



The long view of a rigid window affixing system designed and manufactured by the Toronto-based Pack-Smart also includes a vision system as well as an integrated folder gluer.

GET SMARTS!

BY ANDREW JOSEPH, FEATURES EDITOR • PHOTOS BY COLE GARSIDE

Quick thinking outside the box gives Canadian machine-builder a real global platform for truly value-added growth

Calling yourself smart may sound brash to some, but when you live up to your name like the Toronto-based specialty packaging systems manufacturer **Pack-Smart Incorporated** has since setting up shop in 1998, no apology for immodesty is really necessary or required.

“We are all about adding value through our machinery,” states company president Derek Dlugosh-Ostap. “We create quality machinery that is specific to your needs to maximize the amount of added value for your client.

“It is our duty, as a solutions provider, to help our customers realize their true business potential.”

This unwavering commitment to client satisfaction has enabled a one-time three-person, 2,000-square-foot machine shop to transform into a thriving and diversified packaging machine-builder with a loyal customer base spread across five key, fast-growing industry segments.

According to Dlugosh-Ostap, users of rigid-window systems account for 25 per cent of Pack-Smart’s business; secure gift-cards, including credit cards and scratch-and-win gaming, for another 25 per cent; media packaging for CDs, DVDs, etc. for another 20 per cent; pamphlets and coupons inserting for 10 per cent; and digital printing for the remainder.

MARKET SPOILS

Remarkably, the Canadian market accounts for only 15 per cent of the company’s revenues, according to Dlugosh-Ostap, with 50 per cent of its sales driven by the U.S. markets, 20 per cent by European clients, and 10 per cent by the rest of the world.

Today employing 27 full-time people at a state-of-the-art fabricating facility in Toronto’s northwest, Dlugosh-Ostap says the family-owned company has been able to retain its U.S. business in the last couple of years despite the dramatic rise in the Ca-

nadian dollar that has left many Canadian manufacturers struggling.

“We’re not the type of company that just builds you a machine and then forgets about it,” Dlugosh-Ostap told *Automate Now* on a recent visit to the lively plant, citing the likes of CD/DVD distributor **Technicolor Home Entertainment, The Specialized Packaging Group, Inc., Arlington Press** and the **Metaca Corporation** as some of the company’s more illustrious clients.

“We get really involved with clients and help them generate the best possible package for their needs—with input in the design, affordability and sustainability parts of the equation,” he adds, noting that the company boasts installations on lines used to package everything from higher-end liquors and perfumes to mainstream breakfast cereals and soft-drinks.

And having won over even the most demanding of clients in the quality-obsessed direct mail, security, printing-and-finishing and pharmaceutical industries, Pack-Smart has recently added the Ontario government to its list of happy customers and partners.

“Recently we got involved with the Ontario government’s Advanced Manufacturing Investment Strategy (AMIS), which is a provincial industry assistance program that will help us develop a new line of unique packaging technology,” Dlugosh-Ostap explains.

“We will receive \$790,000—or 10 per cent of the entire \$7.9-million expansion project—that we will have to pay back,” he reveals, adding the money will be used to sup-



Irena Dlugosh-Ostap, vice-president, and her husband and president Derek Dlugosh-Ostap show off a DVD tray packaged by one of Pack-Smart’s innovative RP Series of pick-and-place machines.

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When it comes to utilizing servo drives to control the movement of its pick-and-place machinery, Pack-Smart prefers the modular ACOPOS servo drives supplied by B&R Industrial Automation.

port the development of next-generation equipment that will not only improve the appearance of final packaging, but will also help promote more sustainable manufacturing and packaging practices.

So far, Dlugosh-Ostap's plans have found a very receptive ear at Queen's Park with the minister of economic development and trade Sandra Pupatello.

"Here's a company with innovative people and products," Pupatello said during an official visit to the plant recently to mark the partnership.

"That's a winning combination that puts Ontario ahead in world markets and creates good jobs at home.

"Our government wants to do everything it can to help companies like this succeed."

Says Dlugosh-Ostap: "We really don't just want to be just a solutions provider for our customers; we also want to be their business partner."

In terms of its design philosophy, Dlugosh-Ostap explains the Pack-Smart is focused on the continuous development of innovative, electronically-g geared machinery that is flexible and modular enough to handle a full gamut of packaging and light assembly tasks.

"As well, the machines that we will continue to design will enable our company's customers to shorten processing times, while also using more ecologically-friendly plastics and adhesives," he reveals. "This will enable them to save on raw materials—all the while improving the packaging's appearance."

As part of this overall trend, he says, some outdated

packaging concepts like clamshell packaging are being replaced with new formats making widespread use of rigid and flexible window technologies, which in turn drives Pack-Smart's design ideas.

