






# MADENİ YAĞ DÜNYASI LUBRICANT WORLD

International Edition

[www.lubricant-world.com](http://www.lubricant-world.com)

ISSUE: 28

NOV-DEC 2020

-  Lubricant World
-  lubricantworld
-  Lubricant World
-  madeniyagdunyasi
-  Madeni Yağ Dünyası



SN 2548-074X

**A new and powerful player in the field of special greases: Vario**

**Energy-efficient**

hydraulic fluids

in industrial equipment

**Evonik opens Asia Pacific**

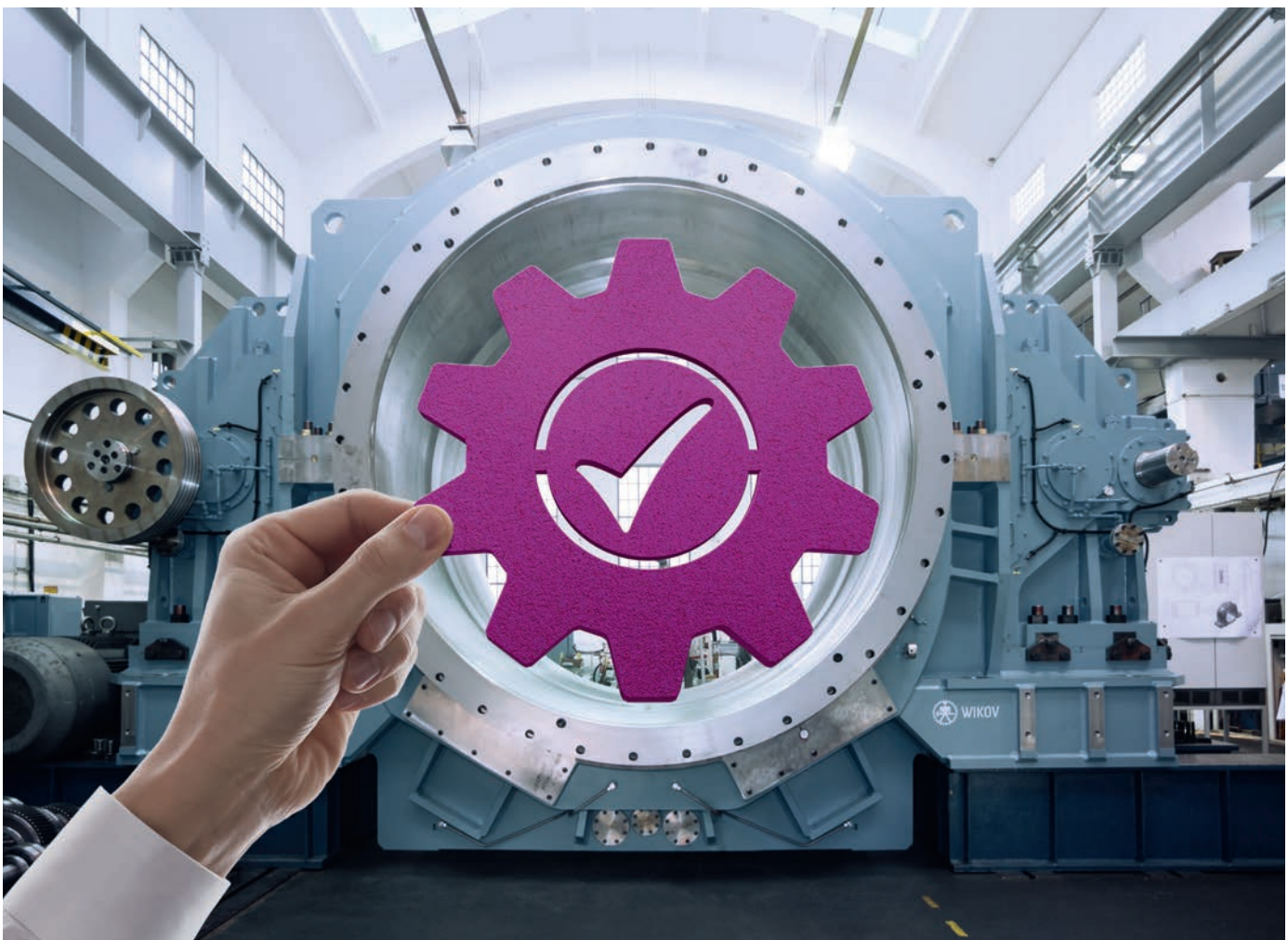
Oil Additives

Performance Test Lab

**Windrose Airlines**

selects NYCO turbine

oil for its mixed fleet



## Gear-up for efficiency.

**NUFLUX™**

Industrial gear oils are transformed with Evonik's NUFLUX™ technology. Geared for higher performance with lower formulation cost, Evonik additive technology provides a premium solution backed up by OEM approvals, industry standards and performance tests. With NUFLUX™ technology, you'll find a broad range of viscosity grades suitable for a variety of demanding industrial gear applications.

**The Oil Additives specialists at Evonik — Let it flow.**  
[www.evonik.com/oil-additives](http://www.evonik.com/oil-additives)

 **EVONIK**  
POWER TO CREATE





## Editor's Letter



Unfortunately, the pandemic is still at the top of our agenda as we reach the end of 2020. While the effects of the Covid-19 pandemic still oppress the world, economic activities are trying to continue. Wherever there is activity, there are lubricants and greases. I guess it would not be wrong to say that our industry is right at the middle of life.

Therefore, our industry will continue to grow and develop as long as life continues. The need for lubricants will continue as long as factories continue to produce, wheels continue to turn in the industry and vehicles continue to move. In this period when environmental concerns rise and there is an increased need for applications that do not harm our world; we see that the use of electric vehicles has increased, energy efficient lubricants are preferred more and bio-lubricants have gained a wider place in the sector. In this sense, it is obvious that companies that develop and shape their technologies and production targets in line with these concerns and preferences will come to the fore in the upcoming period.

The newly established Vario Engineering will obviously be a strong player in the field of special greases with the knowledge and experience of the company's founding partners and the team. Vario Engineering, which is currently producing special greases that Turkish industrialists have had to import for many years and that are almost never produced in Turkey, will contribute to both Turkish economy and Turkish producers in this sense.

Another issue that will contribute to producers and operators in terms of costs is energy efficient hydraulic fluids. Dr. Holger Pletsch from Evonik Oil Additives, which produces high quality products with years of experience in resource efficiency, explains in detail that energy efficient hydraulic fluids produced with the latest technology are very advantageous in both eliminating down times and increasing productivity and performance. He also shares field studies in which there are very striking figures.

The Formula 1 Turkish Grand Prix, which we watched excitedly in November, was named the best race of 2020. In this issue, we covered the Shell-Ferrari partnership, one of the longest-running partnerships in Formula 1 history. We took a closer look at the products and activities of Shell, which has been developing solutions for Ferrari since the first years of the race.

I hope 2021 comes as a good year for our industry and the world. I wish you a healthy and peaceful year with your loved ones, and continued success in your business.

Happy New Year!

Cansu Tuncer

cansu.tuncer@vizyonas.com

**MADENİ YAĞ  
DÜNYASI  
LUBRICANT  
WORLD**

### MANAGEMENT

#### Publisher

On behalf of Vizyon Dergi Yayıncılık İletişim Pazarlama A.Ş.  
Selçuk AKAT

#### Editorial Board

Prof. Dr. Ertuğrul Durak  
Prof. Dr. Filiz Karaosmanoğlu  
Prof. Dr. Hakan Kaleli  
Att. Betül Gürsoy Hacıoğlu  
Att. Vahit Kaya  
Mehmet Erkan

#### Editor

Cansu Tuncer

#### Advertising and Marketing

Sanem Uçar

#### Design

Melis Gönen

#### Printing

Sarsılmaz Basım & Yayımlar  
Tel: +90- 212 289 07 49-50

For subscription: [abone@vizyonas.com](mailto:abone@vizyonas.com)

For advertising: [reklam@vizyonas.com](mailto:reklam@vizyonas.com)

#### Contact

Hacımimi Mah. Kemeraltı Cad.  
Balkan Han No: 15/4 34425  
Karaköy/ İstanbul/ Turkey  
Tel: +90- 212 252 08 40  
Fax: +90- 212 252 81 51  
[www.lubricant-world.com](http://www.lubricant-world.com)

Lubricant World Magazine is published by Vizyon Dergi ve Yayıncılık İletişim ve Pazarlama A.Ş. in accordance with the laws of the Republic of Turkey. Vizyon Yayıncılık is the sole holder of the copyright and royalty of the Lubricant World Magazine. All rights related to the articles, photos and illustrations in the magazine are reserved. Source must always be indicated when citing. Authors bear full responsibility for the content of text, and advertisers bear full responsibility for adverts.

