

CAST POLYMER CONNECTION

WINTER 2023

The Huber Mine:
From deep in the earth comes
cast polymer ingredients

ALSO IN THIS ISSUE:

- Using artificial intelligence
- The Theory of Marginal Gains
- What's happening in Washington, D.C.





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ON THE COVER:

A group of ICPA POLYCON attendees got a tour of an operation in Marble Hill, GA that took them 700 feet into the Earth, then showed them the related facilities that turn rough ore into calcium carbonate products. For a story on the mining operation and the company that runs it, go to page 4. Photos on cover and in the story courtesy of Huber, Jake Smith and J.D. Sauer.

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PRESIDENT'S LETTER

What we've learned



During POLYCON 2023 in Atlanta it was wonderful to see both the familiar faces of friends I've made over the years and the new faces of those I've met over the past two years as ICPA president. I also made new connections in ICPA's most recent annual meeting. We had a packed agenda of educational sessions, technical and hands-on learning opportunities, networking events

and visits with our suppliers, and we came away inspired and ready to put what we learned into practice in our shops.

This edition of **Cast Polymer Connection** not only covers some of what happened but addresses several issues that came up in our sessions and visits.

For example, you'll read about artificial intelligence (AI) in a feature based partly on a speech by Cast Polymer Radio host Jonathan Taylor, who uses AI tools in his marketing. The feature in this edition goes beyond that use by also addressing trends he's learned through talks with AI experts during his last year of broadcasting. There is no doubt this is a hot issue, and those of us who've been around many years may be resistant to changes coming down the pike. But the reality is, AI is not just on it's way here, it's already arrived. It's time to figure out how we can use it to our benefit—find ways to use this newest tool to “work smarter, not harder.”

ICPA took advantage of the fact we were in the Atlanta area to visit a fascinating facility in Marble Hill, GA, the mine and related plant run by Huber that produces calcium carbonate. Those who toured the facility learned some truly remarkable facts about how mining occurs and what goes into turning ore into products.

Daniel Neumann, vice president of government relations for the American Composites Manufacturers Association, reiterates some of what he addressed in several highly attended events at POLYCON. In Dan's column on page 20 he writes about some pressing

issues for our industry, including the current status of styrene at the Environmental Protection Agency, upcoming new air emissions requirements and how the current Administration may continue its focus on regulatory justice. He also brings out the importance of participating in next February's fly-in. Having attended the 2023 event, I want to reiterate

that importance. These fly-ins enable us to make connections in Washington, D.C. not only vital to our industry but helpful to individual companies.

Speaking of regulatory issues, I want to remind

people that one issue we're looking at now is how the Occupational Health and Safety Administration is increasing efforts to ensure that companies where employees are exposed to silica understand the issues and what the agency expects of us. Our company received a letter from Ohio's workers' compensation office about a new outreach initiative by that office to educate businesses like ours on how this issue affects workers' compensation premiums and what outreach is available, including help with evaluating silica exposure. In Ohio, the outreach offers a grant program to help with purchasing needed equipment.

Finally, I want to encourage each of you not just to participate in the February fly-in, but to set aside time in the spring to attend The BUZZ, which will be in April 18-19 in St. Louis, MO. This increasingly popular event is a chance to network and learn in a more relaxed atmosphere than POLYCON. Stay tuned to our website and look for separate correspondence for details.

Kerry Klodt

ICPA President

General Manager, Tower Industries

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NOT ONLY COMING, IT'S
HERE. IT'S TIME TO FIGURE
OUT HOW WE CAN USE IT
TO OUR BENEFIT”



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MHG:

An amazing operation in the hills of Georgia

**BY GENILEE SWOPE
PARENTE**

POLYCON attendees have always loved a good tour of a member's

facilities: such visits provide valuable insight on what goes into making the cast polymer industry what it is today. This year, a small group of attendees got an unusual and fascinating look into a facility that makes key ingredients for cast polymer: they traveled more than 700 feet below the surface to visit the Huber Marble Hill, GA mine (MHG), then toured the mine's processing facilities and laboratory. The 20-acre operation sits on a 120-acre tract of land outside of Marble Hill, GA.

"The most fascinating aspect of seeing this mine and the entire site was the scale of the place. For example, I assumed going underground would be cramped and claustrophobic, but the massive, cavernous ceiling really caught me by surprise," comments tour participant Chase Williamson, vice president, Tyvarian.

Other tour visitors heartily agreed. J.D. Sauer, general

manager of Manstone, LLC, says "The size and scope of both the mine and the equipment was astounding!"

The Huber mine

The history of what people saw in that mine goes back about 500 million years to the early Paleozoic period of North Georgia. The area at that time was covered by a shallow sea, which contained reef deposits. A main component of such deposits is calcium carbonate. Over time sediments washed in and filled the sea, burying the carbonates. Temperatures and pressures then formed first limestone, then marble.

Today, the marble lays in a bed of material that varies in thickness from 300 to 500 feet and plunges 30 degrees from the horizontal angle under a ridge behind the Marble Hill plant.

The mine itself is called the Miss Linda Mine in honor of former employee Linda Patterson, a key administrative employee who passed away unexpectedly in 1998 just as the



A scaler works on a pillar.



Tour visitors were amazed at the size of the milling equipment, including this 73-foot roller mill.

Marble Hill operations were keying up. “The name serves as a tribute to Miss Linda,” says Mike Hohn, site manager for MHG.

Construction on the mine began in 1995 with mining operations starting the following year. In the early years, ore was shipped to Huber’s Quincy, IL plant for processing. By 1997, however, MHG had its own plant, with various milling operations on site as well as a packaging plant, a warehouse, gi-

ant silos for storage and distribution, a control center that runs the milling operations and a headquarters building where everything is coordinated.

The mine is a multi-level series of rooms where ore is extracted. Each portion of the mine has been dug in two passes: the first pass creates a heading that’s about 40 feet wide by 25 feet tall, while the second pass is about 25 feet tall leaving an area of about 40 feet wide by 50 feet tall.

“Our two-pass mining method (we call this headings and benches) enables us to maximize our ore recovery process as part of the room and pillar mine plan,” Hohn says. The rooms are just that—spaces separate from the travel ways and pillars that may or may not be mined someday, depending on what’s there. The pillars are the backbone of the structure, keeping the mine strong.

“With this room and pillar mine plan, we develop 50-foot tall pillars, which gives us stable ground control within the mine,” Hohn explains. In other words, they are what make the mine so secure.

Tour participant Jake Smith, production manager for Sand & Swirl, comments that: “One of the most fascinating aspects of seeing the mine was how big they make those tunnels and how they can know where the pillars are supposed to be going down to each level.”

While the ore extraction method begins with blasting within the mine, a critical part of the mining process on site

is scaling, which involves a piece of equipment with a giant arm that removes loose rock from the back, ribs and pillars of the mine.

“We [Huber] have been complimented by the Mine Safety Health Administration (MSHA) and other mining parties on our sound scaling methods,” Hohn comments. Also within the mine, equipment does some initial crushing of the rock.

Another aspect of the mining operations

that keeps the site stable is the bolting of anomalous features within the mine—Huber has created a system of roof supports where any anomalies in the marble are found.

