In-line radar technology in metal production: Robust information in challenging environments from liquid phase to finished product

Dr. Marc Banaszak

Managing Director, mecorad GmbH, Köln

Abstract

The advantages of radar technology as a supplier of robust production information in harsh production environments such as metal production and metal forming were recognized many years ago. The driving force behind was the desire for a sensor technology that could perform without failure and safely for the employees under such critical working conditions, like extreme heat or high exposure to dust and cooling mist.

For a long time, however, it was hardly possible to turn these ideas into real applications with sufficient accuracy and reliability and in an economic reasonable and competitive way. Moreover, practical experience has shown that simply transferring technology from "clean" production environments to the metal industry is all too often doomed to failure.

Today, modern signal processing, advanced IT and a focus on the extreme production environment at mecorad make it possible to turn this technology promise into reality in almost all areas of the metal industry.

Example applications are precise measurement devices or position determinations in melting or pusher furnaces, both directly in continuous casting as well as afterwards, in hot and cold rolling mills, in further processing or even in the service center. This scope of applications will be illustrated with selected examples of realizations in the production environment. Furthermore, the presentation also addresses the questions what needs to be considered in the successful use of radar technology for highest robustness and accuracy in metal production practice.