ISSN 2548-074X



7

**Windrose Airlines selects NYCO turbine oil for its mixed fleet**



18

**Shell develops solutions for Scuderia Ferrari since 1950**



22

**Energy-efficient hydraulic fluids in industrial equipment**





14

## A new and powerful player in the field of special greases: Vario

- 06 PANORAMA WORLDWIDE
- 10 PANORAMA
- 14 ARTICLE
- 18 IN-DEPTH
- 22 ARTICLE
- 26 PRODUCT REVIEW
- 28 SUSTAINABILITY, ENVIRONMENT AND BIOLUBRICANTS



6

## Evonik opens Asia Pacific Oil Additives Performance Test Lab



## Evonik opens Asia Pacific Oil Additives Performance Test Lab

Evonik announced the opening of a new Asia Pacific Oil Additives Performance Lab in Shanghai. This new performance test lab, housing state-of-the-art laboratory facilities and testing services, aims to serve customers in the lubricant industry in China and the Asia Pacific region.

With the opening of the performance test lab, Evonik Oil Additives Asia Pacific technical center has been further expanded. Since it was inaugurated in 2005 and expanded in 2010 and 2014, this newly expanded technical center strengthens Evonik's commitment to support customers with formulation development, lab testing, bench and rig tests and performance demonstrations under real-world conditions.

Performance tests play an important role during the development of lubricant additives and base oil. It brings about the differentiation between lubricant formulations under test conditions that mimic closely to either real world or even more severe conditions. The new performance test lab is equipped with the FZG efficiency test rig, FE8 bearing wear test, the Denison HF-0 test rig and mini traction machine, etc.

"The new performance test lab represents our continued investment in China and Asia Pacific and strengthens our focus on delivering tailor-made solutions to our customers throughout the region," said David Siwinski, named Head of Global Customer Relations as of January 2021, Evonik Oil Additives. "We believe that our advanced products, our comprehensive testing facilities and our team of global experts can help our customers to formulate high performance and fuel-efficient lubricant solutions to meet the lubricant industry's growing technical demands and to create possibilities for a sustainable world."

Fuliang Xia, president of Evonik Greater China, emphasized in his welcome speech during the opening ceremony, "Evonik has been active in China since the 1930's. Especially during the last two decades, Evonik has been investing in various projects and experiencing rapid business growth in China. Open and continuous innovation is deeply in the DNA of a leading specialty company like Evonik. The expansion of Oil Additives technical center in Shanghai marks another milestone in building our technical expertise and innovation competences to meet customers' needs. It also demonstrates our confidence in the sustainable growth in lubricant industry in the region."

Asia Pacific and especially China is expected to account for the largest share of the growth of the global lubricants industry. The increasing number of vehicles and the rising spending in the industrial sector and infrastructural development is projected to make this region an ideal destination for the lubricants industry.





## Windrose Airlines selects NYCO turbine oil for its mixed fleet

NYCO announces that Windrose Airlines, a Ukrainian airline based in Kiev, selected Turbonycoil® 600, a synthetic turbine oil, to lubricate the engines of its whole fleet. Windrose Airlines' fleet is composed of Airbus A320 and A321 powered by CFM56 and V2500 engines as well as Embraer ERJ-145 LR powered by Rolls-Royce AE 3007 engines and ATR 72-600 powered by Pratt & Whitney 127 engines.

"Windrose was very pleased to make the switch to NYCO's turbine oil, an oil that has been proven to stand up to the rigors of modern jet engines at a very competitive price, which is extremely important in current conditions" commented Iurii Bezliudnyi, Director at Yukoil, NYCO's local distributor.

"We are happy to support Windrose operations with our Turbonycoil® 600 through our local partner Yukoil. This new agreement shows one more time that NYCO turbine oil is the right solution for mixed fleet airlines operating regional and narrow body aircraft. Windrose will now benefit from an oil with excellent field record on top of a sustainable cost-effective price" said Clément Fabre, Sales and Marketing Manager – Aeronautics.

### Turbonycoil 600 receives the UPAF label

Turbonycoil® 600 has obtained the UPAF label "As Used by French Armed Forces" issued by the Ministry of the Armed Forces on November 29, 2019.

The French Armed Forces have been using Turbonycoil® 600, for over thirty years, to lubricate the engines of their various platforms such as the Rafale, C-130, Tigre, NH90 amongst others. This label certifies that the product meets the criteria defined for its attribution and is valid for a period of 5 years from the date of issue. Thanks to its expertise, NYCO supplies more than 20 of its products to the French Armed Forces including greases, hydraulic fluids, turbine oils and other specialty products.

Approved against the most demanding specifications, including SAE AS 5780 SPC Class and MIL-PRF-23699 STD Class, Turbonycoil® 600 has received certification for use by all major engine manufacturers and boasts 30 years of experience in jet engines of military and commercial aircraft.





## Nynas successfully exits reorganization

The District Court of Södertörn decided that the Nynas company reorganization is now complete, following a creditors meeting where the previously submitted composition proposal was accepted. The court's decision will be effective on 21 December, and thereafter Nynas will no longer be limited by the reorganization regulations.

"The situation that Nynas has found itself in due to the reorganization has placed tough demands on all parties involved, and intolerable pressure on our staff. Our brand is still strong, and this is the result of efforts made by all the loyal and hardworking staff in Nynas. I would also like to express that we are sincerely grateful for the support received from our customers and suppliers. Our partnerships truly go beyond mere commercial transactions," says Bo Askvik, Nynas President and CEO.

### Stronger than before

Nynas comes out of the reorganization as a stronger company with 5-year secured financing and a strong balance sheet. During the reorganization process, extensive work has led to decisive progress. Following ownership changes, Nynas has no longer been subject to US sanction regulations since May. This has meant that the company has been able to contract crude oil deliveries and to continue financing discussions under more favorable terms. During the reorganization, Nynas has managed to secure good liquidity and cash flow through a significant reduction in overdue customer payments, a granted deferral of tax payments and an agreement on inventory financing.

### Successful shift of feedstock

The main achievement, however, is the successful shift to a new blend of feedstock during the past year. This was necessary due to US sanctions against the export of Venezuelan crude, which used to be a major feedstock for the company. Several new feedstocks have now been approved and processed following an impressive change program at the refineries and our supply chain. Nynas can now run our refineries with 100 percent non-Venezuelan feedstock without affecting the strict demands of our consistent product quality. All necessary permits from the authorities needed for running new feedstocks have been secured. The product recipes have been adapted at record speed and Nynas has the necessary approvals from its customers across the world.





# SGS acquires SYNLAB Analytics & Services

**S**GS, the leading global testing, inspection and certification company, announced the acquisition of SYNLAB Analytics & Services (A&S), a leading European environmental, food testing and tribology services company.

"The acquisition of A&S significantly strengthens our global network in key strategic focus areas, including Environment, Food, Life Sciences and Oil Condition Monitoring. This important strategic move, combined with the strong operational progress so far in H2, confirms the next stage of our strategic evolution which will further align SGS to higher value-added services and to the key TIC megatrends," said Frankie Ng, CEO of SGS.

Mathieu Floreani, CEO of SYNLAB Group: "The transaction creates great opportunities for all involved. While SYNLAB is concentrating on its core medical activities, A&S will benefit from new growth prospects with a future owner that is an expert and leader in that specific market segment. We are convinced that we have found an excellent new home for the business and its employees."

The purchase consideration is expected to be approximately EUR 550 million and will be fully funded from existing financial resources. The transaction is subject to customary regulatory approvals and is expected to close by early Q1 at the latest. The combination of A&S with SGS's European laboratory network will accelerate the adoption of a hub-and-spoke model, creating a more comprehensive range of services and generating strong operating synergies. Consistent with the stringent EVA criteria for assessing acquisitions set out at the Investor Days last year, the transaction is expected to be EVA positive in year four of ownership as the result of the full integration of the business and capitalizing on the underlying growth opportunity in this market.

With more than 89,000 employees, SGS operates a network of more than 2,600 offices and laboratories around the world. As part of a larger group focusing on similar market segments, A&S will be able to benefit from scale and leverage new opportunities for future growth. At the same time, the transaction enables SYNLAB to fully concentrate on expanding its core medical activities.

A&S is a leading European provider for environment, food, hygiene, pharma and products analysis and testing. In 2019, A&S generated sales revenues of more than EUR 200m and had approximately 2,000 employees.



## Petrol Ofisi received two awards at Istanbul Marketing Awards 2020

Winners of Istanbul Marketing Awards 2020, Turkey's prestigious marketing and communication platform, were announced. In this organization where successful works contributing to the marketing processes of brands are awarded, Petrol Ofisi received two Gold awards in the "Customer Loyalty Studies" and "Direct Marketing Activities" categories with two different projects in the field of lubricants.

The "Maximus Cabin" project, in which Petrol Ofisi renovated the truck cabins -the work and living areas of drivers- with the famous architect Selim Yuhay, received the Gold award in the "Customer Loyalty Studies" category at the Istanbul Marketing Awards 2020. Petrol Ofisi received the second award in the lubricants field. The "First Sale of the Day Campaign", in which the company contributed approximately 3 million Turkish liras by distributing Maxima and Maximus products to 17 thousand foremen unconditionally in order to help them sustain their business, received the Gold award in the "Direct Marketing Activities" category.

