

Impact of the Technological Pillars of Industry 4.0 On Steel Sector: Analysis Based on Desk and Field Research*

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Abstract

The paper presents the impact of the pillars of Industry 4.0 on the steel sector and related sectors, such as: steel customers and distributors. The research problem concerning the implementation of Industry 4.0 in steel enterprises in Poland. The article is based on direct research conducted in the analysed sectors in Poland. Experts from the steel industry participated in the research, apart from steel producers, distributors of steel products and steel consumers. All respondents completed the questionnaire. The research was a pilot - initial recognition of the topic of Industry 4.0 in selected companies of particular segments. The results of direct tests were supported by data on the use of digital technology and additive manufacturing in the steel sector in Poland. The literature part of the work was created on the basis of key studies about Industry 4.0. Based on secondary and primary data, it was found that the steel sector has proceeded to build Industry 4.0, changes in this sector are linked to changes in related sectors. Industry 4.0 technologies are visible in the steel industry in Poland, e.g. IoT, Big Data, industrial robots, 3D printing.

Keywords: Industry 4.0, steel industry, pillars of Industry 4.0, IC/digital technology