IBIMA Publishing
Communications of International Proceedings
https://ibimapublishing.com/p-articles/45ISM/2025/4539925/
Vol. 2025 (13), Article ID 4539925

A Concept of a Traceability System for a Company from Household Appliances Industry*

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* Presented at the 45th IBIMA International Conference, 25-26 June 2025, Cordoba, Spain

Abstract

This article first presents short characteristics of traceability systems. Next a concept of a traceability system which meets requirements of household appliances industrial plant, especially regarding production of washing machines, is presented. The concept includes an approach regarding blocking of defective products to prevent them from proceeding, which extends traceability towards flow control. Both scientific literature and commercially available solutions primarily focus on the registration and reporting-based analysis of product and process data, but do not address a traceability concept that enables the automatic blocking of defective products at or near the point of origin. While useful, such approaches often result in delayed responses to quality issues. Mere data registration is often insufficient to ensure product quality, making the integration enhancing traceability systems with error-prevention and blocking capabilities a necessary advancement. The household appliances industry actively employs traceability to monitor and control each step contributing to the final product's quality. The production process targeted for traceability was first thoroughly analyzed to identify all essential data points required for acquisition and reporting functionalities. Subsequently, a blocking mechanism was integrated, utilizing database functions and triggers to automate data analysis and determine whether subsequent production steps should be permitted. Existing traceability systems with flow control ability are typically proprietary, developed in-house by manufacturing companies and tailored to specific internal needs. This highlights a clear gap and the corresponding need for a universal, standardized, and comprehensive approach to system design and implementation.

Keywords: traceability, household appliances, blocking of defected products

Cite this Article as: Jaroslaw CHROBOT Vol. 2025 (13) "A Concept of a Traceability System for a Company from Household Appliances Industry " Communications of International Proceedings, Vol. 2025 (13), Article ID 4539925, https://doi.org/10.5171/2025.4539925