Sezgin Gürsu, Petrol Ofisi Lubricants Director, underlined that it is very important for them to stand by their customers and stakeholders in good times and in bad times. "As Turkey's long-established and leader company, we are totally focused on our customers and stakeholders in every field with our high-tech products and high service quality. With this understanding, we organize various field activities with different and leader-worthy projects such as Maxima and Maximus Foremen Meetings, where we met with 6-7 thousand foremen at each event. By developing the Maximus Cabin project, we renewed the truck drivers' cabins, which are both their working and living space. This project attracted great attention from our driver friends, and now we continue by transforming and expanding the project in line with the pandemic conditions. The First Sale of the Day Campaign, which we developed to contribute to sustaining businesses of authorized services and automobile industrial sites during the pandemic, was also greatly appreciated and demanded. We unconditionally distributed Maxima and Maximus engine oils to a total of 17 thousand foremen all across Turkey in June. We distributed our 4- to 7-liter engine oils according to the vehicle types they serve, together with masks and pandemic information brochures, and we made a contribution of approximately 3 million TL in total."



Sezgin Gürsu





## TAYRAŞ brought waste lubricant and hydrotreatment technology to the agenda

Turkey 4th Scientific and Technical Petroleum Congress, organized by the Chamber of Petroleum Engineers with the aim of providing a discussion platform for oil, natural gas and geothermal industry stakeholders to share their knowledge and experience on legislation, technical issues and academic developments, was held online on 18-20 November 2020.

TAYRAŞ Upcycling Refinery brought to the agenda the subject of waste lubricant –national raw material- and hydrotreatment technology for the first time at the Scientific and Technical Petroleum Congress. Ertuğrul Kılıç, TAYRAŞ Process Manager, presented the paper prepared by Aydın Özbey, TAYRAŞ General Manager, Ertuğrul Kılıç, and Rohit Joshi, SEQUOIA GLOBAL founder and the developer of this technology.

Ertuğrul Kılıç started his speech with the international definitions of base oil and waste lubricants, and emphasized the positive effect of re-refining of waste lubricants on the environment and climate change, resource efficiency, reduction in imports and the economic added value it will create in the national economy. Kılıç shared impressive figures and noted that 1-3 percent base oil can be obtained from crude oil and 70-75 percent from waste lubricants. He discussed the advantages and disadvantages of waste lubricant re-refining technologies, including Acid Clay, Distillation, Solvent Extraction and Hydrotreatment technologies.

Kılıç elaborately explained the TAYRAŞ Upcycling Refinery Hydrotreatment Process, which is the first and only industrial-scale realization of the production of value added base oil from waste lubricants, our country's strategic-national raw material. He also shared information about the waste lubricant legislation in Turkey. He stated that there is 4.5 million tons of base oil demand, 2.2 million tons of collectable waste lubricants in Europe while 80 percent of this amount is collected and there are 27 re-refining facilities. Kılıç said that the base oil demand of Turkey in 2018 was 593 thousand tons, there is about 300 thousand tons of collectable waste lubricant annually while only 7 percent, that is, 20 thousand tons, could be collected in Turkey. Emphasizing that we cannot create added value and employment by losing our national wealth –waste lubricants, Kılıç concluded his presentation by expressing his honor and pride of working in Turkey's first and only waste lubricant upcycling refinery.





## Tüpraş launches new Customer Notification Management system

Tüpraş, prioritizing customer satisfaction at every step, continues its efforts to meet the demands and expectations of its customers at the highest level and in the fastest way within the framework of its Customer Relations Policy. In this context, the company continuously improves its customer communication channels and diversifies them with new practices and applications.

Tüpraş adopted the agility method by shaping its customer relations policy in line with the "New Normal" period, and implemented innovative approaches with coordination and synergy between teams.

With the renewed "Customer Notification Management" software, customers can convey their requests and complaints to Tüpraş more easily. For this purpose, new notification topics are created according to the demands of Tüpraş customers and now customer demands can be elaborately analyzed. Customer notifications are assigned to a specialist at Tüpraş refineries, and customers receive a respond to their requests within shortened standard responding time.

With the integration of the renewed software into different communication channels such as 32 Customer Notification Points in 8 locations where customers can be reached, Customer Portal Customer Solution Center and Customer website, fast and easy access is provided to the customer under a single roof.

Through a system that is mobile friendly and compatible with the Customer Portal and website, up-to-date information regarding customer notifications and the status of the notification can be checked.

### The voice of the customer is followed instantly in all communication channels

As a public company, Tüpraş carries out all its activities including production and distribution processes with great transparency and acts with the goal of open communication. The voice of the customer is instantly monitored through various communication channels such as 32 Customer Notification Points placed in all areas where customers are contacted at the refinery and terminals, the renewed Customer Portal application and the website. Coverage of the Tüpraş Solution Center, which aims to provide a higher level of service to existing and potential customers, is constantly expanded in line with the needs of customers.





## Delphi Technologies Aftermarket returns to the lubricants market with "D" brand

BorgWarner, a world leader in clean and efficient technology solutions for internal combustion, hybrid and electric vehicles, continues to expand its aftermarket product range in Turkey. The company, which acquired Delphi Technologies that has production facilities in Izmir and presence in more than 150 countries, introduced its new product range produced domestically, including engine oils, brake spray, brake fluid and antifreeze products. The products introduced with the new D brand under Delphi Technologies Aftermarket started to be produced for both passenger cars and light commercial vehicles. D branded engine oils, the flagship products of the new range, meets OEM requirements with synthetic and semi-synthetic versions, and introduced to the market in Turkey in 1, 4, 5, 7 and 10.5 liter packages.

Reşat Dumanoglu, Delphi Technologies Aftermarket Turkey, the Caucasus, Middle East and Africa Director, underlined that they have made a strong comeback to the lubricants market and added: "After eight years, we have returned to the Turkish engine oil market with domestic production and we provide this new engine oil to the aftermarket as a complementary product to our current spare parts portfolio. We offer a first-class range of products in various volumes from 1 liter to 10.5 liters, meeting the technical requirements of gasoline and diesel vehicles, both passenger and light commercial. Thanks to our strong distribution channels, all liquids in our 'D' product portfolio will be sold in leading independent spare parts dealers across Turkey."

Fully synthetic engine oils in Delphi Technologies Aftermarket's 'D' product portfolio meet the stringent technical standards of vehicle manufacturers and can be used in many environmentally friendly and innovative engines, including those equipped with exhaust gas treatment systems. The series, with its current product range, meets the oil requirements of approximately 70 percent of all automobile and light commercial brands on the market, including gasoline and diesel. Semi-synthetic motor oils in the 'D' product portfolio, on the other hand, provide lubrication solutions for all 4-stroke diesel and gasoline engines in vehicles in the agriculture and construction sectors, meeting the high performance standards required by large vehicles.



## A new and powerful player in the field of special greases: Vario

**Vario Engineering, established with the aim of meeting the need for special greases within Turkey and offering more accessible and high quality products while reducing foreign dependence, is assertive about meeting specific needs with its R&D power.**

**Could you tell us how Vario Engineering was established? We would like to listen to the main goals and how they were accomplished.**

The establishment story of Vario Engineering actually starts by a coincidence. My partners in the company are actually the owners of a company that set up turnkey factories in the edible oil industry. In time, we enabled my partners, whom I met in 2008, to start setting up reactors and plants in the field of special greases and lubricants. Over the years, our business and friendship relations have improved. In one of our frequent talks, I mentioned

that I was thinking of quitting my current job and that I had other goals. When I told them, they just listened and made some suggestions, and said, "We can do this." At first you have many thoughts of course; risks, feasibility, team, etc. Then, after conducting the necessary feasibility studies, we decided to establish the company within just 1 month. In late 2019, the establishment of our company Vario Engineering was officially completed.

The most important issue we focused on when establishing the company was the contract manufacturing of special greases. There are similar examples in the world.





Our goal in the contract manufacturing of such greases, which are used in very special processes and under severe conditions, was to reduce the foreign dependence and to ensure that industrialists and dealers reach these products more easily, more economically and faster. We continue our works in this direction.

**Mr. Yilmaz, as one of the founding partners, we would like to get to know you better. Can you share your ideas that led you to take a step towards establishing a factory for producing special products within the country and increasing our export volume? In this context, can you share your experiences and opinions about the sector?**

I was born in 1981 in İskenderun. I started working in this sector in 2005. Actually, I entered this sector as a laboratorian, graduate of a 2-year Vocational School. Over the years, I started to love and really enjoy my job. I continued my education while improving myself. After my military service in 2010, I started to work as the founding factory manager of another company in the second half of 2011, and broke several grounds with my team in that company where I worked for 8.5 years. I gained a lot of experience by attending many fairs, organizations and customer visits in Turkey and abroad. But it was my teacher, Mr. Nevzat İler, who changed my life in terms of production and R&D – may he rest in peace. There is a saying: Don't give me the fish but teach me to fish. He



taught me a lot in this sense during our 2 years of work together.