“From a geotechnical standpoint, we might spot fracturing or jointing or other anomalies. We then bolt these features as we encounter them,” Hohn explains.

Other MHG operations

Once the ore is extracted using the scalers and other equipment, it is transported out of the mine and into the milling areas of the plant. MHG has three types of milling: first are screen decks where the ore is classified to produce granular products; second are roller mills, which create medium to fine particle size products; third are ball mills, which produce ultra fine particle size products.

Roller mills “are the workhorses of the plant,” Hohn explains. The MHG plant has three, 73-inch roller mills and a 66-inch roller mill. These workhorses use six large “journals” that rotate and crush the ore against an internal bull ring to create uniform particle size material.

The Marble Hill operation has three ball mills, which have drums lined with ceramic brick and filled with ceramic media that crushes the calcium carbonate into even smaller particles as it rotates.

A control center with sophisticated computer equipment for monitoring all this and making adjustments is the brains



ICPA visitors to the Marble Hill operations.



Giant silos up to 90 feet serve as staging areas for product delivery.

of the milling operations.

The different levels of milling are used for varied types of end products.

“How calcium carbonate gets to the point of use in differ-

ent fields drives how fine the grinding of the ore is,” explains Christopher D. Graber, technical sales manager for Huber Engineered Materials, the division of J.M. Huber that oversees the mining operations.

“Besides specialty minerals that cast polymer producers make, carbonate also goes into nutrition products (it’s a calcium supplement), and much more. Our Quincy plant nutrition products, for example, are additives for multivitamins, almond milk, cereal, pet food and more,” he adds.

The very fine particles go into such products, while the cast polymer industry uses particles that are granular (Huber’s product name for this is Marble Elite Gamma) and medium-fine (Marble Elite Alpha).

Upon learning about how the grinding takes place and the control center operates, Sand & Swirl’s Smith commented that, “I had no idea that it took so much to make filler so small so that we can use it.”

Another vital part of all this are the laboratories. At MHG, for example, the lab is constantly testing for quality control and quality assurance.

“The lab is testing to ensure that each product Huber produces is within CoA specifications [certificate of analysis, the industry standard used for specific batch testing],” Graber explains.

“Every product we produce has its own unique CoA specifications, and we do not ship finished goods unless they are within the CoA specification,” he adds.

A solid foundation: J.M. Huber

Today, J.M. Huber Corporation is one of the largest, privately held companies in the United States, now entering its sixth generation of family ownership and a global-wide operation. It has more than 40 facilities in more than 20 countries and employs more than 4,000 people.

The company began as the dream of salesman Joseph M. Huber, who came to America in 1883 to develop new markets for his family’s dry colors business and fell in love with what was happening here with industry. By 1891, Joseph had pulled together the resources to start his own dry color plant in Brooklyn, New York.

The founder remained active in the family business until his death in 1933. By then, he had transitioned control of the company to his sons.

Over the years, Huber entered many areas including engineered wood (timberland) and minerals.

Huber Engineered Materials (HEM), which is the portion of the company that oversees calcium carbonate and many other specialty chemicals, began in 1941 with the patent of silicates. A key building block for HEM occurred when the division purchased the Calcium Carbonate Company in 1973. By the company’s 100th anniversary in 1983, the Huber portfolio included printing inks, carbon black, oil & gas, timber, chemicals, kaolin clay, plastics, calcium carbonate and more. In 1994, the company underwent a restructuring to focus on specialty products, a move that helped the company progress in the 2010s when the world faced a global financial crisis.

Today, Huber Specialty Minerals makes up a third (\$301 million) of Huber’s \$3.3 billion in revenue. Performance minerals, including calcium carbonate, is \$185 million of that revenue.

The J.M. Huber Marble Hill operation today employs 110 employees, who work in mining, milling quality, packaging, maintenance, shipping and administration. ■

Another crucial part of the MHG site is packaging.

"Approximately 20% of our volume from the mills is packaged for direct shipment," Hohn explains. Packaged product goes out in 50-pound bags as well as bulk bags up to 3,000 pounds. To accomplish all this, the site is transitioning to automated bag filling and palletizing equipment. The majority volume of products leave MHG via 18-wheel bulk trucks that are loaded out of silos that reach upwards of 90 feet high.

POLYCON tour participants were as amazed by the operations that go on outside the mine as they were with what goes on inside.

"The complexity of the technology used in the manufacturing process, and how Huber is able to monitor each step in the process as it goes from raw mine material to finished product is amazing," comments Manstone's Sauer. Equally impressive for him was the amount of quality control that is part of the everyday process.

"Considering that what J.M. Huber produces for our particular industry is such a small part of their overall product offering, I thought the amount of resources that go into ensuring quality end product was impressive," Sauer adds. ■

GENILEE SWOPE PARENTE is executive editor of **Cast Polymer Connection**. She can be reached at gsparente@verizon.net.



From left, Heleen Murphy, quality manager, works with William Hunter, lab technician and Joe Horton, senior lab technician to assure the best quality products come out of the operation.



Alex Hopkins, production manager (standing) and Josh Nix, mill operator (seated) work out of the control center.

Not your grandpa's mine

One aspect of mining that many of the POLYCON tour visitors commented upon was how safe today's mines are compared to the days of pickaxes, lanterns and unpredictable pockets of dangerous air and potential for explosion or cave-in.

"Huber is very committed to the safety of their workers," says tour participant Corey Erdmann, co-owner of Sand & Swirl. "We did a thorough safety training session before we could visit the mine and processing areas," he adds.

Erdmann and other visitors saw that safety is a key aspect at MHG. Before the visitors went into the mine, each person was tagged with a metal ring just as any person who goes into the operation is always tagged. The tags and the whereabouts of its holder are recorded outside the mine and each person must be located for certain operations within to occur.

"The knowledge of who is in the mine is an area that we always stress with the 'tag-in, tag-out' board," Mike Hohn, site manager for MHG, says. For example, "we always account for each person prior to a blast occurring underground," he says. Blasting each day does not occur until 4:45 p.m., when the last of the day shift has already left the mine and been counted. The next shift doesn't enter the mine until 8 p.m., which allows the mine to vent out any gases from the blasting agents. Besides personal protective equipment, every person that goes into the mine also must have a self-rescuer available at easy access. The rescuer converts carbon monoxide to breathable carbon dioxide.

"Thankfully, we've never had a fire or been called upon to use those rescuers, but they need to be in place in case of emergency," Hohn says. Safety is also built into the way the mine has been created. "Our pillar design is based on our concept of the 'basis of safety' whereby we model the various rock mechanic parameters on sound geotechnical engineering practices," Hohn says.

The operation also accounts for plenty of ways to get out should something negative occur.

"We have primary and secondary escape ways as well as evacuation routes inspected routinely. We have ventilation plans that are reviewed by MSHA," he adds. The mine also conducts periodic diesel particulate matter sampling as well as silica sampling to ensure what employees breathe or are exposed to are at safe levels.

