

# **Revolutionizing Last-Mile Logistics: A Conceptual Model for Smart Parcel Delivery with Contactless Innovation**

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## **Abstract**

The rise of e-commerce, accelerated by the COVID-19 pandemic, has transformed the way we shop and receive shipments. This shift, expected to reach \$378 billion by 2025 in the USA, has led to increased online retail sales but also posed challenges in last-mile delivery. Addressing issues such as theft, inefficiency, and environmental impact, innovative solutions like smart parcel boxes have emerged. These solutions leverage technologies like AI and IoT to offer secure, 24/7 access, optimizing the delivery process and contributing to a more sustainable future. Problem statement: Shipment recipients in Saudi Arabia encounter various challenges regarding their orders. The traditional practice of meeting the delivery driver to receive shipments has become inefficient in today's dynamic world. To dive into the current process of delivering shipments we could see that multiple steps need to be removed or optimized at least. Motivation: The logistics sector in Saudi Arabia is focused on enhancing global connectivity and reducing transportation costs, contributing to the India-Middle East-Europe Economic Corridor. Recognizing the need for innovation in shipment receiving methods, there is a commitment to actively participate in transformative changes within logistics and transportation. Conclusion: Smart parcels provide customers with the convenience of managing their shipments efficiently and reliably, which contributes to reducing financial costs and shortening delivery time. Future steps: Add a sensor to confirm the delivery., Add solar panels., Add a camera for security.