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NOVEMBER 2019

Canadian
technologies
AT K 2019

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LEADER
OF
THE
YEAR

**BILL
DICKSON**

Rewarding a Canuck
compounder



A look at the other
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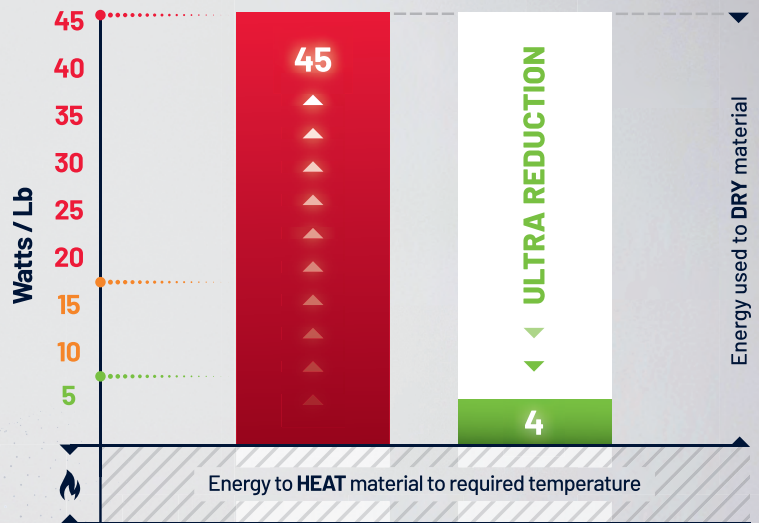
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FROM THE ARCHIVES

The March 1986 issue of *Canadian Plastics* reported on the opening, in Mississauga, Ont., of only the second full-scale plant for molding compact discs in North America. Construction of the new 28,500-square-foot Praxis Technologies plant had been completed in February, with machines being commissioned in March. Full production was scheduled to start in April, our story said, and the company was eventually planning to operate up to 30 injection molding presses with an annual output of 25 to 30 million of the newfangled discs.

Number of the month:
***225,000**

*Approximate number of visitors to the K show in October. (See pg. 6)

Cover photo and pg. 3 photo of Bill Dickson: Sandra Strangemore



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18 K 2019 WRAP-UP: Oh, Canada!

Canadian companies may not have been among the most numerous exhibitors at the K 2019 trade show in Düsseldorf in October, but they made an impact. From the Great White North direct to western Germany, here's a look at some of the made-in-Canada developments and technologies unveiled at the big show.

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The Austria-based blow molding machine maker continues its push into new territories.

A new theory behind ocean plastic

A study involving a Canadian researcher might just change the way we think about the notorious problem of plastic waste in the world's oceans.



The study, published in September by researchers from Canada and South Africa, suggests that Chinese merchant ships — and not land-based sources — might be the leading cause of plastic debris floating in the Atlantic Ocean. One of the study authors, Robert Ronconi, is affiliated with the Canadian Wildlife Service, Environment and Climate Change Canada, in Dartmouth, N.S.

The study is the result of three trips made by researchers to Inaccessible Island — which sits in the South Atlantic Ocean between South America and Africa, in the world's most remote inhabited archipelago — in 1984, 2009, and 2018 to study the plastic debris accumulated on the island. They found that 75 per cent of the plastic bottles that had washed ashore came from Asia, with most made in China.

During the 1980s, the report said, most bottles drifted downwind to the island from South America, judging by their labels. But by 2009, the tide had shifted, with Asia surpassing South America in the amount of plastic load washed up on the island. In 2018, 73 per cent of the plastic bottles collected came from Asia, with 83 per cent from China. The recent date stamps of these bottles — 90 per cent of which were only two years old or newer — ruled out the possibility that they could have travelled from land via ocean currents, which would take between three to five years, the researchers said.

Additionally, the researchers found that while the number of Asian fishing vessels in the South Atlantic has

remained stable, the number of cargo vessels from China has increased since the 1980s, which narrows down merchant vessels as the primary source.

“Our results question the widely held assumption that most plastic debris at sea comes from land-based sources,” the authors concluded.

The study dovetails with other findings. In the North Sea, one of the world's busiest areas for shipping, up to 40 per cent of plastic marine litter comes from the maritime sector — which is probably why as much as 90 per cent of the plastic found on beaches in the Netherlands originates from shipping and fisheries.

Awareness of this opens up interesting possibilities. For example, it might be the case that the news stories that drive so much of the anti-plastics agenda — great garbage patches floating in the middle of the oceans, dead whales found with large lumps of plastic waste in their stomachs, plastic bags at the bottom of the Mariana Trench, et cetera — derive from litter from merchant ships, not just from consumers throwing bottles and other plastic items away on land. And if so, perhaps the problem can be alleviated by making sure that all port waste disposal facilities provided for ships by port authorities are adequate, uncomplicated, inexpensive, and harmonized across the globe, so that ship operators and crews don't simply dump their garbage at sea.

The bigger lesson of the story? As the ancient Chinese military strategist Sun Tzu wrote in *The Art of War* 2,500 years ago, it pays to know your enemy. And we still don't know as much about plastic waste, and how it gets into the environment, as we need to in order to combat it.

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Canadian Plastics magazine reports on and interprets developments in plastics markets and technologies worldwide for plastics processors, moldmakers and end-users based in Canada.

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Smells like progress: Making sustainable polymers from fragrant molecules

On a sustainability scale of one to 10, using molecules found in plants to formulate resins probably ranks as an 11.

And according to researchers at the University of Birmingham's School of Chemistry in England, it's doable. The research team has developed a technique for extracting molecules found in the essential oils of a wide variety of plants — particularly conifers and fruit trees — to produce organic polymers to replace plastics made from petrochemicals.

Called terpenes, these molecules have often traditionally been used in fragrances, cosmetics, and other household products. But even with these, because they're tricky to extract and process, synthetic versions are often substituted. However, the researchers believe they've devised a technique for extracting the molecules and converting them into stable resins by combining them with sulfur-based organic compounds called thiols, which causes the resins to be activated by light into forming a solid material.

"We need to find sustainable ways of making polymer products that do not rely on petrochemicals," lead researcher Professor Andrew Dove said. "Terpenes have been recognized as having real potential in this search and our work is a promising step towards being able to harness these natural products."

Processing the terpenes in this way makes them particularly useful in the 3D printing process known as stereolithography, where objects are built up in multiple layers and fused together under UV light to form 3D objects. "We have successfully 3D printed [terpenes] in a vat polymerization process, with minimal shrinkage but with a wide spectrum of thermomechanical behaviours possible through the tuning of the material composition and thermal curing profiles utilized," the team said in a report published in the September 2019 issue of *Polymer Chemistry*. "Possible further avenues of exploration indicates that these materials have potential as biomedical or commercial materials with environmentally-friendly qualities...[including] 3D printable antimicrobial agents, recyclable printing resins, optically transparent printed parts, and even biomaterials with tunable thermomechanical and surface properties." And they could also be ideal for part prototyping, the team added.

Challenges remain, however. Since different terpenes produce different material properties, the next step for

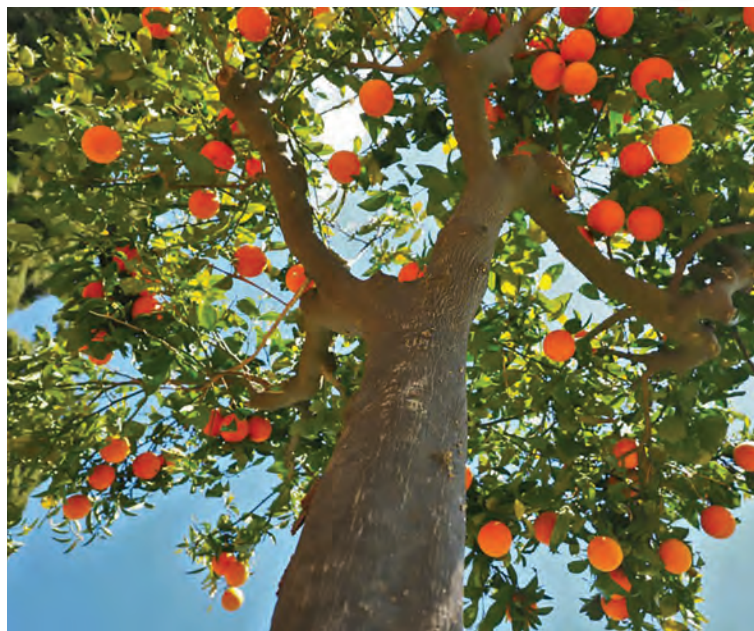


Photo Credit: University of Birmingham

the team is to investigate those properties more fully to better control them.

But if the research has a way to go before commercialization, the idea of making sustainable polymers from fragrant molecules definitely passes the smell test so far. **CP**

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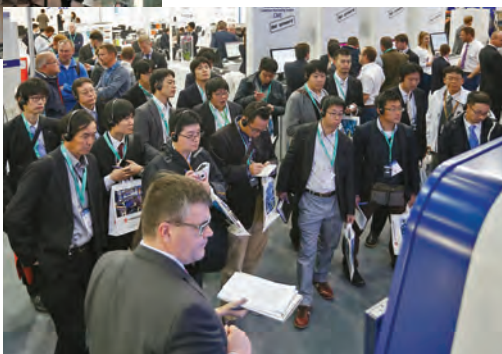
Photo Credits: Messe Düsseldorf



The K 2019 trade show has wrapped up in Düsseldorf, Germany, having drawn approximately 225,000 visitors from 165 countries.

