

AIST Italy SteelForum2013

Economy...Technology...Leadership



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The AIST Italy Steel Forum 2013 was held 26–27 September at the Pomini Tenova Conference Center in Castellanza, Italy. The two-day forum, highlighting important issues for today's steel industry, attracted 94 participants. The forum opened with the Industry Leader Town Hall Forum, which was moderated for a second year by Enrico Romagna Manoja, economic editor for *II Mondo*. The panelists included:

- George Babcoke, senior vice president — European operations and global safety, and president, U. S. Steel Košice.
- Carl De Mare, chief technology officer, ArcelorMittal Flat Carbon Europe.
- Doug Jellison, vice president and general manager international business, Nucor Corp.

The group provided a general outlook for the economy and steel industry, noting that the European region is still struggling more than other areas of the world, but

recent indicators have provided a more positive outlook. They said a recent Steel Action Plan proposed by the European Commission was a good start to help the steel industry, but it must be implemented in order for real action to begin. Discussions included the structural overcapacity of China's steel industry and how countries operating with different trade rules are creating an uncompetitive situation for others that follow free and fair trade rules. The participants reviewed how the financial crisis has forced them to be creative and “do more with less,” by investing in their companies in ways that will better position them for the future. This includes focusing on innovative technologies such as developments in high-strength steels and environmental investments and upgrades to reduce emissions and help their operations run more efficiently. Other topics of discussion included safety, workforce recruiting, competition in the industry, and shale gas development and its impact on the industry.



Following the Town Hall Forum, Mario Longhi, president and chief executive officer of United States Steel Corporation, gave a keynote presentation on the important topic of safety. Safety at U. S. Steel has evolved from a top-down directive to a value that fosters personal responsibility, he said, with a focus on creating a culture of shared commitment. It is this shared commitment that will help companies reach the ultimate goal of zero incidents and injuries.

Luciano Butti, the main partner at B&P Avvocati, gave a presentation entitled “Understanding Italy’s Shale Gas Potential.” After providing a summary of the state of environmental affairs in Italy, he gave an overview of shale gas and fracking, beginning with the technology involved and then moving on to its environmental concerns and economic impact. Although shale gas is unlikely to be a game-changer for most European countries, it could play a positive and important role in bringing down energy costs — currently a major concern for steelmakers in the region — so its safe development needs to be encouraged and pursued.

During lunch, the attendees had an opportunity to visit the Pomini Tenova factory. Through the Pomini brand, Tenova is a worldwide leader in the design and supply of roll grinders for flat product rolling mills, as well as of special machines for grinding of heavy components. The proprietary Pomini Inspektor Plug and Play system

is designed and developed internally and is used in steel mills throughout the world to detect surface and subsurface defects by means of eddy current and ultrasound technology.

Secondary Steelmaking Panel Discussion

The afternoon of the 2013 Italy Steel Forum included a Secondary Steelmaking Experts Panel Discussion. The international panel was populated by six representatives of the secondary steelmaking process for steel manufacturing:

- Sunday Abraham, principal research consultant, SSAB.
- Harriet Dutka, technical assistance specialist, Magnesita Refractories.
- Bill Jones, process quality engineer, United States Steel Corporation.
- Eugene Pretorius, manager – steelmaking technology, Nucor Corp.
- Christian Schrade, managing director, Technometal GmbH.
- Massimo Svanera, head – research and development, ASO Siderurgica s.r.l.



Jeremy Jones, former vice president of process services, Tenova Core, and now with CIX Inc., served as moderator and began the panel discussion by reviewing the many different types of secondary steel refining. Discussion focused on the process of liquid steel refinement for slabs, blooms, billets, ingots and specialty steel products, and included the following topics:

- The challenges of chemistry control, timing, scheduling and meeting the ever-changing demands of customer expectations.
- The tools available to identify and quantify variables of the secondary refining processes which can lead to improved process monitoring and automation similar to the systems available for melting and solidification. Secondary steel-making models are needed to assist operators in controlling alloy additions, slag chemistries and ladle fleet parameters.
- Standard procedures currently being used and how the procedures are reviewed to ensure that best practices are being utilized.
- The versatility of current vacuum treatment facilities. Vacuum treatment not only removes gas phases from the melt, but includes alloying practices, alloy recovery, melt correction

and final chemical adjustment prior to steel solidification.

- Training of operators to understand the process and the impacts of changes, to maintain operations during upset conditions and to provide opportunities to transfer knowledge from shift to shift and generation to generation.
- Raw material testing and evaluation for consistent quality as well as evaluating new sources and packaging of raw materials to lower production costs or increase efficiency.
- The science, or art, of slagmaking and how the mystery can be removed from making a functional slag perform its purpose in secondary steelmaking.
- Environmental challenges of reusing slag byproducts and capturing process-generated dust for aftermarket applications such as the ASO Siderurgica post-treatment of black slag for the production of construction tiles.

The audience was given opportunities to ask questions of the panelists regarding the practices at their facilities. Questions were asked on the alternatives to fluorspar to increase slag fluidity, the differences in the quality of raw materials for melting versus use in



secondary steelmaking, the purity of raw materials and the benefit of tramp elements in fluxes to assist in dissolution.

Following the technical program, the attendees visited the Tamini Transformer factory in Melegnano, Italy. Included in the tour was the production of the transformer cores, the assembly of the transformer components and the final testing of the transformers prior to shipment to the customer. Seventy percent of the production at Tamini is exported to companies around the world. Tamini Group provides transformers and reactors to power companies and to industrial facilities for steel and aluminum production.

The day's program concluded with a dinner for all attendees hosted by Pomini.

On Friday, 27 September, tours were held at ASO Siderurgica s.r.l. and its sister company, T.E.S. Transformer Electro Service s.r.l. ASO Siderurgica is a specialty steel supplier of large section products produced from bottom-poured ingots. Following an introduction of the company, its affiliates, corporate structure and product line, the tour proceeded through the slag reclamation facility, the meltshop, secondary refining facility and the ingot production area. Also included in the tour was a brief visit to the VAR and the ESR areas for making superalloy steels. The

tour concluded with a visit to T.E.S, adjacent to ASO Siderurgica. Transformer construction, assembly, testing and service are all accomplished at the Ospitaletto facility.

AIST strives to fulfill its mission to advance steel technology through education and the creation of important peer networks for our industry, and would like to thank our sponsors for assisting us with this effort: Tenova, Berry Metal Co. and Tamini Group. AIST adds a special note of gratitude to Mr. Alberto Iperiti (second from left, in left photo on page 178), chief executive officer of Tenova, and Mr. Mauro Medici (center, in right photo on page 178), chief executive officer of Pomini, for their enduring support of AIST programs in Italy and for their gracious hospitality to our members and steel industry participants. ♦

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