**Batch 139**

**Title: FOOD SUPPLY CHAIN TRACEABILITY USING BLOCKCHAIN**

**Abstract:** *Agriculture is the foremost form of sustenance for all living beings on the planet. Food supply chain management is the flow of agricultural products from farms, harvesters, processing, distributing, retail and finally consumers. It is a sequence that starts from food production and extends till final consumption. The existing traceability of the food supply chain isn’t entirely reliable and is prone to contamination. The authenticity of each stakeholder cannot be checked manually as it is a time-taking and laborious process. Instead of trusting a centralized source, a transparent and decentralized process can be adapted through Blockchain Technology to trace the food on our plate back to its source. Blockchain is a peer-to-peer network that does not depend on a central authority and helps keep the data in the ledger tamper-proof. It would be an effortless way to prevent serious health risks from fraudulent activities and be versed in the origin, transport and sale of the products that consumers buy from stakeholders; and make sure that the transactions of both food and money are accessible to all stakeholders. This paper proposes the food-safety traceability using Blockchain Technology and Smart Contracts which would not only make it transparent but also tamper-proof. The information of each transaction in the supply chain is recorded in the immutable blockchain ledger and the safety is verified before proceeding to the next block, through smart contracts which are implemented in Ethereum. Through the proposed solution, a long-lasting trust is established among the consumers and the stakeholders to make it reliable, contamination-free and traceable. The entire supply chain, right from the fields to the kitchen, will be closely monitored which leaves room for no mistakes.*

**Keywords:** Food traceability, blockchain, agricultural supply chain, Ethereum, smart contracts, food safety.

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