

A Study on Methods Used to Segregate the Products using IOT Techniques

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Abstract: *Product segregation in various industries, such as manufacturing, waste management, retail, and agriculture, has been transformed by incorporating Internet of Things (IoT) technologies into industrial processes. With an emphasis on IoT's effectiveness, precision, and automation in the segregation process, this review paper examines the approaches used to separate products using IoT techniques. IoT-based systems rely on networked devices like sensors, RFID tags, machine vision, and intelligent conveyors for collecting, processing, and responding to real-time data. These systems make it easier to separate products according to attributes like size, shape, color, and quality while requiring less human involvement. The use of Automated Guided Vehicles (AGVs) for sorting tasks, machine learning algorithms for visual analysis, sensor-based detection, and RFID-enabled tracking are some of the important IoT segregation strategies covered in the paper. The data collection, processing, and action layers that facilitate smooth product classification are the main focus of this analysis of the IoT architecture used in these systems. These methods' applications across various industries are highlighted, highlighting how they can increase output, lower errors, and streamline supply chains. The study also discusses issues like data security, system integration, and implementation costs that are related to IoT-based segregation systems. Lastly, new developments are examined as major forces behind the future of IoT in product segregation, such as developments in edge computing and artificial intelligence. The IoT has the potential to revolutionize product sorting procedures by making them more intelligent, efficient, and responsive to industrial demands, as this review highlights.*

Keywords: Internet of Things (IoT), Product Segregation, [1] Industrial Automation, Sensor-based Sorting, RFID Technology, Machine Vision, Smart Conveyor Systems, Automated Guided Vehicles (AGVs), Real-time Data Processing [1], Edge Computing, Artificial Intelligence (AI), Smart Manufacturing, Quality Control, Inventory Management, IoT Architecture [2]