

# U.S.

## DEMAND FOR SYNTHETIC LUBRICANT, FUNCTIONAL FLUID TO REACH \$4.8 BILLION IN 2013

U.S. demand for synthetic lubricants and functional fluids will expand more than three percent per year to \$4.8 billion in 2013, with growth rising at an even faster pace in volume terms to reach 520 million gallons. These and other trends are presented in Synthetic Lubricants and Functional Fluids, a new study from Cleveland-based industry research firm The Freedonia Group Inc.

According to the study, engine oils and hydraulic and transmission fluids will experience the fastest gains as synthetics finally begin to penetrate the conservative medium- and heavy-duty truck market, and as increasing new vehicle lubricant performance requirements and growing consumer acceptance further expand synthetics' share of the light vehicle market. "There are a number of issues that have held synthetics back, though the primary one has been the prevailing conservative approach of 'If it isn't broke, don't fix it,'" says Ned Zimmerman, industry analyst for Freedonia.

While engine oils and hydraulic and transmission fluids will achieve relatively strong growth going forward, other

types of synthetic lubricants and fluids are expected to realize a slow decline in demand through 2013, largely as a result of falling average fluid prices.

The largest market for synthetic lubricants and functional fluids is light vehicles. This reflects not only consumer uptake of engine oils and transmission fluids, but also the universally synthetic nature of antifreeze, brake and de-icing (windshield wiper) fluids. The fastest growing market for synthetic fluids will be the medium- and heavy-duty truck market. Increasingly stringent engine specifications, as well as a move by many engine manufacturers to specify low viscosity engine oils for their 2010 emissions-compliant engines, will finally lead many fleet operators to evaluate and use synthetic engine oils and hydraulic and transmission fluids. Synthetics will benefit from their better performance under load in low viscosity formulations, as well as from the reduced maintenance and downtime costs that result from synthetics' extended drain intervals. The latter will be increasingly important to fleet operators looking to cut costs.

From a product standpoint, the greatest declines will be in heat transfer and metalworking fluids. In addition to declining vehicle antifreeze demand, the greater use of fill-for-life coolant systems in industrial equipment and the increased recycling of deicing fluids at airports will contribute to falling heat transfer fluid demand. Synthetic metalworking fluid demand will suffer from increasing

| U.S. SYNTHETIC LUBRICANT & FUNCTIONAL FLUID DEMAND<br>(Million Dollars) |                 |       |       |           |           |
|---|-----------------|-------|-------|-----------|-----------|
| Item  | % Annual Growth |       |       |           |           |
|   | 2003            | 2008  | 2013  | 2003-2008 | 2008-2013 |
| Synthetic Functional Fluid Demand                                       | 2,145           | 4,140 | 4,840 | 14.1      | 3.2       |
| Engine Oils   | 525             | 1,820 | 2,590 | 28.2      | 7.3       |
| Heat Transfer Fluids  | 970             | 1,345 | 1,180 | 6.8       | -2.6      |
| Hydraulic & Transmission Fluids   | 215             | 390   | 530   | 12.6      | 6.3       |
| Metalworking Fluids   | 195             | 200   | 170   | 0.5       | -3.2      |
| Dielectric Fluids   | 70              | 105   | 95    | 8.4       | -2.0      |
| Other   | 170             | 280   | 275   | 10.5      | -0.4      |

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substitution of bio-based fluids for synthetics. “This substitution is not universal, but occurs most often where lubricant is released into the environment, or where there is to be likely human contact with the lubricant on a regular basis,” Zimmerman says. “In these cases the bio-based lubricant is typically perceived as being more environmentally friendly, and less likely to be toxic to humans.

“Due to differences in how frequently the different types of lubricant need to be changed, a small impact on volume demand may exist.”

Reflecting their heavy use in engine oils and hydraulic and transmission fluids, Group III base oils and polyalphaolefins will be the fastest-growing synthetic chemicals, with esters also achieving positive value growth through 2013.

