The analysis of EAF / LMF slag samples in a steel plant is needed to monitor and improve steel making process. The following elements are routinely analyzed: (F), MgO, Al2O3, SiO2, P2O5, SO3, CaO, TiO2, Cr2O3, MnO, & FeO. With this information the metallurgist can optimize the conditions of the heat in order to protect the refractory material, reduce energy consumption, reduce/increase the amount of additive material to improve the metal quality (grade).

XRF technique is the most suitable for slag analysis due to the relative ease of sample preparation and speed of the analysis.

In order to achieve the best possible slag data from the XRF instrumentation one will need to take into consideration what sample preparation is required (Loose Powder, Pressed Pellets, or Fused Beads), what certified calibration standards to use and the importance of secondary standards, and what type of XRF instrument is required for their applications (EDX or WDX). This presentation will go over the advantages and disadvantages for the above considerations for EAF / LMF slag analysis in a steel plant.