Said to be the world's biggest trade fair for plastics and rubber, K 2019 — which ran from Oct. 16 to 23 — featured 3,330 exhibitors from 63 nations.

“K 2019 came at precisely the right point in time,” said Werner Matthias Dornscheidt, president and CEO of show organizer Messe Düsseldorf. “Its enormous importance for the sector is underscored by its high acceptance from all over the world. Nowhere else is the industry represented as internationally and completely as here in Düsseldorf every three years. Especially in times of great challenges,



a platform like the K provides guidance and perspectives, sets sustainable economic impulses, and shows forward-looking trends and concrete approaches. The industry and its professional associations enjoyed the unique opportunity here to present

sector-specific solutions and to discuss socio-politically relevant issues on a global basis. And they made excellent use of this opportunity.”

After Germany, the majority of the visitors to K 2019 came from Italy, the Netherlands, India, Turkey, China, and the U.S. A marked increase in the number of trade visitors from the Russian Federation, Japan, and Brazil was also registered. The number of executives among K visitors increased slightly:

about 68 per cent had middle or top management positions. With over 90 per cent, visitor satisfaction was again at a high level. While for German trade visitors increased efficiency was the most important issue, the priority for European and non-European trade visitors was the expansion of product and service portfolios.

The U.S. was also well represented on the exhibitor side: 108 exhibitors showed their products at K 2019, including 38 companies within the two U.S. Pavilions, organized by Messe Düsseldorf North America and supported by the Plastics Industry Association.

There were 16 Canadian companies exhibiting at K, according to Messe Düsseldorf: Brampton Engineering Inc., CDS Custom Downstream Systems, Corma Inc., Drader Manufacturing, GN Thermoforming Equipment, Husky Injection Molding Systems Ltd., Ingenia Polymers Corp., Macro Engineering & Technology Inc., MHS Mold Hotrunner Solutions, MMC Packaging Equipment, Nova Chemicals Corp., Polystyvert, StackTeck Systems Ltd., Structur3dPrinting, Thomson Research Associates, and Top Grade Molds.

The next K trade fair is scheduled to run from Oct. 19 to 26, 2022 in Düsseldorf. **CPL**

TC Transcontinental buys banana industry film supplier in Ecuador

Montreal-based flexible packaging supplier TC Transcontinental has acquired a 60 per cent stake in Industrial y Comercial Trilex C.A., a plastic packaging supplier located in Guayaquil, Ecuador that specializes in the production and sale of packaging materials and banana farm plastics for protection and pest control.

The financial terms of the deal have not been disclosed.

Said to be the largest plastic supplier to the banana industry in Ecuador, Trilex employs approximately 170 workers.

“The acquisition of a majority participation in Trilex, a supplier to the banana export industry, is aligned with our growth strategy for the packaging sector,” François Olivier, TC Continental’s president and CEO, said in a Sept. 3 statement. “Trilex expands our already well-established footprint in Latin America with a second location in Ecuador, in addition to our plants in Guatemala and Mexico, and our

sales office in Costa Rica.”

The banana industry presents what TC Continental calls “very specific needs”, such as protection during the growing cycle, crop yield improvement, as well as sun and pest damage reduction, in addition to export packaging needs. “Thanks to Trilex, we will bolster our product offering for the agricultural market, namely with banana tree bags and box liners, and strengthen our position as a key supplier to the banana industry in Latin America,” Olivier said. “This market is the perfect example of how active ingredients in films can lead to better harvests and how important food protection is to extend product shelf life for export. This is why packaging not only optimizes product freshness for our customers, but is also seen as one of the key solutions to reducing food waste.”

This is TC Transcontinental’s eighth flexible packaging acquisition since entering the industry in 2014. **CPL**

RTP Co. holds engineered thermoplastics workshops in Montreal, Toronto

Several hundred Canadian plastics industry professionals attended two free technical workshops held by Winona, Minn.-based engineered plastics compounder RTP Co. in Canada in early October: the first was in Montreal on Oct. 1 and the second was in Toronto on Oct. 3.

“The workshops were presented by a team of RTP experts and covered some key areas of specialty compounding, including how to choose the right polymer for an application, how to use thermoplastics to manage electricity and heat, understanding wear and friction principles, the basics of colour perception and measurement, and the mechanics for making flame retardant compounds,” said Phil Lem, the company’s sales engineer for Ontario. “They were good opportunities for us to educate our customers and for them to network with their peers.”

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Top: Jean Sirois (left), RTP’s general manager of Canada, and some of the company’s Canadian and U.S. staff in Toronto.
Bottom: A session at the Toronto workshop.



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Polykar plans to build new manufacturing plant in Edmonton

Polykar inc., a Montreal-based manufacturer of flexible packaging, is planning to build a new manufacturing plant in Edmonton.

The company — which makes PE film, certified compostable bags, garbage bags, as well as food and industrial grade liners — announced on Sept. 9 that it has acquired a site to construct a new state-of-the-art plant in Edmonton. This second facility will add approximately 30 million pounds of production capacity to all of Polykar's product lines and expand the company's reach and expertise to serve the retail, commercial, and institutional sectors.

The proposed three-acre site is in



An artist's rendering of the front of the new Edmonton facility.

the Discovery Business Park, on the south side of Edmonton adjacent to the Edmonton International Airport. In a statement, Polykar said the location is “ideal to support [our] customer base in Western Canada and the U.S.” “Having

a dual-plant model will allow [us] to offer faster delivery, bolster our production capacity, and build and retain manufacturing capability in the region,” the company said.

Polykar has engaged Calgary-based FarMor Architecture to design the 50,000-square-foot facility, and expects to finalize the plans for the new building in the coming months.

Founded in 1987 in Saint-Laurent, Que., Polykar began as a family business. Today the company is one of Canada's leading manufacturers of PE film, certified compostable bags, garbage bags, as well as food and industrial packaging. **CPL**

Image Credit: Polykar Inc.

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SUPPLIER NEWS

- Mississauga, Ont.-based specialty chemical distributor **Andicor Specialty Chemicals Corp.** is now the exclusive distributor for material supplier **Cathay Industries USA Inc.**'s Cathay and Hoover products in Canada. Headquartered in St. Charles, Ill., Cathay is a global supplier of additives, raw materials, and chemicals.
- Cobourg, Ont.-based **Lorenz Conveying Products** has appointed **Saigh Solutions LLC**, headquartered in Newark, Ohio, as its representative in Michigan. Lorenz now has 25 representatives that cover 11 countries and services a variety of industries, including plastics and packaging.
- **WM Thermoforming Machines** of Stabio, Switzerland and industrial machinery maker **Sencorp-White**, headquartered in Hyannis, Mass., have partnered to allow SencorpWhite to sell WM's thermoforming machines in Canada and the U.S. under the co-branded name of "WM Thermoforming Machines — Sencorp."

Nova Chemicals executive Mark Kay passes away



Mark Kay, an executive with Calgary-based Nova Chemicals Corp., passed away on Oct. 19 while attending the K 2019 trade show in Düsseldorf, Germany.

Kay, 56, died suddenly of a heart attack, according to an obituary notice.

Kay was Nova's performance films group leader, and worked

from the company's office in Moon Township, Pa., near Pittsburgh.

He began his career with Nova in 1999, and held a variety of roles over the years. Prior to joining Nova, Kay worked at Exxon Chemical, Avery Dennison, and 3M. He held degrees from the University of Michigan and Northwestern University.

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Maguire opens Taiwan subsidiary

Auxiliary equipment maker Maguire Products Inc. has established Maguire Products Taiwan Co. Ltd., a new subsidiary located in Taichung City, Taiwan.

The new company — which is Aston, Pa.-based Maguire's sixth international subsidiary — will serve the Taiwanese auxiliary equipment market and also provide sales and technical support for Maguire equipment, including gravimetric blenders, liquid colour pumps, vacuum dryers, granulators, and other products.

Called Maguire Products Taiwan, the subsidiary will



Maguire Products Taiwan's grand opening ceremony on Sept. 26.

Photo Credit: Maguire Products Inc.

operate as part of Maguire Products Asia. Danniell Hsieh will serve as general manager of the Taiwanese business. **CPL**

PEOPLE



Jim Boos



Darla Bulmer



Robert Clausing



Peter Donnelly



Valentina Faloci



Frank Krauss



Ingrid Kraus



John Kraus



Xavier Lucas



Charlie Rogers



Shruti Singhal



Clint Smith



Suresh Swaminathan



Rocky Vermani



Mark Wright

- Blow molding machine maker **Wilmington Machinery**, headquartered in Wilmington, N.C., has named **Jim Boos** as its sales and marketing manager.
- Extrusion machinery maker **Entek**, headquartered in Lebanon, Ore., has named **Darla Bulmer** as head of its customer support department.
- Newton, Kan.-based separation equipment maker **Bunting Magnetics Co.** has named **Robert Clausing** as its lean manufacturing coordinator.
- **Cancarb Ltd.**, a Medicine Hat, Alta.-based supplier of thermal carbon black compounds, has appointed **Peter Donnelly** as president. He replaces outgoing president Ken Tate.
- Kottlingbrunn, Austria-based injection molding machine maker **Wittmann Battenfeld** has named **Valentina Faloci** as its new head of sales.
- **Frank Krauss** is the new owner and president of Woodbridge, Ont.-based custom injection molder **Krauss Plastics**, taking over from Roland Krauss, who has retired. Also, **Ingrid Kraus** is the company's new vice president, and **John Kraus** is the new production manager.
- France-based automation supplier **Sepro Group** has appointed **Xavier Lucas** as its chief sales officer.
- Florence, Ky.-based **KraussMaffei Corp.**, the U.S. subsidiary of German processing machinery maker KraussMaffei Group GmbH, has named **Charlie Rogers** as its new president.
- Material supplier Royal DSM has appointed **Shruti Singhal** as president of **DSM Engineering Plastics**. He replaces Roeland Polet, who is retiring in mid-2020.
- Plastic packaging material supplier **Pregis**, headquartered in Deerfield, Ill., has named **Clint Smith** as director of sustainable packaging.
- Pawtucket, R.I.-based material supplier **Teknor Apex Co.** has appointed **Suresh Swaminathan** as its new president. He succeeds William J. Murray, who is retiring after 41 years with the company.
- Calgary-based **Nova Chemicals Corp.** has named **Rocky Vermani** as its senior vice president, olefins and feedstock. He replaces Nova veteran Naushad Jamani, who has retired.
- **Methods Machine Tools Inc.**, a supplier of precision machine tools and automation headquartered in Sudbury, Mass., has appointed **Mark Wright** as president and CEO.