MSHA also inspects the mine a minimum of four (unannounced) times per year, and J.M. Huber has personnel who participate on a Mine Rescue Team that holds practice rescues and focused training. ■



Tower Industries' Owner Todd Werstler (right) had the honor of presenting the Royce E. Newsom Pioneer Award to Larry Blake (left).



ICPA President Kerry Klodt (left) chose Chris Hurdleston (right) to receive her President's Award.

POLYCON 2023 Atlanta

included three days of learning and connecting

Attendees at POLYCON 2023 returned to an area of the country where the first annual meeting to take back the title POLYCON occurred: Atlanta, GA. The association met in the area in 2015 just before the association returned to being an independent entity.

"We've certainly come a very long way from those days when we were working through the difficult times of the 2010s and wondering what a new organization could look like," commented Jennifer Towner, ICPA executive director. "Although we faced many challenges, we were starting to plan how we would be 'Moving Forward with Forward Thinking,' which became our theme."

Working for International Marble Industries, which co-hosted the event with the Piedmont Cast Polymer Association, Towner helped put together the 2015 POLYCON, and then was hired to head up the new association when it formed the following year.

This year's POLYCON general session was held at the Hilton-Atlanta Marietta Conference Center, Marietta, GA with two days of PolyTECH training at two local companies: Synmar-Castech, Jonesboro, GA and Agco, Inc., Norcross, GA. That 2015 event was in Kennesaw, GA.

"We've grown much in size as an association and annual event since that earlier visit to the Atlanta area, but yet I see some of the same types of issues and comments. People want advice on how to run their shops and they want to know how to operate more efficiently and effectively. Comments received after the event show that's why they keep coming back in better numbers every year," Towner said.

A survey taken after the 2023 event indicated that one factor that has stayed true over the half-century the organization has existed is that attendees find technical sessions, hands-on learning and the breakout topics at the general session vital to helping them in their move forward. As one attendee put it, "the sessions really covered relevant topics for real-world shop needs and concerns."

Survey participants also indicated that the networking events are crucial to POLYCON's continued success. They also praised the exhibit floor where much of that networking occurs. One survey participant this year said the vendors "had a lot of helpful information; it's good to talk to them since most of us don't really get to do that during the year."

The one universal request for upcoming meetings was more: Respondents want to see more vendors; more tips and tricks; more "best practices" from other manufacturers; more on how to market in today's competitive industry; more advice on how to deal with hiring issues, difficult employees, conflict and other human resources challenges; more on the latest in equipment and techniques; and more information about programs such as CCT-CP certification and Live Grout Free success stories.

"I've been privileged to see this organization grow and hear from so many respondents that say 'the event gets better and better each year,'" Towner commented.

Member numbers

One factor that's changed from 2015 is that the association has a membership director: Beth Kubinec. Kubinec has been



The SAFE PLANT of the Year went to Synmar & Castech. Kelly DeBusk (right) congratulated (from left) Kimberly Peek, president and COO, and Nicole Tanksley, office manager and safety coordinator.



A surprised Genilee Swope Parente was honored for her retirement as executive editor of Cast Polymer Connection.

with the association for almost three years and has overseen a consistent upward climb during that time. At the 2023 POLYCON, she reported to attendees that the association is now “85 members strong,” having added 12 new members this year, and that the SAFE PLANT program now has 30 participants. According to Kubinec, most of the new members come from one source: “a connection made by a current member.” She encouraged attendees to continue building those connections and sending the association suggestions for companies that would benefit by joining.

A night of honors

One event that occurs each year is a gala where attendees enjoy an evening meal together, then take time to honor those who’ve gone above and beyond to help the association.

The highest award presented is the Royce E. Newsom Pioneer Award, which went to Larry Blake, vice president of sales for The R.J. Marshall Company. Blake’s career spans back to 1985 when he was hired by F. R. Hall company in sales. He worked as a branch manager/sales for Advanced Plastics, before moving to R.J. Marshall in 2002 as the North Central district manager. He became sales manager in 2004 and was appointed vice president of Marshall Gruber Company, Texas, in 2014.

The award was given to Blake for his passion for all things ICPA, his contributions to the industry’s quest for quality manufacturing, and his leadership in the industry. Blake is the eighth person to receive the prestigious award. Past recipients were Dirk DeVuyt, Todd Werstler, Ken Lipovsky, Bill Sanders, Larry Brannan, Dick Higgins and Jack Simmons.

Also during this year’s POLYCON dinner, awards were presented to:

ICPA SAFE PLANT of the Year: Synmar & Castech was called to the podium to receive the award given for the most successful and significant safety program implementation

and accomplishments during 2023. The award-winning company also is honored at its plant with a catered luncheon and T-shirts for the employees who make safety programs possible.

The President’s Award: President Kerry Klodt presented her president’s award to Chris Hurdleston, regional technical sales manager for ACS International. The award is given to a volunteer who has gone above and beyond during the year in helping association efforts. Hurdleston headed up some impressive efforts during the year on behalf of the educational, technical and POLYCON committees. During 2023, those committees supported the association members with answers to technical questions and delivering solutions and strategies for making cast polymer and composites product better. Hurdleston also sits on the ICPA board and has a deep understanding after many years with the industry.

“I chose to honor Chris because he is so quick to help anyone that has technical questions whether or not the person is a customer. He also connects people within our industry who can help each other and is constantly recruiting shops to join the association, not to bolster our numbers, but because he knows ICPA can provide them a wealth of resources,” Klodt says.

Also honored during the evening were:

- Kerry Klodt, for her two years as president of the association.
- Genilee Swope Parente, who is retiring after almost a decade as executive editor of **Cast Polymer Connection**, the industry’s magazine. ■

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Morsels of advice

The roundtable discussions and special sessions at POLYCON are valuable sources of information and advice. Attendees and ICPA members will be able to get videotapes of the full sessions on the ICPA website, "Members Only" site. Here's a teaser from two of the sessions:



The ICPA Women's Roundtable

Attracting and retaining staff

During a roundtable discussion for women in the business, attendees shared how they've worked to keep employees happy.

Tato Corcoran, owner of Brandt Marble (see the Fall 2023 issue of **Cast Polymer Connection** for a profile of that company), explained that one of the deepest challenges she faced in the two years since she bought the company was how to retain the staff that was there while expanding their numbers in a logical way. She started with just two employees and is now at seven.

"It's been a real journey doing this but I'm now working with a group of people I adore," she said. The tools she used to attract and retain included immediately raising wages, cleaning up the work environment so that it's nicer to come to work, creating ways to connect as a family such as a company wide party and most importantly, opening her door to listen to what individuals wanted. "The latest leg of my journey is finding ways that I can change employees' lives for the better," she said.

As far as keeping employees happy, several women at that event said personalizing incentives is helpful. Brittanie Judkins explained that her company, Sand & Swirl, Ogden, UT, has new hires fill out a form that includes some of their simple "favorites" such as restaurants, candy and other treats, and entertainment choices.

"Then when we're called upon to give an employee a special something, such as honoring them on their birthday or cheering someone who's been sick, we give them a reward or treat that is not randomly selected with no thought to who they are," she said.

At that same roundtable, several women discussed how frustrating it's become today to try to get people to come in

for an interview.

