

Spring Training Sessions Put Spotlight on Digital Technology



Even as the U.S. integrated steel industry was collapsing in the early 1980s, Nucor Corp. and its mini-mill model were seeing extensive growth. But by 1983, the company had appeared to reach a competitive wall, and *The New York Times* questioned whether it could continue to grow as it had. As *The Times* reported:

“Mini-mills may covet the bigger market for flat-rolled steel — where profit margins are higher than on the smaller, bar-type products. But because of technological limitations, they are shut out,” it said.

“They can’t produce enough hot metal to feed a continuous caster to produce flat-rolled steel — to do so would require replacing their small electric arc furnaces with mammoth basic oxygen furnaces and would require multi-million-dollar investments in bigger rolling machines.”

It may have been a valid worry at the time, but it’s almost laughable now: the U.S. market is dominated by electric arc furnaces (EAFs), which account for slightly more than 68% of U.S. crude steel production, and, moreover, the country’s newest and arguably one of its most advanced mills is an EAF-based sheet mill.

It just goes to show how much the industry has changed. But after 35 years, the industry is coming up on another technological wall: the modern know-how has likely already yielded the major gains in efficiency, and the next big steps forward probably will require the adoption of new digital technologies.

AIST is aiming to help industry participants understand these new digital technologies through a robust line-up of technical training and conferences this spring. Headlined by the 25th Modern Electric Furnace Steelmaking — A Practical Training Seminar in February

and the inaugural Digital Transformation Forum for the Steel Industry in March, the spring conference line-up will cover a wide swath of the steelmaking process.

“With an eye to the new digital technologies that will transform how we make steel, we’ve put together what I believe is a solid roster of technical training. There’s something here for everyone, regardless of background and length of service to the industry,” said Brian Bliss, AIST general manager for programs and publications.

“I’m really excited about the programs this spring, and I highly encourage our members to take a look at what is available.”

The season will get underway in February with the Electric Steelmaking Technology Committee’s 25th EAF conference. The conference is set for 4–8 February in Charleston, S.C., USA. Renowned EAF experts Larry Heaslip and Jeremy Jones will be among the returning instructors this year.

The two are founding instructors at the conference, which was started to fill a void in training opportunities for electric arc furnace steelmakers. As Jones explained, EAF steelmaking and the mini-mill concept was still relatively new in the early 1990s, and technical training wasn’t readily available.

The early version of the conference dealt mostly with the fundamentals, but it has been revised each year to address the latest developments in EAF steelmaking. One of the latest trends, he said, will be the use of vast amounts of data to optimize processes.

“I think (the mills) are going to be more heavily instrumented. The trend really is toward collecting and processing more data in real



time to provide better control of what's happening in the operation," Jones said.

In March, AIST will present its first Digital Transformation Forum for the Steel Industry, which will take place 25–28 March in Pittsburgh, Pa., USA. The forum will bring together a number of experts from industry and academia, and they'll walk attendees through Industry 4.0 concepts such as artificial intelligence, cloud computing, big data and augmented reality.

The goal is to help attendees better understand these digital tools and to spur them to think about how they might be applied to their own operations.

Mike Dudzic, general manager at ArcelorMittal Dofasco and the lead conference organizer, said this is the first digitalization-related conference in North America dedicated exclusively to the steel industry.

"The conference was designed with what many in the steel industry have been asking about regarding digitalization and the many advanced technologies identified under Industry 4.0. There are four core themes that this conference addresses: explaining what digitalization is and why it is important to the steel industry; reviewing the core concepts and technologies of Industry 4.0; reviewing various steel industry applications for Industry 4.0 technologies; and a roundtable session that provides the opportunity for asking questions about digitalization."

Also this spring, the Long Products Technology Committee will be holding the Long Products Rolling Practical Training Seminar. The seminar is set for 25–28 February in Charleston, S.C., USA.

It's intended to help operators better understand the process and the variables that can affect safety, quality, yield and facility utilization. The seminar's instructors are experts in a variety of aspects, including equipment, process, operations and maintenance.

In addition, AIST's Rolling and Processing Technology Division has brought back Sheet Processing and Finishing Lines — A Practical Training Seminar, which is set for 17–21 March in Alabama.

The seminar will focus on terminal equipment for the entry and exit sections, strip quality assessment, industrial hygiene, safety, environmental concerns, overview of modeling for design and line control, operations, maintenance, and factors to consider in configuring a new process line.

And not to be forgotten is AISTech 2019. To be held 6–9 May, the association's annual conference and exposition returns home to Pittsburgh this year. And with the domestic industry seeing some of its best results in years, the conference has the potential to set new attendance records. The high-water mark was reached in 2008, when 8,327 people attended the show. ♦

Visit AIST.org to learn more about all of our training opportunities this spring. Join an AIST Technology Committee to get more involved.