I prepared more than 10 projects in ministries and universities and made presentations and panels. While doing all this, I got my engineering degree and right after that I completed my master's degree (MBA). In the period when I think I am the most productive, I completed the establishment of our company Vario Engineering and continue producing from where I left off.

The products that we manufacture and plan to manufacture are industrial and special products that are hardly ever manufactured in our country. The companies that produce these products in our country can be counted on the fingers of one hand. This is where we set off our establishment journey. In fact, we intend to close this gap, which is big in our country, to some extent. In terms of export, our geography is a perfect fit for reaching the world. We can reach anywhere in the world very easily with our ports, customs gates and airports. From our country, it is particularly easy to access Middle Eastern countries where we export most of our products.

**Which sectors do you currently serve as Vario Engineering and what kind of products do you offer?**

Our company aims to contribute to the national economy and to offer affordable service-price advantage to our industrialists by engaging in the domestic production of the greases that our industrialists have had to import for many years. The greases we produce can appeal to the iron and steel industry, chemical industry, automotive industry, paper industry, textile industry, cement-ceramic industry, construction, mining, energy and other sectors.

We offer a wide variety of special products to meet



**Tayfun Yilmaz**  
Vario Engineering Founding Partner



the different needs of our industrialists with different packaging and branding options. We have the necessary knowledge and sector experience to be our customers' solution partners at every step.

**Your plant in Osmaniye, where these products are produced, has a convenient location in terms of export. What is the production volume of the plant? What are your domestic and international sales targets?**

In terms of location, we can say that the Osmaniye Organized Industrial Zone is the shining star of our country. The main reasons for this are; it is geographically close to two international ports (Iskenderun 56 km, Mersin 137 km) and it has easy access to 13 ports of various sizes located between Iskenderun and Osmaniye. Osmaniye gains importance with its location as the project for the railway passing through this Organized Industrial Zone is almost completed, 50 percent of the iron and steel produced in our country comes from this region, it is located in the middle of the longest highway of our country (Istanbul-Şanlıurfa) and it is located in the intersection of 3 airports (Adana-Gaziantep-Hatay).

Since our plant was established to manufacture special greases only, we have a total production volume of 1,500 tons/year in a single shift. However, my partners are primarily engaged in facility installation of this type, an infrastructure of 10,000 tons/year was prepared in the first phase. Therefore, the plant capacity can be increased immediately in a period of 2 months. Our primary goal is to decrease import dependency, thus we mainly work with the aim of delivering these products to our industrialists and dealers.

**Could you tell us about your activities in the fields of analysis, testing and R&D?**

We are aware that producing new and technological products, offering solutions to customer and sector

problems is an indispensable element of competition and brand-building. In this respect, as a person with a laboratory background, I target meeting the special analysis demands of the industry, realizing the quality checks of raw materials and products and developing new products at the laboratory we have established.

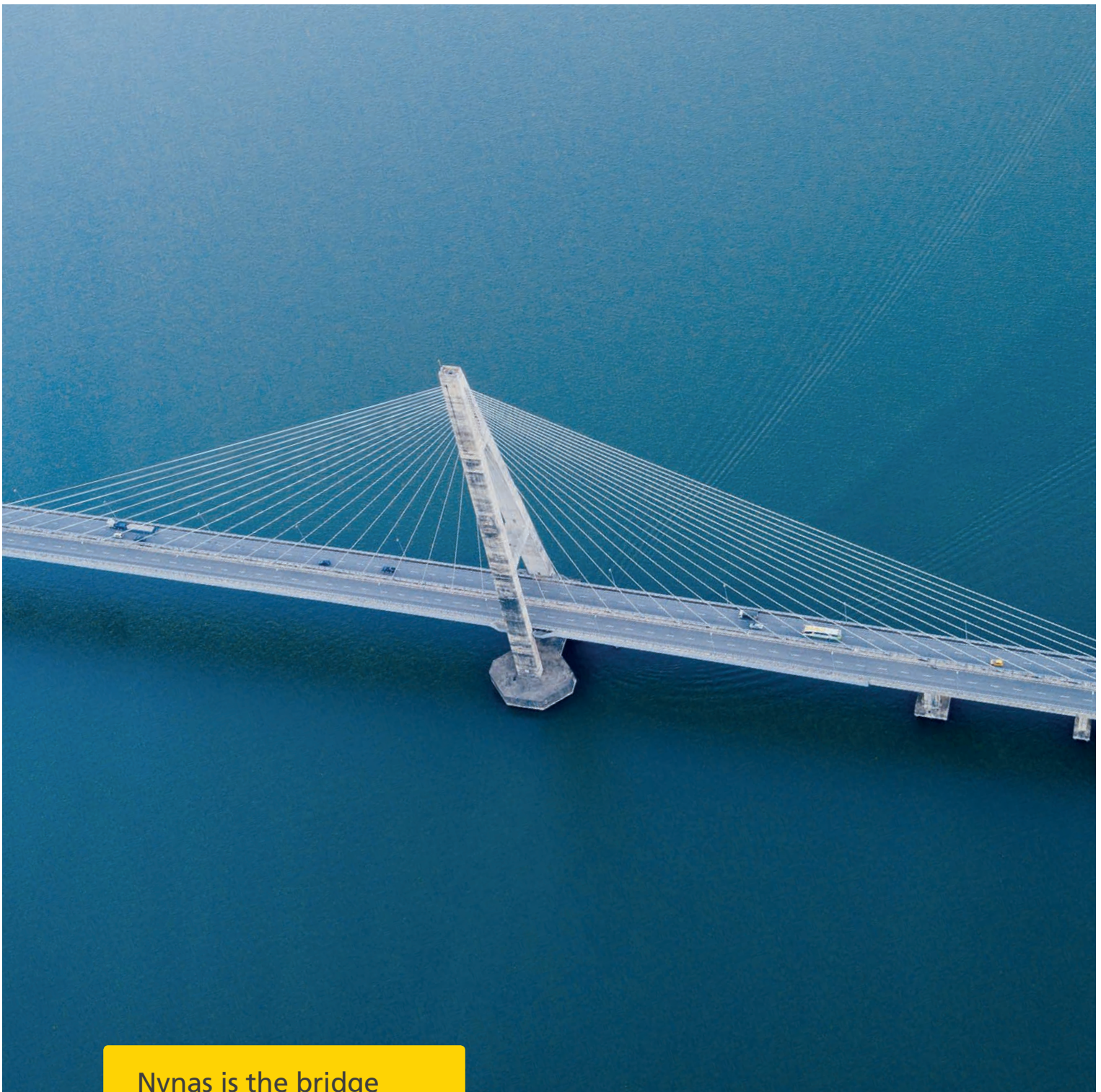
In terms of R&D, we are highly informed and assertive. We have proven this assertiveness with many R&D projects that we have personally carried out and approved before.

Approved projects that we took part in:

- Protective Oils - Ministry of Development 2013
- Development of Calcium Sulphonate Complex Greases - KOSGEB 2015
- Production of Calcium Sulphonate Complex Greases and Development of Production Technologies - KOSGEB 2016
- Silicate Greases - KOSGEB 2018
- Heavy Duty Grease Containing Nanoparticles - TUBİTAK 2019
- Severe Conditions Grease for Defense Industry - KOSGEB 2019







Nynas is the bridge  
to innovation

At Nynas we use our know-how and technical expertise to develop and manufacture high quality specialty products which offer our customers consistency and excellent performance. For more than 90 years, our solutions have supported formulators and end-users in a diverse range of industries, including automotive and transportation, aviation, construction, cooling and refrigeration, electrical, mining, packaging, and many more. Nynas products are designed to meet the most stringent technical requirements and regulations, and are available globally. Visit our website or contact your local Nynas sales office, where our experts are ready to find the right solution for you.

