



First and Last(ing) IMPRESSIONS

BY GEOFF WEISENBERGER

They matter—now more than ever.

WE HAVE THE TECHNOLOGY.

We can make it. Better. Stronger. Faster.

For those of us old enough to recall these words from the opening credits of *The Six Million Dollar Man* (not me; I had to catch it in reruns), they might take us back to a time when we weren't flooded with seemingly endless options for quality TV.

But we are now. How many times has someone said something like, "OMG, you really need to see this show. Don't worry: You only have seven seasons to catch up on. Just binge-watch it!" Same goes for photos, thanks to social media apps like Instagram. Anyone can look like a pro. My Instagram feed is an endless waterfall of photos. And the more photos I look at, the more difficult it is to see something truly new and impressive. Why and how is this happening? Because we have the technology.

And we increasingly have the technology—and the data—in fabrication shops, job sites and engineering, detailing and architectural offices. As we saw at this year's NASCC: The Steel Conference in San Antonio, machines are becoming faster than ever, robotics are making further inroads into structural fabrication, 3D modeling is becoming more and more precise and robust, we're finding new ways to gather data and there seems to be a new project delivery method every time we turn around.

Given all of the options out there, making a good first impression is as important as it's ever been. As keynote speaker Carmen Simon expressed in her presentation "The Neurosci-

ence of Decision Making," it's a matter of making yourself impossible to ignore in order to get people to move in your favor.

So, how to stand out? NASCC exhibitors all found their own means of doing so.

Many exhibitors incorporated virtual reality goggles, using phones, into their exhibits. At Ficep's booth, you could be a beam, as it was being fabricated, inside a piece of heavy equipment. At Albina's booth, you could visit the company's shop and see steel members being curved around you.

Detailer Jim Long with J.B. Long makes an effort to stand out at every show. This year, he wore, well, I guess you'd call it a disco-era leisure suit. And he stayed in character. Another exhibitor wandering by remarked, "Now *that's* marketing."

For equipment manufacturer Kranendonk, it was about incorporating robotics into the fabrication process, still a relatively new practice in the structural steel world, and emphasizing how the process can evolve—e.g., while it might take two hours to program a robot, wouldn't it be worth it if that robot could then fabricate 90 tons? This is possible. Now.

For software developer FabSuite, it was a matter of refining processes and further enhancing data usage to make traceability even more precise. FabSuite's latest version can now track individual members through the shop, not just quantities, each with multiple "nametags" on it.

Welding equipment maker ESAB has also pushed further into real-time data collection, introducing real-time monitoring of the welding power source via mobile and desktop devices (called WeldCloud). Shop personnel can now save an extra trip to the power source since they already know the issue before they get there.

Sherwin-Williams also introduced a new way of doing things that could alter how fabricators operate: shop-applied intumescent paint, along with UL-verified software that can automatically determine the proper coating thickness for a specific application and factor it into a 3D model. While there are certainly challenges associated with shop-applied intumescent coatings that need to be addressed, it's an example of how many are looking to push our industry forward.

For JacketPlate, it was about introducing a new take on the moment frame. The new system for high-seismic applications



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uses 3D connection plates and allows plasticity to occur inside the connection, while the connected members remain elastic.

For crane equipment manufacturer Freedom Tools, it was about introducing a new, simple way to release loads from a crane—developed by an experienced crane operator looking for a way to remove one small hassle from the rigging process.

And in the case of software developer Trimble, it wasn't a matter of one "big new thing," but rather many small enhancements to its products, such as enhanced functionality with Bentley packages and the introduction of more complex geometries into the latest version of Tekla Structures.

"The data is there, and it has been," said Mark Allphin with Trimble Solutions. "It's just a matter of finding out how to access and share it quickly and accurately. We have very usable workflows, but many still have reservations when it comes to trust and contractual issues."

Trust is crucial in the construction business—and it sometimes appears to be in short supply. A lack of trust often stems from lack of understanding, and many sessions at The Steel Conference aimed to bridge those knowledge gaps between the various design and construction parties. The title of one session is basically the story of our lives: "What Engineers Need to Know About What

Fabricators Can Do." It provided some insight on what steel contractors are capable of, featuring presentations from two bender-rollers who illustrated how their work involves highly trained and skilled personnel—and is certainly not a commodity. Another session, "AESS: Categorized by Design," was geared toward managing architects' expectations when it comes to defining what was desired and what was bid when it comes to architecturally exposed structural steel—and how to specify the proper AESS level in order to get what you want. (To view these sessions and others, visit www.aisc.org/2017nasconline. Sessions will be posted by the week of May 15 if not before.)

The fundamentals of how steel buildings come together haven't changed. But as we saw at this year's show, each component in the supply chain is making its own tweaks to continually improve the process—and to stand out. And with any luck and some serious brainpower, we'll see even more improvements and innovations by the next Steel Conference in Baltimore (April 11–13, 2018). Also, this year's show set an attendance record, with nearly 4,600 people making the trip. On top of that, sessions were watched remotely via more than 1,000 live streaming connections. And that's data that *really* stands out and spells only good things for the steel industry. ■

Developing Diversity

Workplace diversity and development is an increasingly important topic in the design and construction industry, and it was the main focus of the "Solutions for Equity in the Workplace" session at this year's NASCC: The Steel Conference in San Antonio. Panel presenters Rose McClure with Simpson Gumpertz and Heger, Inc., Babette Freund with Universal Steel of North Carolina and Heidi Brunette with Steel Fabricators, Inc., discussed what diversity means in our industry.

The panelists focused on what works and what doesn't when it comes to attempting to increase equity in the workplace. Solutions ranged from implementing mentoring and unconscious bias training programs, to encouraging employees to join outside groups and professional development organizations, to making sure employers know how to identify and manage employee burnout in this fast-paced industry. All of the presenters stressed the importance of building a sense of community in the workplace, ensuring that everyone in a company has access to career guidance and promoting regular communication with employees—not just during annual reviews. Following the panel discussion, the nearly 60 attendees shared their own experiences and suggestions in roundtable discussions, many echoing the panel's observation that diversity in the workplace is an opportunity to learn something we don't already know.

"Geography can be a hindrance sometimes," noted one attendee. "Hire the best talent in the world regardless."

Another remarked, "The best mentorships happen organically. Encourage staff to take it into their own hands to decide where they want to be."

Above all, it's important to keep the discussion going and evolving, noted yet another attendee, saying, "We need to keep the next generation engaged."

—Tasha Weiss

Take Two

Twelve leaders from across the structural steel community were presented with awards at NASCC: The Steel Conference in March. And one of them came away with two.

Patricia M. Clayton, PhD, an assistant professor with the University of Texas at Austin's Department of Civil, Architectural and Environmental Engineering's Ferguson Structural Engineering Laboratory, is the recipient of AISC's 2017 Milek Fellowship Award and also an Early Career Faculty Award.

"It is such an honor to be selected for the AISC Milek Fellowship and the Early Career Faculty Award," said Clayton. "As part of my Milek Fellowship, I look forward to working with students on research that will promote the use of replaceable fuse connections for seismically resilient steel buildings."

Clayton is currently co-principal on six ongoing research projects funded by either the National Science Foundation or the Texas Department of Transportation (TxDOT), several of which are focused on structural steel buildings or bridges, and she received the Milek Award based on her proposed research focusing on evaluating the seismic performance and design of steel moment resisting frames (SMRFs) that employ partial-strength fuse-type connections.

For more on everyone who received awards at this year's show, see the related news item at www.aisc.org.