"One of the biggest frustrations we now have in hiring is getting people to just show up for an interview when they promise," said Katie Coady, who helps to run a small shop, Marble Shop, Inc. Most of the women at the table agreed with what she said.

"You're interviewing them, but they are also interviewing you," Judkins commented.

Corcoran said that what she's learned to do is to give a new hire a trial day. By letting them work a day (and paying them), she quickly finds out who is serious about wanting the job and who might think they want a job but aren't willing to do the work.

Finding a balance

Another frequent topic at the women's roundtable was work/life balance. Several women shared how difficult it was to find "me time," especially when they first came on board.

For Candy Smith, Lafayette Marble, her beginnings with the company were stressful, to say the least, especially with three small children at home.

Candy and her husband Chris now work together at Lafayette Marble. Chris joined the business more than a decade ago while Candy still worked full-time at another job. She was trying to help out at Lafayette whenever she could, but after a year and a half, she quit her full-time job and came on board Chris' company. She said her greatest challenge was being seen by others as something other than the manager's wife. She's found her niche, however, and said she's also learned ways to find and keep her balance. One of her greatest tools has been putting aside some time regularly to exercise. "I still struggle but it's made me feel stronger," she said, though retaining momentum is a challenge. "What helps is to find ways to exercise with a group," she said.

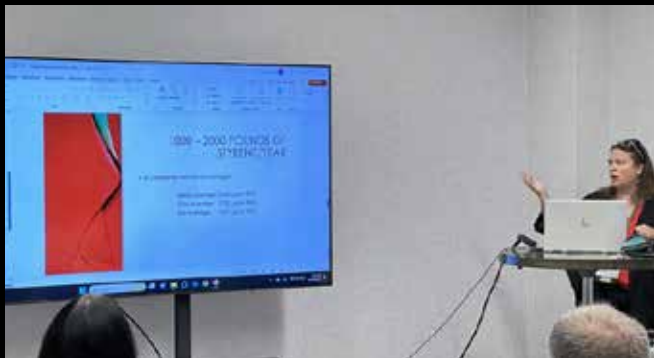
April Sauer also works in the business with her husband (J.D. Sauer, who heads up Manstone LLC). The early years of her joining the company were crazy and as Manstone has grown and become more and more successful, it experienced some "pretty wild periods," she said.

"But what you realize is that no one has the perfect balance. You have to find your grace and seek out ways to detach from the business during the day, even if it's going to the car for a 30-minute break," she said.

"And while you're at it, don't forget to try to help your employees do this, too. You are serving as an example if you can show them the balance," she said.

Judkins said the owners of Sand & Swirl have accomplished this balance beautifully.

"ReBecca and Corey [Erdmann] take a lunch every day together and despite how busy they are, they find a way to leave business at the office," and enjoy time spent doing the things they love, such as taking advantage of Utah's natural resources, Judkins said.



Board member and Composites Compliance owner Kelly DeBusk brings attendees up to date on regulatory matters.

Health and safety initiatives

During the PolyTECH sessions, attendees heard from several people on how to create safer plants, including a session held at Synmar & Castech on OSHA 30 (the more in-depth safety program from the Occupational Health and Safety Administration-OSHA) and on what Synmar has done in this area. A few tidbits from speakers and attendees included:

Attendees and speakers both stressed that simple steps can have an impact, such as assuring employees have access to the latest and greatest in ear plugs, which are constantly being

improved, safety glasses and other protective gear. Darren Suggs, co owner and operations manager for Marble Master of Middle Georgia, Inc., suggested safety glasses with readers built in for people with low vision.

"Changing just one thing in your plant can matter a lot," said Nicole Tanksley, Synmar & Castech. Besides simple tools such as those safety glasses, she suggested investing in a noise level meter that can give valuable feedback in assessing what employees are exposed to and where within the plant.

The other speaker at the OSHA 30 session, Kelly DeBusk, Composites Compliance; Tanksley; and attendees all stressed that there are many resources to help learn about safety. For example, many local fire departments will come into a plant and demonstrate what happens in a fire, DeBusk said. Also, every state OSHA division has a department dedicated to helping companies with their safety programs.

Kelly DeBusk stressed in that session and throughout the week that no matter how big or small a step companies are taking towards safety, they need to keep records for purposes of possible OSHA inspection. Such records do not have to be complicated, she stressed. She also suggested that manufacturers who want to prepare for a possible inspection invite another manufacturer to walk through the plant looking for problem areas.

Several of the manufacturers in the audience that were talking about safety programs and training pointed out that one aspect of SAFE PLANT and safety programs they hadn't considered before implementing programs and training was how much their actions boosted the morale of employees.

Showing them that there are steps designed to protect them and that they are part of what's happening gives them confidence the company cares, several session attendees commented. ■

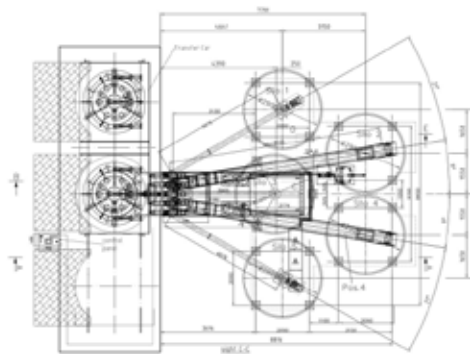
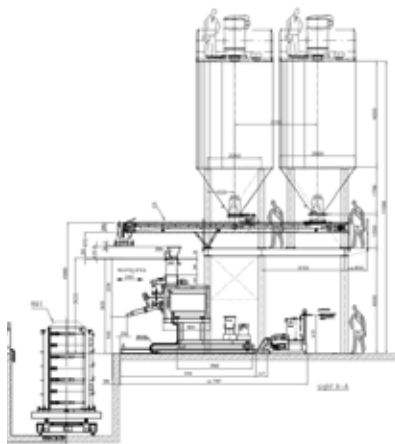


At POLYCON 2023 attendees learned not only techniques, but also more efficient ways to run their manufacturing operations.



Hands-on demonstrations of techniques for making quality cast polymer and solid surface products are always popular.

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A vital topic at any conference where manufacturers get together

is the latest in technology. In the cast polymer industry, that typically includes new types of equipment, emerging ways to communicate with employees and customers and finding software that can make tracking the bottom line or dealing with clients easier and more efficient. In the last five years, owners also have talked about how they might be able to use robotics or 3D printing in their processes and how they can make one proven type of software talk to and operate in conjunction with other types of software. This year, a new topic made the agenda of POLYCON: artificial intelligence (AI).

AI has hit the world like a tornado: swirling around in everyone's brain with much ferocity, creating fear about its potential for creating fraud, trepidation about how smart machines might one day be, some confusion about how it fits into different industries but also great excitement about what it can do to make everyone's jobs easier. Because of its increasing relevance, Jonathan Taylor, host of the Cast Polymer Radio podcast, spoke to a crowded POLYCON session about how he uses it in his own business. Before that session, he also interviewed several experts on his podcast about the status of AI in several vital areas of manufacturing.

