ABSTRACT

In the midst of the rapid growth of the goods delivery industry, efficiency and safety in the sorting process have become important concerns in the logistics industry, especially in the goods delivery services sector. This research aims to develop an intelligent sorting system with classification of types of goods using multisensors and fuzzy logic. This system is designed to identify the characteristics of goods, especially fragile ones based on fragile labels, and measure their weight accurately to achieve safe transfer speeds. Fuzzy logic is used to classify goods based on sensor data, which is then integrated into a microcontroller to regulate conveyor speed adaptively. This approach aims to reduce the risk of damage to fragile and light items and increase transfer efficiency for stronger and heavier items.

The research results show that this intelligent sorting system can significantly improve the safety and efficiency of the sorting process in the goods shipping industry. With the ability to recognize and classify goods accurately and adjust conveyor speed adaptively, this system is able to reduce the risk of damage to fragile and light goods, as well as ensuring the transfer of stronger and heavier goods is carried out optimally. This increased efficiency not only speeds up the sorting process but also increases accuracy in goods management, so that in the end it is able to meet consumer demands for fast and safe delivery services.

Keywords : *Fuzzy Logic, Microcontroller, Multisensor, Safety, Sorting*