[www.nynas.com](http://www.nynas.com)







# Shell develops solutions for Scuderia Ferrari since 1950

**Shell, which has been Scuderia Ferrari's "Innovation Partner" for over 70 years, continues to power up Scuderia Ferrari on the track with Shell V-Power and Shell Helix Ultra, produced with PurePlus Technology. With this important cooperation that continues in the Formula 1 Grand Prix held in Istanbul after 9 years, the two brands have competed in 600 races and achieved 175 victories and 22 championships so far.**

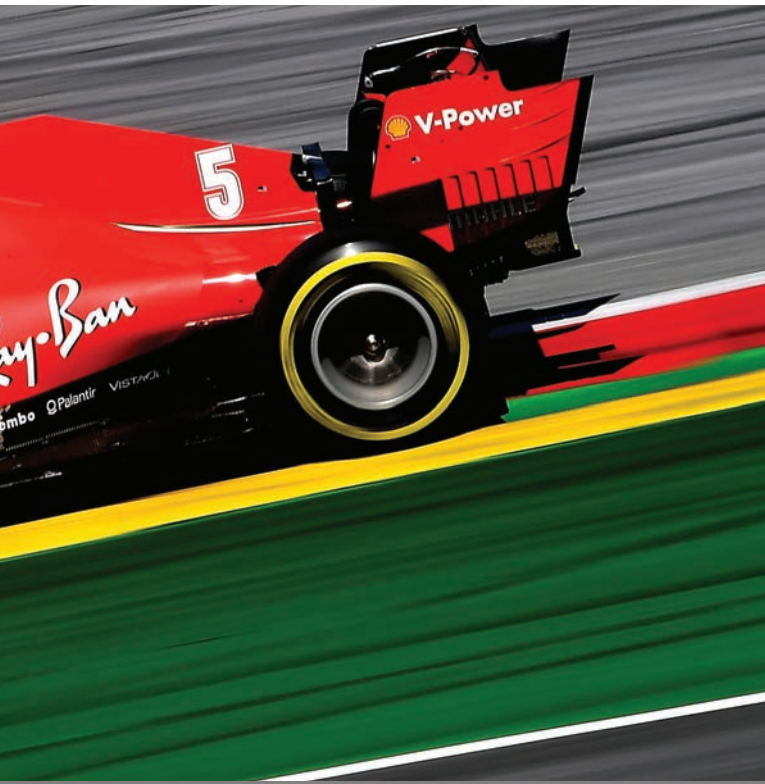
**S**hell, one of the largest energy companies in the world and the largest retail company under a single roof with 44,000 sales points, continues to strengthen its cooperation with Scuderia Ferrari that began in the first FIA Formula 1™ World Championship race in 1950. Strengthening its pioneering position in the sector day by day with the importance it attaches to innovation, Shell provides extra power to its partner Scuderia Ferrari on the track with the technological solutions it develops. As part of this long-standing partnership, Shell works with over 50 engineers and technical employees each year for more than 21,000 hours to optimize Ferrari's fuel and lubricant performance. The two brands, which have competed in 600 races and achieved 175 victories and 22 championships with

this important cooperation, continue to work for new successes.

**Emre Turanlı: "Our top priority is always to provide the highest quality fuel and oil"**

Emre Turanlı, Shell & Turcas CEO, expressed that Shell is one of the companies that invest the most in innovation and technology in the world. "One of our most important partnerships that occurs when it comes to innovation is with Ferrari that continues for 70 years. Scuderia Ferrari is one of Formula 1's iconic teams that won the most races, and we are proud to have contributed to Scuderia Ferrari's victories through this 70-year collaboration. I have no doubt that this partnership, which continued in





the Formula 1 Grand Prix that took place in Istanbul after 9 years and that we followed with excitement, will continue for many years and we will achieve many successes together," he said.

Expressing that Shell and Ferrari are working together to optimize oil and fuel performance and that Shell scientists regularly conduct tests with the technical team of the Scuderia Ferrari, Emre Turanlı said: "Shell fuels are developed with the intense work of hundreds of scientists



as well as the R&D investments of 1 billion dollars each year and tests covering millions of kilometers. The main goal of our investment in research and development in Formula 1 is to develop better fuels and lubricants for our guests by transferring innovations on the track to their daily journeys. Providing all our guests with the highest quality fuel and oil is always one of our top priorities. The formula of our Shell V-Power fuel offered at our stations today is 99 percent the same as the fuel of Scuderia Ferrari Formula 1 vehicles. In addition, we offer our guests the products produced with new technologies in the field of lubricants. With Shell Helix engine oils produced from natural gas with PurePlus Technology, we help drivers to get high performance from their vehicles and extend the life of the engine."

Turanlı underlined that they are the industry leader with their investments in R&D and innovation, and added: "We as Shell welcome more than 1 million consumers at our network of over 1000 stations across Turkey every day, and offer our high quality products and services. On the other hand, we contribute to the economy of our country with our export volume of more than 37 thousand tons in 2019 from our Shell Lubricant and Grease Manufacturing Plant in Derince, the only grease and the largest lubricant manufacturing plant in the Mediterranean. We care about contributing not only to Turkey's economy but also its social development. Innovation is an area where we invest socially all over the world. While encouraging new generations to science, technology and engineering fields, we also increase their knowledge on energy technologies and alternative energy resources. With the world's longest running student innovation competition "Shell Eco-Marathon" we make it possible for 1000 high school and university students in Turkey every year to manufacture more efficient vehicles using the energy resources of the future. Our Turkish teams are achieving extremely successful results, we are proud of them."

**Charles Leclerc: "Our cooperation with Shell is stronger than ever"**

"Our Innovation Partnership with Shell is one of the most respected and long-standing partnerships in F1 history," said Charles Leclerc, Scuderia Ferrari Formula 1 pilot. He added: "Shell V-Power fuel and Shell Helix Ultra engine oil produced with PurePlus Technology give us a lot on the race track in terms of both horsepower and reliability. Thanks to Shell V-Power and Shell Helix Ultra, we have increased the lap time performance gain of Scuderia Ferrari's 2018 Power Unit to 21%. Our cooperation with Shell is stronger than ever. I look forward to continuing to work together with the goal of winning more races and championships in the next five years."



**Charles Leclerc**

Mattia Binotto, Scuderia Ferrari Technical Director, underlined the importance of the innovation partnership with Shell, and commented: "It is very valuable to have a partner like Shell by our side in continuously improving our team performance. Shell's support with its technical experts is of key importance for our engine and power units. Shell has always been a great partner in innovation. Shell is one of our biggest supporters in 600 races, 175 victories and 22 championships to date. We've known each other and have been working together for a long time. I strongly believe that this cooperation will last for many years."

**Secret heroes on the trackside**

Each season, at least two Shell scientists, tasked with providing technical support to Scuderia Ferrari throughout Formula 1, are available at all races in Shell's trackside lab. Their job is to analyze fuel and oil to make sure that the fuel complies with the rules and to detect the wear marks of the engine in the oil.

They try to maximize the performance of Scuderia Ferrari by running about 40 fuel and 30 oil tests at each race. Although the improvements made in the laboratory seem small, their effects can even change the result of the race.

**70 years of cooperation**

The two companies form one of the largest partnerships in the 70-year Formula 1 racing history. But Shell's relationship with Ferrari began long before that – even before the first car rolled off the Maranello production line. Shell's innovation partnership with Scuderia Ferrari dates back to the time when Enzo Ferrari began competing for Alfa Romeo.

In 1929, Enzo Ferrari quit racing and formed his own racing team with Shell's support. In 1947, Shell's fuel and oil were used in the first car to bear the Ferrari name. Since then, Shell's relationship with motorsports has expanded around the world to include multiple disciplines and partnerships with various automakers.





# REXOIL®

LUBRICANTS

## Four Season Long Life Antifreeze







# Energy-efficient hydraulic fluids in industrial equipment



**Dr. Holger Pletsch**

Evonik Oil Additives  
Technical Service Manager

**Energy efficiency is one of the most important topics of this era. Dr. Holger Pletsch from Evonik Oil Additives, a leading German company which is an expert in the field of efficiency, indicates that it is possible to achieve great energy efficiency by using the right hydraulic fluid in industrial equipment, and to decrease costs while minimizing the environmental impact thanks to the productivity and performance benefits such products offer.**

Energy-efficient hydraulic fluids are becoming more and more important and also more and more available on a global scale. It is not only the trend towards sustainability, but also very fundamental cost considerations that make those kinds of hydraulic fluids attractive to the end user.

Hydraulic oils in industrial equipment are supposed to transfer pressure, but there are other important factors that are decisive in the selection of a hydraulic oil. The oil needs to protect the equipment, to reduce friction and wear, to dissipate the heat, especially under high load conditions.

Some applications under extreme environmental conditions require more specialized properties such as stability against water or biodegradability.

Efficiency and Productivity, however, are typically not associated with the hydraulic fluid. And in fact, the majority of hydraulic fluids on the market do not provide any efficiency or productivity benefits. Only dedicated fluids will bring you a benefit.

But how much benefit can you really expect? Depending on the application, a two-digit efficiency





increase is plausible and proven in the field. Compared with conventional hydraulic fluids, energy-efficient hydraulic fluids will save up to 20% of fuel in construction or mining equipment and up to around 10% of energy in stationary manufacturing equipment.

Different applications have substantially different requirements.

Stationary equipment in manufacturing typically runs at much lower operating oil temperatures than construction or mining equipment but nevertheless the oil has to handle peak loads and it typically has to operate under 24/7 conditions. Any equipment failure, any interruption is a critical concern for the equipment owner. Long oil drain intervals are therefore in favor of the maximum possible output. Because of the 24/7 operation, energy typically is one of the biggest cost positions of the users.

Looking into mobile equipment on the other hand, we can conclude that the environmental conditions are much more demanding. Typically, excavators will need to handle cold start conditions in the mornings and high load, high temperature conditions during operation. Overheating is a serious problem and will lead to productivity deficiencies. In general, a high productivity and high fuel efficiency are some of the main concerns of construction and mining end users.

