Master Thesis: Additive Manufacturing for Tetra Pak Parts Supply Chain

Tetra Pak Parts Supply Chain Information:

Being the global organisation for supply of spare parts within Tetra Pak, Parts Supply Chain (PSC) serves more than 15,000 customers in 170 countries. Parts services have a significant impact on customer operations and drive the customer’s overall perception of Tetra Pak. With more than 70,000 different part numbers on stock at the Distribution Centre in Lund, the global distribution is channelled via the global network. PSC handle about four order lines per minute (2.2 million per year) and offer a 24/7 service of parts with a large variety of transport solutions. This makes PSC a key enabler for a profitable service business and a reliable and efficient provider of parts to keep our equipment running.

Problem Description:

PSC wish to investigate how the additive manufacturing technology could be applied to our supply chain and create value for Tetra Pak and our customers. We see two primary areas of interest that could potentially be improved by additive manufacturing:

- Stock-outs reduced with on-demand manufacturing for parts with long lead time.
- Reduced inventory by on-demand manufacturing parts we rarely sell.

However, due to Tetra Pak PSC’s main competitive advantage being service and quality, it is of outmost importance that any part produced by additive manufacturing is up to the high standards that come with any part in the food production sector. Two problem areas are identified which need to be considered:

- Surface Treatment tolerances being very important for the food industry
- Quality of 3D drawings for Tetra Pak parts are not always up to standard.

Assignment:

Our ambition is to run a Proof of Concept with a limited number of parts to be produced by additive manufacturing and thoroughly checked to ensure the quality is up to standards.

In addition to this, we would like to investigate what investment would be needed to reach an acceptable standard and how this could be setup in combination with our supply chain and current infrastructure.

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