

Description of the Project and planned effects

Project no. POIR.01.01.01-00-0996/19

Value of the Project – 10 037 619,75 PLN

European Fund contribution – 4 491 746,32 PLN

Development of an innovative hybrid cyber-physical system, enabling integrated management of the steelmaking technology including the transport of liquid metal in the EAF-LF-CCM steel mill for sequential melting setup, focusing on optimization of the liquid steel temperature in tundish, aimed at improvement of steel billets quality

Main goal of the Project is to conduct R&D works aimed at development of globally innovative, integrated with the infrastructure of steelmaking facility (EAF-LF-CCM), hybrid IT system for optimizing and modeling steel billets production process i.e. solution significantly contributing to the quality of CMC Poland sp. z o.o. products by providing full control over liquid steel temperature, including superheating temperature (System). The System will cover management of technological know-how of production process, monitoring the product quality, optimization of production planning and control over liquid steel temperature at every stage of the process. This will ensure an increase in stability and repeatability of the process at given parameters, and as a result improve the quality of the product. Side effect will be energy saving in LF. System will be developed in cooperation with subcontractor–AGH, using latest IT techniques (i.a. machine-learning, rule-based expert systems), manifesting realization of Industry 4.0 idea. The Project, to be realized in the period from 15/04/2020 to 14/04/2023, will cover 6 stages of R&D work - from the definition of technological recommendations/functional requirements for the System, through the development of monitoring, scheduling, optimization, modeling and metamodeling modules, ending with the validation of the System in industrial conditions. System–as a process innovation–improvement to the production process will be implemented in CMC Poland’s own activity and used in manufacturing full range of it’s products addressed to i.a. following industries: automotive, construction, machine. CMC owns and runs the steel mill in Zawiercie-the 2nd largest steel mill in Poland with a capacity of 1.4 t p.a. and long, rich history dating back to 1897.