



Co-design & collaboration are keys to Techmer PM's vision of the future

Driven by the unconventional approach of founder/CEO John Manuck, the Tennessee compounder positions itself as a '21st century company'

By Robert Grace

Even at age 68, John Manuck continues to ride the wave – specifically “The Third Wave,” as detailed by futurist Alvin Toffler in his seminal 1980 book of that name.

A Brooklyn native and chemical engineer, Manuck started his plastics industry career in 1969, first selling resin for Monsanto Co., then for masterbatch and additives producer Ampacet Corp., before starting his own company, Techmer PM LLC, in Los Angeles in 1981. Back then, Manuck was “disappointed that the business was less technical than I thought it would be. I didn’t see a good application of technology. I saw an opportunity in custom products.”

Manuck had no interest in being a toll compounder. He wanted to add more value to the materials. His choice of company name reflected this concept: Techmer – now one of North America’s 30 largest plastics compounders – was a shortened

amalgamation of “technical polymer” and PM stood for “polymer modifiers.”



Manuck: “I want to dance with winners.” Images by Debbie Wilson Photography, courtesy of Techmer PM

“In the early days,” the firm’s chairman and CEO recounted recently, “I didn’t use the word ‘design’ too much, but I kept stressing that we didn’t just make color – we *design polymers*. We do material design in polymers.”

In a March 29 interview in Chattanooga, Tenn. – conducted the day before Techmer hosted its second SHYFT Design + Innovation conference (www.shyftconnect.com) at the Hunter Museum of American Art, Manuck discussed his early influences and what drives his passion for design today.

Toffler, the American author who died last June at age 87, is best known for his book “Future Shock,” but it was his follow-up book, “The Third Wave,” that most influenced young Manuck. “I keep copies in my office and give them away,” Manuck said.

“Toffler was a genius, and was so far

ahead of his time. In the book, he talks of these massive waves that crashed through and changed civilization – first was the agricultural wave (10,000 or so years ago). The second wave was the industrial revolution, which concentrated people into cities with huge social, cultural implications. We're in the third wave right now – the digital information age.

"I read 'The Third Wave' when the book came out, in about 1980, and that was one of the fundamental underpinnings of the founding of Techmer PM."

Times and business conditions were very different then, he noted. From the 1970s through most of the 1990s, "in 'good times' you had double-digit growth, and in the 'bad times' you had single-digit growth. These days, in good times you have single-digit growth, and in bad times, you have negative growth."

Also, the United States fell into recession in late 2000, and China became a huge factor, with many customers moving capacity out of U.S., much of it to Asia. Then the 9/11 terrorist attacks hit the U.S. in September 2001, sending the economy further into a tailspin. Many U.S. business owners faced a huge challenge just to keep afloat.

This only reinforced Manuck's strong belief in the value of collaborating with others to co-develop custom products. His mantra was to tell a customer, "To help you make a good product, we have to work together." And to him, the phrase "off-the-shelf solution" was – and remains – an oxymoron.

It was this mindset that drove Manuck to seek non-traditional paths to growth. "I decided that we have to make an impact on the design community." That led him, in March 2004, to hire David Turner, a British designer who was working for one of Techmer's customers in the fiber business. Turner had a Master's degree in textiles from the Royal College of Art in London, and had been the top designer at the world's two largest textile firms, but knew nothing about plastics compounding.

Techmer already had textile customers, and "We needed to understand the fiber business better, so I hired this guy," Manuck said. "I saw David as someone who was smart, innovative and who knew the [fibers] industry. We had to do something different to succeed." Even so, Manuck admits now, Turner was not a popular hire within Techmer. Some wondered why he was brought on board, since he had no compounding experience. But he did have quite a bit of management experience, having served as CEO at a couple of previous firms, and that quickly came in handy.

Turner "needed time to learn about our business and then, at the right moment, I put him over the fiber business," Manuck said. "He did things differently. He started using the

word 'design' — he was a designer."

Turner — now Techmer's VP of sales and marketing — brought a new perspective, and a network of high-level, design-related contacts to the company. He, however, plays down his influence, saying that, "Techmer had been a design company for a long time before I ever came here. It was just that I had that experience that could articulate it in such a fashion that it really would fit in the supply chain."

Manuck explained that when they first met, Turner was working to address the issue of "metamerism" — or how the same color can look very different depending on the substrate and on the light source involved. This was a big issue with, among others, the automakers, who wanted to ensure the appearance of the same shade of a color, regardless of whether it was on fabric, plastic or steel, and regardless of whether it was in sunlight or in the artificial light of a showroom.