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leader of the year

A photograph of Bill Dickson, an older man with glasses and a mustache, wearing a dark suit jacket over a white shirt. He is leaning on a large industrial machine, possibly a compounding extruder, with a stream of dark plastic granules falling from it. The background shows a complex industrial environment with metal structures and pipes.

BILL DICKSON

Compounding rewards

The founder and president of Cambridge, Ont.-based material supplier Canuck Compounders Inc., Bill Dickson has been dedicated to sustainability since long before it was cool. Which is why, after 40 years of reprocessing post-industrial and post-consumer plastic, he's the Canadian Plastics Industry Association's new Leader of the Year.

By Mark Stephen, editor

With the advent of radar at the outset of World War Two, the race was on to design a warplane that was undetectable by the revolutionary new range-finding technology. Which is when flying under the radar became invaluable. In the business world, however, the general concept has been around for much longer. By quietly building stellar products and garnering loyal audiences without stepping on the toes of the majors, small and medium-sized businesses have long been providing their best products while protecting themselves from retaliation.

Bill Dickson can definitely relate. The founder and president of Cambridge, Ont.-based Canuck Compounders Inc., Bill has been walking that fine line for 40 years now, growing the custom compounder's business, expanding its customer base, and adding more and more resins to its product offerings without attracting too much adverse attention from the global material suppliers.

But after a career spent avoiding the spotlight, the spotlight has now, finally, found him: Bill has been named as the Canadian Plastics Industry Association's Leader of the Year for 2019.

MOVING ON UP

Bill began his career in plastics compounding at the age of 18, working part-time on a plant floor while going to school. He worked his way up through the ranks to full-time, and then on to supervisor and management. In 1979 he left his management position and founded Canuck Compounders; in 1986 he consolidated the company and became its sole owner. From the start, Canuck Compounders relied on 100

per cent post-industrial and post-consumer sourced material that it transformed into higher value materials for high-end products. "After the founding of the company we began to formulate various PE resins into various products for both the retail hardware business as well as the construction industry," Bill said. "As we evolved over the years, we became more diverse, adding PS, ABS, and PC alloys to our offerings."

Later, with the introduction of PP to the company's product line, Canuck Compounders began producing recycled resins for many hidden — under the body, under the hood — parts for the automotive industry. "We followed this with the introduction of visible mold-in colour parts for the auto industry along with the introduction of TPO products," Bill said. "The key for us has always been our ability to produce various resins in large annual volumes, ranging in orders from as little as two million to as much as 24 million pounds, to specific specifications on an ongoing basis."

He also added that the company owes a real debt to Ford Motor Co., Product Development Engineering for its continued support and efforts to incorporate Canuck Compounders' recycled resins into well over a million vehicles over the past year. "This has been a great accomplishment, to take this MIC Class A product from concept to reality," Bill said. "It's a great step in the OEM's effort to increase its usage of recycled materials, and was also recognized in the SPE Innovation Awards for Sustainability."

The move into servicing the auto market also brought with it a valuable

early lesson. "We began supplying more and more of a custom recycled compound to a particular automotive parts molder that had traditionally been a customer of a global material supplier," Bill said. "When the prime resin supplier found out what was going on, it moved in and stomped on us — it offered a copycat material at the same price and took the customer away from us completely. It taught us the dangers of becoming too aggressive against a major prime material supplier, and we've never made that mistake again."

Bill's own role within the company has been adjusted over the years as well. "I hired a vice president of operations five years ago and — along with the assistance of my daughter Temi, who also works for us — life has been a lot easier and allowed me to shift roles," he said. "Nowadays I'm far more involved with marketing with my sales people as to where we want to go and what we want to do — weeding out new business offers and deciding which ones to pursue. Another of my top priorities is spending time with my procurement people, looking for new waste stream supply; and when we find a new supplier, I get involved because having a good, steady supply of recyclable materials is just as important as gaining a new customer. My ideal waste stream supplier would give me one to three truckloads of the same material every week."

In other ways, however, Bill's management style hasn't changed at all. "I've always been hands-on and I remain that way today," he said. "If I'm in the office on a given day, I'll walk through the plant that morning," he

said. “I always want to know how full the plant is and I want to talk to the people on the floor — we currently have 45 workers, and many of them have been with us for 20 years or more.”

ALWAYS SUSTAINABLE

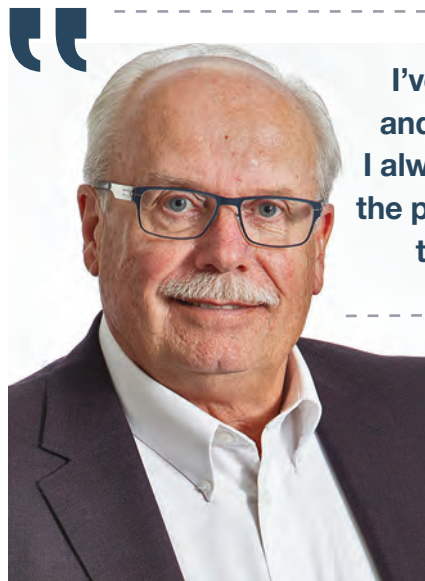
One aspect of Canuck Compounders’ business that has never needed readjustment is its dedication to sustainability, which the company has been pursuing since long before it became a thing. “Sustainability has always been the key to our business,” Bill said. “Every formulation we create is done with the use of as much recycled material as possible. Over the years we’ve installed more and more equipment to allow us to maximize more recycled

project I take on: If I’m not saving the customer enough money, they don’t want to talk to me. When prime pricing is high, recycled resins flourish, but when prime pricing is low, manufacturers back away from using recycled content. We need the day to come when, given the same value proposition and the same price, the sustainable resin will be the first choice.”

As a career recycler, Bill is uniquely positioned to see the reality of the problem of plastic waste — and also to see past a lot of the anti-plastics hype. “Ocean contamination has brought the plastic waste issue to the forefront — and it’s a legitimate problem — but the vast majority of it comes from Asia while the North American plastics

— they don’t want to pay for Blue Box collection programs anymore, they want businesses to take on that responsibility by paying more for recycled material, but that won’t happen if the margins aren’t there and if there’s no requirement for brand owners and OEMs to utilize recycled resins.”

But there are other, smaller problems that — under Bill’s guidance — Canuck Compounders *can* help solve. “We actively participate in many local fundraising efforts in the community,” he said. “Every year we support the United Way, the Cambridge Memorial Hospital, the local food bank, and we also support the YMCA’s Small Steps to Success program; Monica House, which provides support for pregnant women and young parents; and the Nutrition for Learning programs at local schools.”



“ I’ve always been hands-on and I remain that way today. I always want to know how full the plant is and I want to talk to the people on the floor. ”

material in our operation. We’ve processed hundreds of millions of pounds of recycled resin and continue to do more each year.”

But despite what you might read and hear, this dedication to sustainability isn’t universal — indeed, it’s often more talk than walk. “Many companies that talk about recycled material only want it if you can give them a better price than products made with prime resins — if not, they’re walking away,” Bill said. “Using recycled material is still a business decision dictated by profit margins, and I see this in every new

industry gets the blame,” he said. “What most people don’t realize is that even single-use containers are great products — they represent a very low carbon footprint, preserve food products, and are 100 per cent recyclable, low-cost, and can be FDA-approved for use in food and medical products. We need to be able to create an economical way to get a much larger percentage back into the waste stream to be recycled.”

One possible answer to the problem of plastic waste and the negative publicity it generates, Bill believes, is more government legislation. “As long as there is prime virgin resin in the marketplace at lower pricing than recycled resin it will be difficult to get more of this product back to the recyclers without legislation in place to demand a certain recycled content,” he said. “But, at the moment, government isn’t doing its job in this respect

CONSERVATIVE BY NATURE

Aside from the misstep with the global material supplier mentioned above, Canuck Compounders has always been — and remains — conservative in its style. “We’ve grown over the years, but we’ve always kept it under control,” Bill said. “We have a very substantial line of credit that we almost never use, for example, but it’s necessary because OEMs need to know that cash isn’t an issue. For new waste stream suppliers who are unfamiliar with us, I will initially pay them within 10 to 15 days to build their confidence; this matters because a big question in the recycling business for a new supplier is, ‘Am I going to get paid for selling you the recycled product?’ This isn’t a problem for us.”

Although he was initially surprised at having been selected as CPIA’s newest Leader of the Year, Bill is at ease with his turn in the spotlight — with one caveat. “I’ve got great people working with me at Canuck Compounders,” he said. “They’ve elevated me to where I am today, so they share in this award as much as I do.”

