

AIST VIRTUAL MENA Steel Forum 2021 30 NOVEMBER – 2 DECEMBER



THE SECOND AIST MENA Steel Forum will be held as a **VIRTUAL EVENT** on 30 November 2021.

Experts from the regional and international steel industry will discuss the latest industry innovations and share their experiences as the industry moves to the cutting edge of technological advancements.

This 2.5-day forum is intended to complement regional steel programming in the Middle East and North Africa region, while fulfilling AIST's mission to advance steel technology through education and the creation of important peer networks for our industry.

TECHNICAL PROGRAM

TUESDAY, 30 NOVEMBER 2021

10:00 EET/
3:00 A.M. EST

Welcome and Introduction to the MENA Steel Forum

*Mohamed Saied, Level 2 Automation Manager, EZDK Steel, and Chair, AIST MENA Member Chapter
Steven Henderson, Vice President Western Region, CMC Steel Arizona, and 2021–2022 AIST President*

10:30 EET/
3:30 A.M. EST

Steel Industry in the Digital Era

In the new digital era of this technological revolution, to what extent will the steel industry be able to benefit? In this session, the presenters will share practical case studies for adopting digitalization principles in the iron and steel industry. The session will focus on adopting artificial intelligence, machine learning and the Industrial Internet of Things.

MODERATOR: *Mohamed Saied, Level 2 Automation Manager, EZDK Steel*

PRESENTERS:

- "Scrap Classification in Combination With TPQC System," Adnan Husakovic, Senior Design Scientist, Primetals Technologies Austria GmbH
- "Full Automation and Digitalization of Equipment Operation Processes of DRP," Ahmed Al-Argawy, Direct Reduction Plant Electrical Maintenance Manager, EZDK Steel
- "Probabilistic EAF Charge Mix Optimization Using Machine-Learning-Based Scrap Characterization," Dr. Christoph Kirmse, Senior Data Scientist, SMS digital GmbH
- "Refractory Lifetime Management Using Machine Learning," Gregor Lammer, Head of AI and APO, RHI Magnesita
- "Machine Learning and Steel," Alp Kucukelbir, Chief Scientist, Fero Labs, and Assistant Professor (Adj.), Columbia University

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13:00 EET/
6:00 A.M. EST

Improving EAF Operations Through Innovation

Since the early 1980s, EAF processes have been continuously improving and have achieved spectacular performances in terms of productivity and specific electrical energy consumption. Several approaches have been introduced to optimize EAF operations, including those relating to energy savings, energy recycling and the use of more chemical energy in combination with good slag foaming practice. This session will discuss the recent developments, improvements and innovative ideas in the electric steelmaking industry provided by the technology providers and steel producers.

MODERATOR: *Ashraf Hanna, Director Primary Metallurgy, RHI Magnesita*

PRESENTERS:

- *"EAF Efficiency – Challenges for the Next Decade," Dr. Jürgen Cappel, Managing Director, Cappel Stahl Consulting GmbH*
- *"The Danieli DIGIMELTER: DDM ECO PRO," Jozi Shuli, Vice President MIDA Mini-Mill Danieli Department, Danieli & C. Officine Meccaniche S.p.A.*
- *"Key Assumptions Used in the Calculation of Sustainability," Dr. Thomas Battle, Senior Consulting Engineer, Extractive Metallurgy Consultants*
- *"Alternative Energy and Recovery Innovations in Steelmaking," Karim Alshurafa, General Manager Sales and Marketing, SMS group Inc.*
- *"Predicting Process Parameters During Electric Arc Furnace Refining Stage," Prof. Dr. Ayman Fathi, Product Development and Quality Control Executive, Ezz Flat Steel; Dr. Mohamed El-Koumy, Process and Raw Material Quality Manager, Ezz Flat Steel; and Prof. Dr. Iman El-Mahallawi, Professor, Materials & Metallurgical Engineering, Cairo University*

WEDNESDAY, 1 DECEMBER 2021

10:00 EET/
3:00 A.M. EST

Improved Process and Enhancements in Long Products Continuous Casting

Continuous casting process is the essential process converting liquid steel to solid in the form of slabs or billets/blooms. The economy and the quality of the steel products are greatly dependent on how successfully the continuous casting is performed. New technologies have been developed in this process during the last decades in order to increase the productivity and decrease the operational cost. In this session, the presenters will share recent developments, enhancement and practical case studies in this essential industrial process.

MODERATOR: *Dr. Gamal Megahed, General Manager for Technical Affairs, Egyptian Steel*

PRESENTERS:

- *"Atum CCM GLC Technology & 3P's," Dr. Hesham Saad, Deputy Managing Director, Arabic Steel*
- *"VERSCON – Semi-Continuous Casting Technology for Blooms: Design Features and Applications," Giovanni Cairolì, Area Sales Manager, SMS CIS & Europe*
- *"MIDA QLP: Mini-Mill Danieli for Quality Long Products," Jozi Shuli, Vice President MIDA Mini-Mill Danieli Department, Danieli & C. Officine Meccaniche S.p.A.*
- *"Improving in Continuous Casting Operation at Egyptian Steel (Case Study)," Moustafa Selim, Meltshop Caster Manager, Egyptian Steel*
- *"Physical Simulation Assessment of Steel Slab Surface – Hot Ductility," Dr. Masoud Al-Gahtani, Lead Scientist, Hadeed, a SABIC Affiliate*

13:00 EET/
6:00 A.M. EST

Industrial Safety Concerns in Steel Plants

In the steel industry, people are our most valuable asset. What practices and technology can we implement to keep them safe and most productive? In this session, the presenters will share practical and safe operating practices, safety management systems and application of technology to tackle industrial safety concerns in the steel plant.

MODERATOR: Karim Alshurafa, General Manager Sales and Marketing, SMS group Inc.

PRESENTERS:

- "Ideas of Applying Augmented Reality (AR) for Safety," Eric Almquist, Business Development Engineer, Star Tool and Die
- "Process Safety Management in the Steel Industry," Ramy Yakout, Occupational Hygienist, EZDK Steel
- "Safe Control and Saving Energy (Natural Gas) for Reheating Furnaces in Rolling Mill Plants," Mohamed El Shayeb, Technical Office and Production Manager, Elgarhy Steel
- "Increase Your Steel Plant Safety With Reliable Programmable Electronic Systems," Jorge Haros, Product Design and Quality Engineering Manager, AMI Automation

THURSDAY, 2 DECEMBER 2021

14:00 EET/
7:00 A.M. EST

Global Competitive Advantages in DRI-Dominant Regions

The direct reduction of iron ore sector is one of the most challenging sectors. An outlook of the various operational challenges in Midrex as well as HYL will take place in this session. On the top of that, the future role of hydrogen usage in the direct reduction as a substitute to the natural gas for the sake of decarbonizing the iron and steel industries will be highlighted.

MODERATOR: Dr. Karim Badr, Marketing Director MENA Region, RHI Magnesita Middle East

PRESENTERS:

- "DRI Gas-Based Technology: Current Status, Trends and Hydrogen Use," Angelo Manenti, President, Metal Consulting LLC
- "AQS – Direct Reduction Plant (MIDREX Mega-Module) Operation Challenges," Mohamed Sobih, DRP Acting Manager, Algerian Qatari Steel AQS
- "Flow Feeder Shafts Removal at the HYL Cold Discharge DR Plant," Tamer Ibrahim, Production Senior Engineer, Ezz Flat Steel
- "Energiron Gas-Based Direct Reduction: The Path to Steelmaking Decarbonization," Joel Morales, Marketing Manager, Tenova HYL

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