

International Edition

ISSUE: 34

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Total Energies mobile application awarded for the unique experience it offers

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Current figures

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EcoVadis Platinum

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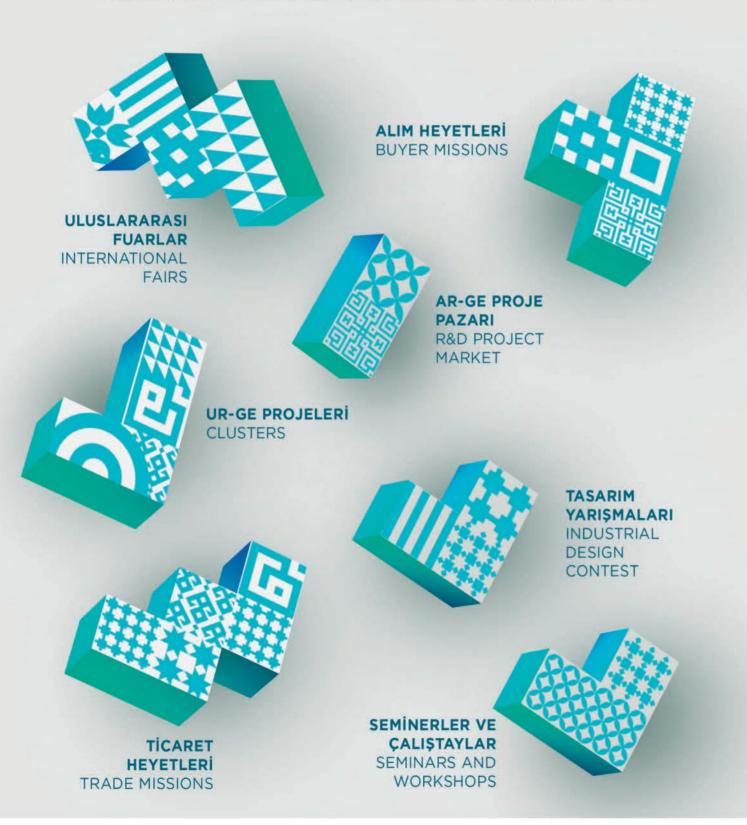
medal

lubricant exports

TÜRKİYE'DE KİMYA SEKTÖRÜNÜN

TEMEL YAPI TAŞI: İKMİB

THE CORNERSTONE OF CHEMICAL INDUSTRY IN TURKEY: İKMİB



Editor's Letter



Every year, we celebrate with great enthusiasm the brand new page turned in our country with the declaration of the republican administration by the Turkish Grand National Assembly on October 29, 1923. Happy 98th anniversary of the Republic of Turkey!

In the last two months, lubricant consumption in Turkey has increased, and we have reached 463 million dollars in lubricant exports. Engine oils, compressor oils, turbine oils product group comes first in our exports. Likewise, Turkey recorded an increase in exports in the automotive sector. However, in September, there was a 1 percent decrease in Turkey's automobile production.

In this issue, we focused on the fluctuations in the base oil supply and the problems reflected on the manufacturer. Along with the decreasing fuel consumption during the pandemic, there was a decrease in the production of Group I base oils, and we faced a serious shortage in supply with the increasing freight costs. The same problem still persists to a certain extent. In this context, the search for alternatives in the supply of raw materials has gained importance against such problems that may occur in the future.

TAYRAŞ Refinery, which we have on our cover, is the first and only

upcycle refinery in Turkey that produces Group II+ base oils. TAYRAS brings a breath of fresh air to the market by producing high quality base oils through a comprehensive refining of waste oils. In our conversation with Aydın Özbey, TAYRAŞ General Manager, he stated that base oils produced from waste oils are always a savior in case of shrinkage that has been experienced so far and will be experienced in the future, and they have many other benefits as well.

Nynas, an expert in naphthenics, offers

Group I substitute products that can be used both directly and with special formulations in the face of Group I shrinkage. Technical Manager and

Senior Specialist Thomas Norrby from Nynas explained in our webinar that the Group I market will continue to shrink and new capacities can be added to Group II and III. Stating that there are many ways to obtain products with the same technical specifications, Norrby emphasized that naphthenics are a good alternative when cost and environmental concerns are considered.

I hope you enjoy reading.