Which means that the whole company is now suddenly on the radar screen.

CPL



CREAM OF THE CROP

In October, the Canadian Plastics Industry Association recognized some outstanding individuals and businesses for their commitments and dedication to the growth and sustainability of the Canadian plastics industry at its annual Plastics Industry Leadership Awards Dinner. The awards and award winners are...

YOUNG LEADER AWARDS

Recognizing up-and-coming leaders of the plastics industry who are under 40.



IAN FERGUSON

Ferguson is the chief operating officer at Toronto-based Chantler Packages Inc. Since 2003 he has been involved in the flexible packaging industry in sales and management roles, has consulted on packaging optimization and packaging strategy for start-ups, and for multinational packaging firms. He has also applied for a patent for a method to produce printed containers.



CRYSTAL HOWE

Howe is the head of sustainability for the Ice River family of companies, headquartered in Shelburne, Ont. She has championed many initiatives in areas of zero waste to landfill, energy reduction, and manufacturing efficiencies to minimize the environmental impact and maximize the effectiveness of the business.



TAMMY SCHWASS

Schwass is the executive director of the Alberta Plastics Recycling Association, where she facilitates partnerships to support and connect member organizations and builds strategies for the development of programs to increase plastics capture and recycling.



JOEL RUDOLPH

Rudolph is the vice president, strategy and business development at Farnell Packaging Ltd. in Dartmouth, N.S. Rudolph's role focuses on strategic growth and marketing for Farnell, helping clients develop sustainable solutions that stand out on retail shelves. In 2017, he was elected as a director on the CPIA's board of directors, served as vice chair in 2018, and was most recently elected as chair of the board in 2019.



JONATHAN QUINN

Quinn is the market development manager for Calgary-based Nova Chemicals Corp.'s PE business. "Over the past several years, he has led research to better understand consumer trends, especially in e-commerce and consumer packaged goods," CPIA said. "He drives packaging innovation and sustainability initiatives, including recyclability and improved performance, through value chain collaboration."



LIFETIME ACHIEVEMENT AWARDS

Recognizing those who have made outstanding achievements and contributed enduring legacies to the Canadian plastics industry and to the community at large.



DAN FALLA

Falla is the senior technical service specialist in films at Shell Polymers. Falla has spent more than 30 years in the polymer industry, and was most recently with Nova Chemicals in product development and food packaging. During his career, Falla has earned more than 19 patents and written over 25 peer-reviewed articles.



BLAIR FRASER

Fraser has spent more than 39 years in the materials industry and is currently the vice president of manufacturing for Toronto-based plastic bag maker Hymo-pack Ltd., managing day-to-day activity, overseeing expansions, and supporting diversification into new markets.



MANFRED LUPKE

Lupke is a co-founder of Concord, Ont.-based plastic pipe maker Corma Inc. “He is the driving force of the company, and is still developing new technologies,” CPIA said. “Under his leadership, Corma has become an industry leader in its field of corrugated plastic pipe machinery.”



JOHN LEFAS

Lefas founded Brantford, Ont.-based material supplier Ingenia Polymers Corp. in 1986 after working for the polymers department of Imperial Oil’s chemicals division. “His vision was to build a company focused on customers and quality, and based on the simple principles of teamwork and excellence: start with the right people, give them the right tools, and create an atmosphere for them to grow and succeed,” CPIA said.



PHILIP LATCHMAN

President of Toronto-based additive supplier CCC Plastics, Latchman has been an active member of the plastics industry for over 20 years, serving five years on the executive board of CPIA’s Plastics Film Manufacturers Association of Canada. Under Latchman’s leadership, CCC has grown into a \$140 million business that has become a significant manufacturer of compounds and colour concentrates and distributor of thermoplastics to the North American market.



EDWARD WILANOWSKI

Wilanowski spent more than 40 years in Canada’s plastics industry. He joined Concord-based flexible packaging supplier Layfield Group in 2006 and spent the remainder of his career with them, working on the engineering and operations side of their businesses. He has now retired.



CANPLAST AWARDS

Recognizing individuals who contribute their time, energy, and expertise to improving the competitive and environmental performance of the Canadian plastics industry.

JOE HRUSKA



CPIA’s vice president of sustainability, Hruska also serves on the board of directors of the

Recycling Council of Ontario, and is well known for his work at Ontario Multi-Material Recycling Inc. and Corporations Supporting Recycling, and by leading and managing shared stewardship programs in Ontario including the United Nations-recognized Blue Box program through the municipal partnership programs.

SARAH MARSHALL



Calgary-based Nova Chemicals Corp.’s director of sustainability, Marshall is a strong advocate for a plastics

circular economy, working with supply chain partners, customers, government officials, industry associations, and others to help create innovative solutions for plastics recycling and recovery. She is a member of the board of directors, and former chair, of CPIA.

DAVE SCHWASS



Also with Nova — as its senior advisor, environmental affairs — Schwass has served as the

president of the Alberta Plastics Recycling Association and as a volunteer for the association for over 20 years. He has also contributed to the advancement of sustainability on the national level as a long-time member of CPIA’s sustainability committee, working with many stakeholders to find plastics sustainability solutions.



SUSTAINABILITY AWARDS

Recognizing individuals or organizations that have made environmental, economic, and social contributions.

CANUCK COMPOUNDERS INC.

The Cambridge, Ont.-based company has been practicing sustainability for over 40 years, CPIA said, and has recycled hundreds of millions of pounds of post-consumer plastic into formulations for high-end markets in the injection molding industry.

JON PYPER

Previously the associate director of sustainability for Dow's North America packaging and specialty plastics business, Pyper now heads Jon Pyper Consulting Services. Pyper worked at Dow for over 34 years and held vari-

ous senior management positions in sales, marketing, product management, financial services, purchasing, e-business, government affairs, and sustainability across several Dow businesses.

TC TRANSCONTINENTAL

Headquartered in Montreal, TC Transcontinental was recognized for making strides towards a circular economy for plastics. "In January 2019, the company broke the recycling barrier by launching in North America one of the first-in-market, 100 per cent recyclable, multilayer barrier stand-up pouches," CPIA said.

INNOVATOR AWARDS

Recognizing those who have contributed to the advancement of the plastics industry.

GREENMANTRA TECHNOLOGIES

Headquartered in Brantford, Ont., the clean technology company was recognized for utilizing a patented and proprietary catalytic depolymerization process to create polymer additives and synthetic waxes from recycled plastic feedstocks, including four of the seven streams of plastic.

STONESTRAW LTD.

North America's largest independent dedicated straw manufacturer, Brantford-based Stone Straw recently developed and introduced its "Back to Earth" biopolymer straws, the first Canadian-made, industrially/municipally compostable straws that are certified by the Biodegradable Products Institute and meet ASTM D6400 and/or ASTM D6868 standards to compost within 180 days or less. **CPL**

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OH, CANADA!

Canadian companies may not have been among the most numerous exhibitors at the K 2019 trade show in Düsseldorf in October, but they made an impact. From the Great White North direct to western Germany, here's a look at some of the made-in-Canada developments and technologies unveiled at the big show.



Photo Credit: Davis-Standard LLC

Brampton Engineering (BE) vice president Dave Kerfoot (second from left), Davis-Standard president and CEO Jim Murphy (third from left), and BE executive vice president Gary Hughes (second from right) with Vishakha Polyfab CEO Jigish Doshi (third from right) and others at the K show.

An oft-mentioned hallmark of German culture is its efficiency, but that doesn't mean they always get everything right. They spell Canada with a "K", for example. But when it comes to Canadians at the K show — known as the world's number one trade fair for plastics — maybe it's appropriate. The show, which ran from Oct. 16 to 23 in Düsseldorf, featured 3,330 exhibitors from 63 nations, including about 20 from Canada. Not an overwhelming number, perhaps, but it included some — GN Thermoforming Equipment, Husky Injection Molding Systems Ltd., Nova Chemicals Corp. — with among the largest booths at the event. And

large or small, they all made their presence felt. Here's a look at some of the made-in-Canada developments and technologies unveiled at K.

FROM CANADA TO INDIA, VIA GERMANY

Blown film equipment maker Brampton Engineering Inc. used the K show to announce a new deal in India, which has a rapidly growing packaging sector and is one of the most sought-after barrier film manufacturing markets in the world. Multilayer film maker Vishakha Polyfab will become the first processor in India to add Brampton Engineering's AquaFrost water-quenched blown film

technology. Vishakha Polyfab has been a long-time Brampton Engineering customer, the firm said, installing India's first seven- and nine-layer barrier blown film line. With the addition of the water-quenching system, the company will be able to improve film clarity and thermoformability, balance orientation, and increase processing versatility with fewer resins. "We've worked with Vishakha Polyfab for almost 20 years in supplying equipment solutions to address their needs," said Brampton Engineering's vice president David Kerfoot. "Our close collaboration has enabled us to grow together and advance multilayer film technology in the region. We look forward to their continued success in leading the film packaging market in India and beyond." Brampton Engineering is a Davis-Standard LLC company.

