÜBİTAK, made an offer to write a European project.

The subject of the project was inspired by the story of a woman's child in the USA. This baby was unable to move as a result of a disease called 'Baby Alzheimer's' caused by the presence of cholesterol in the brain. Cyclodextrin molecule, which likes hydrophilic water on the outer surface and dislikes the water on the inner surface, can take this cholesterol to its inner surface and then dissolve it and take it out. The doctors informed the woman that there could be a solution to this, but due to the size of the molecule, giving it via blood can face an obstacle 'Brain Barrier'. Alternatively, they stated that it can be injected into the brain through a needle, but there is a risk of death or paralysis if the needle touches the wrong place. Saying 'I am going to take the risk instead of living like this, get the injection', his mother accepted the offer and the child eventually recovered. Inspired by this event, within the framework of the European Community Horizon 2020 support program, hosted by İTÜ, our project 'Marie Curie' which was presented by Puglisi as a researcher under the consultancy of me was accepted. In the project, we bonded the o-ring molecule to a long-chain biocompatible polymer and turned it into nanoparticles. Thus, we have created a structure that can overcome the brain barrier and enable the separation of cyclic molecules in the brain at the level of acidity. This work was published in BioMacromolecules, an important journal of the American Chemical Scoiety, and the European Union published our work on its website as an 'excellent innovation'."

Prof. Dr. Yağcı's Awards

An honorary member of the Turkish Chemical Society, Prof. Dr. Yusuf Yağcı was also entitled to receive many awards for his achievements. Notable among these awards can be listed as follows:

- TÜBİTAK Science Award (1994)
- Elsevier Scopus Award (2007),
- Japan Polymer Association International Science Award (2008),
- Elginkan Foundation Technology Award (2008),
- Science and Technology Union Board (COMSTECH) 2010 Chemistry Honor Award
- METU Mustafa Parlar Education and Research Foundation Science, Service and Honor Award (2013)
- Selected as a 'Fellow' (Fellow of the Royal Society of Chemistry) by the UK Royal Society of Chemistry (2017)
- Organization of Islamic Cooperation (OIC) Science and Technology Award (2017)
- Belgian Polymer Group International Science Award (2018)
- Alexander von Humboldt Research Award (2018)

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CARBON FOR CHEMISTRY

CHEMISTRY FOR CARBON!..

İstanbul Technical University Faculty Member and also the President of the Sustainable Production and Consumption Association Prof. Dr. Filiz Karaosmanoğlu wrote about the importance of carbon in the field of chemistry for the readers of Chemist magazine.

Prof. Dr. Filiz Karaosmanoğlu
President of Production and Consumption Association

Life on our planet; It proceeds through the carbon, nitrogen and water cycle. The chemical industry presents these three cycles to humans by transforming them into chemicals, intermediates and products. Chemistry, which took a long time to get the nitrogen in the air into the fertilizer composition, had succeeded in the important solution to the problem of hunger. Nowadays, hydrogen in water is one of the focus areas... Our chemical industry, which adds value to the carbon in coal, oil, natural gas, vegetable and animal resources, and wastes, offers a wide variety of products to life and many sectors as an intermediate input, is responsible for managing its carbon in the best way. Our carbon agenda nowadays... And it will always be on the agenda.

Carbon is the essential component of life. Carbon in the atmosphere, hydrosphere, lithosphere and biosphere is continuously transported slowly or rapidly in the dynamic system in the carbon cycle in living things, earth's crust, oceans and atmosphere. The biological processes of photosynthesis and respiration are the carbon cycle.

HIGHLIGHTS WITHIN THE SCOPE OF YMEP 2021

- Border Carbon Regulations
- A Green and Circular Economy
- Green Financing
- Clean, Economic and Safe Energy Supply
- Sustainable Agriculture
- Sustainable Smart Transportation
- Combating Climate Change
- Diplomacy
- Includes AYM Information and Awareness targets.

Carbohydrates are stored in plants by photosynthesis of solar energy, water and carbon dioxide. Biomass is formed. Plants feed animals. Plants and animals also become human food. The leaves stem and roots of the plant are nutrients in the soil for microorganisms. Thus, photosynthesis affects the entire ecosystem.