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Turkey Edition





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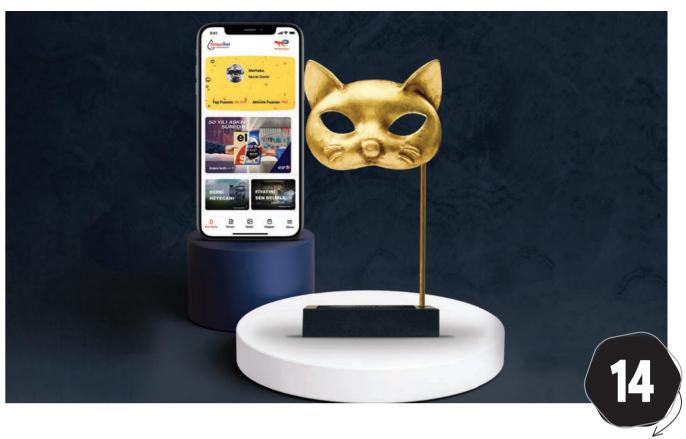
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A year marked with growth despite many challenges



Aramco enters lubricants market with launch of ORIZON® product range



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PANORAMA WORLDWIDE



NYTEX® BIO 6200 tyre oil achieves high ranking

N ynas bio-based tyre oil NYTEX $^{\circ}$ BIO 6200 is currently ranked as one of most important sustainability projects by the European Rubber Journal.

The European Rubber Journal (ERJ) is a leading international publication with a focus on the tyre and rubber industry. Since 2020, they have been inviting the industry to participate in a sustainability initiative - Elastomers for Sustainability (E4S) - in order to highlight significant advances for end-user sectors when it comes to, for example, automotive components, industrial products and tyres, as well as consumer, medical and other GRGs.

From the 20 strongest candidates, an independent group of experts from the field of polymer science and technology, under the leadership of Professor James Busfield, assesses each project on the basis of factors including level of innovation, commercial potential and contribution to sustainability.

In the most recent ranking, Nynas' bio-based tyre oil NYTEX® BIO 6200 was named the 2nd most important sustainability project happening in the elastomers/rubber industry right now.

"NYTEX® BIO 6200 not only contributes to higher sustainability in tyres but also offers the same high performance the market has come to recognize and expect from Nynas conventional as well as other well established tyre oils," says Dr. Kamyar Alavi, Senior Specialist Nynas Naphthenics.

NYNAS NYTEX® BIO 6200 tyre oil has been specially developed to provide tyre companies with a product that meets the high-performance standards of all Nynas tyre and rubber oils, while supporting them in reaching their sustainability goals.

NYTEX BIO 6200 is the first oil produced by Nynas to incorporate renewable feedstock. Moreover, this new addition to the tyre and rubber product portfolio aims to create sustainable value for customers and end users by reducing the rolling resistance of the tyre, an area where Nynas oils continue to deliver very strong results.



The superiority of metalworking fluids made with Nynas base oils is just one example of how a daily chore can turn into a regular delight with the right naphthenic solution. The same goes for greases and lubricants, where Nynas base oils offer high solvency and excellent low temperature properties.

www.nynas.com > base oils





Aramco enters lubricants market with launch of ORIZON® product range

 \mathbf{A} ramco announced its entry into Saudi Arabia's domestic lubricants market, offering consumers a new line of lubricant products under the ORIZON® brand.

Aramco timed the ORIZON® launch to coincide with the inaugural Saudi Arabian Formula 1 Grand Prix in Jeddah, Saudi Arabia. Aramco is a global sponsor of Formula 1.

Aramco has introduced the ORIZON® product line in more than 20 cities including Riyadh, Jeddah and Dammam with more locations planned. ORIZON® products include synthetic and semi-synthetic lubricants for gasoline engines and heavy-duty diesel engines, as well as driveline products, greases and brake fluids. The company has also expanded the brand to include ORIZONPRO which is a high-performance line for the industrial sector.

Aramco Vice President of Fuels, Yasser M. Mufti, said: "Entering the lubricants market is an important milestone for the company, as we continue to expand our presence throughout the downstream value chain. ORIZON® products leverage Aramco's extensive capabilities in research and development, making them a quality line of lubricants that

boosts the local market offering and enhances consumer choice. The launch of ORIZON® further complements Aramco's presence in the Kingdom's downstream direct-to-consumer segment, following the inauguration of our first two service stations in Riyadh and Saihat recently."

The company's ORIZON® products are engineered to the highest standards and meet the latest lubricant specifications required by Original Equipment Manufacturers. Aramco aims to become a trusted solution provider of choice for superior lubricants in the consumer market.





Shell leads global lubricants market for 15th year

hell retains its status as the leading global supplier of finished lubricants for a 15th consecutive year, according to the 19th edition of Kline & Company's report Global Lubricants: Market Analysis and Assessment 2021.

Using 2020 as the base year, the report covers all leading lubricant consuming country markets, market segments, product types and formulations. Shell retains the number one ranking for all three lubricants categories tracked by Kline – consumer automotive, commercial automotive and industrial.

Machteld de Haan, who will take over as Executive Vice President for Shell Lubricants in January said: "This report confirms Shell as the leading global lubricant supplier across cars, trucks and industrial equipment for the fifteenth straight year, underscoring the business's long-standing commitment to customers and reflecting the strength of our superior product portfolio. We have maintained our market-leading position and extended our competitive advantage thanks to our scale, brand equity, technological leadership and customer relationships, all under the exceptional leadership of Carlos Maurer, our outgoing EVP."