GN Thermoforming, a maker of servo-driven, roll-fed thermoforming machines for plastic packaging, launched its new form/cut/stack GN580 thermoformer, a smaller version of the company's GN800 machine, and designed for food, medical, and industrial packaging markets. The GN580 machine shown at K — which was already sold to a Central European packaging manufacturer — ran 100 per cent post-consumer recycled PET with a common-edge tool, producing meat trays with minimal scrap. "The most distinctive features of the GN580 are the high degree of automation as well as the ease of tool change," said Paul Phillips, the company's sales and marketing manager. "The GN580 also has a forming area of 580 mm by 465 mm and a cycle time of 45 cycles per minute at full stroke, and the machine forms 120 mm deep parts above and below the sheet line." It also features an operator-friendly HMI with integrated diagnostics and remote connection, an energy recovery system incorporated in all

drives, and maintenance-free precision roller bearings in the toggles, Phillips continued. “While the GN580 offers many of the same features as our GN800, it’s well-suited for unique production runs and has a smaller footprint for factories where space is a challenge,” he said. “The GN580 offers additional options suited to specific requirements, and it can be further customized for certain applications. And the thermoformer provides additional flexibility by accepting tools from many of our competitors’ machines.”

Husky showed off its new HyPET HPP5e system, described as an intelligent, adaptive technology that uses feedback from pressure and actuator sensors to determine the optimum pressure required to mold every application, and which is designed to deliver better energy savings, system reliability, preform quality, and user-friendliness. At the show, the system produced preforms made from 100 per cent recycled PET. The company also introduced its new NexPET Mold, which it describes as a flexible mid-volume PET preform tool for shorter production runs and frequent changeovers. In hot runners and controllers, Husky’s booth included Ultra Helix 250 T2 valve gates, which the company said are designed to improve part quality by maintaining superior gate quality for millions of cycles for small parts with difficult-to-access gate locations. On the control side, Husky displayed the latest family of its Altanium mold controllers; according to Husky, these provide highly accurate temperature management with integrated servo-motion and valve gate controls. Husky also introduced its new online spare parts ordering portal, which was available for a demonstration on the booth.

CANUCK COMPATIBILIZERS

Material supplier Ingenia Polymers Corp. highlighted the three product lines of its new InCircle technology. First up is InBio, which are biopolymer-based materials designed to support the applications growth of polymers such as PLA, PHA, and bioPET. “The InBio materials use biopolymers

as a carrier resin, and allow our customers to be able to do trials with a 100 per cent bio-based structure for the parts they’re trying to make,” said Dale McCormick, Ingenia’s business manager for proprietary products. Second is the InHance technology, which are upcycling enabling products designed to support recyclers in their efforts to enhance reprocessed polymer material properties. “We’re looking to support recyclers that are taking material from film processors and turning it into pellets for resale,” McCormick said. “We’ve developed a range of products under this brand, including a new compatibilizer to allow for the compatibilization of PE with nylon and/or EVOH. And for recycling within a film extrusion plant where the customer wants to reuse film they’ve generated in their

Film extrusion and co-extrusion systems maker Macro Engineering & Technology Inc. focused its K 2019 efforts on sustainability, introducing its new MacroPack FP die. “The MacroPack FP offers faster transition times and less waste; lower film thickness; more uniform layer thickness, enabling reduced usage of expensive resins and total gauge; new designs for screws and barrels to allow for a higher recycling content; and the control system with ‘ReadyRun’ technology, enabling the operator to bring back frequently used recipes with the push of a button,” the company said. As well as significantly reducing changeover times, Macro’s latest technology advancements also offer retrofitting on air rings, blown film dies, and custom winding machinery. “Furthermore, the Quadex biax



GN Thermoforming’s new form/cut/stack GN580 thermoformer.

Photo Credit: GN Thermoforming Equipment

own facility, they can add an InHance stabilizer before the film gets turned into pellets, to retain key mechanical and optical qualities.” And third, the recycle-friendly InAble technology is designed to enable film structures that contain high levels of recyclate resin, functional additives, or pigments derived from recycled sources, and are themselves more easily recycled. “This product line is designed to support our film customers in their efforts to use more recycled content, whether it’s post-industrial, post-consumer, or recycled content from the masterbatches,” McCormick said. “This product line includes modifiers that allow film makers to use zero virgin resin in their film structures and go with 100 per cent reprocessed material recipes.”

systems enable ‘double bubble’ with and without PVdC with improved technology to broaden the process window,” the company said.

Mold Hotrunner Solutions Inc. (MHS), part of the Las Vegas, Nev.-based Westfall Technik Group (WTI) since 2018, presented its M3 micro injection molding machine in co-operation with WTI. Until now, MHS said, injection molding of micro-components was often only possible with what it calls “enormous amounts of waste” through the needed cold runner. “Conventional approaches require considerable compromises in terms of part quality and scalability,” the company continued. But the technology developed by MHS redefines the possibilities in the growing field of micro injection

molding — the Isokor technology of the M3 enables direct injection of micro-parts without a cold runner. “The M3 technology is a real breakthrough and, at the same time, an important milestone in terms of precision injection molding,” MHS vice president Harald Schmidt said. “We see the M3 as a game-changer, and are pleased with the advantages it brings.”



Inside StackTeck's new IML automation facility in Toronto.

Photo Credit: StackTeck Systems Ltd.

SUPER NOVA

Material supplier Nova used the K to introduce several new technologies, including a suite of recycle-ready octene and butene LLDPE resins for packaging applications. VPs412-A is an octene PE sealant with high caulkability for fast sealing and fast setting; VPsK914-A/C is an ultra-durable octene PE performance sealant for high-speed packaging lines; SPsK919-C/F is an abuse-resistant octene PE resin for heavy-duty applications; SPs116-C/D is an all-purpose, ultra-versatile performance octene PE resin designed to replace conventional mLLDPEs; FP120-CE is an octene PE resin with high toughness and strength as well as easy processability; FG220-A is an octene PE resin with exceptional toughness for cast film; and PF-0118-FL is a butene PE resin with good toughness and strength over conventional butene LLDPEs. “Used in their virgin state, the resins compensate for the often degraded physical performance of recycled content in film structures, suppressing odour by up to 80 per cent and improving optics by up to 15 per cent,” Nova said. “When repurposed multiple times through mechanical recycling, the resins retain or improve their key physical performance properties, enabling reuse in applications such as stretch film, stand-up pouches, multipack collation shrink, and heavy-duty sacks.”

Nova also launched version 4.0 of its Bonfire film development platform, adding three new modules to better enable film designers to “virtually”

build complex multilayer film structures and then predict their performance properties. “The platform allows film producers and converters to narrow their options when developing new structures and applications before they’re manufactured, reducing the number of physical trials and interruptions to commercial production required,” said Dan Ward, Nova’s technical service specialist. “The three new modules include a rheology module that helps users understand how resins in a prototype film structure will flow in a multilayer film die under specific conditions by predicting viscosity, shear stress, and stress ratio; the second is a blends calculator that predicts the properties of an individual film layer composed of multiple materials, including resins and additives; and the third — called Bonfire Academy — is an interactive library of educational materials that enables users to learn more about the range of materials, processes, and testing protocols involved in the formulation of complex multilayer film structures.”

Injection moldmaker StackTeck Systems Ltd. made a big announcement at K: a new initiative for automation with a team to facilitate customer projects for IML and other packaging applications in a new facility in the Toronto area. The new plant will be dedicated to robotics engineering, assembly, test and injection molding systems integration. StackTeck has an existing IML pilot

cell that uses a dedicated IML robot with a 300 ton injection machine for prototyping and sampling new IML products. This new initiative for IML robots is based on a proven design that will now be assembled in Canada as of mid-2019, which will be offered with short lead times and competitive pricing. Initial efforts for this new business will be focused on IML applications for the Americas, StackTeck said, but longer term plans are to serve a

broad range of automation systems on a global scale. John Pocock is leading the new team as general manager. “I’ve been supplying IML robots for StackTeck molds over the past couple of years,” Pocock said. “In a short time period, for one particular customer, we’re now up to seven IML systems, including stack mold systems for both containers and lids. We see a niche in North America, where customers are looking not just for system integration but to have the moldmaking and automation design teams meeting face-to-face and working closely together to tackle specialty technical challenges.”

In the end, you could almost say these Canadian exhibitors succeeded in putting the “K” in Canada, at least for the duration of the show. **CPI**

RESOURCE LIST

Brampton Engineering Inc. (Brampton, Ont.); www.be-ca.com; 800-867-9997

GN Thermoforming Equipment (Chester, N.S.); www.gnplastics.com; 902-275-3571

Husky Injection Molding Systems Ltd. (Bolton, Ont.); www.husky.co; 905-951-5000

Ingenia Polymers Corp. (Brantford, Ont.); www.ingeniapolymers.com; 519-758-8941

Macro Engineering & Technology Inc. (Mississauga, Ont.); www.macroeng.com; 905-507-9000

Mold Hotrunner Solutions Inc. (Georgetown, Ont.); www.mhs-hotrunners.com; 905-873-1954

Nova Chemicals Corp. (Calgary, Alta.); www.novachem.com; 403-750-3600

StackTeck Systems Ltd. (Brampton, Ont.); www.stackteck.com; 416-749-0880

Nova Chemicals

gets even more sustainable

By Mark Stephen, editor

Sarah Marshall, the Calgary-based firm's new director of sustainability, talks about the circular economy.

Sustainability is the topic on everyone's mind these days, and it's now become as unavoidable a part of the plastics industry conversation as resin pricing.

PE resin maker Nova Chemicals Corp. has been talking about renewability for longer than most, however, so it's no surprise that the Calgary-based firm has now created a new position — director of sustainability — to spearhead its efforts to promote the circular economy.

And the company selected Sarah Marshall, who has been with Nova since 1997, to fill the new role.