"Some people have an abject fear of AI and what the future holds. I see opportunity, especially in the area of off-

loading some of the administrative tasks, which it can do right now for those that learn to use it right," Taylor said. Some of what he has also learned through talking to people on his show includes:

Preventive medicine for equipment

One of the most promising uses of AI in the manufacturing world is to use it to predict machine failure, an area that offers great rewards by decreasing downtime. Taylor invited Brian Fitzgerald, chief revenue officer of AI tech company Augury, on his show to talk about what Augury is doing in that area.

The 10-year-old company has taken off as AI has matured—Augury technology is now on more than 100,000 pieces of equipment in about 25 countries. Clients include giant manufacturers such as DuPont, Shell, Heineken and Hershey's as well as smaller operations that hire the company to put systems in place that provide insight into the health of machines, processes and operations. According to Fitzgerald, AI for such purposes has already reached the point where marketing to potential clients has transformed from the practice of "evangelizing" (convincing people such systems really do work and can help people on the plant floor) to the point where "customers are now coming to us and saying they've seen it work [in their current company]"

and want to get it going at a new company they've joined or started," Fitzgerald told Cast Polymer Radio in Episode 181.

The way it works is this: sensors are attached to different pieces of equipment, usually areas that are not highly digitized (such as fans, motors, pumps and more). These sensors can tell a data center when a piece of equipment is about to have a problem and how long before that problem might occur. Using sensors to monitor machines is not a new process; however, the newer systems can use AI to predict what's to come and how long the plant might have to fix it. The system uses analytics and analysis of data on a much grander scale than what's used in systems without AI, Fitzgerald explains.

"This changes the formula from preventative maintenance [checking pieces of equipment periodically] to the point where maintenance is based on what's happening inside the machine," Fitzgerald explained.

The systems are commonly used in continuous manufacturing processes where rotary or frequency of vibration plays a role in how long the entire machine might last.

"We also monitor magnetic data and temperature, and we have an extensive library of faults based on historical data and the unique characteristics of individual machines," Fitzgerald explained.

The idea is to save money by decreasing downtime.

"However, the systems not only accomplish that, they transform maintenance [to real time] so the point becomes: can I run this machine another day if I'm at full capacity? Can I schedule maintenance in a different way?" he said.

"These days, plants focus more and more on sustainability," he continued. "It's about reduction of scrap when material costs are high. Leaving anything on the cutting room floor is waste," he added.

Systems that use AI allow operations to not only look at the health of a particular machine, but turn that machine itself into a sensor that tells a business what is happening in general in the production environment, Fitzgerald said. In the future, such systems also will help a company look into the processes themselves to seek out "the recipe that makes the perfect cookie," Fitzgerald added. "People will have the ability to see the entire production cycle like never before." Also, the systems will talk to one another so that when there is a challenge somewhere in the supply chain, individual plants connected to that chain will be able to adjust their workflows accordingly.

While people debate how all this will affect the people working on the line, Fitzgerald pointed out that "AI changes the human dynamic. Manufacturing is currently in the unique position where the problem isn't having too many people on the line, but rather having enough," Fitzgerald



Jonathan Taylor (left) visits with industry icon Todd Werstler during POLYCON.

said. AI has the capability of allowing companies to augment their current staff skills: to allow those on the line to "do the best work they can."

For example, in the past, sensors installed on machines were read by an expert who would walk around periodically reading the sensor and analyzing vibrations and giving reports once a week or month. The new AI systems "are like having that analysis 24 hours a day telling you immediately if you have a potential problem and what to do about it," which frees up that expert's time to be analyzing and looking at the entire plant "while adding their perspective and experience in risk management," he added.

AI for creating content

AI for line production maintenance may be somewhat futuristic at the moment, but one aspect of AI that can be used right now is to create language for marketing. From helping businesses with marketing materials to coming up with content for social media to helping companies establish themselves as experts through books and white papers, AI can serve as a basis.

One of Taylor's recent podcasts (episode 176) was an interview with Brian Hennessy, CEO and co-founder of Talkoot, a company that helps businesses create deeper connections with customers through storytelling. Hennessy's company calls what his company does "product storytelling."

"Some large companies such as Nike and Adidas taught us the importance of brands," Hennessy said in the podcast. "Their advertising was almost like a product page on the web today. But nowadays, no one cares about brands, they care about what you can do for them," he added.

In other words, people are not wanting to hear about the many features a product offers—"They want to know how a

product can solve a problem for them,” he added.

That’s why effective marketing today is more like telling a story about how a product (athletic shoes, for example) aided a person in an endeavor (helped them to hike or be better at sports) than listing benefits. Hennessy pointed out that when people interact, they don’t list specifics about their topic; they start with a story, then end with a “truth point.”

“Human beings are metaphor machines,” Hennessy added. “We talk about little things, but we bake our beliefs into what we say,” Hennessy said. Today, many marketing experts focus on “helping brands understand what the dominant frame is in their industry [how people generally tend to think about a certain product] and how they can change that frame,” he added.

The way that translates to AI is that the new tools can greatly aid in researching what that frame may be. AI can go out and search many places at once to find out how people currently view a type of product or service. It can also generate copy, but that copy needs the human touch.

“Don’t use AI as a finished writing product,” Hennessy warned. It can spit out copy fast and with little effort, but what it emits is “boring,” he said. “It’s not how people talk.”

Instead, marketers can learn to put the right information into a search engine to find out how people feel or how they think about a product.

For example, if someone wants to know why people are buying particular fishing products, you can ask AI a question such as “What are some clichés about fishing?” or “What do people today want out of fishing?” Marketers can then put together a collection of what people today are saying about fishing and use it in product language to frame its brand or better yet, to change the general direction of the industry frame. A good example of how it works is that, instead of vegetarian brands preaching the benefits of vegetarianism to the world’s environment, they could focus language on how good it tastes.

“Storytelling is actually how we change our own beliefs... it’s our narrative identity, an identity formed from our own experience. Our brain filters what we hear and makes it make sense,” Hennessy explained.

What Taylor uses

Taylor was asked to speak to POLYCON attendees not just because of the people who have appeared on Cast Polymer Radio, but because he’s already using AI tools in his life. He

A few specific tools

Taylor uses versions of several tools that take advantage of AI. Most have free versions, though people like Taylor, who have learned to use them, often use the premium versions:

ChatGPT4 can create specific language, but Taylor uses it mostly as a research tool. For example, when he’s getting ready to do a podcast or create marketing content for a specific topic, he goes to ChatGPT4 to pull relevant information from the Internet and summarize it for him. Taylor suggested to the POLYCON audience that AI-generated content such as this should be seen as a starting point for ideas, not a final written product. But he says the research results are much more valuable and concise than tools like Google searches.

“The key is to keep prompting and prompting until it gives you what you really want.”

Claude.ai is a program that analyzes and summarizes uploaded files. It processes more words than Chat GPT (75,000 words at a time versus 10,000 for GPT) and accesses links from the Web then summarizes the contents of those links. The information can be more up-to-date (post 2021) than some content from ChatGPT4. Taylor warned, however, “it sometimes goes overboard. You should not only proofread what it generates, but check the research because it can be wrong,” he said.