Carbon dioxide in the atmosphere becomes Biogenic Carbon when it is stored alive or dead in the biomass by photosynthesis with a unique beauty. Thus, carbon dioxide is captured in plants, trees and soil. There is a long-term storage of Biogenic Carbon in the soil. The biogenic terrestrial carbon cycle offers significant technical potential for reducing greenhouse gas emissions. Biogenic Carbon is important in two fundamental ways: Biochemicals; biofuels; calculations in biomaterials and biopower production and national greenhouse gas emission inventories... Here, biorefineries for the chemical industry have the great advantage of supplying bioderived products with low carbon footprints. Bioplastics and biolubricants are therefore becoming increasingly important. It is this Biogenic Carbon that makes biofuels and bioelectricity advantageous against the climate crisis. We will hear more about this now. Biodiesel, Bioethanol, Renewable Natural Gas (RNG, Biomethane) and Sustainable Aviation Fuels (SAF) are very important for these reasons.

Paris Agreement, United Nations Framework Convention on Climate Change (UNFCCC) 26th Conference of the Parties (COP26) results, European Green Consensus (AYM), European Union (EU) Industrial Strategy titled New Strategy for a Global Competitive, Green and Digital Europe; Circular Economy Action Plan for a Cleaner and More Competitive Europe; EU Chemicals Strategy for Sustainability; Emissions Trading System (ETS); Border Carbon Regulation Mechanism (SKDM); Sustainable Product Initiative (SUI) should be evaluated together. In addition, our Green Reconciliation Action Plan 2021 (YMEP 2021) targets and our climate change legislation progress are ahead of our organizations.

Climate Change Law and Emissions Trading System (ETS) Regulation are coming. Work continues to update the National Climate Change Strategy and Climate Change Action Plan to the 2050 Target. The Climate Council Final Declaration will be announced at the end of February. Circular Economy Action Plan work started.

'TAKE THE GREEN PATH TO TRANSFORMATION TO CHANGE

Turkish Exporters Assembly (TİM), which says, "We produce for the world without consuming the world," has prepared a Sustainability Action Plan for our industrialists and exporters. In line with the plan, we continue to work on TİM, Industry Sustainability Science Committee. Istanbul Chemicals and Chemical Products Exporters' Association (İKMİB) is following the global developments

closely with the European Chemical Industry Council (CEFIC), knowing the indisputable necessity of managing its carbon and taking SKDM into account. Our country is among the countries that will be most affected by SKDM. Starting from 2023, it is envisaged that SKDM will be launched with selected sectors of aluminium, cement, iron and steel, electricity and fertilizers, during the three-year transition period with no financial obligations. EU is discussing options such as taxation instruments and ETS mechanism for the implementation of SKDM... ETS greenhouse gas emissions involves the energy and energy intensive sectors (aluminum, glass, cement, iron, steel, organic chemicals, petroleum refining, ceramics, commercial aviation fuels) in other words the high carbon footprint sectors. It should never be forgotten that three years is actually a short time for the industry, time flies fast, green transformation is not easy, and the turn will come for all products of our industry. In the EU, all sectors, sub-sectors of chemistry are striving for strategies with high external protection by prioritizing their own PAP values, internal competition. Our chemical industry should also set out to achieve the best carbon management in sustainability management by saying Carbon for Chemistry, Chemistry for Carbon. As İKMİB Chairman of the Board of Directors and our esteemed İTÜ Graduate Adil Pelister said, with the pride of being "We" and "One", our chemical industry should embark on the "Transformation for Change" green path. I congratulate those who are already on the road with sustainability management and their success. It is technically enjoyable to watch... Because our beautiful country should grow by producing, the power of our exports should be a catalyst. After both the pandemic and economic problems in our country, the 'green' should recover.

Sustainability management is based on the economic, social and environmental sustainability of the organization. Sustainability management is not just environmental management. Sustainability management is essential in matters such as purchasing, clean production, and supply to the market, supply chain management, and stakeholder collaborations. The organization demonstrates its stance for the United Nations Sustainable Development Goals.

While the Environmental, Social, Governance (ESG) Reports, prepared with international standards, show the current status of organizations, their achievements are ranked according to indices. Because now there is a question of sustainability management on the way to reach investment financing and cash. In the environmental title of sustainability management, all the effects of the organization (such as Land Use, Acidification, Biodiversity, Ecotoxicity, Climate Change, Resource Consumption, Eutrophication, Radiation, Respiration, Toxicity) are determined by the relevant standards of Life Cycle Assessment (YDD), while KAI is also determined. Thus, the effects of the organization are revealed with verified indicators and the improvements realized are followed up with impact reductions. YDD is an important tool for detection, comparison, decision making and achieving the cleanest production, in other words, continuous improvement. YDD is a measure of the cost to the planet. YDD is also important for Ecolabel and Environmental Product Declaration... YMEP 2021 points out the necessity of YDD.

