

ABSTRACT

This Senior Project Report includes three areas of focus pertaining to the inventory management practices of Atlas Copco Mafi-Trench Company (ACMTC) - cycle counting, ergonomics, and material purchasing. Various literature reviews as well as an analysis of the current state led to the project objectives. First, reduce time spent on the non-value added process of cycle counting. Second, eliminate the ergonomic hazard presented by the heavy inventory bins. Lastly, diminish the total costs associated with inventory (ordering + carrying). The project objectives spurred numerous alternatives and a few specific deliverables. The creation of a 'Small Parts Cycle Count' Excel file led to a decrease in the counting and recording step by ~85%, and brought the total cycle counting process down from two hours to just over one. After an economic and feasibility analysis, an investment in Akro-Mils Divider Bins is believed to be a better financial and operational decision than an RFID alternative in reducing cycle counting time and eliminating ergonomic risk in relation to medium sized purchased finished material. Divider bins have the potential to yield annual savings in excess of \$8000 by eliminating company liability with employee injuries and reducing cycle counting time significantly. Lastly, the 'ACMTC Order Quantity' Excel file provides an automatic and manual order quantity calculator to aid in the comparison of total costs associated with inventory when using different ordering algorithms. When comparing value receipts from 2017 to the minimum output of the order quantity algorithms, savings are estimated to be roughly \$500 per SKU per year. Considering greater than 20 SKUs are consistently purchased year to year, total savings are estimated to be greater than \$10k per year.