As the world's leading lubricants supplier, Shell Lubricants has a critical role to play in supporting Shell's target of becoming a net-zero emissions energy business by 2050, and in helping customers reduce their carbon footprint as well.

Earlier this year, Shell launched the largest carbon-neutral program in the lubricants industry, enabling customers in key markets worldwide to choose carbon-neutral lubricants across select brands.

According to this latest report, Shell maintained its leading global market share relative to the year prior with a slight market share increase over the next largest IOC supplier. Shell's total volume sold was approximately 4,100 kilotons of finished lubricants, equivalent to approximately 4.6 billion liters. These global sales were split almost evenly between the three segments, and at the same percentage split as the previous year: 34 percent consumer automotive, 36 percent industrial and 30 percent commercial automotive.

Shell has a history of innovation in lubricants and was the first supplier to market cleaner, purer lubricants made from natural gas. As customer needs evolve, Shell is continuing to innovate and has extended its Shell E-Fluids portfolio so that it now supports battery electric (BEV) as well as fuel cell electric (FCEV) powertrains for all passenger and commercial vehicles. In a strategic alliance with Kreisel Electric, Shell also offers a combined battery technology system that delivers industry-leading battery efficiency, fast-charging capabilities and superior safety and stability.

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Condat receives the EcoVadis Platinum medal



Condat, international specialist in industrial Clubricants for more than 165 years, has obtained the "Platinum" level recognition on the EcoVadis Corporate Social Responsibility (CSR) platform. With this result, Condat is now part of the top 1 percent of the best rated companies in the world by EcoVadis.

Initiated several decades ago, Condat's responsible commitment is based on one of the Group's core values: Build to Last. Guided by this historical value, the company has been pursuing a long-term strategy since 1854 that contributes greatly to its longevity. Condat is thus one of the precursors of the development of industrial lubricants with reduced environmental impact, and launched more than 20 years ago its first biodegradable lubricants. Anchored in strong human values, the family group is structured around an assertive social policy.

In 2018, Condat went further in its CSR approach by joining the international EcoVadis platform. Its CSR performance is evaluated each year by an independent body according to 21 criteria divided into 4 themes: Environment - HR and Human Rights - Business Ethics -Responsible Purchasing. These CSR assessments are based on authentic evidence and are internationally recognized. Initially silver, Condat progresses until obtaining in October 2021 the 'Platinum' level, the highest distinction awarded by EcoVadis.

The company's objective is to reduce its ecological footprint and guide its organization towards sustainable value creation that takes into account social and environmental issues. It integrates, among other things, the Sustainable Development Goals at each stage of the life of its products, as evidenced by its unique system of self-evaluation of its eco-designed offer: the Lubriscore®. Condat also wants to influence its entire value chain, and relies on a collective of women and men involved to support customers and partners towards responsible performance, in a spirit of co-development.

An award for the entire Condat Group

The Platinum medal was awarded by EcoVadis to all the subsidiaries of the Condat Group. Indeed, if the group exists since 1854 in France, it has gradually developed internationally to favor customer proximity, with locations in the United States, China and Brazil. The group then diversified into the Health-Beauty market, through Laboratories specializing in the manufacture and distribution of organic and natural products (Laboratoires BEA and Sicobel) which today offer different ranges of cosmetic products (Brands BcomBio, Placentor...) and other products (Brands Green Tribu, Solens ...) dedicated to wellbeing through a varied offer open to the greatest number.



Our commitment to designing high-performing synthetic esters and lubricants with you will never waver.

You are always front and center in all we do.