How can hydraulic fluids improve the energy-efficiency of a hydraulic system? The simple answer to the question is – we need to exert control over the viscosity of the hydraulic fluid.

Viscosity is the fluid's resistance to flow, we can also call it thickness of the fluid. A fluid with low viscosity is water, a fluid with high viscosity is honey. By instinct, I bet we would all agree that it requires more energy stirring a glass of honey than stirring a glass of water. So we already know that the higher viscosity of the honey has a consequence on the energy that we need to invest to stir the honey.

Cross-reading to our application, does that mean that the viscosity of the hydraulic fluid must be as low as possible in order to maximize the energy saving? It may come as a surprise, but the answer is no. In fact, a viscosity compromise is required to maximize the energy saving ability.

Again, a well-balanced viscosity is the key for energy efficiency because only then we can minimize both the hydromechanical losses and the volumetric losses that we observe in every hydraulic system.

Having said that, we can also conclude that any fluctuations in viscosity need to be avoided as much as possible during operation.

There are two sources of viscosity fluctuations. The first is the variation in operating temperature. The higher the oil temperature, the lower the viscosity and vice versa. The second root cause for viscosity fluctuations is oil aging. The longer you are using your oil in operation, the more it will change its performance. Viscosity losses can be

observed because the shear stress in the hydraulic system is physically destroying components in the hydraulic fluid. Shear stress is just another word for pressure gradient and in hydraulic systems the oil typically operates at the interface of very high and low pressures.

**Two decisive factors to minimize viscosity fluctuation**

An energy-efficient hydraulic oil has

- high VI (>160 or better >170)
- high shear stability

**Viscosity Index (VI)**

A measure to describe the relationship between oil temperature and viscosity

↑ Viscosity variation  
Start-up viscosities  
Risk of overheating

**Shear Stability**

A measure to describe the relationship between shear stress and viscosity

↓ Viscosity loss in operation  
Risk of overheating

EVONIK  
Leading Beyond Chemistry

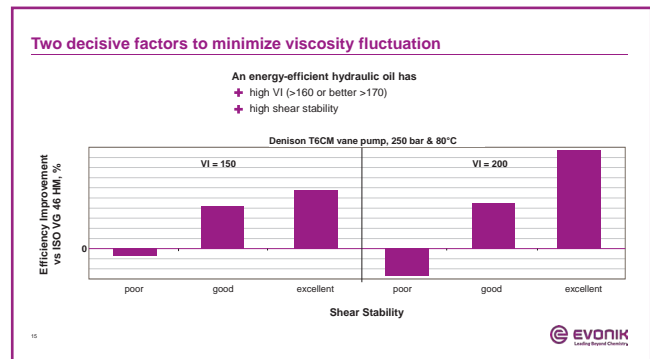
We can benefit from a guideline how you can identify those hydraulic oils that avoid viscosity fluctuations as much as possible. The first indicator is the viscosity index, or short VI. The VI is a measure to describe the relationship between temperature and viscosity.

So the higher the VI level, the lower is the viscosity fluctuation. At the same time, a high VI fluid will also have lower start up viscosities, that means improved resistance against cold temperature conditions. And last but not least, the higher the VI, the lower the risk of overheating.

A conventional hydraulic fluid has a VI of around 100. An energy-efficient hydraulic fluid has a VI of at least 160, or better 170, or even better higher than 180. This should serve you as a guideline when you look for energy-efficient fluids.

The other factor that I described is shear stress. We can avoid viscosity fluctuations if we design the fluid in a way that it can resist shear stress. In other words, the higher the shear stability of the fluid, the better. This is a second indicator that you can look out for when purchasing energy efficient hydraulic fluids.

Of course, these statements are based on experiment. There is plenty of data both from the laboratory and from the field that prove the relationship between VI, shear stability and hydraulic efficiency.




What you see here is an efficiency test using a Denison vane pump at fixed conditions. 6 fluids were tested, 3 with the relatively low VI of 150 and three with a very high VI of 200. Each of the fluid either had a poor, a medium or an excellent shear stability. And you can see that both factors, the VI and the shear stability are contributing to the increase in efficiency.

Now before I will demonstrate you that we see the same effects in the real world, as well, let me emphasize that energy-efficient fluids will also be able to pass the demanding durability requirements of certain OEM specifications.

One of the most important OEM specifications certainly is issued by Denison. The key element of the specification is an extensive pump test with a hybrid pump rig. Only highly shear stable hydraulic oils can pass this pump test and same holds true for other OEM specifications such as issued by Bosch or by Eaton. The respective pump tests differ from each other, but they have one thing in common – Once approved, the fluid has guaranteed protection against wear and corrosion.

I will now guide you through our experiences with injection molding. First of all, I want to emphasize that the performance demonstrations are done according to a strict test protocol. The test protocol intends to minimize systematic errors during data acquisition and for example defines that a reference fluid needs to be tested both as a first and as a last test fluid. It defines the flushing and oil change procedures, it defines the types and intervals of oil quality checks, and it specifies the test conditions. The data acquisition is done using highly sensitive test devices and after the data has been collected, the data set is probed for statistical significance by a team of mathematicians. Because these guidelines are strictly obeyed, we can guarantee a representative and reproducible test result.

**Performance demonstrations on manufacturing equipment**  
 Proven performance on different equipment, pump types, operating pressures, operating temperatures, ambient conditions, production cycles.



Equipment	BOY 35 E	ENGEL VICTORY 330/120	Husky XL 300	Haitian MA10000 II	KraussMaffei KM 80 CX SP 380
Operating Temperature	27-44 °C	32 °C	44 °C	49 °C	32-40-55 °C
Clamp Force	350 kN	1,200 kN	3,000 kN	10,000 kN	800 kN
Energy Savings	7-10%	6.2%	4.2%	11%	3-5%

\* Energy-efficient hydraulic fluid (ISO VG 32, shear stable, VI = 185) in comparison with a conventional monograde hydraulic fluid (ISO VG 46)

EVONIK  
 Lubrication Solutions

The energy efficiency improvements were in fact proven on many different machines and under many different conditions. Here you can see a selection of performance demonstrations, on Boy, Engel, Husky, Haitian and KraussMaffei equipment. The smallest machine is the Boy 35E and by far the biggest machine is the Haitian machine. You can also see that different

operating temperature ranges are covered in our tests. The duration of the performance demonstrations mostly were in the range of some weeks – except the field trial on the KraussMaffei machine that was covering a test time of one entire year.

In each of the cases we probed an ISO VG 32 energy-efficient hydraulic fluid, that means a fluid with a high Viscosity Index of around 185, in comparison with a conventional ISO VG 46 monograde hydraulic oil.

In general, we found energy saving potentials of up to 10-11%, while the average savings potential lies somewhere around 5 %. In summary, you can expect that the energy savings are statistically significant – and also reproducible under many different conditions in injection molding.

Allow me to switch gears and take a look at field trials in excavators, used for construction and mining.

Excavators typically operate in highly dynamic environments. The energy-efficiency of an excavator is depending on its work cycles and on the type of material that is moved. For example, it makes a difference if the excavator handles loose gravel or big rocks. Certainly, heavy loads are more demanding for the equipment. And also, the weather conditions play a role. Remember that overheating of the hydraulic system leads to losses in efficiency and productivity.

To account for all these dynamic conditions, and to make the field trials as comparable, as reproducible and as relevant as possible, our engineers pay sincere attention to minimize some of the most important influencing factors. For example, the respective field trial is done with the same excavator machine, operating with the same test work cycles. We even take care to have the same operators over the time frame of the trial. And of course we accurately document key parameters such as oil temperature, working hour protocol and fuel consumption. Together with statistical data analysis, the test results can be regarded as highly accurate and reliable.

Here I want to share four examples out of the many field trials we have conducted in excavators. Note that we are always comparing an energy-efficient hydraulic fluid with a conventional monograde hydraulic fluid of the same viscosity grade!

**Performance demonstrations in the construction industry**  
 Proven performance on different equipment, engine power, pump types, operating pressures, operating temperatures, ambient conditions.



End user	Schrode GmbH	Vakaru Verslo Projekta	Screen-Renting BVBA	Ghizzoni S.p.A.
Country	Germany	Lithuania	Belgium	Italy
Application	Construction	Mining	Recycling	Construction
Equipment	Crawler excavator	Mobile screening unit	Mobile excavator	Crawler excavator
Job	Earth moving and road construction	Sand sieving	Material handling	Restoring a pipeline route
Efficiency Increase*	10 to 15% during normal use up to 25% during stone milling	Fuel saving of 3 hours, better cold start behaviour	Fuel saving of 2 hours, no more failures caused by overheating	10% fuel saving, improved machine handling

\* Energy-efficient hydraulic fluid (shear stable, VI = 185) in comparison with a conventional monograde hydraulic fluid of the same viscosity grade.

