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Process improvements by real-time on site analysis of metallurgical processes

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Currently, the European steel industry is undergoing a transformation, driven by two major forces. Firstly, to stay competitive in difficult market situations, new ways to improve processes, reduce losses and increase resource efficiency have to be developed. Secondly, economic and regulatory forces drive a transition of the steel industry towards production processes with lower carbon emissions.

One result is the transformation from the established BF+BOF process to electrical steelmaking with DRI/HBI and scrap as the primary iron sources.
With DRI come two major challenges. One the one hand using DRI changes slag compositions compared to the blast-furnace slag, changing steelmaking, but also valorization-possibilities of the slag. On the other hand, DRI is much different from pig-iron as it is not fully reduced and also carries high amounts of gangue material and different contents of carbon.

SECOPTA can show, that by using the LIBS-technology and fast, real time onsite analysis steel production via the DRI-EAF route can be controlled more efficiently. This tight process control enable producers to increase yield and reduce energy consumption and waste of resources.

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