AudioPen.ai creates clear language out of dictation. The program allows a user to record random thoughts throughout the day, which it transcribes using AI to edit and spit out in a readable format that reads like an article. “You can just start recording your thoughts and it cleans it up and presents it so it reads great,” he said. “It makes assumptions and may substitute better words, but it takes out those ums and ahs that get in the way.”

Podium is a program specifically designed as a copywriter for podcasts. It gives users show notes (summaries of episodes), segments an episode into core topics for chapters, presents a transcript after the show, writes social media posts about the show and more.

Pictory.ai is a video creation tool made for content generation such as social media shorts, blog videos, training videos, videos for posting on YouTube and more.

Canva Pro is created for those who want to produce visual content that is more stunning. It can take the backgrounds out, access premium audio images, create animations out of graphics and manipulate existing video and visual designs.

shared with attendees what he uses and how and why he uses it. (See “A few specific tools.”).

“I’m the guy who likes to find the easier road—if there is one...”

He got into the AI field fairly early because, “I’m the guy who likes to find the easier road—if there is one,” he explained.

“For me, AI works well for content generation,” he said. For example, several years ago Taylor and a friend Tim Davis combined their love of golf with their knowledge of marketing to write “Selling on the Green: The Art of Building Trust Relationship and Growing Your Business on the Golf Course.” The book, which the two men released in 2014, then re-released in 2017, talks about how to build solid relationships on the golf course for the purposes of selling ideas, products or services.

“If we were writing that book today, I’d have used AI to research and create early drafts for language,” he told the POLYCON audience. However, he is not talking so much about using specific language to fill the pages as looking into issues such as how other people use the game of golf to talk to clients, how they sell through soft connections and why

they love the game of golf.

Taylor said that today, AI is an excellent tool for creating print advertising, social media posts, blogs, video content and email marketing (not personal email, but specific campaigns for Mail Chimp and other email platforms). He added that it not only gets easier to use as the AI tools learn how he talks and thinks—it’s also getting smarter in general.

Taylor had two warnings for the audience, however.

First, “never put anything out there that was generated using AI without first thoroughly proofreading it,” he said. He points to the story of Brandon Hunter, a basketball player who died suddenly. AI generated this headline, “Brandon Hunter useless at 42.” Also, AI does not keep up with cultural relevance. It goes out and searches many sources on the web to generate its copy and reports, but it’s not human: keeping up with trends is not an automatic step.

Second, be specific when using it to make research queries. “AI is still only as useful as the input you give it. The more specific details you give the program, the better your results will be.”

Taylor suggested that to use AI, people should start with a content planning checklist, which would include:

STORY CONTINUES ON PAGE 26

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Little steps

CAN MAKE SIGNIFICANT DIFFERENCES

BY CHRIS HURDLESTON

Manufacturers in the cultured marble and solid surface industries constantly seek ways to enhance product quality, increase efficiency and reduce costs. One effective approach is the application of the Theory of Marginal Gains, which involves making small, incremental improvements across multiple facets of production.

In the cast polymer field, this theory can be applied to manufacturing processes by identifying and highlighting specific areas where marginal improvements can be made such as mixing, spraying, demolding, tooling and employee training. By implementing small changes, manufacturers can achieve significant enhancements in product quality, operational efficiencies and competitiveness.

The complex processes that go into this industry include formulating, mixing and casting of materials, control of gel times, exotherms, mold maintenance, curing, finishing and quality control. In a highly competitive market, even small, incremental improvements in these processes can lead to substantial, long-term benefits in terms of product quality, production efficiency and cost reduction.

Here are some areas where incremental steps can have a long-term impact:

Data collection and analysis

Making any long-term changes requires understanding the origins of the processes and what affects each leg of those processes. Short-term data collection and analysis can have a significant long-term impact on overall production efficiency and downtime reduction in several ways, including:

- *Real-time monitoring:* Collecting data from various “pain points” in the production process over time allows for

monitoring in a time frame close to real-time. This means quickly identifying positive or negative trends, issues or bottlenecks as they occur. For example, if a machine is operating at suboptimal levels, historical data can flag this as it occurs, allowing for immediate changes or maintenance.

- *Predictive maintenance:* Through data analysis, plants can predict when equipment is likely to fail or require maintenance. This proactive approach minimizes unplanned downtime and ensures that maintenance is performed when it has the least impact on production schedules. With data, a preventative maintenance (PM) schedule can be created to avoid potential downtime before it happens. Examples of this would be routine recalibration of equipment, cleaning and replacing worn parts before they wear out and monitoring deviations from an established norm.
- *Process optimization:* Data collection and analysis enables plants to fine-tune production processes. By identifying inefficiencies or areas where marginal improvements can be made quickly, workflows can be optimized for better productivity and resource utilization. To validate positive changes, operators should pick a few areas where improvements need to be made immediately and make only marginal changes, then retest and gather more data. They should avoid the tendency to change multiple parameters all at once when there is a problem because this dilutes the data and procedure, and can compound a problem without ever getting to the root cause.
- *Quality control:* When deviations from quality standards

are detected, small data-driven adjustments should be made as soon as they are discovered, reducing the production of defective items and the need for reworking the making of those items. A marginal change in how parts are demolded, for example, can have long-term positive results of fewer repair requirements, less mold damage or post-finishing of completed parts.

- **Inventory management:** Effective data collection can help manage inventory levels more efficiently. For example, raw material usage can be compared against finished goods produced, ensuring a plant has the right amount of material on hand without excess that would tie up capital. Operators should know what their lead times are for materials and how to adjust ordering patterns to stay supplied, but not over-supplied; having the best data can help in this area.
- **Energy efficiency:** Monitoring energy consumption through data collection can lead to energy-saving initiatives. By optimizing energy use in production processes, operational costs and environmental impact are reduced. Any vibrators that run too long, gelcoat heaters and resin heating systems that are improperly set or left on too long create inefficiencies. Marginal changes in operating procedures that save energy costs can add up.
- **Production planning:** Historical production data can aid in better production planning and scheduling. This minimizes under-utilization of resources and ensures that production lines are running efficiently.
- **Employee productivity:** Data on employee performance and work hours can help in optimizing staffing levels and identifying training needs. Better data can lead to improved workforce productivity.
- **Supply chain management:** Data collection can extend beyond the factory floor to the entire ecosystem of producing a product. Plants should ask their suppliers for data on raw material purchases and determine buying patterns to go from inventory that is “just in case” to “just in time.”

Other places where small changes count

Besides gathering the best data and using it throughout monitoring, maintenance and operational processes, small changes also make a big difference in areas such as:

Mold release and surface preparation

Research and development of more effective mold release agents can reduce the likelihood of surface imperfections

from parts that adhere to the mold, which facilitates easier demolding. Newer technologies such as water-based mold release lower shop volatile organic compound emissions and require less protective gear while performing better at releasing more parts over a longer time frame. Experimentation with advanced mold release formulations can lead to smoother, defect-free surfaces and reduced styrene buildup, resulting in less downtime for mold cleaning and maintenance.

