AISTech 2022 delivered on what many in the industry had been hoping for over the last two years: a return to “normal.” The event served as a reunion hall for colleagues and old friends who have been separated by the pandemic; a gathering place for like-minded technical experts to sit in on sessions and share ideas; and a venue for connecting with new contacts and leads.

“AISTech 2022 attracted 8,068 attendees, representing the third most-attended event in our history,” AIST’s executive director Ronald Ashburn said.

“Although the pandemic did curtail significant international participation, we still enjoyed fantastic support from all sectors of the steel industry,” Ashburn added. “After well more than a century in existence, AIST and its mission of service to advance steel manufacturing technology is as important today as it has ever been.”
8,068
Total Attendees
Each year at AISTech, certain themes emerge over the course of the week that reflect the challenges currently facing the steel industry. This year, much discussion focused on decarbonization. From the plenary sessions to the technical presentations and Technology Committee meetings, the technologies aimed at lowering the industry’s carbon footprint were top of mind for attendees.

“Decarbonization, and the environmental, social and governance workforce development initiatives that come with it, represent a generational opportunity,” Ashburn said.

“There truly has never been a more exciting time to join the steel industry.”

In his remarks during the 2022 AIST J. Keith Brimacombe Memorial Lecture and AIME Keynote, Carnegie Mellon University’s P. Chris Pistorius said, “An existential challenge to the steel industry over the next several years will be to achieve decarbonization, while remaining cost-competitive and maintaining steel quality.”
Pistorius’ lecture, “Modern Tools for Steelmaking Research and Optimization,” highlighted four developments that can serve as powerful tools in steelmaking research.

To address the challenge of decarbonization, Pistorius said, the industry should be encouraged by its own history. He cited how the open hearth furnace process was overtaken by the basic oxygen furnace in just 15 years.

“Our industry has changed very quickly in the past; it is having to do so now,” he said. “I think the skills are there to be able to do this.”

Barbara Smith, chairman of the board, president and chief executive officer of Commercial Metals Company, also addressed the issue of decarbonization. Delivering the AIST William T. Hogan, S.J. Memorial Lecture during the President’s Award Breakfast, Smith said, “steel in general is one of the world’s largest producers of greenhouse gases; in fact, it is among the three biggest producers of carbon dioxide.”

She cited a recent report from McKinsey, which noted that “our industry is responsible for about 7% of global carbon dioxide emissions.”

“More concerning,” Smith continued, “steelmakers not based in North America and Europe have contributed to the increase in emissions intensity globally over the past 20 years — and are responsible for the nearly 6% deterioration in energy efficiency in that same time period. They continue these behaviors not only at their own peril, but to the detriment of our entire industry.”
542 Assigned Booths

565 Exhibiting Companies
The topic was also highlighted in the Town Hall Forum, where industry leaders spent time debating, among other things, alternative power sources.

“I think we have to look at nuclear,” ArcelorMittal North America’s chief executive John Brett said.

Brett noted that in Canada, nuclear energy fulfills 68% of the power needs of one of ArcelorMittal North America’s facilities there. But in the U.S., nuclear energy accounts for less than 20% of the country’s overall electricity generation.

Cleveland-Cliffs Inc. chief executive Lourenco Goncalves said the conversion from coal to natural gas has only taken the country so far; the next step will be to employ nuclear, the one type of power generation that will be able to meet all of its needs without contributing to carbon emissions (see pages 55–59 for a recap of the Town Hall Forum).

“From the variety of solutions discussed during AISTech, it’s very clear to me that an ‘all of the above’ strategy will be needed, spanning the spectrum from carbon capture, utilization and storage to direct carbon avoidance,” Ashburn noted.

Another important challenge that permeated discussions and lectures throughout the week is the industry’s workforce – particularly in regard to women in steel and attracting and retaining the next generation of steelworkers.