Marshall will oversee Nova's portfolio of corporate investments supporting collaboration and promoting ocean health and serve on industry association boards and committees, a role she is well positioned for given her former tenure as chair of the board of directors for the Canadian Plastics Industry Association (CPIA). A strong advocate for a plastics circular economy, she will work with supply chain partners, customers, government officials, industry associations, and others to help create innovative solutions for plastics recycling and recovery.

"Nova has been involved in the Responsible Care initiative since the mid-1980s, which mean that we've had a strong focus on elements of sustainability for over 30 years," Marshall told *Canadian Plastics*. "The difference today is that we've looked at the headwinds that our industry is facing regarding plastics in the environment, and we've decided to focus even more energy into the plastics circular economy by developing new materials and redesigning packaging to make products more recyclable."

Last year, Marshall noted, Nova announced a three-year investment of nearly \$2 million to prevent plastic debris from reaching the ocean. The investment supports Project STOP, a global initiative to design and implement solutions to reduce marine plastic pollution, especially in countries with high leakage of plastics into our oceans. "And earlier this year, Nova became a founding member of the Alliance to End Plastic Waste, a group of almost 40 global firms that have pledged \$1.5 billion to help solve the problem of plastic waste on a global scale," Marshall said. "But there's still a lot of work to do."

AN IDEAL MATERIAL

Which is where Nova's — and Marshall's — expertise in PE development comes in. Previously at Nova, Marshall led



Photo Credit: Nova Chemicals Corp.

teams of scientists, engineers, and technologists at the firm's Centre for Applied Research and Centre for Performance Applications; and she has experience developing PE products and applications to meet customers' evolving needs, as well as in scaling catalyst and process technology advances to deliver desired products. "PE is an ideal material because it brings a significant amount of value through lightweighting and by being cost-effective," Marshall said. "Nova can work with our customers to show them what's possible with the latest PEs and help them to design structures they can put into commerce, as opposed to using multi-material laminates that are not currently recyclable in Canada. Sometimes we have an innovation that we share with the market, and sometimes it's the other way around: a customer approaches us to help them with an application. Either way, it's a highly collaborative approach."

For example, Marshall said, Nova has recently developed a recyclable stand-up pouch film structure that can be used in food packaging traditionally made with nonrecyclable, mixed-material structures.

Ultimately, Marshall said, Nova's sustainability goals align with the goals of CPIA and the American Chemistry Council to make all plastics packaging recyclable or recoverable by 2030 and to have all plastics packaging reused, recycled, or recovered by 2040. "It's going to require a tremendous amount of innovation in infrastructure and collaboration among all the actors in the value chain to shift from today's recycling numbers to a situation where there is zero plastic waste going to landfill, but the industry has made real progress so far and we're all committed to the goal," she said.

CPI

PET Technologies

says aloha to Hawaiian water bottler

The Austria-based blow molding machine maker continues its push into new territories.

By Mark Stephen, editor



Photo Credit: PET Technologies GmbH

Vladimir Tsallagov, export director with PET Technologies (left), and Ryan Emmons, owner of Waiakea Water.

Aloha, the most famous word in the Hawaiian language, can mean either hello or goodbye. For PET Technologies GmbH, it's definitely the former — as in hello to a potentially lucrative new relationship with the fastest growing premium bottled water supplier in the U.S.

The Neunkirchen, Austria-based maker of blow molding machines and blow molds recently sold an APF-6004 automatic stretch blow molding unit for PET bottles to bottled water brand Waiakea Water, of Hilo, Hawaii, as that company launches a major push of its award-winning Hawaiian volcanic water in over 650 Wawa stores and more than 180 Giant retailers across North America.

The sources of Waiakea Water are snowmelt and rain on the pristine peak of Hawaii's active Mauna Loa volcano. The water is filtered through thousands of feet of porous volcanic rock, enhancing it with electrolytes and minerals such as silica, calcium, and magnesium. As if that's not unique enough, Waiakea Water — which was founded in 2012 — is one of the first premium water brands in the world that uses 100 per cent recycled PET (rPET) for all of its bottles. For Waiakea Water, which takes sustainability seriously, it's no mystery as to why: rPET bottles require 85 per cent less energy to manufacture, 90 per cent less water during the manufacturing process, and can reduce carbon emissions by over 90 per cent compared to molding traditional PET.

So when the company began looking to add another blow molding machine to its manufacturing plant a few years ago,

PET Technologies had a tall order to fill. "We first met with representatives of Waiakea Water at a trade show in Las Vegas in 2015," said Vladimir Tsallagov, export director with PET Technologies. "Another customer of ours had recommended us to them, and it became clear very early on that Waiakea Water wanted something unique." First and foremost, the water bottler needed a blow molding machine that could run an rPET preform. "We had to make sure that our APF-6004 would perform properly with Waiakea Water's rPET preform," Tsallagov said. "Ryan Emmons, owner of Waiakea Water, flew over to our machine assembly plant in Chernihiv, Ukraine, to oversee the tests."

Second, Waiakea Water was looking for a few custom requirements. "Their bottles are available in five sizes — from 330 ml to 1.5 litre —

and they asked us to optimize the bottle design to achieve a high output," Tsallagov said. "They also wanted to change the bases of their bottles in order to lightweight. We were able to do all of these things."

A GOOD CHOICE

The four-cavity APF-6004 that was delivered to Waiakea Water can manufacture up to 6,000 bottles per hour and became operational in mid-April, Tsallagov said, and is a much better choice for the company than the used blow molding machine it had initially considered buying. "The used machine was a different brand, and would not have measured up to Waiakea Water's unique rPET and lightweighting needs," he said. "Getting parts and service for an older machine could also have been an issue because Hawaii is so remote."

For PET Technologies, this could be the beginning of something big with its new customer, which is one of the fastest growing beverages in the U.S. and has been ranked number 774 in the 2018 Inc. 5000 list of America's top entrepreneurs. "We've always had a big presence in Europe, and decided to focus on North America a couple of years ago," Tsallagov said. "Since then, we've sold machines to blow molders in Canada, the U.S., and Mexico. Supplying one of our APF-6004 stretch blow molding machines to Waiakea Water is another step forward, and we're proud to be associated with them."

CPL

GET FAMILIAR WITH INDUSTRY 4.0

WEBINAR
Wed., Dec. 4, 2019
2:00 pm EST

Presented by:

Canadian Plastics



Presented by **Yvon Audette**, Chief Operating Officer of KPMG, this webinar will focus on the rise of new digital industrial technology – better known as Industry 4.0 – that makes it possible to gather and analyze data across machines, enabling faster, more flexible, and more efficient processes to produce higher-quality goods at reduced costs. By making decisions based on data and insights, Industry 4.0 opens up a world of opportunities for manufacturing. And this free webinar will explore what it can mean for your business.

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SPECIAL

The giant K 2019 trade show in Germany may be over, but it's definitely not done. Here's a look at some of what was unveiled by exhibiting companies in Düsseldorf between Oct. 16 and 23.



AUXILIARY EQUIPMENT

Temperature controller expands Wittmann's product range

Designed to meet the demand for pressurized temperature controllers for a maximum temperature of 100°C or 210°F, **Wittmann Battenfeld's** new *Tempro plus D100* temperature control model belongs to the range of temperature controllers recommended for use as components of Wittmann 4.0 production cells — and as an extension of the *Tempro plusD* line, it can be fully integrated in the control system of a Wittmann Battenfeld injection molding machine.



Equipped with a standard wear-resistant and maintenance-free flow quantity measurement device, the new temperature controller is capable of a nine kW heat output and stands out by its magnet-coupled stainless steel pump, which ensures sufficient flow quantities.

The pump capacity is 0.5 kW, with a maximum flow quantity of 40 litres per minute and a maximum pressure of 4.5 bars.

And like all other Wittmann temperature controllers, *Tempro plus D100* offers an extensive choice of additional equipment options in order to configure the right temperature controller tailored to fit virtually any conceivable application.

Wittmann Battenfeld Canada Inc. (Richmond Hill, Ont.);
www.wittmann-group.com; 905-887-5355

Single-hopper drying system for PET

New from **Piovan**, *GenesysNext* is a high-performance, fully automatic, single-hopper drying system that optimizes the process for the production of PET preforms.

GenesysNext introduces the concept of a direct connection between the drying and the injection processes, thanks to the *GenesysNext* capability to read the injection process in real-time and to minimize and stabilize it on the set value.

In this way, the target is maximum efficiency of the complete production process with scrap rate reduced to a minimum level.

GenesysNext is also a step toward a circular economy: the *PureTech* filtration system, available as an option, allows an advance filtration of the VOC system that can be present in the process air. This is especially required in the case of recycled materials that can release low boiling substances during the heating or injection process. *PureTech* filtration guarantees that every preform produced is contaminant-free. This system also protects the desiccant towers, ensures consistent performance rates, and a longer machine life.



Piovan Canada (Mississauga, Ont.);
www.piovan.com; 905-629-8822

Extended dryer range covers higher production needs

Moretto has extended the range of its *X Comb* series of dehumidifiers to cover higher production needs.

These mini-dryers are a real combination of patented **Moretto** technologies: fully electric (they don't use compressed air), they're equipped with powerful turbo-compressors, zeolite technology, dewpoint equalizer, and **Moretto's** exclusive OTX hopper.



Particularly well-suited for drying highly hygroscopic technical materials used in demanding sectors such as the medical, optical, and automotive sectors, the *X Comb* dryers are available in two series: the *ON* series, with compact and robust models, is suitable for installation directly on the mouth of the processing machine, guaranteeing constant quality during the production process; and the *SIDE* series, which includes larger models up to 24 kg per hour to satisfy higher productions.