www.nyco.fr







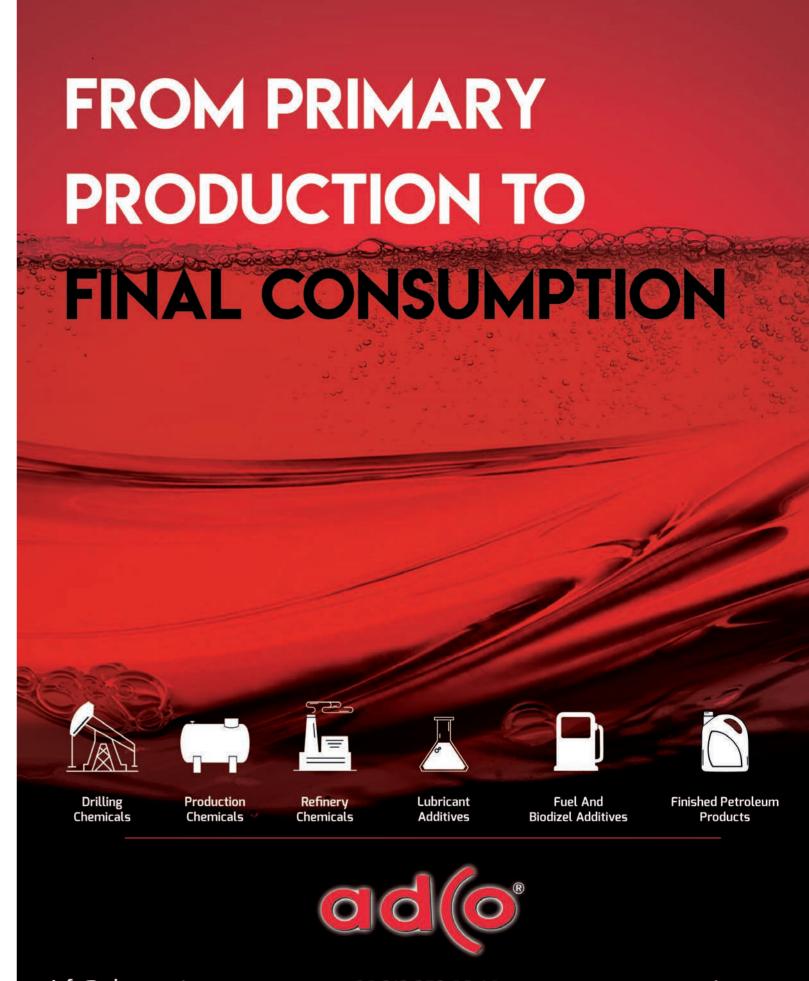
Current figures in Turkish lubricant exports

T urkey exported a total of \$574.1 million in September 2021 according to the export figures of the mineral oils and mineral fuels sector prepared every month by IKMIB using the TIM Export Database and Trademap data. As per the HS Code, the top 10 product groups and export figures in the export of lubricants are as follows:

HS CODE – DEFINITION	October 2020 (\$)	October 2021 (\$)	Diff. (%)
271019810000 - Engine oils, compressor oils, turbine oils	13.040.616,62	15.563.543,39	19,35
271019990025 – Other lubricating oils	2.909.543,26	3.874.266,78	33,16
271019990011 – Spindle oil, light neutral, heavy neutral, bright stock		3.226.561,56	
271019830000 – Hydraulic oils	1.868.237,86	2.854.396,26	52,79
271019870000 – Gear and reducer oils	1918575,6	2.160.792,23	12,62
34039900000 – Preparations for lubricating machines, devices and vehicles – other	1.012.304,24	1.338.459,82	32,22
271099000000 – Other waste oils		881.267,90	
271019850000 - White oils, liquid paraffin	331.090,92	867.853,79	162,12
381121001000 – Prepared additives for mineral oils/similar lubricating oils – containing petroleum oils	26.679,85	114.668,32	329,79
271019910000 - Metalworking fluids, mold release oils, anti-wear oils	271.838,18	91.349,84	-66,40

Source: Istanbul Chemicals and Chemical Products' Exporters Association

The product groups with the highest increase in exports in the January-October 2021 period compared to previous year are: 271019990011 – Spindle Oil, Light Neutral, Heavy Neutral, Bright Stock; 271099000000 – Other Waste Oils; 381129001000 – Prepared Additives for Mineral Oils/Similar Lubricating Oils – Other; 381121009000 – Prepared Additives Containing Petroleum Oils/Oils Obtained From Bitumen Minerals; 270900900000 – Other (Untreated) Oils Obtained From Petroleum Oils and Bitumen Minerals; 381190001012 – Prepared Additives for Light Mineral Oils.



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TotalEnergies mobile application awarded for the unique experience it offers

TotalEnergies Turkey Pazarlama, which has been operating in lubricants production and marketing industries of Turkey for more than 30 years, continues to offer a unique experience to vehicle maintenance and repair mechanics through its "Ustaya Özel" digital platform. The first and only in Turkey's lubricants field thanks to the comprehensive services and privileges it offers and in terms of working on an integrated system, the platform has proven its success by being awarded in the Best-in-Brand Experience and Activation category at the Felis Awards, which rewards creativity, impact, and quality in marketing communications.

TotalEnergies Turkey Marketing and Technology Director Firat Dokur said, "Our goal was to create a platform by using TotalEnergies and ELF's global expertise in the field of lubricants and our ability to make use of innovation and technology in Turkey. And we achieved. This award has been an important source of motivation for us during our journey. As stakeholders, especially our project team, which contributed to building the platform, we are happy and proud that such a special platform has been rewarded for its success within one year of its launch." We asked Dokur about how the platform was received by vehicle maintenance and repair mechanics, and about other developments.

How do you feel about the 'Ustaya Özel' platform being chosen for the Best-in-Brand Experience and Activation category at the Felis Awards, which rewards creativity, impact, and quality in marketing communications?