“By making small, incremental improvements in the areas outlined, manufacturers can achieve significant long-term gains”

Material mixing and dispensing

Changing to semi or fully automated dispensing systems for materials such as fillers, resin, pigment and catalyst can reduce material waste and improve matrix consistency. By changing to automated dispensing systems with precise flow



Chris Hurdleson, ACS (center) pictured here with Gustavo Perez, Marble-Lite (left) and Marcos Vidal, ACS (right) at POLYCON 2023 Atlanta.

control, manufacturers can ensure that the exact amount of resin and additives is dispensed for each batch, reducing material waste and enhancing product consistency. An additional benefit is that data can be collected to validate the quantity of materials produced within a given time. While this may seem a significant change at first, it is an incremental improvement process towards the longer path to changing from pot mixing to automation.

The curing process

Incremental changes to initiators and curing parameters can lead to increased throughput and reduced energy consumption. By conducting systematic tests to determine the precise curing time and temperature for different shop conditions and product configurations, manufacturers can slowly

STORY CONTINUES ON PAGE 25

Biden regulatory focus continues in 2023

BY DANIEL NEUMANN

President Joseph Biden's campaign included a pledge to have environmental justice as a key theme—approaching policy questions through a lens that looks at areas and groups that have historically been disadvantaged in the policy process. This focus has consistently impacted how his administration has approached environmental and regulatory questions.

So what does that mean for industry? It means the Biden administration will continue its focus on regulatory activity that could impact the cast polymer sector and the broader composites industry as the nation heads into the 2024 election year.

One development we anticipate is that, by the end of 2024, the Environmental Protection Agency (EPA) will announce the next five existing chemicals that will receive attention under the Toxic Substances Control Act (TSCA).

The American Composites Manufacturers Association (ACMA) learned on October 2 that styrene is one of 15 substances under consideration for this attention. In late 2024,

EPA is expected to identify five of the substances as “high priority for risk evaluation,” which will initiate the development of a TSCA risk management standard for each of the selected chemicals. These standards can ban certain uses of the substances or require industry to install controls or take other measures to prevent unreasonable health risks to consumers, workers and plant neighbors.

EPA is also considering a change to the Air Emissions Reporting Requirements (AERR). Announced on July 25, 2023, this proposal would expand the collection of emissions data. ACMA's John Schweitzer, vice president, EH&S and sustainability, participated in a hearing on the proposal on August 30, 2023. Schweitzer's testimony focused on the problems with collecting appropriate data under the proposal. “In our experience, effective modeling requires a significant amount of operational and other information that will be difficult for EPA to collect via the process described in the AERR proposal,” he said.

Schweitzer noted that most composites manufacturers have not had a reason to conduct modeling, and collecting the information needed for a model will be a significant undertaking that would typically require engaging an engineering consultant. Composites manufacturers often have large open spaces in which a variety of processes can be moved around according to the products being made. The variability in product processes makes modeling more challenging and more costly for manufacturers.

OSHA

Separately, the Occupational Safety and Health Administration (OSHA) is preparing a final rule revising its Hazard Communication Standard (HCS) that may require chemical manufacturers and importers to characterize on Safety Data Sheets any hazards associated with all downstream reactions involving the chemicals, for products and byproducts of those reactions, and for any foreseeable emergencies associated with those reactions. In comments on the rule, ACMA and others noted the proposed rulemaking represents a significant and precedential effort that would create dramatic changes to regulatory burdens for the composites industry.

ACMA members met October 26 with representatives of the White House Office of Information and Regulatory Affairs and other federal agencies to discuss OSHA's anti-

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pated revision of the HCS. ACMA, along with other chemical industry trade groups, is concerned that OSHA's HCS revision will make suppliers of thermoset resins and other reactive intermediates responsible for hazards that may be present at their customers' locations. ACMA argued that the employer at a location should be responsible for understanding, communicating about and providing safeguards for hazards that may be associated with processes that take place at that location.

Fly-in 2024

ACMA is working closely with ICPA on these policy issues and has asked ICPA members to consider participating in a February 26-28, 2024 Washington, D.C. fly-in. This event will include discussions on the issues discussed in this column as well as other regulatory and sustainability questions. The fly-in will include visits with key committee offices and the representatives and senators representing the participants. This is an exciting event and an excellent opportunity to visit and learn about what is happening in the nation's capital as well as to make valuable connections with legislators, regulators and key staff members. ACMA and fly-in plan-



At this year's POLYCON, ACMA's Dan Neumann talked about the success of the 2022 fly-in and urged members to participate in 2023.

ners hope that ICPA members will consider registering for the event.

ICPA members interested in participating in the 2024 fly-in can contact Dan Neumann at dneumann@acmanet.org. ■

DANIEL NEUMANN is vice president of government regulations for ACMA.

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Live Grout Free program showing success

The Live Grout Free program, which reaches out to the public via a special website, is showing signs of great success.

Live **GROUT FREE** Program tracking statistics illustrate how it draws people to the site, where they learn the benefits of products that don't require grout. Statistics also show how the site sends visitors to member manufacturers.

For example, at POLYCON 2023 Atlanta, ICPA released these statistics:

- In the 30 days leading up to POLYCON (the month of August), there were 2,500 sessions involving Live Grout Free (a session is a Google analytics record of every single time someone visits a website). That compares to January (157 sessions) and July (1611 sessions). It's clear people are visiting the site in increasing numbers. Perhaps even more encouraging, there were 85 outbound clicks from the Live Grout Free site to ICPA member sites.

- Since a Google ad program was started in February 2023, there have been 45,201 impressions (an impression is a count of when the ad comes up on a search result page), 4,441 clicks on the site, and 539 outbound clicks to ICPA member sites.

- Since a Facebook ad program was started March 31, 2023, there have been 32,467 impressions, 1,321 clicks and 608 outbound clicks to member sites.

"Our consumer site is showing up in search engine results and attracting a lot of visitors. Given the reality today that many people are starting their kitchen and bath searches online, that's pretty awesome news," says April Sauer, Manstone, LLC, who presented these statistics at POLYCON on behalf of the ICPA Marketing Committee.

"The added fact that visitors are clicking straight through to manufacturers' sites means our campaigns and website are benefiting not only the industry as a whole but also each of our members individually," she adds.

The latest manufacturers to be featured on the site are:

- Carolina Customer Surfaces, Greensboro, NC
- Marble Shop Inc., Lacrosse, WI
- Castle Products & Service in Doniphan, MO

For information on how to become a featured manufacturer, contact Jennifer Towner, ICPA executive director, at jennifer@theicpa.com.

Happy Retirement
Jenilee Parente



THANK YOU
for 10 Years of Service as Editor
of *Cast Polymer Connection*



Advanced Plastics buys Marshall-Gruber

Advanced Plastics, Inc. purchased the assets of the former Marshall-Gruber Company, LLC, effective October 1, 2023. The acquisition enables Advanced Plastics to expand both its geographical reach and product line depth.

"This opportunity enables our organization to introduce ourselves to an industry-wide range of customers on a national and global scale, expanding offerings in our current industry," a press release announcing the sale said.

The agreement also allows The R.J. Marshall Company to focus on the company's core business of processing specialty minerals and chemicals.

Family-owned since 1959, Advanced Plastics has eight warehouse locations throughout the Southeast and a corporate office located in Nashville, TN. In addition to composites, the company supplies industrial-grade plastics, sign supplies and related products.