"A while ago," Manuck recalled, Turner "showed me blocks of colored paper, and was using designer words like 'inspiration'. David was helping to develop software to address this issue." This became the genesis of the software program that Techmer first called Techmer Color, and now calls TechmerVision.

This involves grids of colors on the screen. One can choose any color as their "inspiration" color, and then, using the touch screen, can move colors around by hand and create a palette of different but compatible shades. Techmer assigned one of its young information technology employees to work on it full time and further develop the concept.

Turner also was long-time friends with Shashi Caan, co-founder of SC Collective, a U.S./U.K. -based architecture and design firm, who also has served as president of the International Federation of Interior Architects/Designers (IFI).

When Caan visited Techmer's headquarters in Clinton, Tenn., "she got excited about certain elements of Techmer-Vision," according to Manuck. "We tweaked the software more, to display the effect of different shapes and materials. David and Shashi helped to bring design thinking into the [software development] process. It took me to another level of this."

In November 2015 Manuck retained Caan to serve as design and innovation lead for Techmer PM — again, a highly unusual hire for a plastics materials supplier. Caan helped the firm to roll out TechmerVision to leading designers and design educators in New York City in March 2016, and she continues to offer her counsel to Techmer's design initiatives.

Techmer PM describes TechmerVision as "a design tool created to help designers translate their inspiration into color for application and for design development purposes."



Turner: He helps Techmer to articulate its design instincts.

Image by Debbie Wilson Photography, courtesy of Techmer PM

The tool relies on Techmer's proprietary color algorithm to optimize design possibilities that highlight light, form and function. Manuck said that now they take TechmerVision on road shows and to some customer design centers – and that is helping to spur some very interesting conversations.

Techmer's devotion to design has only continued to grow, and again, Turner played a central role. Decades ago, as a student, he had won a design award from the Royal Society for the Encouragement of the Arts, Manufactures and Commerce (RSA) in London and it had a very positive impact on his career. A few years ago, when the RSA decided to open a U.S. chapter, they asked Turner if he would head it, and he said yes. Techmer then agreed to support the RSA's student design awards in the U.S.

"I saw it as a no-brainer," Manuck said. "This was a way to start to get our name recognized in the design community. At worst, we would help some kids." As it happens, the very first RSA awards in the U.S. were presented at The Cooper Union in New York – where Manuck got his engineering degree. He couldn't attend the first awards, but the keynote speaker there was the global head of design for Nike.

"This was the first the first indication that maybe this strategy was going to work," Manuck said with a smile. As a result of this meeting, the Nike official invited Techmer to visit their campus in Oregon. "We were successful at this Nike visit. And

it started opening all these doors in our mind."

Turner then asked Manuck if he knew Bill Moggridge – the legendary British designer, author and educator who had co-founded the global design firm IDEO in Silicon Valley. Turner had met Moggridge's wife at school and was friends with the couple. Moggridge died in 2012. Turner suggested that Techmer sponsor an award in Moggridge's name.

"I was all in," Manuck said. "And we knew we were on the right track when the CEO of IDEO [David Kelley] called us. He and Moggridge founded IDEO. They wanted to co-sponsor the Bill Moggridge Awards with us. So we did." The two firms launched the program (www.billmoggridgeawards.com) three years ago, and 2017 will mark their fourth consecutive year for honoring award winners.

"We're creating a movement," Manuck said, "and we're in the middle of [it]."

Despite the enthusiasm for design among Techmer's leaders, Manuck acknowledges it still can be a challenge to get all employees to fully embrace the firm's unconventional approach to materials and the market.

"We're still in the stage where I'm convincing all our internal people to buy in. If I don't get at least 90% of our internal people convinced, it's going to be a problem. The entire company's thinking – whether you're in the lab, the plant, or selling" – needs to be in sync.

A Colorful Vision

The India-born, Scotland-educated Shashi Caan, who has Master's degrees in both industrial design and architecture from Pratt Institute in New York, is a recognized designer with expertise in color and materials.

In an April 13 telephone interview, she said that the early version of TechmerVision "was a color-organizing system that allowed for a variety of color selection. But we sought to provide much greater added value with its in-built flexibility for a personalized, creative interpretation."

In addition to being a time-saving specification tool, it also enables its users "to play with radically different themes that are spontaneous and serendipitous, ... [and to] select a color you never would have imagined using. TechmerVision enables the envisioning of new product and outcomes with simulated visualization of its color, texture, pattern, molded around the desired form." It's a broad, flexible tool, Caan suggests, that allows for a great deal of customization.

