

PROPOSED SOLUTIONS IN INDUSTRY 4.0 FOR SECURE DATA STORAGE BASED ON BLOCKCHAINS - AN OVERVIEW

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Rezumat. Dezvoltarea și interesul pentru Industry 4.0 au creat oportunități remarcabile de a îmbunătăți atât unele procese cât și calitatea sistemelor, perspectiva ajungând la un nivel cu totul nou. Procesele simple care sunt abordate în prezent, manual sau în mod separat, vor fi asigurate într-un model integrat folosind tehnologia Blockchain. Industria 4.0 va fi conectată pe un registru de încredere distribuit care elimină nevoia de intermediar. În cadrul acestui articol, autorii revizuiesc potențialele tehnologiilor Blockchain din Industria 4.0, dar și unele aplicații ale acestora. Obiectivul principal este de a avea o viziune și cunoștințe despre soluțiile Blockchain și beneficiile care ar putea fi obținute de către practicieni și cercetători.

Abstract. The development and the interest in Industry 4.0 have created unbelievable opportunities to improve some processes and the quality of the systems to a totally new level. Simple processes that are currently approached, manually or in a segregated way will be ensured in an integrated model using Blockchain technology. Industry 4.0 will be connected on a trusted distributed register that eliminates the need for an intermediary. In this article, the authors review the potentials of Blockchain technologies in Industry 4.0 and some of their applications. The main objective is to have a vision and knowledge about Blockchain solutions and the benefits that could be achieved by practitioners and researchers.

Keywords: blockchain, secure data, maintenance, supply chain, electric vehicles battery

1. Introduction

During the last years, more and more enterprises are considering analyzing the application of decentralized blockchain systems. Nowadays, the blockchain technology can be seen as a step in the development of the new networking paradigm and opens a window to an innovative platform for transparent transactions in industries. Blockchain is a technology which promises to guarantee security, anonymity and integrity without a trusted third-party organization

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