

AIST VIRTUAL
MENA Steel Forum 2021 30 NOVEMBER - 2 DECEMBER



Recap

by Emily Williams

The second Virtual MENA Steel Forum, organized by AIST Middle East North Africa (MENA) Member Chapter, took place on 30 November–2 December 2021. Over two and a half days, the conference hosted 102 attendees.

Experts from regional and international sectors of the steel industry came together to discuss the shift that the steel industry is making into new technological advancements and what can be implemented in the coming years.

Each day of the forum was split into two different sessions that explored various subjects from new innovations in the steel industry to safety management. Each day concluded with a question-and-answer segment.

The forum began with a welcome and introductions by Mohamed Saied, EZDK Steel and chair of the MENA Member Chapter, and Steven Henderson, CMC Steel Arizona and 2021–2022 AIST president.

Steel Industry in the Digital Era & Improving EAF Operations Through Innovation

The first day of the forum started with presentations focused on technological advancements and how the steel industry can benefit from them. The session was moderated by Mohamed Saied.

The second half of the day finished with a session moderated by Ashraf Hanna, RHI Magnesita, which focused on how electric arc furnace (EAF) operations can be optimized.

EAF operations have been upgraded, enhanced and improved since their beginnings in the 1980s. One of the presentations highlighting these changes was “Alternative Energy and Recovery Innovations in Steelmaking,” presented by Karim Alshurafa, SMS group Inc.

In his forward-looking presentation, Alshurafa discussed how the new EAFs and direct reduced iron (DRI) can reduce CO₂ emissions and how the processes can save energy and be adapted in the future.

Improved Process and Enhancements in Long Products Continuous Casting & Industrial Safety Concerns in Steel Plants

The next day’s sessions covered long products continuous casting and industrial safety concerns in steel plants. The first half of the day focused on the continuous casting process, where presenters shared the outcomes of the case studies conducted.

One case study was presented by Moustafa Selim, Egyptian Steel, titled “Improving in Continuous Casting Operation at Egyptian Steel (Case Study).” In his study, Selim focused on different areas within Egyptian Steel that have the opportunity to be modernized or streamlined, from areas like process description to modifications to the submerged-entry shroud (SES).

The latter half of the second day centered around safety concerns in steel plants. The four presentations were moderated by Karim Alshurafa.

Presenters in this session discussed various ways to minimize hazards and increase safe practices by utilizing safety systems such as augmented reality (AR) and programmable electronic systems.

Global Competitive Advantages in DRI-Dominant Regions

The final day of the forum had one session moderated by Karim Badr, RHI Magnesita, with four presenters.

In his presentation, “DRI Gas-Based Technology: Current Status, Trends and Hydrogen Use,” Angelo Manenti, Metal Consulting LLC, explained where DRIs currently stand as well as how they can be utilized with renewable energy.

Mohamed Sobih, Algerian Qatari Steel AQS, in his presentation, “AQS – Direct Reduction Plant (MIDREX Mega-Module) Operation Challenges,”

showcased the changes that DRIs have undergone throughout the years, and the rapid technological advances made since being implemented in the Middle East North Africa region.

Due to the region’s access to affordable natural gases, DRI is heavily utilized. In 2020, 50.04% of the world’s DRI production was in the Middle East North Africa region.

Sobih also examined the different technologies that MIDREX offers, the challenges associated with them, and what has been done to improve plant operations.

The last presentation of the forum was from Joel Morales, Tenova HYL, titled “Energiron Gas-Based Direct Reduction: The Path to Steelmaking,” where he explained the different types of traditional steelmaking processes, a timeline of DRI plant evolution since 1957 and the future of DRI steelmaking.

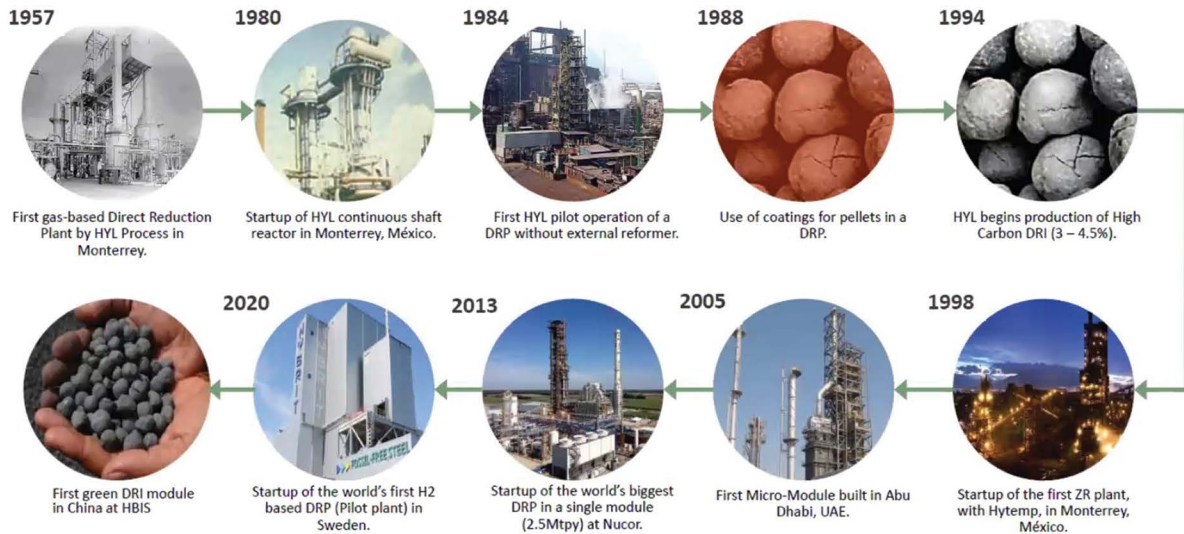
According to the Paris Climate Agreement, the goal is to reduce greenhouse gases by at least 40% by 2030. Morales shared two plants that are working to help reach that goal.



Top row, left to right: Karim Badr, RHI Magnesita, and Joel Morales, Tenova HYL. Bottom row, left to right: Angelo Manenti, Metal Consulting LLC, and Mohamed Saied, EZDK Steel.



Pioneering the DRI plant evolution



A timeline of direct reduced iron (DRI) production from Joel Morales, Tenova HYL, showing the evolution of the process throughout the last 60 years.

The first is Hybrit, a joint project between SSAB, LKAB and Vattenfall, the first fossil-free steel plant. The second is the first hydrogen-based DRI plant, which is currently being built in China.

AIST MENA Member Chapter Milestone

This marks the AIST MENA Member Chapter's first event as an official AIST Member Chapter since being

confirmed at AISTech 2021 in Nashville, Tenn., USA. AIST wishes to thank its media partner, The Steel Network; the presenters; the moderators; and everyone who attended. A special thank you is extended to the organizers of the event and the event sponsor, TMEIC. ♦

ORGANIZED BY



EVENT SPONSOR



MEDIA PARTNER



STEEL INDUSTRY IN THE DIGITAL
ERA SESSION SPONSOR



RHI MAGNESITA