Techmer today, meanwhile, continues its development

of the product, which it describes it as a digital tool "created to help designers translate their inspiration into color for application and for design development purposes."



New York designer/architect Shashi Caan, shown here with the TechmerVision display that she helped to refine, serves as Techmer's design and innovation lead.

Image by Debbie Wilson Photography, courtesy of Techmer PM

Manuck likes to identify the “design apostles” in his company. “We have to spread the word. We needed to change the vocabulary within the company, and outside.

“We have to dance with the right partners,” he stressed. “If our partner understands design, we have a greater chance of success. If they don’t care about design, then we’re probably talking with the purchasing agent about ‘what does this cost?’.”

What about giving away this “design secret” to others in the industry? “We don’t worry too much about giving away our secrets to our competitors. They tend to be so far behind us, and their entire mindset needs to change, so they can’t just flip a switch.”

Others also are recognizing Manuck’s vision. Oak Ridge National Laboratory, which has partnered with Techmer in Tennessee on projects involving 3D printing and carbon fiber-reinforced plastics, nominated the compounder to host President Barack Obama and Vice President Joe Biden, when the White House was looking for a place to highlight advanced materials research. Obama and Biden in early 2015 made a high-profile visit to Techmer’s Clinton headquarters – one of the firm’s six U.S. plants – and had a look at a Shelby Cobra sports car that was 3D printed using Techmer’s materials.

During its 100th anniversary last year, the business publisher Crain Communications Inc. named its “Crain 100,” which it described as “100 Innovators, Disrupters & Change Makers in Business.” Relying on input from more than a dozen of its editors across several industries, Crain selected Manuck as one of only two plastics industry representatives on the list. [The other is Maureen Steinwall, owner and president of Minnesota injection molder Steinwall Inc.]

Good design beats cheap cost, Manuck likes to say. “First, you start by selling the processors – the molders and extruders – and then everyone says you have to get to the next level of selling the OEMs. That’s a struggle. But there’s a third level, which is designers – whether it’s within the OEMs, or design companies. Some of these design companies may do designs for five different OEMs.”

Another outgrowth of this design focus has been Techmer’s SHYFT Design + Innovation conference – a one-day session that began last year, and just took place again, in Chattanooga. This year’s event drew well over 100 people and featured an eclectic program that included an architect, a composites expert, a leader of Local Motors Inc., an eBay designer, and an associate director of NASA’s Marshall Space Flight Center, plus innovation brainstorming sessions.

Manuck likes to talk about 21st century companies – who they are (e.g., Apple, Google, Tesla, etc.), and what makes them successful and different.

“What do they do well,” he asks, “and what makes them what they are? *Design*. Do they all use technology? Yes, they all *use* it. Do they create new technology – no, actually, quite often they take technology that’s already there, but use it in a different way. And that’s where the design comes in. They also are focused on being sustainable and environmentally responsible.

Turner, for one, believes others in manufacturing are starting to get it. “I do see — from our suppliers to our customers — design is having a greater and greater influence,” he said.

Manuck, meanwhile, wonders out loud, “How do I make myself a 21st century company?” And for him, the answer is simple: “We’re all in in terms of this design thinking, the design community. ... We can create our own space in the marketplace.”

A key attribute to being a good CEO, says Manuck, is patience. “I’ve seen, one by one, where the light goes on [with our employees].” But it can be a long, slow process.

“I have nothing against somebody who just grinds it out, and is a good, second-wave manufacturer – you’re going to be great. I just don’t happen to be so interested in that.

He understands that Techmer’s approach is not going to appeal to all potential customers – but that’s OK, too, he says.

“I want to dance with winners. I want to dance with 21st century companies, because *they’re* going to win. If we can all harmonize, up and down the supply chain, we’ll all increase our probability of winning, and it’s very exciting.

“Why am I still doing all this? Because it’s fun.”



The firm’s second SHYFT Design + Innovation conference — held March 30 in Chattanooga — brought together diverse creative types to brainstorm about co-design and collaboration. Image by Debbie Wilson Photography, courtesy Techmer PM

ABOUT THE AUTHOR

Robert Grace began his B2B journalism career with Crain Communications Inc. in 1980 in Akron, Ohio, and worked for Crain for seven years in London, England, before returning to Akron in 1989 as the founding editor of *Plastics News*. He also served as *PN*’s associate publisher, conference director and business development director. In May 2014 he launched RC Grace LLC, and in July 2016 became managing editor of *Plastics Engineering*. Contact him at bob@rcgrace.com.