Due to recent growth and technological development in the synthetic lubricant market, this Freedonia study chose to focus on that area. A more generalized report is also produced, but due to the scope, it is not possible to focus on synthetics in this kind of detail, according to Zimmerman.

“While it is true that synthetic lubricants and functional fluids are not universally superior to mineral oil-based lubricants and fluids for all applications and under all use scenarios, for many applications synthetics have a demonstrated advantage,” he says. “This is particularly true in the large volume engine oil market where the synthetic lubricants can facilitate extended drain intervals, particularly relative to lubricants formulated with Group I and Group II base stocks.”

## Excel Gear

### MAKES TWO KEY APPOINTMENTS

Denis Bermingham has been named manager of manufacturing engineering and special projects for Excel Gear Inc., and William Powers was named marketing manager. N.K. Chinnusamy, president of Excel, made both hires, saying they were the result of the company’s recent growth and anticipated expansion into new market segments.



**Denis Bermingham**

Bermingham has a background in engineering, metalworking and machine tool building, as well as metallurgy and heat treatment. He will oversee Excel’s manufacturing engineering and special projects. He also will continue the company’s ongoing lean manufacturing implementation.

Bringing 30 years of manufacturing and machine tool experience to Excel Gear, Bermingham worked the majority of his career at Ingersoll Milling Machine in Rockford, IL, in the manufacturing engineering, assembly, engineering and prototyping departments. He has a degree in industrial technology.

“I joined Excel Gear to become part of the technical/manufacturing environment here,” Bermingham comments.

“We can offer customers innovative solutions with excellent quality and value. I’m very excited to be part of this team.”

Powers brings 30 years’ experience in the gear and machine tool business to Excel. He previously served as an account manager, project manager and supervisor of customer training with Ingersoll, as well as other metalworking/automation systems companies. He holds a degree in business administration and will oversee all the marketing and business development for Excel.



**William Powers**

“Chinn has structured a first-class company at Excel, supplying engineering-based products, brought to market by a very highly-skilled and dedicated team,” Powers says. “All customers receive the highest quality possible, backed by service and application assistance that’s second to none. It’s a great working environment, and I look forward to the challenges of our changing markets.”

## Broadwind

### APPOINTS BOARD CHAIRMAN

David P. Reiland was appointed chairman of the board of directors for Broadwind Energy Inc. Reiland has served as a member on the board since April 2008.

Reiland previously worked for Magnetek, starting in 1986, where he served as chief executive officer and president from 2006 to 2008, and he continues to serve on its board of directors. Magnetek develops, manufactures and markets power and motion control systems, including systems that deliver power from renewable energy sources, including wind turbines, to the utility grid. Reiland currently chairs Broadwind's Finance Committee and serves on the Audit and Executive committees.

According to Broadwind CEO, J. Cameron Drecoll, "We

are delighted to announce Dave's appointment as chairman of the board. He has played a key role since joining the board two years ago and has been instrumental in helping the company navigate through the economic downturn and position itself for the recovering markets. Broadwind will further benefit from Dave's financial acumen, manufacturing experience and wind energy knowledge."

Reiland succeeds James M. Lindstrom as chairman of the board. Lindstrom works for Tontine Associates LLC, an investment firm based in Greenwich, CT. It is affiliated with a group of investment funds that collectively are Broadwind's largest stockholder. Lindstrom resigned from the board in connection with Tontine's decision to distribute a portion of its ownership position in Broadwind to its investors.

Reiland comments, "Tontine's vision helped establish Broadwind as a key player in the U.S. wind industry, and we appreciate Jim's commitment as chairman in positioning the company for long-term success as the wind energy market recovers."

## Solar Atmospheres

### BREAKS GROUND IN CALIFORNIA

Solar Atmospheres, Inc. recently broke ground on May 3, 2010, for its new plant site in Fontana, California. This new addition to the Solar Group will bring a greenfield vacuum heat treating and brazing facility to the West Coast. According to William R. Jones, CEO, Solar Atmospheres Inc., "This was a major and serious decision considering the current market conditions, but the project will definitely be worth it in the long run."