EU's 2030 AGENDA MUST BE FOLLOWED TIGHTLY

We must follow the EU's 2030 agenda closely. EU Sustinable Finance Taxonomy includes the titles of Mitigation of Impacts on Climate Change Adaptation to Climate Change; Sustainable Use and Conservation of Water and Marine Resources; Transition to Circular Economy; Pollution Control and Prevention;Biodiversity and Conservation and Renewal of Ecosystems. As can be seen, the YDD Study covers all of the above. Work on preparing Social Taxonomy objectives is on-going. This is also important for the social aspect of sustainability management and reporting... All of them inform the industry about what needs to be done to reach the money. It is useful to follow the studies of the EU Sustainable Finance Forum.

It should never be forgotten that the issue is not only KAI... The time to limit Water Footprint is also coming soon. The pilot phase for the Product Environmental Footprint (CAP) Category Guidelines (PEFCRs) and Organization Environmental Footprint Industry Guidelines (OEFSRs) is on-going. For ÜÇAİ, which is based on YDD, chemicals and chemical industry products are important.

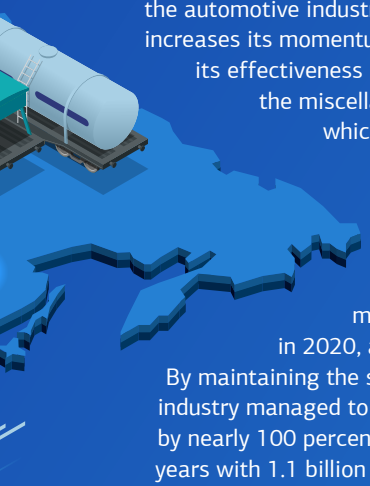
In brief, our chemical industry must continually improve its measurement, verification and production. YDD should manage its carbon in the best way, starting with its work and sustainability reporting before it's too late. Because, while the products find buyers in the market with their cost in cash and cost to the planetand the export doors are opened, it will not be possible to access new funds and finance without sustainability management. Time is carbon for chemistry, chemistry time for carbon! It is time to work...

EXPORTS IN BASIC CHEMICALS

EXCEEDED ONE BILLION DOLLARS

The basic chemicals sector has been making its way to foreign markets with its success in exports since 2019. It increased its sales by nearly 100 percent to $1.1 billion in 2021. By exporting to 166 countries, the sector delivered its products to almost every corner of the world.

In 2021, a record export of 25.3 billion dollars was achieved in the chemical industry, the basic chemicals, which is one of the shareholders of this success, has managed to increase its exports in the last three years. The basic chemicals, which is one of the essential sub-sectors of the chemical industry that contributes to the country's economy, closed the last year with 1.1 billion dollars of exports with its success.



The chemical industry, which ranks second after the automotive industry in Türkiye's total exports, increases its momentum every year and increases its effectiveness in the foreign markets. While the miscellaneous chemicals sector, which is among the sectors that have a share in this success, achieved an export of 518 million 269 thousand dollars in 2019, this figure reached 800 million 736 thousand dollars in 2020, achieving a high growth rate. By maintaining the same momentum in 2021, the industry managed to increase its dental sales rate by nearly 100 percent in a short period of three years with 1.1 billion dollars of exports.

While 5 thousand 592 companies across Türkiye in the basic chemicals sector succeeded in exporting in 2021, Turkish products met with consumers in 166 countries from Australia to the USA, Belgium to Belize, Ecuador to Finland, and Mozambique to the Russian Federation. For this success, the companies reached almost every country in the world and focused on new market targets and conducted effective studies. Exporting companies, trying to take place in the markets of target countries with their works that are like digging wells with a needle, showed the results of their efforts by increasing their sales.
While Germany was the country to which the sector exports the most in 2021 with 61 million 51 thousand dollars, it was noteworthy that sales of 29 million dollars were made to this country from the reagents product group used mostly in laboratories and diagnostics. Egypt, on the other hand, ranked second with exports of 53 million 320 thousand dollars, while the highest sales were in the vulcanization accelerator, plasticizer compounds for rubber/plastics and oxidation inhibitor product group, which exceeded 20 million dollars. In exports to Bangladesh, which exceeded 26 million 500 thousand dollars last year, mostly fabrics, paper, leather, etc. The product group of finishing or finishing preparations, prepared sizing and finishing preparations stood out with 23.5 million dollars. These three countries were followed by Uzbekistan and Azerbaijan-Nakhchivan.

