

# **“Track And Trace Supply Chain”**

PSCS92

## **Advanced Animal Track-&-Trace Supply-Chain Conceptual**

### **Framework: An Internet of Things Approach**

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The research paper titled "Advanced Animal Track-&-Trace Supply-Chain Conceptual Framework: An Internet of Things Approach" presents a system for tracking and tracing livestock using advanced technologies like Radio Frequency Identification (RFID), cloud computing, and the Internet of Things (IoT). The system aims to address key challenges in livestock management, including stock theft, straying animals, and poor health management, particularly in Southern African Development Community (SADC) countries.

**Key points covered in the paper include:**

- *Proposed System* : The authors propose an IoT-based system that uses RFID tags powered by solar technology to track animal health, birth records, ownership, and real-time location. This system integrates with tools such as GPRS, GSM, and Google Earth to enhance livestock management.
- *Benefits* : The system is designed to benefit stakeholders like farmers, veterinary services, and government agencies by providing real-time data for better animal management, disease control, and emergency response. The system's low-cost design is intended to make it accessible for farmers, reducing the reliance on costly GSM networks.
- *3D Printing & Material Selection* : The paper also discusses the use of 3D printing to create durable RFID tag housings using specific materials that allow for effective solar charging and weather resistance.
- *Framework Structure* : The authors present an enterprise system architecture, including a business process model that integrates cloud databases and mobile applications to support tracking and traceability.
- *Applications* : In addition to animal tracking, the system supports agri-businesses by ensuring livestock comply with international health and quality standards, particularly for exports to the EU. It provides detailed data that can be used by industries like insurance and banking to improve services for farmers.

## **Conclusion**

The proposed framework seeks to enhance livestock management, improve supply chain visibility, and address the challenges of traditional livestock tracking systems through digital transformation and IoT integration.

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