The new site is located in San Bernardino County and is approximately 40 miles east of downtown Los Angeles. The building itself will be a total of 25,000 square feet with a two-story office building included. The plant will be equipped with roof skylights, a poured cement foundation and insulated frame work. All of the vacuum furnaces will be powered by an electric, three-megawatt power entrance from Edison Electric. Required process gases will be supplied by Air Products. Water cooling for the furnaces will be a single-close loop, air cooled heat exchanger that will be providing 1,500 gal/minute. Also, the building will include two 10-ton, full-span bridge cranes that will service the entire facility.



**From left to right: Paul Biane, San Bernardino 2nd District County Supervisor, Scott Vanhorne, Field Representative to the Supervisor, Olin Lord, President and Gregg Lord, Vice President, Stewart Development/Lord Construction and Derek Dennis, President of Solar Atmospheres of California attend the groundbreaking ceremony in Fontana, CA.**

The furnaces for the new plant are now being constructed by Solar's sister company, Solar Manufacturing. The new plant will start out with four production furnaces of varying sizes. The first is a 24-foot-deep, high-performance, car bottom-type vacuum furnace with a load capacity of 50,000 lbs. The second is a six-foot-deep, 10-bar quenching capability, high-vacuum furnace that can process up to 3,000 lb. loads. This furnace will allow Solar to process many types



of parts, including those requiring the company's patented low-pressure vacuum carburizing service. The third furnace is a five-foot-deep, 2-bar cooling, high-vacuum furnace. The new site will also have a five-foot-deep, re-circulating air temper furnace. It is anticipated that these furnaces will serve many industries within the greater Southern California area. Included in these industries would be aerospace, high-end metallurgy, such as titanium, tantalum and columbium, alloys of stainless steel, and the heat treatment of tool steels.

Solar Atmospheres of California is expected to have about 30 employees within the first two years of operation. Although the primary employment will be from the local area, selected specialists will be relocating from the Solar East Coast plants to assist in the initial plant start-up. Sales are projected to be \$12 million in two years. The official opening date of this new state-of-the-art facility is expected to be the first week of September, 2010.

## 1Q2010 Workholding Shipments Rose

At \$50 million for the first quarter 2010, shipments of workholding equipment were up 10.7 percent from the first quarter 2009, according to the Advanced Workholding Technologies (AWT) Group of The Association for Manufacturing Technology (AMT). Workholding equipment shipments within the U.S. by the 38 companies participat-

**continued**

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ing in the AWT statistical report totaled \$42.6 million while exports totaled \$7.4 million.

The AWT report shows domestic workholding equipment shipments increased 13.6 percent while U.S. exports decreased 15.5 percent from fourth quarter 2009. Data was compiled regionally. The Midwest increased 7.5 percent from fourth quarter 2009 and was the largest domestic destination with 39.5 percent of total domestic shipments. Central region growth was 24.7 percent, making it the second largest share of domestic shipments with 18.8 percent domestic share. Northeast shipments fell 6.1 percent. The South had 13.6 percent of the first quarter 2010 domestic shipments, with an increase of 14.4 percent from the previous quarter. The West is the smallest domestic market despite a 34.2 percent increase from fourth quarter, which is the largest market growth for first quarter 2010. Employment levels were up 2.7 percent from the previous quarter, but these numbers are still down 9.8 percent compared to the first quarter of 2009.

The Advanced Workholding Technology Group is comprised of AMT members who produce chucks, jaws, collets, vises, fixtures and other workholding equipment. The AWT statistical program is open to any OEM workholding manufacturer or U.S.-based company that is a sole distributor of a foreign-built workholding product line. Participation involves completing a confidential survey each month. OEMs interested in participating should contact Kim Brown, industry economist, at (703) 827-5223 or [kbrown@amton-line.org](mailto:kbrown@amton-line.org).