"So whenever possible," he explains, "we try and talk to our clients about utilizing the PLA (polylactic acid) corn-based resins instead of petroleum-based materials.

"When used in conjunction with our technology, clients can effectively reduce the cost of packaging by 50 per cent, compared to clamshell packaging."

While staying on top of all the technology trends is crucial to the company's success, its pick-and-place technology is still underpinned by the **RP Series** rotary feeding system first devised by Dlugosh-Ostap a decade ago as a means to tip and insert three-dimensional products such as CDs, cosmetic

and pharmaceutical samples, and edible product samples into consumer packaging, while ensuring precise product spacing on the conveyance systems.

"Over the years we've tweaked it here and there," he elaborates, "but essentially the rotary applicator revolves like a Ferris wheel with suction-cupped arms that can rotate 360 degrees—thereby ensuring the suction pads are best positioned to pick up product no matter the shape."

A BETTER VIEW

While similar systems did exist at the time, he acknowledges, what made Smart-Pack's machine stand out was its innovative use and integration of optical sensors that could recognize the leading edge of the carrier on the transport systems.

Dlugosh-Ostap explains: "When the optics see the edge, the servo controller calculates the arrival time of the carrier under one of the rotary carrying arms and positions the placement station to arrive exactly when the carrier is in the proper position to receive it."

Part of the allure of the **RP Series** of equipment is its modularity, points out Dlugosh-Ostap, which enables the carriers to be randomly spaced anywhere on the conveyance system.

"It's very modular and can be utilized in any production line, easily fitting in with most webs, folder-glueers and converting lines," says Dlugosh-Ostap, adding that the current versions of the original rotary-feeder design are capable of reaching throughput rates of up to 700 pieces per minute.

Dlugosh-Ostap explains that the company aims to incorporate sustainability principles in a comprehensive manner, which also means reducing energy consumption through the use of low-mass components that require less power to function.

Using adhesive systems from the Swiss-based **Robatech AG**, for example, is one of several ways of making Smart-Pack machines more energy-efficient.

"We found Robatech adhesive systems to come with better heat insulation on its tanks, and they now offer the world's first fully-insulated application head, which is 40-percent more energy-efficient by requiring less energy to maintain the specified application temperatures," he reveals.

"In addition, this new application head improves workplace safety, as the outside temperature of the application head reaches only 80 degrees Fahrenheit."

As for the technical nuts-and-bolts of Smart-Pack machinery, Dlugosh-Ostap reserves special praise for the world-class automation components supplied by the Mississauga, Ont.-based **B&R Industrial Automation Inc.**, Canadian subsidiary of the Austrian-based industrial products group **Bernecker + Rainer Industrie-Elektronik Ges.m.b.H.**

Established in 2004 and managed by company president Manfred Zöhrer, the B&R team comprises a group of international technical experts with specialized knowledge of optimizing automation technologies to supply complete solutions for machine-builders serving the packaging and plastics industries.

"We use B&R products for our controls and motors and touchscreens for the PLCs (programmable logic controllers)," explains Dlugosh-Ostap, "because the B&R products are compact, modular and of the highest possible quality—which fits perfectly with our own philosophy.

"Basically it means that our clients can grow with our equipment," he continues, "to build bigger, faster and more sophisticated systems only as their needs dictate, and we ensure that all the parts we utilize in our machinery can help them do that."

According to B&R's president Zöhrer, the incorporation of the company's **ACOPOS** series of servo drives into SmartPack's machinery is one of several successful examples of the burgeoning partnership—citing increased production quantities, reduced production cycles, improved quality, greater precision, and a vastly expanded range of connection possibilities for all standard encoder systems and modular fieldbus interfaces.

"For I/O (input/output) channels, we offer the modular X20 I/O system which is not only one of the most compact I/O systems on the market, but is also a very flexible fieldbus connection," states Zöhrer, pointing out advantages of the extremely compact size of **X20** bus controller that belies its capacity to provide interface channels to safely cover distances up to 100 meters in between the individual X20 module groups.

"Individual groups of I/O slices are connected together over either the X2X link—a high-speed fieldbus—or the ETHERNET Powerlink," he notes, with the latter component helping guarantee the transfer of data in a reserved asynchronous channel at a cycle time of 200 µs (microseconds).

Adds Dlugosh-Ostap: "Because our systems are sold globally, we want to be able to access them over the Internet and, if necessary, trouble-shoot our products by way of an IP address.

"As we found out," he sums up, "we were able to achieve our goals by using the high-quality products manufactured by B&R." ♦



An engineer at Pack-Smart's Toronto factory deftly prepares another rotary pick-and-place machine for pending shipment to a U.S.-based client.

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