

*Abstract*

# Traceability of Prêt à Porter Clothing through Cryptographic Protocols <sup>†</sup>

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In recent years, several methods for monitoring processes and different types of activities have been developed as characteristic of the connected industry and Internet of Things (IoT). Several research papers and patents have been published for observing construction projects, controlling and avoiding damages in mechanical structures, monitoring and analysing cardiorespiratory signals and snoring, measuring temperatures, etc.

The blockchain technology has arisen as an emerging paradigm and part of the IoT distributed systems and connected world. Several companies are increasingly using such technology with connected sensors to provide traceability, authenticity, visibility, and security to their supply chains. A blockchain could be considered as a distributed ledger in which all transactions are securely recorded. Roughly speaking, a blockchain is a protocol that gives the user the possibility to group documents into blocks and link those blocks together in a chain. These blocks contain the identification of a transaction, the transaction's contents, and a hash pointer to the previous block. A blockchain is a log data structure which receives and stores data with the particularity of detecting any data tampering, in such a way that any change in the existing transactions will be detected, as the successive blocks will be affected. Blockchain thus offers a cutting-edge way of transmitting incorruptible marketing messages to customers. Moreover, it extends the possibility of individualised interaction through products themselves and allows users to record specific details about when and where products were made and about the people that made them. Consequently, this technology could be used for information protection, including trademark registration details, legal information, assignment and chain of title information and/or evidence of (first) use in trade or commerce.

It is well known that textile manufacturing has been significantly improved in developing countries to reduce operation costs. In addition to suppliers and customers, spinning factories, knitting factories, and trading firms involve strategic supply chain partners. The enhancement of product accuracy and visibility, at each stage of a supply chain in the apparel industry, has become essential.

The objective of this paper is to present a critical review of the more recent traceability proposals for ready-to-wear clothing, ensuring the authenticity, reliability, validity, and integrity of the final product and also of the whole supply chain.

**Conflicts of Interest:** The authors declare no conflict of interest.



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