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## Romax

### Opens Dedicated Wind Energy Technical Center

Romax Technology is opening a new technical center in Colorado in response to the growing demand for technical consultancy services from the U.S. wind energy industry. Located in Boulder, CO, the facility will provide a center for Romax's wind engineering capabilities enabling the delivery of key projects with local wind energy clients and partners.

Adding to the company's 10 worldwide offices and complementing a technical and sales team in Troy, MI, the facility will focus solely on the delivery of products and services for wind energy.

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Recent growth in the wind industry has created strong demand for Romax's wind energy products and services, which include component and system level drivetrain design and simulation, as well as manufacturing, testing and certification support. "Over the past four years, the U.S. wind energy market has earned its position as one of the largest in the world, with domestic and foreign manufacturers all aspiring to meet the needs of this fast growing market," says Ashley Crowther, U.S. engineering director for wind energy at Romax.

The technical center will initially support American wind initiatives, such as the National Renewable Energy Laboratory (NREL) Gearbox Reliability Collaborative, as well as helping wind turbine and component manufacturers to supply products to the U.S. market. Boulder Wind Power (BWP) is the first long-term technical partner to be supported by the Romax Technical Center.

Identifying Romax as a key technical partner, BWP intends to design, develop and eventually manufacture large, multi-megawatt, direct drive wind turbines. Romax will lend its expertise to achieve a reduction in development time, providing BWP with design, analysis, dynamics and instrumentation experience for the entire direct-drive turbine drivetrain.

## Zeiss

### ADDS MARUKA AS DISTRIBUTOR

Carl Zeiss Industrial Metrology recently announced that Maruka U.S.A. will be the new distributor of Zeiss metrology equipment for Kansas and Western Missouri. Maruka has measurement centers in Wichita, KS and Lee's Summit, MO, and will represent the full line of Zeiss coordinate measuring machines (CMMs).

"Maruka's commitment to the success of their customers and over 50 years of experience makes them an invaluable partner. We are confident in their ability to support the Zeiss product line with a qualified staff in the Kansas and Western Missouri region," says John Gryzbowski, national sales manager-west, Carl Zeiss IMT Corporation.

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Carl Zeiss metrology equipment, such as this Contura G2 CMM, is available in Kansas and Western Missouri by Maruka U.S.A.

Maruka Machinery Co. Ltd. in Japan was established in 1946, and the U.S. branch opened in 1968. Maruka has been serving the manufacturing industry with metalworking, plastics processing and fabrication equipment for over a half a century. "All of us at Maruka are looking forward to being a part of the Carl Zeiss team while utilizing our facilities and experience to relay success to our customers," says Brent Eagleburger, sales manager at Maruka U.S.A.

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## Bonfiglioli Yaw and Pitch

### DRIVES POWER GERMAN OFFSHORE WIND FARM

Germany's first offshore wind farm, Alpha Ventus, features yaw and pitch drives from the Bonfiglioli Group. The wind farm features a dozen 5 MW towers and is expected to generate enough electricity to power 50,000 homes.

Located in 30-meter waters, 45 kilometers (28 miles) off the German island of Borkum in the North Sea, the proj-



ect represents an investment of 250 million euros. Alpha Ventus is the first of several wind farms Germany plans for its northern coastline. The government approved plans to develop up to 40 offshore wind parks that could provide electricity to eight million households.

According to Sonia Bonfiglioli, CEO of the Bonfiglioli Group, the company's gearboxes were chosen to control the yaw angle of each turbine tower, as well as the pitch of the blades. "Due to the location and high power output of each wind tower, each component had to be both highly reliable and high performing," she says. "Bonfiglioli, thanks to our years of experience in applied technology, was among the few manufacturers who could provide the right solution for the project."

During an official commissioning ceremony, Norbert Röttgen, Germany's federal environment minister, said, "Investors, turbine manufacturers and grid operators have all taken a great risk with this test field. Their steadfast commitment, perseverance and creativity have paid off. The experience gained during the construction of Alpha Ventus will benefit all future offshore wind farms."

Bonfiglioli forecasts its 2010 revenues will top 98 million euros within the wind power sector.

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