Additionally, these dryers feature the *Moisture Meter*, an exclusive **Moretto** solution for the precise inline measurement of residual granule moisture that can analyze and detect the exact content of residual moisture up to 15 parts per million.

Moretto USA LLC (Jackson Center, Pa.);
www.moretto.com; 724-269-7600

INJECTION MOLDING

Machine can be built to suit ten tonnage offerings

Milacron's new *Q-Series* product line provides the latest servo-hydraulic technology in a toggle injection



molding envelope. The Q-Series can be built to suit ten tonnage

offerings. The 55 to 610 ton (500 to 5,500 kN) machines support multiple injection frames, providing an extremely wide range of flexibility with each clamp tonnage. These combinations provide a wider range of molding opportunities. The Q-Series is part of Milacron's Quick Delivery lineup, allowing the machines to be built and delivered to a manufacturing facility quickly, so that little time is required from a customer's order to the start of production.

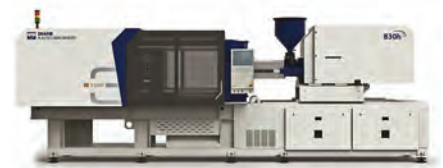
Leveraging the use of a servo motor in combination with hydraulic components, Q-Series provides superior repeatability and energy savings. The clamp kinematics provide enhanced velocities while delivering a smooth and accurate operation. The clamp design provides for better tonnage linearity, allowing minimum tonnage, to go lower than previous toggle designs.

Additionally, the eco-friendly design generates savings in electrical power consumption, cooling requirements, and lower maintenance costs.

Milacron LLC (Batavia, Ohio); www.milacron.com; 513-536-2000
 Accuplast Solutions Inc. (Beaconsfield, Que.);
www.accuplast.com; 866-630-0808

Haitian offers third-generation technology

Haitian International is presenting the third generation of three more machine lines, following the introduction of the Jupiter III earlier this year. The upgraded models boast improved efficiency and productivity, optimized drives, and an open integration strategy for robotics and automation.



One of the new third-generation machines is the all-electric *Zhafir Venus III*, which comes with the new, patented Zhafir electric injection unit with significantly increased injection pressure capability. It's available with one, two, and four spindles. An optimized toggle design is another feature of the Venus III, which offers up to 70 per cent energy savings.

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Third-generation technology is also available in the *Zhafir Zeres F* series (pictured), which adds an integrated hydraulic drive for core pulls and ejectors to the electric Venus design.

Finally, the new version of the servo-hydraulic *Mars III* has a new overall design, new motors, and numerous other improvements analogous to those of the servo-hydraulic, two-platen Jupiter III Series.

Absolute Haitian Corp. (Worcester, Mass.);
www.absolutehaitian.com; 508-459-5372

Barway Plastics Equipment Inc. (Vaudreuil-Dorion, Que.);
www.barway.ca; 450-455-1396

Shadow Automation Inc. (Uxbridge, Ont.);
www.shadowauto.ca; 416-464-2070

Energy-efficient multi-component machine delivers highest flexibility

Sumitomo (SHI) Demag Plastics Machinery GmbH has launched its new *IntElectMulti*, a highly competitive, energy-efficient all-electric machine for molders that want innovative and creative ways to integrate multiple colours, resins, and sensory features into products while maximiz-

ing productivity.

With its dynamic motor design, the *IntElectMulti* provides up to a 20 per cent increase in production output, up to 60 per cent reduction in energy consumption, and a typical return-on-investment (ROI) of around 18 months.

Currently available in three machine sizes — 100, 130, and 180 tons — injection molders can now opt for a machine that delivers the level of flexibility and precision required or high-volume multi-component manufacturing. From small to big shot weights, simultaneous to sequenced multi-component molding, the all-electric *IntElect* can handle every type of application.

Featuring high-resolution sensors built into the toggle system itself, the signals produced are so accurate that the machine can detect even the slightest change in force patterns and respond accordingly. The safety system monitors the mold closing sequence, closing force, and mold speed.

Sumitomo (SHI) Demag (Strongsville, Ohio);
www.sumitomo-shi-demag.eu; 440-876-8960



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FAST MOVING TECHNOLOGY



EXTRUSION

Feedscrew design boosts single-screw extruder performance

The newest addition to **Davis-Standard LLC's** *DS-Blend* feed-screw line features a patent-pending design that improves the performance of single-screw extruders by providing distributive and dissipative melt mixing.



A two-stage approach achieves outputs similar to single-stage barrier screws, but with a lower melt temperature and reduced energy requirements. It can be installed on new or existing single-screw Davis-Standard extruders, as well as those made by other companies.

Davis-Standard DSB feedscrews are available in 3/4 to 12 inch (19 to 300 mm) diameters with varying length/diameter ratios. Each screw is engineered for specific polymers and processes; customization is available depending on end product.

Davis-Standard feedscrews accommodate the full range of extrusion and converting applications, including blown film, blow molding, cast film, compounding, elastomer, extrusion coating, fibre, laboratory, pipe, profile and tubing, reclaim, sheet, and specialty systems.

Davis-Standard LLC (Pawcatuck, Conn.);
www.davis-standard.com; 860-599-1010

Auxiplast Inc. (Sainte-Julie, Que.);
www.auxiplast.com; 866-922-2894

Redesigned twin-screw units improve operator comfort, machine efficiency

Coperion has significantly redesigned two of its twin-screw extruders to improve operator comfort and machine efficiency.



The *ZSK Mc18* extruders with a 45 mm and 70 mm screw diameter and 18 Nm/cm³ torque feature optimized mechanical and electrical systems, and both are equipped with ZS-B easy type side feeders as well as ZS-EG easy type side devolatilization units.

Maintenance time on the ZS-B and ZS-EG twin-screw extruders has been reduced, thanks to a design that requires minimal operator effort to access the process section to perform cleaning tasks or screw changes.

Additionally, the extruders are now equipped with one-piece heat insulation covers that are easy to manipulate — they can be detached without removing the cartridge heaters.

Coperion K-Tron (Salina, Kan.);
www.coperion.com; 785-825-3884

Pneu-Tech Systems Ltd. (Woodstock, Ont.);
www.pneutechsystems.com; 519-537-7199

BLOW MOLDING

IBM model switches from PET to other resins

New from **Jomar Corp.**, the *TechnoDrive 65* PET machine is specifically designed to run PET resins but can easily switch back to more typical materials for injection blow molding such as PP and PE.



The *TechnoDrive 65* PET machine evolved from Jomar's *TechnoDrive 65*, an IBM production machine introduced in 2017. Using the original *TechnoDrive* platform as the base, Jomar engineers expanded its capabilities by adding a more robust plastifier motor, high-pressure valves, as well as built-in nozzle heaters to aid in the processing of PET. The result is a machine that can revert from PET to more common resins such as polyolefins by only changing the screw and making some minor adjustments.

Some IBM machines require a fourth station to process PET, used to condition the core rods and ensure they're the correct temperature before enveloping the rod in PET. The Jomar *TechnoDrive 65* PET accomplishes this task in the ejection station, thereby merging the third and fourth stations.

Jomar Corp. (Egg Harbour Township, N.J.);
www.jomarcorp.com; 609-646-8000

ROBOTS AND AUTOMATION

One-stop sourcing guide to design and build EOAT

Sepro Group is introducing *My Gripper*, a unique approach to sourcing structural parts and other tooling accessories that gives molders one-stop access to over 700 components, making it easy to design and build robotic end-of-arm tooling (EOAT).

The 66-page *My Gripper* catalog gives molders easy access to more components from a single source



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than ever before. Sections of the catalog cover mounting plates and related parts; structural elements (extrusions) and mounting accessories; component holders, arms, cylinders, and adapters; mechanical grippers, fingers, and needles; cutting nippers, blades, and bodies; vacuum cups, and flat and bellows designs; electronic accessories, including splitter boxes, connectors, and sensors; and pneumatic valves, hoses, connectors, and other elements.

All components have been selected for compatibility and ease of assembly. A two-page chart lists best-selling products and all items that can be used with them, regardless of manufacturer.

Sepro Canada (Montreal);
www.sepro-group.ca; 514-515-9349

Linear robots with larger range



Engel has extended the range of its *viper* linear robots — the long design of the robots now reaches longer take-off strokes with identical load-bearing capacities and maximum dynamics.

The viper 20 has increased from 900 mm to 1,100 mm, for example, which allows it to fully reach Euro pallets — a task previously requiring a viper 40, even with low load-bearing capacities. The X-stroke extension keeps the handling area compact, reducing capital outlay.

Alongside mechanical upgrades, it was smart inject 4.0 functions that truly made this innovation possible. Two key examples are iQ vibration control, which actively compensates for vibrations; and multidynamic, which determines the load condition with a high degree of precision and makes full use of this based on the robot's kinematics. Both software solutions are included as standard with the viper linear robots.

From the K 2019 show onwards, the X-stroke extension will be an option for viper linear robots in sizes 12 to 60.

Engel Canada (Waterloo, Ont.);
www.engelglobal.com/na; 519-725-8488

RECYCLING

Hot-wash system guarantees continuous output

Lindner's new *Washtech* hot-wash system for plastic recovery cleans effectively in three stages and guarantees continuous output, and is especially well-suited for recyclates that are barely distinguishable from virgin material.

The modular and compact hot-wash system has three

stages, and doesn't require any additional conveyors. In the first stage, shredded and pre-washed plastics are fed into a reactor, mixed with hot water and washed. The double discharge screw conveyor then feeds the plastics into the new hot-wash rafter in optimally dosed quantities. This is a new and improved version of the already successful rafter pre-washer, in which continuous friction is applied to remove and separate residues effectively and gently. In the third stage, the twister friction washer removes the hot water. The liquid is then separately treated.



