A solution for Integrated Track and Trace in Supply Chain based on RFID & GPS

Singapore Institute of Manufacturing Technology

71 Nanyang Drive, Singapore 638075

whe, ewlee@SIMTech.a-star.edu.sg

**Summary**

The study combines RFID (Radio Frequency Identification) and GPS (Global Positioning System) technology to provide an integrated solution for tracking and tracing in the logistics supply chain. The following are the paper's main points:

1. **Integrated Information Management Model:** The solution comes with an integrated model that uses an EPCIS (Electronic Product Code Information Services) gateway to manage GPS data and RFID events. Together with important business data, this model enables the collection, storing, and retrieval of RFID and GPS data.
2. **System Architecture:** The architecture is made up of a number of parts, such as middleware, mobile device GPS capture clients, and RFID capture programs. The system is made to give external applications access to integrated data through a single interface.
3. **Business Information Presentation:** By enabling users to monitor the real-time location of objects and their process status, the solution seeks to provide business information in an interactive fashion. In logistics operations, this improves visibility and decision-making.
4. **Advantages of Integration:** The suggested method provides smooth cargo tracking, reduces the possibility of missing items, and boosts supply chain efficiency by combining RFID and GPS technology. It enables businesses to keep an eye on shipment status and use real-time data to guide choices.
5. **Future Work:** In order to improve the integrated information management model, the authors state that they plan to improve the solution in response to user input and additional study and development.

Overall, the study shows how RFID and GPS technology may be combined to enhance supply chain management and logistics, resolving current issues and offering a complete tracking solution.