Digitalization of Product Certification in Construction

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Rezumat. *Digitalizarea certificării produselor în construcții îmbunătățește eficiența, transparența și siguranța prin emiterea și gestionarea certificatelor digitale, urmărirea produselor prin intermediul platformelor software și automatizarea verificărilor. Aceasta reduce birocrația și riscurile de erori, accelerând procesul de certificare. Integrarea cu reglementările europene și utilizarea blockchain pentru trasabilitate sporesc transparența și securitatea. Principalele provocări includ securitatea datelor și lipsa unui standard universal de certificare digitală la nivel global. Per total, digitalizarea va moderniza industria construcțiilor, aducând beneficii semnificative.*

Abstract. *The digitalization of product certification in construction improves efficiency, transparency, and safety by issuing and managing digital certificates, tracking products through software platforms, and automating verifications. It reduces bureaucracy and the risks of errors, speeding up the certification process. Integration with European regulations and the use of blockchain for traceability enhance transparency and security. The main challenges include data security and the lack of a universal digital certification standard globally. Overall, digitalization will modernize the construction industry, bringing significant benefits.*

Keywords: Digitalization, Product Certification, Transparency, Blockchain, Data Security.

1. Introduction

The construction industry is a key sector of the global economy, with a significant impact on the environment, natural resources and human health. In a global context where sustainability and efficiency are priorities, the sector is in a state of continuous change, moving towards greener, more efficient and more transparent solutions.

Digitalization represents a profound and inevitable change in all economic areas, and the construction industry is no exception. Transforming traditional processes by implementing advanced technological solutions brings significant benefits in the management and certification of products in this sector. In particular, the integration of digital technologies in the certification of construction products represents a revolution, not only in terms of operational efficiency, but also in terms of transparency, safety and data protection. This change allows for better compliance with standards and technical

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