It is also a supplier member of ICPA for more than two decades.

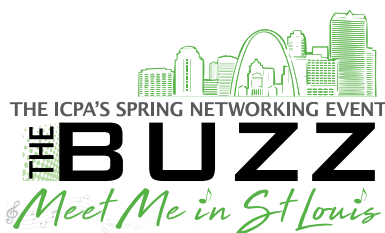
An agreement was reached to lease the existing facility

for the former Marshall-Gruber in Mansfield, TX. As a part of that agreement, the company said it will retain production and distribution capabilities of that location.

Advanced Plastics also retained the senior staff in Mansfield to ensure a positive customer experience. Phone and fax numbers of staff there remain the same; emails will change.

Mark your calendars

Details are being finalized for The BUZZ, which will be in April 18-19 in St. Louis. Details will be published on the ICPA website in December (www.theicpa.com).



Beth Kubinec retiring end of 2023

Beth Kubinec, who has been the ICPA membership director for three years, recently announced her retirement, which

will take place in December 2023.

“Beth has done an excellent job connecting and establishing relationships with members,” said Jennifer Towner, ICPA executive director. “She not only helped grow our association membership ranks, but also created a monthly newsletter, helped run our successful SAFE PLANT program, set up a highly effective association software platform to house all association and member information and much more in support of our association. She will be greatly missed, but we congratulate her and wish her well in retirement.”



New ICPA members

ICPA recently welcomed two more members into its membership base:

- Big Dog Adhesives, Elkhart, IN, bigdogadhesives.com
- Wingits in the Wall, NJ, wingits.com

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THINKING OF TOMORROW

SMALL CHANGES, CONTINUED FROM PAGE 19

improve production performance rates while creating better-quality parts. This may involve looking at alternate initiator systems or combinations of systems to optimize the gel time and cure process for specific shop conditions and production speed. Incremental benefits may include faster demold times and the ability to cycle molds more frequently. For existing systems, this should be done incrementally, not quickly without fully testing any new formulations and making data-driven decisions.

Demold and finishing tools

Monitoring tool wear and implementing maintenance schedules can extend tool life and maintain product quality. Implementing regular tool inspections and maintenance procedures can prevent tool wear-related defects, reduce tool replacement costs and improve the consistency of finished products. An effective method of doing this is to start in one section of the shop and work incrementally throughout all areas over time. For example, metal tools can be replaced with plastic tools one area at a time to lessen part and mold damage over time. Where damage is occurring can be determined by data collection (demolding area, setup, casting, etc.) and incremental changes in the tools used to perform these jobs.

Employee cross-training and skill development

Training employees incrementally in multiple manufacturing processes will increase workforce flexibility and adaptability without losing focus on key skills. By training employees to be proficient in various tasks, such as material mixing, mold preparation and finishing, manufacturers can quickly reallocate staff resources as needed, optimizing production schedules and reducing production bottlenecks.

Continuous learning

Encouraging employees to stay updated on industry best practices and technologies can lead to marginal process improvements. The ICPA's Cast Polymer Study Guide is a great source of information on all aspects of making quality parts while educating employees on industry terminology. Employees can be encouraged to study for a few hours a week to gain incremental knowledge of terminology, processes and methods. The marginal gain comes from employees who become proficient at all tasks over time. Providing employees with access to training programs, workshops and industry events such as POLYCON and The BUZZ can enhance staff knowledge and skills in a short time-frame, fostering a culture of marginal gains within the organization.

Conclusion

The application of the Theory of Marginal Gains to cultured marble and solid surface manufacturing processes offers manufacturers an effective approach to enhancing product quality, increasing efficiencies and reducing costs. By making small, incremental improvements in the areas outlined above, manufacturers can achieve significant long-term gains. These gains can be vital in an industry as competitive as cast polymer. As technology and materials continue to evolve, pursuing marginal gains in all areas will remain a powerful strategy for keeping manufacturers at the forefront of cultured marble and solid surface manufacturing. ■

CHRIS HURDLESTON, CCT-CP is regional technical sales manager for ACS International, A Dorfner GmbH Company, a former cast polymer manufacturer, and an ICPA board member. He can be reached at hurdleston@dorfner.com. Hurdleston used AI to aid in his research for this article.

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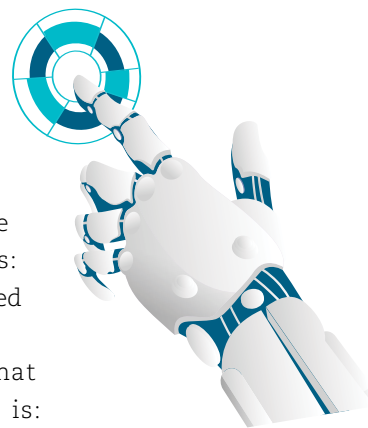
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Got Questions?

Email Jennifer@TheICPA.com

AI, CONTINUED FROM PAGE 17

- Identifying the purpose and goals of a project: what is the aim of the content?
- Deciding who the target audience is: who is content aimed at?
- Based on who that target audience is: identifying what specific topics to research.
- Creating the content, which might be a blog post, social media update, videos for a website, or any other content that might resonate with that particular target audience.



In general, Taylor says that AI is a marketing tool that is getting easier and easier to use. "My recommendation to those of you who are hesitant is to play around with it and see what it can do for you. Just remember, it's still a child. It's new to everything. Be specific; give it context; learn to use a style you want; use open-ended questions, not yes and no; and create a plan before you begin." ■

GENILEE SWOPE PARENTE is executive editor of **Cast Polymer Connection**. She can be reached at gsparente@verizon.net. Jonathan Taylor is the host of Cast Polymer Radio (www.castpolymer.com). In addition to the two mentioned podcasts, he's also interviewed experts on Search Engine Marketing in the Age of AI (Episode 186); How to Use AI in Your Email Marketing Campaigns (Episode 162); and How Chat GPT Can Skyrocket Your Company's Digital Marketing Success (Episode 160).

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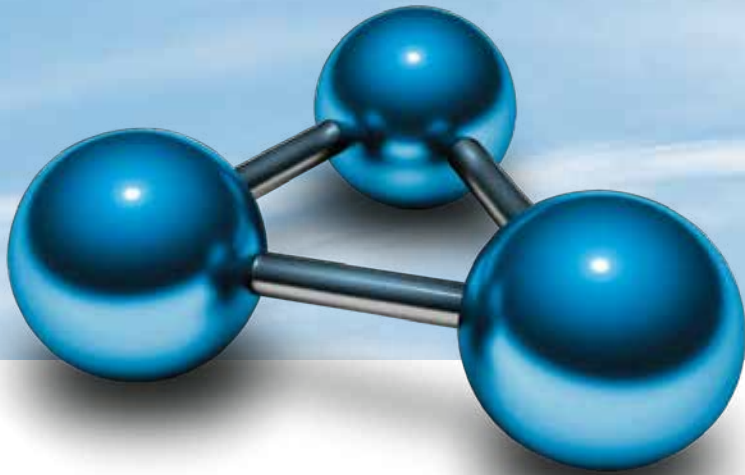
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