EVONIK  
 Lubrication Solutions





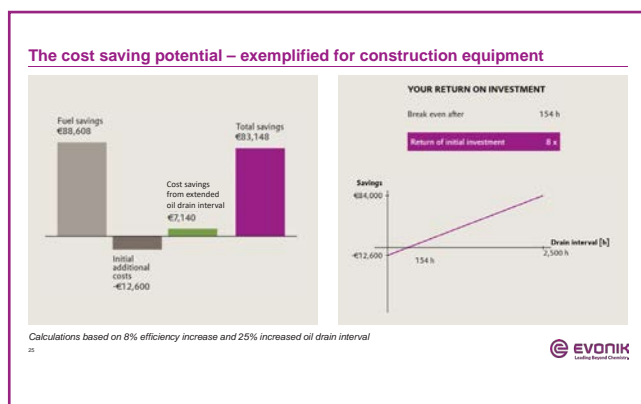
Let me start with explaining the first example – conducted in Germany. In a road construction environment, we compared the two fluid types using a crawler excavator. The fuel savings in this case were reported to be up to 15% during normal use and up to 25% during stone milling.

In the second example, we were testing in a sand mine in Lithuania. Mines typically operate in 24/7 shifts, here we are talking about a day shift application. The test equipment was a mobile sand sieving unit and again, we compared energy-efficient type hydraulic fluid with a conventional hydraulic fluid. A diesel fuel saving potential of 3 Liters per hour was determined. It was further reported by the mine operators that the cold start behavior had improved with the energy-efficient hydraulic fluid. This goes back to the high Viscosity Index of the fluid. A high VI will guarantee lower viscosities at low outside temperatures and higher viscosities at high temperatures. Or short, less temperature-induced fluctuation of the viscosity.

The third field trial was done in the recycling industry where excavators are used to transport different types of waste materials from one place to another. The operators had complained about overheating issues with the conventional hydraulic fluid. Overheating is not only detrimental to the fuel consumption, but it also decreases the productivity of the hydraulic equipment. Overheated equipment can't be used, and the workers are forced to take a break. In the interest of productivity, overheating is better be avoided. With the energy-efficient hydraulic fluids, the overheating problems were solved. On top, a 2 L per hour diesel saving was reported!

Last but not least, another example of 10% fuel saving in a crawler excavator, used for digging and material handling in an Italian pipeline construction job.

So in total, you can expect that energy-efficient hydraulic fluids can deliver around 10% fuel saving potential at least. It is not uncommon that the fuel saving is even higher than 20%. The equipment is proven to be better capable of handling both cold start conditions and high temperature, high load conditions. In other words, the risk of overheating is reduced, and therefore productivity increases can be expected.



I would like to detail a business case for energy-efficient hydraulic fluids. To do that, let's assume a construction equipment application such as a crawler excavator. I will now further assume some of the boundary conditions – the first being the cost of diesel fuel. In Turkey, the Diesel price is something around 6 Lira per Liter – that's around 71 Eurocents.

Second assumption is the cost of the conventional hydraulic fluid. A typical price is 1.10 Euro per kg, that's around 10 lira per kg.

Obviously, the price of the energy-efficient hydraulic fluid is higher than the price of a conventional hydraulic fluid. The technology behind is much more sophisticated and the formulation is well-balanced. Let's assume a price of around 1.70 Euro per kg, that's around 15 Lira per kg.

Let's assume the end user operates 30 machines at a fluid drain interval of 2500 h with a fluid changeout volume of 700 Liters. So that is a mid-sized excavator.

For the business case calculation, we are assuming a very conservative 8% efficiency increase, as well as a 25% increased oil drain interval.

Within the time frame of one oil drain interval, the energy-efficient hydraulic fluid will generate fuel savings of around 88,000 Euro for the 30 machines, that's around 770,000 Lira. Because the oil drain interval is extended, another 7000 Euro savings come on top, that's 60,000 Lira. For sure, there is an investment – the fluid itself is more expensive and this accounts for an additional 12,600 Euro investment, that's 110,000 Lira.

Bottom line, the total savings will be around 80,000 Euros, that's around 730,000 Lira, within the time frame of one oil drain interval, in this case 2500 hours of operation and for 30 excavators.

On the right hand side you can see that the initial cost of investment of 12,600 Euros are overcompensated after 154 hours of operation and that the return of investment is around 8x times the investment itself in this scenario.

This is just one scenario and for sure, each case is different. But based on our experience in the field in many different applications, under many different conditions and with a wide variety of hydraulic equipment, we are sincerely convinced that the investment will pay off in any case.

Allow me to summarize: The key advantages of energy-efficient hydraulic fluids are lower energy or fuel consumption, longer drain intervals, reduced risk of overheating and better cold-start behavior. As a consequence, you can expect savings on your energy costs, reduced maintenance efforts, lower specific CO2 emissions and even higher productivity in case of mobile equipment.

Despite higher investment, the total cost of ownership will reduce due to the fuel savings and due to the extended drain interval.



## Total Lubrificants extend machine life with CERAN Grease

**Total Lubrificants, with its patented TOTAL CERAN technology, becomes the solution partner of enterprises operating in difficult and challenging conditions. Özgecan Çakıcı, Total Turkey Pazarlama Technical Services Manager, said: “Innovation is in TOTAL’s DNA. Our product CERAN, which makes a difference among greases with its technology, increases efficiency while reducing operating costs.”**

**W**ith half a century of field experience, Total Lubrificants offers a wide variety of innovative grease solutions specially developed for demanding applications in all industrial segments. CERAN provides the high performance required by machines in sectors such as iron and steel, cement, paper and food. Özgecan Çakıcı, Technical Services Manager at Total Turkey Pazarlama, indicates that they have developed innovative and high-performance products and solutions for more than 50 years, and their main goal is to be customer-oriented.

**“Resistant against high pressure, water and heat”**

“It is of great importance to reduce operating costs and increase efficiency in sectors where competition

is intense, such as iron and steel, automotive, cement and energy. Total Lubrificants offer the reliability and competitive advantage needed while helping to maximize the productivity of the machines. With CERAN, we as Total Lubrificants developed a new generation calcium sulphionate complex grease. CERAN provides resistance and mechanical stability against high pressure, water and high temperature, and it offers excellent protection against corrosion and oxidation,” Çakıcı said.

**“We minimize the environmental impact”**

Stating that Total Lubrificants also offers greases that meet different needs with worldwide OEM approvals, Özgecan Çakıcı noted: “Our engineers and researchers constantly develop special greases for





first-fill applications in the automotive industry. We ensure performance and continuity at every stage of the production process, even under the most challenging conditions in the cement industry. We offer innovative solutions for the challenging and harsh operating conditions of the paper industry. Innovation is at the heart of our DNA surrounded with strong values. We have also developed a wide range of NSF H1 registered greases to meet all required safety standards in the food industry. This product series named NEVASTANE has the same technology as CERAN. We extend the life and increase the efficiency of the equipment with our CERAN grease, which is compatible with high temperature operations, our fire resistant hydraulic oils and gear oils. While we reduce the impact of pollution, dust, water and temperature changes, we also minimize the impact on the environment. We comply with environmental and health standards with our product range approved by REACH, our environmentally friendly molding oil IRONCAST, and CERAN grease, which optimizes lubricant consumption and has superior water resistance.”

## Benefits of the CERAN series

- Compared to standard greases, CERAN series has a unique structure with its outstanding properties, especially in terms of mechanical stability, anti-corrosion and water resistance.
- CERAN series protects the surfaces against wear and reduces the friction coefficient of the bearings in very high temperatures and environments where water is sprayed as a cooling fluid. Thanks to all these properties, downtime is reduced and equipment life is extended. It provides 4 or 5 times less bearing consumption when switching from Li or LiX conventional greases.
- Comparative tests show that CERAN reduces total grease consumption and provides higher durability to bearings compared to other greases.
- Choosing CERAN greases provides significant reduction in overall consumption and reduces overall maintenance costs.

## Areas of use and properties of the CERAN series:

CERAN XM 100, CERAN XM 220 and CERAN XM 460, the new generation calcium sulphonate complex soap designed by TOTAL, maintains a high level of pumpability and good lubrication even at very high speeds.

### CERAN XM 100:

- Suitable for the lubrication of all components in transportation, marine and off-shore applications, in all heavy loads, shocks, areas with frequent contact with water (thanks to its excellent protection against corrosion and oxidation even in the presence of sea water).
- Provides superior suitability such as multi-purpose EP greases for off-road applications such as pin bushing, piston head and crawler/wheeled excavators, as well as lubrication of load bearings, ball and roller bearings (wheel bearings) in fans and paper industry.

### CERAN XM 220:

- Suitable for working under harsh conditions (wet, load, high temperature, rust) in continuous casting and rolling mill in iron and steel industry, bearings working in wet and dry (felt roll) sections in paper mills and all industrial applications.

### CERAN XM 460:

- Suitable for working under harsh conditions (wet, load, high temperature, rust) in hardwood granule presses, in the mining and cement industry.

### CERAN HRM 460:

- Heavy duty extreme pressure grease designed for bearings in hot rolling mills and continuous casting machines in the iron and steel industry, operating under high temperature, high load and frequent water contact.
- It can be used as EP multi-purpose grease in different industrial applications where water is in frequent contact with grease.