Companies operating in the basic chemicals have participated in many events from fairs to trade delegations in order to increase their market share in exports and promoted their products. The preparations used for cleaning metal surfaces in the sector, paste, powder, plastering etc. for metals. Substances', 'vulcanization accelerator, plasticizer compounds for rubber/plastics, oxidation inhibitors', 'hydraulic brake fluids and petroleum oils for hydraulic transmissions', 'mixed alkalibenzenes, alkalinaphthalenes', 'antifreeze preparations and antifreeze preparations'. The increase in the export of products in different fields also shows the reward of the efforts.

On the other hand, prepared binders for foundry cores or molds, and products used in chemical and related industries were the product group with the highest foreign sales in the sector in 2021, with a share of 24 percent. This was followed by the reagents used in laboratories and diagnostics with a share of 20 percent, followed by the product group that kills vermin, disinfectant, destroys pests, prevents shoots and ensures the growth of plants with 16 percent.

Turkuaz Sağlık strengthens its distribution network in Eastern Europe with Ukraine

Turkuaz Sağlık A.Ş., which began operations in 2000 with the production of ultrasound gel, has grown to become one of the sector's leading companies, producing Class III level products, particularly in the medical field. Drawing attention with its rapidly growing and developing organizational structure, Turkuaz Sağlık stands out as one of the important companies in the Turkish medical sector with its 100% domestic capital. Not satisfied with its achievements in Türkiye, the company competes world-leading competitors, while increasing its effectiveness abroad and exporting to 128 countries. The company's expansion continues as it strengthens its overseas network with a distribution network in Ukraine. Standing out with its 230-person team and a portfolio of more than 200 innovative products in order to add value to human health, Turkuaz Sağlık A.Ş. succeeds in being among the 100 fastest growing companies of TOBB in 2016, by adding high value-added health products to its portfolio. Furthermore, the company, which strengthened its corporate structure in 2017 by forming an investment partnership with AK Portfolio, tries to add value to both humanity and the country in accordance with the big dreams of its founding partners Mehmet Kayabaş and Osman Irmak.

Aysel Biçer Pelvan, Marketing Manager of Turkuaz Sağlık A.Ş. emphasizes that they are assertive in the sector with their registered brands Konix, Kly, Konilube, Konicare, Mediseptica, Joy Drops, Gynotal, Gynoseed and Vitasupp. Furthermore, Pelvan stated that they are a solution partner by offering OEM, OBL and PL products to the Türkiye's and world's lading companies by undertaking the R&D and production processes of the products they demand. She also said as a medical device manufacturer that has adopted to comply with the changing legislation, standards and other technological norms of the industry, we continue to provide services to medical device brands as a commercial partner that they can always work with in terms of compliance with all international regulations.

TURKUAZ SAĞLIK A.S., WHICH HAS SUCCESSFULLY COMPETITED WITH ITS GLOBAL GIANT RIVALS IN THE MEDICAL SECTOR, STRENGTHENS ITS HAND IN EASTERN EUROPE AND INCREASES ITS COMPETITIVE ADVANTAGE BY ACTIVATING THE DISTRIBUTION NETWORK CHANNEL IN UKRAINE FOR ITS RAPIDLY GROWING AND DEVELOPING ORGANIZATIONS.

Turkuaz Sağlık A.Ş. Marketing Manager Aysel Biçer Pelvan

130 MILLION UNITS PRODUCTION CAPACITY

Stating that the production campuses have an area of 20 thousand square meters and that all medical device products are produced in clean room conditions with class 10,000 and class 100,000 standards, Pelvan said, "We have a production capacity of 130 million finished products per year in our facility. One of the most critical issues in the production of health products is to ensure the microbial safety of the product; While detecting microbial contaminations by performing microbiological analyses on each product coming off the production line, pathogenic microorganisms in it should also be determined. The Microbiology Laboratory of Turkuaz Sağlık A.Ş., It has been designed appropriately to perform all necessary analyses for sterile and non-sterile products, and with the most recent innovations, hundreds of microorganisms can be determined in the laboratory using automated devices. Current ISO standards are followed in our microbiology laboratory, especially for American and European pharmacopoeia, as well as many pharmacopoeia, cosmetics, and food supplement products. Our laboratory, with its personnel specialized in their own fields, is open to innovations and development and provides a wide range of services within our institution.

Pelvan states that their vision is to benefit humanity by delivering innovative and reliable health products

R&D IS ESSENTIAL FOR TURKUAZ SAĞLIK...