AIST’s Women in Steel committee is focused on bringing programming, opportunities and awareness to the industry. Part of the committee’s work is promoting a new publication by author Karin Lund, Women in Steel, Women of Steel: Yesterday, Today and Tomorrow, Vol. 1, which was
released during AISTech. The book chronicles Lund’s interviews with women of all ages, experience levels and backgrounds in the steel industry.

The Women in Steel Roundtable was held on Sunday, 15 May, and had 49 attendees (41 women and eight men). The session included breakout group discussions focused on recruitment and retention of professionals and students, as well as future programming ideas. The main priorities from these breakout discussions included marketing the steel industry to those outside the steel industry, fostering mentorship programs, creating an online community for women in steel to meet regularly and host events, and connecting the topic of women in steel with safety (i.e., providing women’s sizes in PPE at mills). The goal of the session was to gather programming ideas for an in-person event centered around International Women’s Day in March 2023.

Two women who received top honors at the President’s Award Breakfast were Chenn Zhou of Purdue University Northwest, who was awarded AIST Distinguished Member and Fellow (and is the third woman awarded as such), and Barbara Smith of Commercial Metals Company, who delivered the keynote address (and is the first woman to receive the Hogan Memorial Lecture Award).

In her lecture, Smith issued a call to arms to her industry colleagues to make a more persuasive pitch to young workers who are looking for meaningful careers.

“Candidly, looking at how we as an industry are faring, my fear is that we are falling dangerously behind in the war for talent,” she remarked.

To attract what she called “purpose-driven, environmentally concerned and technologically savvy
Denver Cordle of Cleveland-Cliffs drove off in a brand-new Chevy Silverado!

377 Technical Presentations
36 Virtual Presentations

167 Virtual Attendees
young people,” the steel industry must find a way to change the narrative about itself.

Through its many programs, the AIST Foundation is working to address this challenge and change this narrative. The Foundation helps subsidize travel grants and registration to help students attend AISTech.

Nearly 200 students attended AISTech this year. They had the opportunity to tour Cleveland-Cliffs Butler Works, participate in the Undergraduate Student Project Presentation and Graduate Student Poster contests, network with steel industry veterans at the Steel to Students Reception, and attend hundreds of technical presentations.

To raise funds for its programming, each year the AIST Foundation hosts its annual golf classic prior to AISTech. The event attracted a sold-out crowd of 144 golfers and raised US$40,000 to support workforce development programs.

In addition, AIST hosted a Young Professionals’ Roundtable, which welcomed 44 early-career iron and steel professionals. The session gave attendees the opportunity to network and learn from each other’s industry experiences in hopes that they walk away with new ideas to grow and build their own personal careers. The theme for the breakout discussion was “Engagement Through Networking.” Through the guided group conversation, the Young Professionals were able to meet peers who shared their passions, build connections and learn about new resources that can help take their professional development to the next level.

This year’s Technology Conference featured 87 sessions covering 377 technical presentations. With presentations that covered the entire steelmaking process from start to finish, the conference had something for everyone.

“Taking part in the technical presentations and seeing what’s going on in the market, what are the new technologies, new equipment, new ways of dealing with the process and optimizing the process is the best thing,” Barbara Braga of Vallourec said.
Chad Cathcart of Stelco Inc., who will serve as the AISTech 2023 Conference Planning Committee chair, found that the main benefits for him in attending the technical sessions are “learning and seeing all the new technologies that are available; interacting with the presenters; and getting to ask questions and hear about their technologies.”

Attendees who weren’t able to travel to Pittsburgh could attend the virtual conference, which included 36 presentations and the ability to interact with exhibitors through the AISTech 2022 virtual connection suite.

The exposition was the largest by area in AIST’s history, coming in at 100,500 ft² with 565 exhibiting companies. This year’s expansive collection of exhibitors featured the latest technologies in iron- and steelmaking from all over the world.

Exhibitors found a diversity of leads and new contacts in the exhibit hall. Ben Myer of Dialight said, “We’ve had several new customers and several old customers that we’ve dealt with for years, and it’s just great to see everybody back in action. It’s been tremendous!”