

AMAZON – TRACKING TECHNOLOGY

EVALUATING EXISTING TECHNOLOGY FOR USE IN FULFILLMENT PROCESSES

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Amazon spent more than \$11.5 billion on shipping in 2015 alone. Based on the sole scale of shipping expenditure, Amazon would have ranked as the seventh largest third-party logistics (3PL) provider in the world. While spending \$11.5B in shipping costs, Amazon made over \$6.5B in shipping revenue at the same time, suggesting a huge opportunity for the company. As a result, Amazon has started optimizing its current shipping cost structures, fulfillment processes, and the expansion of its own logistics capability. The Amazon Fulfillment Technology (AFT) platform works to provide technology solutions for the fulfillment networks of Amazon and is responsible for creating and maintaining software infrastructure for software tools used throughout the warehousing and fulfillment process.

The AFT team challenged the Tauber team to target and define potential defect injection points in Amazon's outbound supply chain and then develop and implement an integration of hardware, software, and processes that utilize innovative technology in fulfillment operations to prevent the occurrences of targeted defects in the Fulfillment Center (FC), enabling Amazon's customers to get what they want, when they want it.

The strategic importance of our project was to significantly improve quality and to reduce human touches in the process. Amazon is exploring package tracking technology applications to enable accurate location tracking of each item/package within and across various FC types. In our FCs, middle-mile, and last-mile networks, the team aimed to increase process visibility, inventory accuracy, and process throughput and also reduce defects by providing real-time feedback to associates. For our end customers, our project enabled increased granularity about where and when their packages would arrive, as well as an increased rate of on-time deliveries.

In a test environment for new processes, the team created and tested the implementation of new technologies with the intent of reducing quality defects, increasing productivity, and increasing accuracy. The team implemented three proof-of-concept pilots to develop, test, and deploy equipment and processes. The team developed success criteria and compared performance against a control site. The project team then conducted Fulfillment and Sortation center visits, performed extensive data analysis, recommended technology solutions, and conducted cross-functional workshops to achieve program goals. At the end, the team delivered results for the three phases of our study, and these results enabled the business unit to move to the next phase of development.