With the "Ustaya Özel" application and its slogan "Fine lubricants met special mechanics", we sought to improve our direct communication with valuable vehicle maintenance and repair mechanics working at individual auto service centers, which constitute an important part of our portfolio, and offer them privileges, thus bolstering their loyalty to our brand. Being awarded this prestigious award in the marketing field, the winner of which is chosen after a detailed and careful evaluation by a distinguished jury, was an important motivation for our stakeholders who worked on the project. We are happy and proud of all the stakeholders who contributed to this project, which was realized by a large and competent team.

Could you tell us about the current data and recent developments regarding the "Ustaya Özel" platform?

More than 7,000 workers from over 3,000 car repair centers across Turkey have joined the platform since January 2021. More than 30,000 photos and videos with technical content that will help platform members were shared from thousands of car repair centers from all over Turkey. We provided 20 different technical training sessions and 10 technical bulletins for our members in the training section. Nearly 600 of our members joined discussions and found answers to approximately 8,200 questions in the forum section, where technical problems

TENERGIES.

Fırat Dokur

TotalEnergies Turkey Marketing and Technology Director

Could you tell us what makes the platform different from all the others?

Our goal was to offer a unique experience, one without equal in the sector, through our "Ustaya Özel" platform, which we developed with users' needs in mind. I can confidently say that "Ustaya Özel" application is the first and unique in Turkey in the lubricants market, thanks to the qualified services and privileges it provides to vehicle maintenance and repair mechanics. Vehicle

can earn "lub point" from the lubricant purchases they make during campaign periods, keep track of their points through the application, and get free-of-charge products by using these points in their next order. Since

maintenance and repair mechanics

all current accounts are automatically tracked through an integrated distributor sales system, no manuals or additional procedures are needed to enjoy these benefits. Vehicle maintenance and repair mechanics can earn "activity points" through professional content-sharing and competitions that they can take part in via the application. These points can then be converted into tokens that they can exchange for free products. Moreover, vehicle maintenance and repair mechanics who use the platform, share quality content, and actively use the application's various features can also win surprise gifts if they place

"Our application is the first and unique in Turkey in the lubricants market"

are discussed. We sent prizes to winners among hundreds of members who participated in 20 different competitions. More than 300 members, who were among the best in the 47-week and 11-month rankings based on the active use of the platform, won gifts. We are extremely pleased with the results achieved within the first year of the platform's launch. We will keep the platform up to date by actively posting and offering content, and continue to interact with vehicle maintenance and repair mechanics and provide value-added services. We believe this will help us increase these numbers exponentially in coming years.

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INTERVIEW

at the top of the weekly and monthly rankings. We are extremely happy to create value for our users with all these features that make the platform unique.

What kind of feedback have you received from vehicle maintenance and repair mechanics?

Vehicle maintenance and repair mechanics hold an important place among our stakeholders. The platform lets us establish direct contact with these valuable people and maintain communication with them at all times. They say they are extremely pleased with the extensive services and privileges offered to them. They add that the platform is easy to use and access, both via the mobile application and the website. Furthermore, they are



extremely pleased to be able to access the system quickly, track their points, and benefit from the campaigns, even during busy work periods. They believe that their ability to order free products by using the lub points they earn gives TotalEnergies a competitive edge. They also enjoy communicating and exchanging information with their



counterparts from all over Turkey through the forums available on the "Ustaya Özel" platform. Their satisfaction boosts their loyalty to our brand, and thus contributes significantly to an increase in overall brand loyalty.

Which of the platform's features are used the most?

The forum section and gallery, where users can exchange ideas with fellow platform members across Turkey, are used extensively. More than 30,000 technical photos and videos have been shared, which represents the biggest indicator in this regard. And we encourage mechanics to cooperate with each other via the platform. The forum, where technical problems are discussed, is one of the most-visited sections by users seeking technical support from expert consultants authorized by TotalEnergies. Users have also shown great interest in our competitions, which cover a range of different concepts. They are very excited to be highly-ranked among members who use the platform the most, and to win prizes.

Will the platform introduce any new features in the short-

By directing end-users to the "Ustaya Özel" program's membership services through the "TotalEnergies Service Finder" website, which we plan to launch in tandem with the application, we hope to provide another valuable service to all users within the lubricants ecosystem. We also intend to offer promotions to individual auto service centers, organize events, and provide new content on the "Ustaya Özel" platform, thus transforming it into the main communication channel by which TotalEnergies and ELF maintain contact with individual auto service centers.

TotalEnergies Made for Mechanics which is an unique platform for vehicle maintenance and repair mechanics has been given a Felix Award by MediaCat Turkey. The platform has been selected the best of the Brand Experience and Activation category under direct marketing section.









A year marked with growth despite many challenges

We made an evaluation of 2021 with Ayhan Köksal, Castrol Turkey, Ukraine and Central Asia Director. Despite many difficulties and negative developments such as the pandemic, fluctuations and price increases, 2021, which is marked with growth for the lubricants industry, is recorded as a successful year for Castrol.