### CERAN MS:

- It is a molybdenum disulfide grease developed for systems operating under extreme pressure, impact and vibration where there is contact with water.
- Formulated for lubrication in multi-purpose industrial, marine and off-shore applications such as overhead cranes, conveyors, open gears and gear couplings.
- With its molybdenum disulfide content, it protects the system by preventing the interruption of lubrication in the excessive temperature (overheating) that may occur in the system accidentally, prevents the grease from gelling and hardening.





**Prof. Dr.  
Filiz Karaosmanoğlu**

Academic Member of ITU  
Chemical Engineering  
Department  
President of Sustainable  
Production and Consumption  
Association  
[filiz@itu.edu.tr](mailto:filiz@itu.edu.tr)

# The voice of the industry as the EU recovers for the aftermath of Covid-19

I attended the online event of the Independent Union of the European Lubricants Industry (UEIL) on October 29, 2020. During the event that took place with the title "Our Contribution to Europe's Sustainable Future", Valentina Serra-Holm, UEIL President, focused on the challenges and opportunities of the aftermath of Covid-19 and noted that there is 14% decrease in engine oil demand, and 8% decrease in industrial oil demand. She addressed the recovery models of the industry and said that our industry must create value by pointing out the need to Rethink Supply Chain; Digitalization (Process Automation and E-commerce); Launch Targeted Campaigns (Changes in Consumer Behavior and Customer Needs; Changes in Policies and Regulations); Identify New Revenue Streams.

V.S. Holm underlined that Small and Medium Sized Enterprises (SMEs) have an important place in the European economy (99%) and economic recovery, and noted that the technology and innovation capacity of SMEs should be increased and their adaptation capabilities should be supported via less bureaucracy and more flexibility. Russell Patten, UEIL Secretary General, went through the impacts of the European Union (EU) agenda on the lubricants industry under the titles of EU's New Budget, European Green Deal Document, EU/USA Trade, Brexit, Future EU Presidency, and he stated that UEIL needs to become a thought leader.

With the addition of the Covid-19 fund, there is still 1.82 trillion Euros within the scope of the 2021-2027 Long Term EU Budget & Next Generation EU (July 21, 2020), which is regarded as a historic agreement. It is projected that there will be more spending for agriculture, environment and climate protection from this budget. The "Recovery and Resilience" Facility (672.5 billion Euros) has been created for public investments and reforms that aim to help EU overcome the

current crisis as a stronger and more resilient structure. In this way, transformation capabilities will be strengthened for green and digital transformation. 2021 will be a critical year for circular economy.

In his speech, Marco Codognola, President of the European Re-refining Industry Group of UEIL (GEIR), told within the framework of the "EU Chemicals Strategy for Sustainability" (October 14, 2020) that used oil re-refining is a priority for circularity and sustainability; non-toxic, reliable and sustainable chemicals should be marketed within the same dangerous substance limitations both for production at source and recycling from waste. The European Parliament is expected to adopt a resolution for circular economy in Q1 2021.

In the second part of the event, we got separated into discussion groups the EU Agenda and Regulatory Developments; Recovery Scenarios/Winning in the New Normal; Circular Economy & Sustainability. In the Circular Economy & Sustainability group that I participated, we discussed the role of re-refining in the life cycle of lubricants, the problems in the used oil supply chain management for re-refining, problems related to the illegal use of used oil, biolubricants and their waste, and the importance of circular economy in the EU.

With this event, which key lessons should we learn from the developments in the EU? We need to include used oils in our circular economy at a higher volume with legal regulations for increasing added value and employment. The number of used oil re-refining facilities should increase. We need legislation and green finance. We need to mobilize in order to recover our industry and our SMEs in particular, and to become resilient against economic hardships, future disasters, and more importantly, climate change.



## EDITORIAL CALENDAR

Edition	Features	Content Deadline	Advert Deadline	Events where magazine will be distributed
<b>Issue 29</b> January–February 2021	<ul style="list-style-type: none"> <li>Automotive Lubricants and Fluids</li> <li>Synthetic Esters</li> </ul>	5 Feb 2021	12 Feb 2021	<b>11th Global Lubricant Week</b> March, Moscow–Russia <b>Petroleum Istanbul 2021</b> 29–30 March – TUYAP Fair and Convention Center <b>Automechanika Istanbul</b> 8–11 April – TUYAP Fair and Convention Center
<b>Issue 30</b> March–April 2021	<ul style="list-style-type: none"> <li>Base Oils</li> <li>Wind Turbine Lubricants</li> </ul>	3 Apr 2021	10 Apr 2021	<b>8th Annual CIS Base Oils and Lubricants Conference</b> 19–20 May, Moscow–Russia
<b>Issue 31</b> May–June 2021	<ul style="list-style-type: none"> <li>Food Grade Lubricants</li> <li>Heat Transfer Fluids</li> </ul>	5 Jun 2021	12 Jun 2021	<b>UNITI Mineral Oil Technology Congress</b> 14–15 July, Stuttgart–Germany
<b>Issue 32</b> July–August 2021	<ul style="list-style-type: none"> <li>Aeronautics and Defense Lubricants and Fluids</li> <li>Gear Oils</li> </ul>	7 Aug 2021	14 Aug 2021	<b>Lubricant Expo</b> 7–8 September, Messe Essen–Germany <b>Istanbul Airshow</b> 23–26 September – Atatürk Airport
<b>Issue 33</b> September–October 2021	<ul style="list-style-type: none"> <li>Latest Trends in Base Oils</li> <li>Oil Analyses</li> </ul>	2 Oct 2021	9 Oct 2021	<b>European Base Oils &amp; Lubricants Summit</b> 23–26 November, Amsterdam–The Netherlands
<b>Issue 34</b> November–December 2021	<ul style="list-style-type: none"> <li>Bio–Based Lubricants</li> <li>E–Commerce in Lubricants</li> </ul>	4 Dec 2021	11 Dec 2021	
<b>Issue 35</b> January–February 2022	<ul style="list-style-type: none"> <li>Electric Vehicle Fluids</li> <li>Dielectric Fluids</li> </ul>	5 Feb 2022	12 Feb 2022	





# 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 0W-20 or 5W-30 oil will make start-ups easier 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 engines.



### POINTS TO REMEMBER

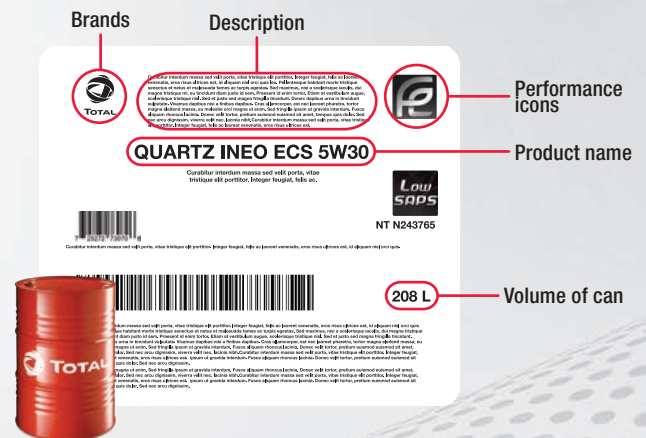
New-generation engine oils and those currently being developed by TOTAL are of increasingly fluid grades: 0W-20, 5W-20, 0W-30 and 0W-16.

## How to read a product label for product selection?

Small packaging:



Large packaging:





# ÜRETİMDEN SON TÜKETİME KADAR HER AŞAMADA FROM PRIMARY PRODUCTION TO FINAL CONSUMPTION

Sondaj  
Kimyasalları



Drilling  
Chemicals

Üretim  
Kimyasalları



Production  
Chemicals

Rafineri  
Katkıları



Refinery  
Chemicals

Madeni Yağ  
Katkı Maddeleri



Lubricant  
Additives

Akaryakıt ve  
Biodizel Katkıları



Fuel And  
Biodizel Additives

Bitmiş Petrol  
Ürünleri



Finished Petroleum  
Products

**adco**<sup>®</sup>





ENI ADDITIVES

Boost your performance



## Eni Additives, our research makes the difference.

Not all lubricants are the same. Eni Additives make the difference and allow you to get the best quality and cost effective lubricants. Eni Additives are a smart choice for your business: not only for automotive, industrial and tailor made packages but also for high quality components such as detergents, dispersants, viscosity modifiers, antioxidants/antiwear and PPD. More than 30 years of experience in additives and components R&D recognized by ACC (Eni is compliant with the American Chemistry Council Product Approval Code of Practice). Our products are produced in our Italian plants (under Eni exclusive technology and patents) and are sold in more than 30 countries all over the world.

For more information please contact [eniadditives@eni.com](mailto:eniadditives@eni.com)



[oilproducts.eni.com](http://oilproducts.eni.com)

Find out more on [oilproducts.eni.com](http://oilproducts.eni.com)