



## Spotlight On Packaging

**P**ackaging touches every industry on the planet, and lubricants and greases are no exception. A product's container can influence everything from consumer decisions to warehouse handling, shipping costs, safety and more.

### Driven by Autos

For lubricants, the automotive industry and the desires of the oil majors are in many ways the engine driving the packaging train. According to the Lubricant Packaging Market Report, prepared by Global Market Insights, "Automobile led the overall lubricant packaging market in 2016 in terms of volume and shall grow at a promi-

ment rate over the forecast timespan. The growing automobile industry in Asia-Pacific and Latin America will be crucial factors propelling lubricant packaging market growth in the coming years.”

Elizabeth R. Wagg, vice president of operations and sales at Campbellville, Ontario-based Biederman Enterprises Ltd., said, “We work with all the major oil companies, and I do see how they introduce subtle changes with their oil bottles. Some of that has to do with their customers, the end users and how they fill oil into their cars.”

In that same vein, German company Ravenol and U.S.-based Valvoline both rolled out new multi-quart oil containers last year, clearly targeted at the consumer market. The easy-pour bottles feature pullout spouts, internal “anti-glug” tubes and side-mounted handles.

A well-designed package can add a competitive edge. Henrik Kass is the business manager for Fluid Bag, a Finnish company that makes 900- and 1,000-liter bags for dispensing lubricants, greases and many other products. He said, “Packaging can be something more than just the means to move a product from A to B. The packaging can offer features that benefit the end user of lubricants, and also the producer if it leads to an increase in sales.”

### Innovations

In 2016, Castrol attempted to leapfrog the entire oil change business by rolling out their disruptive Nexcel system that included a car’s full complement of engine oil and an oil filter contained in one box about the size of a car battery. Simply removing the box and plugging in a new one performs a complete oil change. No tools, cans, plastic bottles, pouches or jugs. Aston Martin liked the idea, and a partnership was formed. So far, though, the rest of the automakers

haven’t embraced the product.

Meanwhile, an innovation that nobody saw coming to the lubes business has established a beachhead on the packaging battlefield and isn’t going away—the pouch. As reported last year in *Lubes’n’Greases*, the flexible packaging market, which includes pouches, is growing at a rate of about 25 percent a year.

Wagg of Biedermann said, “Pouches were once thought by many people to never fly—nobody is going to want to pour oil into their car from a pouch. But it’s happening, and it makes sense on so many different levels. Manufacturers save a lot of freight costs by shipping empty pouches.”

Biederman doesn’t make pouches, but they did pioneer another innovation: the plastic grease cartridge. Even in something as specialized as 14-ounce grease cartridges, there may be room for change. Biederman gets questions from customers about clear grease tubes so levels can be checked visually.

But one invention can force a change on other packaging elements. “We can produce a transparent package, but it makes printing on top of it more of a challenge,” elaborated Wagg.

Packaging design also extends to how containers are handled as they make their way through the distribution chain.

Fluid Bag’s Kass said, “It’s definitely a more gradual pace of change when you’re talking about containers that hold large volumes. There are standards in the industry like steel drums, bins and totes that have been used forever, so all the handling equipment is used to working with those sizes and shapes.”

### Sustainability

Luis Villazor, director of sales & marketing for Greif Inc., based in Delaware, Ohio, commented, “In the

industry as a whole, we’re seeing solutions that relate to package graphics and printing in the form of using ‘skins’ or digital printing techniques. Sustainable packaging using more sustainable raw materials and water-based paints is always of interest.”

Sustainability is a constant theme in the packaging world. In January, McDonald’s announced a goal to employ 100 percent sustainable packaging by 2025. Currently, only 50 percent of its guest packaging comes from sustainable sources, and somewhat shockingly, only 10 percent of its restaurants are recycling.

The whole notion of how sustainability in packaging permeates corporate culture can be seen in British packaging authority Smithers Pira’s Sustainability in Packaging conference, which will be setting up this month in Chicago. Speakers at the event include a wide cross-section of packagers, city employees, engineers, non-profits, and representatives from Starbucks, Clorox, General Mills, PepsiCo, Best Buy and Waste Management.