As we get closer to the end of the year, we would like to start with an evaluation of 2021. How has this year been for Castrol?

In general, despite all the challenges throughout the world, there is a constantly growing lubricants market in Turkey. We see that the market has grown by 6–7 percent

in the last two or three years. Automobile and commercial vehicle sales, which have reached approximately one million units, also have an impact here. However, the decline in new vehicle sales in 2018 and 2019, some global economic fluctuations, and ultimately the pandemic totally changed our lives. First, new vehicle production stopped. After a

while, factories started to work again. In this period, there was a great demand for second-hand vehicles. Despite these challenges, the market continued to grow in 2020 and 2021. As Castrol, we maintained our leadership by growing above the market average in all critical segments we targeted.

Despite the fluctuations experienced, we maintain our market leadership in multigrade engine oil usage in Turkey, according to the Petroleum Industry Association (PETDER) data for 2020 and the first three quarters 2021. Our sector, which grows above the national economy every year, grew by 9 percent last year despite the pandemic. As per the data for the end of September this year, we see that our industry has grown by over 12 percent. In the industrial field, we continue to grow in the sectors we provide value-added services.

How do you see Turkey's place in the global lubricants industry? Has this changed during the pandemic?

Naturally the pandemic has winners and losers. We, as Castrol, are on the winning side. The credit for this achievement goes to our superior quality products, excellent customer relations and service quality, and most importantly, to our ability to find fast and creative solutions to many new problems brought by the period. We think empathy was the most needed thing in this period. With this approach, we provided a lot of material and moral support not only to our employees but also to all our stakeholders, business partners and customers. We have taken bold

steps so that they can protect their businesses, employees and themselves. In this way, we became the only country in the Castrol world to achieve volumetric growth in 2020. We have

increased our market share in all the segments we focus on in Turkey. This momentum was reflected in the PETDER results this year as well. We increased our market share in multigrade engine oils to 32.5 percent in the first 9 months. Again, we maintain our leadership by simultaneously increasing our market share in both passenger car, heavy vehicle and industrial oils segments. With this growth, we are one of the countries of Castrol that stand out with its performance in the world. Castrol brand has existed in Turkey under all conditions for over 65 years and is growing

day by day. With the success we have achieved in our country, Castrol Turkey has become a unique example and a great power in the Castrol world. We brought Turkey ahead of many developing countries as an innovation, production, export and human resources base in the field of lubricants, making it the second most strategic market after China.

Which products do you produce and export in Turkey? Can you share the export details?

Our plant in Gemlik is one of eight Castrol production plants in Europe and we produce approximately 90 million liters of lubricants annually at this plant. We have decided to increase our investments in our Gemlik plant due to its location, its convenience for capacity increase among our other plants in Europe, as well as the competitiveness of our production costs. We regularly invest in our plant every year. According to our strategy that we created at the beginning of 2021, we plan to invest a total of 30 million dollars in our Gemlik plant in the next 5 years. In this way, we aim to increase the production capacity. We will make 10 million dollars of investment in 2021 and 2022. In this way, we will expand our Gemlik plant by carrying our increasing exports even further. This year, we added Spain, Qatar, Afghanistan and Lithuania to our export countries, with them our export geography has expanded to 24 countries. Other countries we export to are Azerbaijan, Kazakhstan, Turkmenistan, Kyrgyzstan, Tajikistan, Uzbekistan, Georgia, Northern Cyprus, Iraq, Dubai, Russia, Palestine, Ethiopia, Greece, Ukraine, Indonesia, Belgium, England, Germany and

"Beyond a liquid brand, we want to transform the Castrol brand into a care brand as part of our future vision."

Italy

At Castrol, our business is fluid engineering. We have contributed to the movement of the world for over 120 years. We achieve this by allocating large budgets to our technology development and marketing activities each year. These budgets are spent by determining the needs of the markets globally. Apart from the investments we will make in Gemlik, we have planned to allocate a budget of over 100 million dollars for the next 5 years for the innovative investments we will make for our customers.

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Covid-19 still has a certain impact on base oil supplies. Freight prices increase, there are new formulation demands due to environmental concerns. As Castrol, which steps do you take in this regard?

As Castrol, we anticipate the use of alternative base oils in the new formulations we have developed to ensure the sustainability and up-to-dateness of our product portfolio. We have products that contain Group I base oils as well as Group II, Group III and PAO base oils in our portfolio. Our priority is to develop the management that will ensure the continuity of the supply of Castrol products and to provide this flexibility in terms of both formula and alternatives in our product portfolio.

The Waste Oil Management Regulation in Turkey has brought the "the obligation to use base oils obtained from waste oils at a rate of 8 percent in lubricant production for the year 2022." To what extent does this obligation affect you?