The system can also be operated with caustic solution to remove stubborn residues. The downstream water treatment system continuously monitors the water's alkaline content and automatically applies the necessary chemicals.

Alongside Lindner's modern and robust shredders, the innovative hot-wash system is a key component in Lindner's new system solutions for plastics recycling.

Lindner Recyclingtech America LLC (Raleigh, N.C.);
www.lindner.com; 800-235-1391

SIZE REDUCTION

Flexible shredder for plastics recycling

Vecoplan's new *VIZ* (Vecoplan Infinity) line of shredders can reliably shred a wide range of plastic materials.

Particularly flexible in terms of cutting geometry, the machines can be precisely adapted to different input and output requirements by changing the rotors and blades and by selecting the right screen.



The design of the machine allows users to choose between the HiTorq drive with its powerful start-up phase and high torque; or the ESC, Vecoplan's frequency controlled, belt-driven direct drive. Both systems are patented and notable for their high energy efficiency.

The working chamber of the machine is large enough to permit reliable shredding of bales with model 1300 and higher. In a comparable Vecoplan model range this is possible only with sizes 1700 and higher.

Users can also equip the machine with a second counter knife. Other advantages arise from the machine's clear, efficient design: the VIZ is easier to clean, and the

newly designed ram is closer to the rotor, thus reducing material residues.

Vecoplan LLC (Archdale, N.C.); www.vecoplanllc.com; 336-447-3573
Greg Parent; 416-678-0154

MATERIALS

New PA 6 compounds outperform standard PA 6

The new *Creamid P* series PA 6 compounds from **Teknor Apex Co.** absorb nearly one-third less water at saturation than standard grades; provide 15 to 25 per cent improved tensile properties in the conditioned state; and exhibit higher flow and superior surface characteristics, even in highly glass-filled formulations.



Designed for structural components in metal replacement applications, the compounds are based on advanced formulation technology that can be applied to lower the moisture uptake of a broad range of PA 6- and 6/6,6-based compounds. These include grades with various types and loadings of reinforcements or fillers, as well as impact-modified toughened grades and other specialty compounds. Creamid P series compounds can further employ an advanced heat stabilization system that extends continuous use temperature.

Teknor Apex Co. (Pawtucket, R.I.);
www.teknorapex.com; 401-725-8000

High-heat resin supports vehicle lightweighting and electrification trends

New from **Sabic Innovative Plastics**, *Xenoy HTX* resin is a polyester-based, high-heat technology that can enable the

production of light, impact-resistant, and high-performing structural automotive applications.

Available in unfilled and glass-filled grades and offering significant weight savings compared to steel and aluminum, Xenoy HTX thermoplastic materials also provide drop-in alternatives for PA 6,6 compounds and alloys, which have recently seen frequent supply shortages and price fluctuations.



The unfilled resin is modified to absorb significant energy and withstand plastic deformation in the event of a crash. Sabic is targeting the material for use as a lightweight metal replacement solution in new safety applications, including side rockers designed to offer protection for battery modules mounted to the floor of electric vehicles.

Sabic Plastics Canada Inc. (Long Sault, Ont.);
www.sabic.com; 905-534-8199

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The high cost of doing nothing

By Steve Johnson, ToolingDocs LLC



Most plastics processors associate costs with doing things — replacing tooling, cleaning, molds, et cetera. But actually, the highest costs come from doing nothing.

How so? Well, doing nothing means that repair work comes in the form of unscheduled events, which experts claim cost four to five times as much as scheduled work. In a reactive maintenance strategy, molds only get worked on when they squeak, leak, break, or make bad parts.

In a typical mold maintenance environment, the daily workload comes from several directions: mold breakdowns (emergency repairs), cavitation drop-off (fix a mold that's running 40 of 48 cavities), product/part quality or

function issues (customer complaints), and tooling needs (rework, alterations, new tooling, based on mold function requirements).

Other mold performance issues come from unstandardized practices in areas such as bench work (how does it come apart?), documentation (don't just write down "Needs repair" and "Done"), and mold rebuild or fabrication work (is everything to print?).

As shown by all these potential issues, shop managers don't need to look for work — it'll come to them. And the less that's done proactively, the more that must be done reactively. In other words, we have no idea when or what mold maintenance needs will arise because we're not in control — the "maintenance Gods" are.

A reactive style of maintenance management has tool rooms simply waiting for the next problem to land on someone's bench. This is the real cost of doing nothing: problems keep coming, with no means of forecasting when or the severity of the issues. The "do-nothing" culture feeds on many seemingly logical reasons, or excuses: "We have no time, tooling, or people to be proactive." Doing nothing is so endemic in some companies that "hero cookies" are awarded when breakdowns get fixed.

BLAME GAME

The do-nothing culture isn't born of laziness; it's more the result of not fully realizing the benefits of being — nor understanding how to be — truly proactive. Who's at fault? A major part of the blame sits squarely on the shoulders of the type of work-order systems we use where maintenance "stories" are entered instead of usable data. It's difficult to measure or quantify the words in a "story." So this means we can't count, compare, target, or forecast ongoing issues from a mold's maintenance history. Docu-

mentation is a tool and should be a major part of daily maintenance planning. There's simply no substitute.

In a maintenance culture that rewards hindsight and reactive decision making, where does the motivation come from to move into a proactive form of management? It comes from a higher power, called profit. The fact is, there's a ton of money (profit) that separates the perfect maintenance scenario from the reality of the typical repair shop. But it gets doled out in small, undetected amounts.

The objective in a perfect maintenance scenario would be to never have unscheduled downtime, with all work being planned; to replace or rework all tooling and mold components before bad production, excessive wear, or lock-up; and to accomplish all work accurately, safely, and as planned, with no wasted time through unstandardized and non-value-added methods or practices.

If we could accomplish all this, it would mean the related costs concerning the above three points are included in the piece price instead of being the "cost of doing business," as is all too typical today.

Continuing to focus only on getting broken molds back into the press is a never-ending spiral that will keep companies bogged down in mediocrity. Learn to look beyond the next breakdown and start gathering data on high-frequency/high-cost issues to see where opportunity lies to reduce or eliminate the problems altogether. Doing something means striving to avoid issues — not just reacting to them. **CPL**

Steve Johnson is the operations manager for ToolingDocs LLC, part of the PCIC Group of Companies. He also has his own business, MoldTrax, in Ashland, Ohio. He can be reached at steve.johnson@toolingdocs.com, or 419-289-0281.

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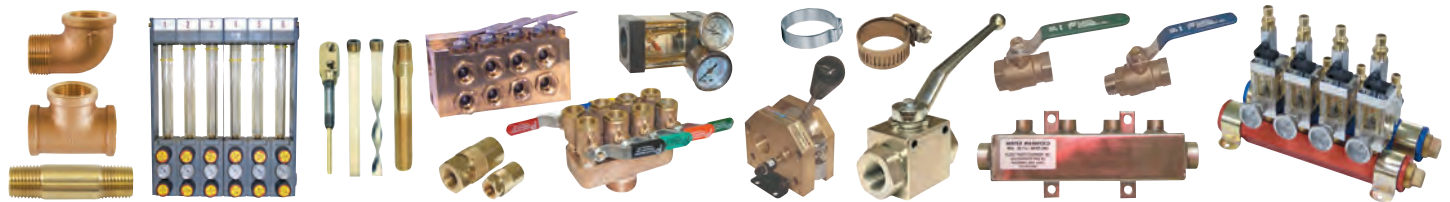
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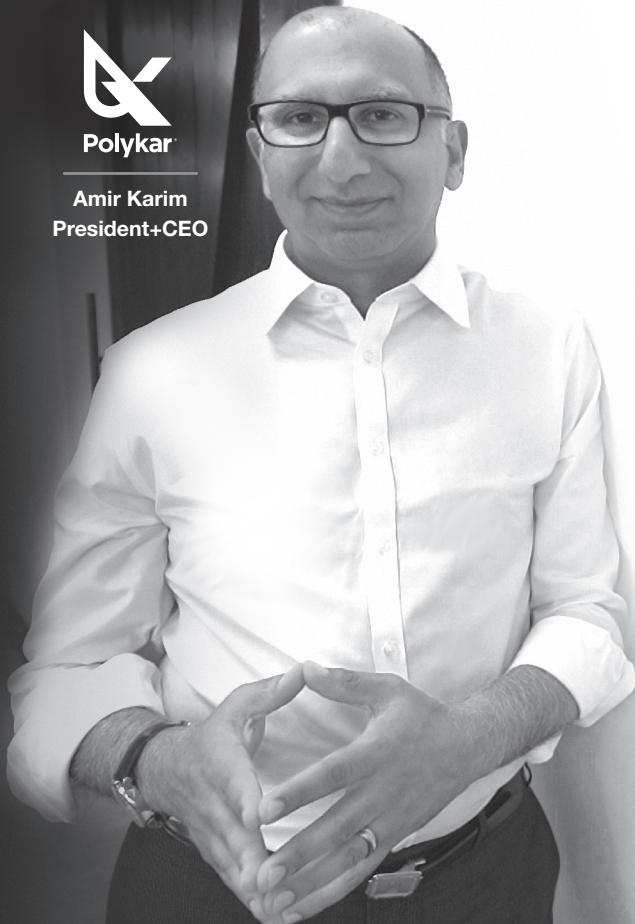
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