



Duncan Coopland, vice-president of sales and business development for Knowlton Development Corporation, at the company's newly-opened KDC Innovation Group office in Toronto.



The LEK facility in Knowlton, Que., utilizes a Markem-Imaje 9030 coder to apply lot and best-before information to the web stock of Butterfly sachets being processed on the EasyPack Solutions' Easysnap filling and sealing machine.

# THE BUTTERFLY EFFECTS

Leading Canadian contract packager leverages keen innovation and leading-edge technologies to clean up in the personal-care products biz

It's always much easier to talk of thinking outside the proverbial box than actually pushing the envelope of existing products and technologies on a daily basis like the folks at **KDC (Knowlton Development Corporation)**, one of North America's leading contract manufacturers of personal-care products with an insatiable appetite for packaging product and process innovation—backed up with a world-class manufacturing skillset to see many of its pioneering ideas go on to become major marketplace successes.

Headquartered in Knowlton, Que., the KDC group runs a three-pillared network of highly-efficient third-party manufacturing and co-packing facilities—including the Knowlton-based site co-shared by **LEK, Inc.** and **ItalHair North America Ltd.**, **Body Blue 2006 Inc.** of Mississauga, Ont., and **Tri Tech Labs** in Lynchburg, Va.—to serve a rapidly growing client base of personal-care, hygiene and health-and-beauty brand-owners, including industry superpowers such as **Procter & Gamble (P&G)** and **Johnson & Johnson (J&J)**.

Totalling over a million square feet of production space, the three plants have continued to post impressive growth numbers even during the past recession, according to KDC vice-president of sales and business development Duncan Coopland, in large part thanks to the company's



The Butterfly uni-dose sachet is an innovative packaging and product sampling format recently brought to Canada by KDC and its machinery supplier EasyPack Solutions.

unwavering commitment to product innovation and quality.

"We're all about innovation: It's not only part of our name, it's what we do," Coopland told *Canadian Packaging* on a recent visit to the company's recently-opened **KDC Innovation Group** facility in west-end Toronto—a focused product research and development unit operating as a sort of a "innovation think-tank" for turning next-generation product and packaging developments into commercialized reality.

"This is what we call our think-tank—where we really examine the current market trends, while drawing from our group's knowledge, insights and participation in the industry to develop novel concepts and technologies that enable our customers to arrive at the forefront of those trends," explains Coopland.

"We wanted to create a site with a really diverse environment that encourages dialogue, innovation, idea generation and, ultimately, success," he adds.

"I really believe that we've done exactly what we set out to do, as this place has already helped encourage our employees to think outside the box when conceiving of new personal-care products and the new ways to package them.

"This building is essentially a customer innovation center, which connects the R&D groups of each of our manufacturing sites to nurture new business development opportunities and innovation—partnered up with the actual product development."

According to KDC vice-president of innovation and marketing Natasha Lebel, the Innovation Group unit is mandated with developing accurate three- to five-year projections for various product segments and categories within the personal-care markets, while also developing an "innovation network" that specifically focuses on sustainable technologies.

This often involves engaging various authoritative outside experts in the fields of chemistry and packaging to partake in KDC's R&D efforts—aimed at bringing to market new proprietary technologies and products ranging from deodorants and antiperspirants to various liquid surfactant systems (soaps).

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A Storcan conveying system moves personal-care products past a Videojet inkjet coder at the LEK production plant in Knowlton.



An NJM/CLI 125 Bronco labeler in action on a deodorant line at LEK.



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A Bonfiglioli motor helps power a deodorant-stick conveying line.

Says Lebel: “The center is a designed as a gathering space for customers and KDC partners alike—a place where we are not distracted by the routine day-to-day activities, so that we are able to fully explore the ‘what-ifs’ of the marketplace.

“It’s also a place for discussion on the future: the future of the market, the future of a customer’s brand, or the future of the industry,” Lebel adds, citing the company’s self-styled mantra of continuous engineering of greater quality and value into its products; connecting with emerging technologies; partnering with the best-in-class



LEK uses a Nenotech SWT30 sleeve wrapper and heat-tunnel to pack cartons of aerosol spray-cans.

technology suppliers; and bringing the future of personal-care products to its clients faster.

Although it’s only been in operation for about a half-year, the KDC Innovation Group unit is already living up to its promise and expectations, according to Coopland and Levy, with several exciting developments in the works and edging closer to commercial launches.