We have started our evaluation procedures since the publication of this regulation. This issue covers all companies engaged in production in the lubricants industry,

including us. We also follow the regulatory requirements through PETDER, of which we are currently a member.

Could you tell us about your new project CARAMA? We would love to hear how you brought this idea to life.

As Castrol, in addition to our products equipped with superior technology, we aim to support vehicle users in their service and maintenance needs. Beyond a liquid brand, we want to transform the Castrol brand into a care brand as part of our future vision. For this purpose, we are working on business models that we can grow together with all our customers and partners. To that end, we have established an experienced unit working only on innovative digital and offline solutions in our new organization. CARAMA is a digital product that we will launch in Turkey for the first time in the world. CARAMA will be Turkey's first private service search platform for vehicle owners. It will offer opportunities such as finding the nearest private service according to the user's service need, comparing the services according to comments and scores, and making online appointment. We will introduce this new platform and share detailed information at a launch event we will organize very soon.



EDITORIAL CALENDAR



Issue 35	January-February 2022	
Features	Importance of Fleets for Oil Suppliers Electric Vehicle Fluids	
Content Deadline	5 Feb 2022	
Advert Deadline	12 Feb 2022	
Events where magazine will be distributed		

Issue 37	May-June 2022
Features	Marine Lubricants Turkish Lubricant Exports
Content Deadline	3 Jun 2022
Advert Deadline	10 Jun 2022
Events where magazine will be distributed	

Issue 39	September-October 2022
Features	Weapon Lubricants and Turkey Dielectric Fluids
Content Deadline	5 Oct 2022
Advert Deadline	12 Oct 2022
Events where magazine will be distributed	

Issue 36	March-April 2022
Features	Oil Analyses Heavy Duty Lubricants
Content Deadline	1 Apr 2022
Advert Deadline	8 Apr 2022
Events where magazine will be distributed	

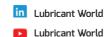
Issue 38	July-August 2022
Features	Weapon Lubricants and Turkey Dielectric Fluids
Content Deadline	5 Aug 2022
Advert Deadline	12 Aug 2022
Events where magazine will be distributed	Lubricant Expo 6-8 September

Issue 40	November-December 2022
Features	New Additive Technologies Turbine Oils
Content Deadline	5 Dec 2022
Advert Deadline	12 Dec 2022
Events where magazine will be distributed	

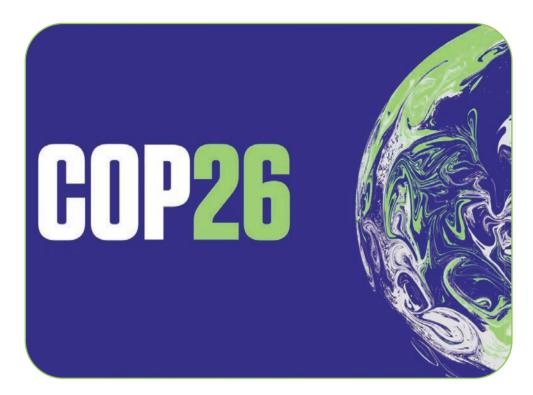














Prof. Dr. Filiz Karaosmanoğlu Faculty Member of ITU Chemical Engineering Department President of Sustainable Production and Consumption Association filiz@itu.edu.tr

The energy of COP26

 $26^{\tiny \text{th}\,\text{Conference of the Parties to the United Nations}}_{\tiny \text{Framework Convention on Climate Change}}$ (UNFCCC COP), COP26 was held from October 31 to November 12, 2021 in Glasgow. Thousands of delegates came together with the motto Together for Our Planet. With a target to reach global net zero toward the middle of the century, goals at COP26 were identified as limiting temperature rise to 1.5°C within reach, ensuring adaptation for protecting communities and natural habitats, mobilizing finance, and achieving collective action. "It's high time to act," COP26 President Alok Sharma said, and "Addiction to fossil fuels is pushing humanity to the brink. We are digging our own grave," UN Secretary General António Guterres warned. Alliances were formed, statements, consensus and commitments were announced. Coal, oil, natural gas, land and forests, renewable resources, hydrogen, electric vehicles, energy efficiency and climate finance topics came to the fore. Beyond Oil and Gas Alliance (BOGA), an international alliance of governments and stakeholders working together to facilitate the managed phase-out of oil and gas production, with the founding countries Denmark and Costa Rica, core members France, Sweden, Ireland, Greenland, Quebec, Wales, and associate members Italy, Portugal, New Zealand, California, is making efforts to phase out oil and gas production.

The Energy Transition Council (ETC) set out 2022 Strategic Priorities with the goal of making clean and sustainable power the most affordable and reliable option for all countries to meet their power needs efficiently, help them move away from coal and other fossil fuels and accelerate their transition to clean energy, and presented a statement to limit global warming to manageable levels.