Being aware of the importance of R&D and innovation for a company, Turkuaz Sağlık A.Ş. pursues innovation in this center with a qualified team of 19 people. The company, which designs innovative products with advanced technology that will create added value, increase its competitiveness in the international market, with its engineer team in R&D, works for human health with the values it reveals. TÜBİTAK projects are also carried out by chemical engineers, biomedical engineers, chemists, and biologists working under the R&D Directorate. Furthermore, Turkuaz Sağlık, which managed to become one of the leading manufacturers of the world with its patented Gynotal® Obstetric Gel and Gynoseed® Pregnancy Facilitating Gel products, draws attention with its success in being one of the manufacturers who design the sector in this field.

with brand value to all corners of the world. 'Today, Turkuaz Sağlık A.Ş. has world-renowned brands and is a respected manufacturer brand, with over 200 product varieties and exports to over 128 countries." Turkuaz Salğlık A.Ş., which accounts for 65 percent of Turkish medical gel exports, is the leading manufacturer preferred by foreign brands for strategic partnerships in Türkiye... As Turkuaz, we believe that producing value-added products, branding, and exporting are the keys to our country's development and full independence." Pelvan claims that the Turkuaz family is working tirelessly to achieve these objectives.

TURKISH BRAND IN ODESSA; TURKUAZ SAĞLIK

Drawing attention to the Covid-19 pandemic that surrounds the world, Pelvan states that they did not stop working even if they face social distance barriers in production and marketing, they participated in on-line fairs in 2020, and they will meet with their customers by participating in the world's leading fairs again in 2022. Pelvan emphasizes that during this period, they continued their overseas operations from their Istanbul offices, but by expnding Turkuaz Ukraine LLC, which is an overseas company investment, began operations in Odessa. Pelvan said, "We aim to increase our market share in Eastern Europe, especially in Ukraine, and to increase our distribution in this region in order to offer more than 200 health products developed in our R&D Center approved by the Ministry of Industry and Technology to the service of humanity. Turkuaz Sağlık A.Ş. As a family, our job is health and our priority is to add value to a healthy life. With this vision, we will continue to deliver reliable health products that we produce to all over the world."

TURKUAZ SAĞLIK HAS A CERTIFICATE OF ZERO WASTE

Stating that they continue their production with a sustainable environmental understanding, Pelvan

"With our wide product range, modern production facilities and qualified personnel, we continue to serve the world's leading medical device brands as a commercial partner that they can always work with in terms of compliance with international regulations."

underlines that, as Turkuaz Sağlık they show sensitivity in many issues such as preventing waste, using resources more efficiently, reviewing the reasons for waste generation, or minimizing waste generation. We have received our Zero Waste Certificate from the Istanbul Governorship Provincial Directorate of Environment, Urbanization and Climate Change with the 'Zero Waste Management System' by adopting the waste management philosophy that includes separate collection and recycling. We carry out comprehensive projects on reducing the packaging materials used in our products by forming project teams within Turkuaz Sağlık A.Ş. We are working to reduce the amount of plastic and paper materials we use. We can make a more liveable world possible if we use our natural resources efficiently as institutions and consumers by reducing environmental risks together."

Underlining that they have adopted the Zero Waste Management System by believing in an environmentalist approach, Pelvan says that they know that natural resources are not endless and that they think that the world as a whole humanity should be protected. Pelvan said, "While the world population is increasing day by day, consumption is inevitably increasing in parallel with this. Our world, which is under intense pressure to keep up with our growing needs, will inevitably lose its balance. Considering this situation, the efficient use of our natural resources becomes even more important. As a result, zero waste awareness has spread throughout the world in recent years, and zero waste management practices are becoming more common as a result of this awareness" and states that their companies are also pioneers in this direction.

On the other hand, with the pandemic, business processes in the world have become more digital than in the past, and Pelvan states that as Turkuaz Sağlık A.Ş. they are not indifferent to this, and that they develop digital solutions ranging from products that make life easier for their business partners to service quality, and that they always want to provide fast and inclusive service to their customers. Pelvn stated in this context that they prefer SAP, the world's leading enterprise application software provider for ERP solutions, and concludes "We perform the integration that enables the automation of all our quality processes with the QDMS Integrated Management System. However, as of 2022, we will start using the eBA system. By using the eBA system, we aim to both increase efficiency and protect the environment with less paper waste. Furthermore, as Turkuaz Sağlık, we were audited by BVQI, an official member of Sedex Audit Company Group, and registered in the SEDEX database, which is an information exchange platform on ethically sustainable production in the worldwide supply chain. Hereby, as Turkuaz Sağlık A.Ş., We are delighted to inform all of our business partners and customers that we protect our employees' rights, value their health and safety, and are committed to achieving long-term success."

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