One of its more noteworthy new endeavors is geared towards the introduction of the so-called **Butterfly** uni-dose packaging technology into the North American markets, with the company’s LEK facility in Knowlton recently becoming the first contract packaging plant in North America to have installed the patented **Easysnap** machine that is designed specifically for packaging viscous fluids and formulations into flat, easy-to-open, single-dose sachets.

Engineered and manufactured in Italy, this high-performance automatic vertical form-fill-seal (V/F/F/S) machine incorporates patented variable-depth scoring



Finished product is cartoned and taped by an EZ-Taper machine, with lot and best-before dates instantly applied by a Videojet model 37e continuous inkjet printer.

technology that ensures precise and smooth dispensing of a wide range of liquid and viscous products into three different-sized standard **Butterfly** packs—40x50-mm, 40x80-mm and 60x100-mm—which are formed on the machine by repeatedly joining two concurrently-running webs to construct fully-sealed, high-barrier, rectangular plastic packages with ultra-slim profiles.

Flexible enough to dispense precise product quantities from one to 30 ml, the **Easysnap** machine and the **Butterfly** sachets—so named on the account of wing-like movement of the package when it is opened up along the centered perforation by bending the opposite panels inwards with fingers—are the most revolutionary developments in uni-dose packaging in recent memory, according to Benny Chiavetti, president of **EasyPack Solutions Inc.** in Brantford, Ont.

Chiavetti says the **Butterfly** offers travelers a far more convenient and space-efficient packaging option than tubes or bottles, while also giving marketers a choice of using the sachets in various product multipacks or as an easy-to-insert product sample.

Moreover, the sachet’s durable, high-barrier construction that combines a rigid-plastic backing with a flexible-film front layer, does an optimal job in terms of meeting the various industry-specific shelf-life requirements, he adds, while the easy-squeeze dispensing of the packaged contents ensures minimal product waste—a critical consideration for many OTC (over-the-counter) pharmaceutical formulations.

“Our clients can clearly see for themselves that a company like ours can really enable them to focus more on what they do best—branding, marketing and distribution.”

“The sky really is the limit for this revolutionary packaging technology,” echoes Coopland.

“Along with personal-care products like hair-gels, shampoos, soaps, sunscreens, moisturizers or toothpastes, the **Butterfly** is also the perfect package for OTCs and products that should never come into contact with the mouth, such as laundry detergent, which cannot be packaged in a conventional sachet that you may be tempted to tear with your teeth—like the standard ketchup sachets, for example.

“We are very excited by the possibilities, and we know our customers are as well,” he states.

“This technology provides a perfect example of how we strive to partner with great innovators and like-minds.”

As for other recent KDC product innovations, Coopland says he is very encouraged by the company’s recent development of the **ZEA Natural Deodorant** platform—a patent-pending, all-natural deodorant stick that replaces the traditional petroleum-based propylene glycol with an all-natural *propanediol* alternative derived from corn sugar.

Manufactured by **DuPont Tate & Lyle Bio Products**, the biodegradable **Zemea** glycol substitute is said to consume 40 per cent less energy to manufacture than propylene glycol—thereby providing significant savings in GHG (greenhouse-gas) emissions to produce a key deodorant-stick ingredient that accounts for up to 60 per cent of the total contents.

Lebel explains that combining the *propanediol* with other natural ingredients, such as grapefruit seed extract and sodium bicarbonate, has enabled KDC to develop an all-natural, healthier and more efficacious antiperspirant product that is also completely free of synthetic chemicals like parabens, triclosan, aluminum and silicones—while still providing consumers with effective all-day protection.



A Capmatic Conquest filler-and-capper employed on the antiperspirant line at the LEK production facility in Knowlton.

“The reality of our industry is that if we had gone to our customers with new concepts like these five years ago, many would not have been interested because they operated under the impression that R&D had to be developed within their own walls,” remarks Coopland, stressing that KDC’s open-door approach to sharing its research findings with clients and partners has ultimately



SEW motors help power an Elmar filler on LEK’s liquid soap line.

helped overcome that instinctive reluctance.

“With all the R&D and innovation capabilities at our disposal nowadays,” he says, “our clients can clearly see for themselves that a company like ours can really enable them to focus more on what they do best—branding, marketing and distribution.

“By creating the future today,” Coopland sums up, “the KDC Innovation Group will continue to position itself and its contract manufacturing customers ahead of the competition.

“It’s just a matter of allowing ourselves and our customers to think outside of the proverbial box—to ensure that KDC and its customers will remain successful long into the future.”

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