“We are all citizens of the world and have a responsibility to ensure that our packaging is as responsible as it can be while still being able to deliver the product contained within,” said Wagg. “Those efforts include such things as light-weighting, using recycled materials, incorporating recycling into the operation from beginning to end and many other initiatives along the lifecycle of the package and our operation.”

Kass adds that working internationally keeps sustainability in the forefront. He says, “Nowadays, everybody should be thinking about sustainability. In Europe, there are directives having to do with how to minimize packaging and making sure you use as little as possible.”

In this Spotlight, each of these companies explains how their packaging affects the lubricants industry.

## Fluid-Bag

### Putting Lubes and Grease in a Bag



Traditionally, transporting and storing lubes and greases has involved 200-liter drums and 1,000-liter rigid intermediate bulk containers (IBC). Over the years, improvements aimed at prolonging the longevity of the vehicle and machinery parts, and achieving longer service intervals, has led to a packaging innovation that reduces the risk of contamination in lubricants during both transport and handling. This packaging is designed to get you out of the drum and into something more flexible.

“Fluid-Bag packaging systems are designed as a modern alternative to drums and IBCs. This fits the general trend where the demand for more advanced, high-quality lubricants is increasing and service stops are getting fewer. It is in everybody’s interest that the quality and integrity of the lubricant is maintained as when produced, until the point of application,” Henrik Kass, business manager inks & lubes at Fluid-Bag comments.

#### Flexible Design for Today’s Needs

In the mid-1980s, Finnish engineers at Fluid-Bag perfected designs for a 1,000-liter flexible container. Their game-changing packaging breakthrough introduced a new way of moving and storing liquids that is recyclable and environmentally friendly. The single-trip, one-way system provides long-term storage while preserving lubricant integrity with minimum residue.

From this beginning, they advanced packing innovation by designing a multi-trip version based on a steel pal-

let. The bags can be shipped by road, rail and sea.

The inner bag is a single-trip, multilayer foil container surrounded by polypropylene fabric equipped with top and bottom inlet and outlet. The transport bag or outer bag is made of polypropylene fabric.

As the bag is flexible, it can be filled completely as opposed to other types of containers requiring an air-filled space, which is vulnerable to moisture contamination. External temperature changes strongly affect rigid containers creating pressure variations, often resulting in moisture contamination and the risk of rust particles in the lubricant. The flexibility of Fluid-Bag containers allows them to flex with temperature changes, hence no breathing occurs. As the bag is made of plastic, there is no danger of rust, nor is the lubricant exposed to contamination during discharge as is often the case when using rigid containers.

#### Proof in the Field

In a recent trial, transformer oil was stored for 23 months in a Fluid-Bag container before it showed signs of moisture ingress. Even then, the product when tested was within industry specifications. The same type of oil can be stored a maximum of 6 months in drums.

Residue in a flexible container is significantly less compared with rigid packaging. Fluid-Bag containers typically leave only 1 percent or less after discharging grease; for oils, it is practically zero, thanks to the possibility of stretching. “Looking at the bigger pic-

ture, in an empty 1,000-liter Fluid-Bag, there will be approximately 10 kg of grease residue as compared to 25-30 kg typically left over from five drums. This gives substantial savings for the grease user over a year. In the case of oil in IBCs, the difference is bigger,” Henrik Kass explains.

Fluid-Bag containers can be loaded onto trucks for fieldwork. One Fluid-Bag container replaces five drums, thereby reducing handling and labor costs. All the components of the packaging can be recycled or incinerated.

When it comes to innovative packaging for lubes and grease, Fluid-Bag offers a flexible solution keeping the product free of moisture and other contaminants while providing a way to extract all the product you are paying for. □

The Fluid-Bag Flexi with a 3-inch outlet pipe is the typical setup for bulk grease handling. It can be connected directly to a central lubricating system or to a grease gun at the point of maintenance.