The need for a just transition to achieve better energy access was highlighted, emphasizing the importance of countries' updated Nationally Determined Contributions. ETC is very important for reducing and monitoring energybased greenhouse gas emissions.

33 countries including Turkey, 40 cities, 11 vehicle manufacturers and 27 fleet-owning organizations signed the Glasgow Consensus for Zero Emission Vehicles. Electrification is important in transportation. The leaders pledged to work together in accelerating the dissemination of low-cost and affordable clean technologies and sustainable solutions necessary to achieve the Paris Agreement goals at the COP26 World Leaders Summit: Statement on the Breakthrough Agenda. This statement, the developments related to oil and zero emission vehicles are followed closely in the lubricants industry. Green transformation, climatefriendly progress is important for oil and natural gas, which are both energy resource and raw material for chemicals and base oils. In this context, reducing greenhouse gas emissions in the lifecycle of lubricants, minimizing their effects on the climate crisis to the lowest possible values technically. producing lubricants with low carbon footprint, managing waste oils in the best way and biolubricants are important. It should be underlined that the lubricant has an impact on the footprint of the production and product where it is used, and therefore the demand for green options in the market will gradually increase.



Engine oil user guide



VISCOSITY GRADE:

is the main feature of an engine oil and is important for product selection

Signification of grades



xx refers to viscosity when cold

(measured at different temperatures)

The lower the viscosity when cold, the more fluid the oil is at low temperatures and the more easily it can be pumped.

For example, a OW-20 or 5W-30 oil will make start-ups essier and will protect engines during trips to cold regions. These high technology "fluid" oils will meet the requirements of recent engines.

yy refers to viscosity when hot

(measured at 100 °C)

The higher the viscosity when hot, the more viscous the oil is.

For example, a 15W-40 or 20W-50 oil has been developed for use in hot countries, and their "viscous" nature makes them suitable for older

POINTS TO REMEMBER

New-generation engine oils and those currently being developed by TOTAL are of increasingly fluid grades: 0W-20, 5W-20, 0W-30 and 0W-16.

How to read a product label for product selection?

Small packaging:



Large packaging:











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Selecting the right oil for hydraulic systems

T he science of hydraulics is based on the use of a pressurized fluid to transmit force (Pascal's Principle). This fluid can be gas, water, oil or any other fluid. With the help of this fluid, it helps to perform tasks such as molding, rotation, forming, lifting, etc. Therefore, it is widely used for commercial and industrial operations in various areas such as construction machinery, control valves in factories, pumps, lifts, medical surgery devices, and many others.

Why hydraulic systems?

- $\ ^{\mathtt{m}}$ The system can work uninterruptedly under full load. mar Parameters such as force, torque, speed can be easily
- controlled m Several machines can be controlled with a single hydraulic system.
- **¤** It can be controlled at areas that requires quick or

Since it has such a widespread use, the supply of hydraulic oils naturally increases. So, which path should we follow when choosing a hydraulic oil? Although oils used for commercial purposes are only considered as oil for the end user, they are divided into two: mineral and synthetic oils. While the difference between mineral oil and synthetic oil is commonly considered only in terms of price, there are huge differences in the background. However, when evaluating this, it will be useful to follow the steps below so that we can compare price and performance first.

The first step is to answer the question 'in which application the oil will be used. Is my equipment an industrial stationary equipment or a mobile equipment (e.g., a crane)? Although manufacturers define their oils for both conditions, additive packages may differ for application areas. In this case, I will have to consider my additional needs.

In the second step, if I will use the oil in the food sector, I must consider whether it is Food Grade and the toxic properties of the oil. If my equipment is to be operated in a high risk area with 'High temperature, flash' properties, I need to consider whether the oil I will buy is resistant to heat.

The third step is to answer the question in which environmental conditions will I run this oil. If my equipment will operate in very dirty and harsh environmental conditions, it will be beneficial to have a detergent and dispersant additive package in my oil. If the same oil will circulate in a combined system and be used in equipment operating at different temperatures, it will be beneficial to use an oil with a high viscosity index. If there is a high load and wear risk, it will be beneficial to have an extreme pressure additive and/ or an anti-wear additive in the oil.

After choosing our oil with these parameters, I want to call attention to a blind spot that I have determined based on my industry experience: the purchase decision is made without checking the compatibility of the oils used in the system with each other and/or with the sealing elements. When adding oil to the system, if these oils are not compatible with each other in terms of groups (Group I, II, III, IV or V), the oil cannot deliver the desired performance, early oil degradation may occur and this may lead to serious equipment damage. If the selected oil is not compatible with the sealing elements, it can cause wear on the elements such as the gaskets in the system, and problems such as breaking, disintegration and as a result oil leaks may be encountered. For this reason, it is of great importance that the explanations on the technical information sheet of the oil overlap with the oil requirements specified by the manufacturer.

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