

ESV Product Launch

Leveraging Supply Chain Scaling to Achieve Profitability

Graduate



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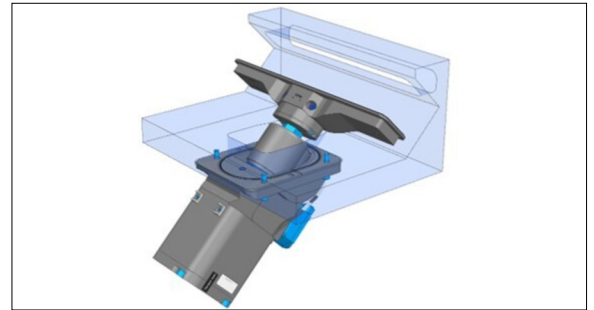
Problem: VAT has recently launched the ESV product in anticipation of significant future demand. However, it is still manufactured in a low-volume setup and has therefore not yet reached the desired profitability. As demand gradually increases, the ESV supply chain must shift toward a more cost-efficient, serial production setup. This thesis supports that transition by analyzing the product's value chain in depth and identifying the key levers to improve profitability during the ramp-up.

Approach: In the analysis, a range of methodologies drawn from supply chain literature are adapted for a cost focus and applied to this specific product. Employing a top-down approach, visualization of a high-level view is achieved using Value Stream Mapping methodology. Diving deeper, internal data and expert knowledge are leveraged to map critical manufacturing processes, exposing inefficiencies and explaining the underlying cost structure. For buy parts, benchmarking and Economic Order Quantity models are used to challenge current sourcing logic and identify more cost-efficient purchasing decisions in sight of the future volume. Ultimately, the identified gaps are structured into a concrete set of actions.

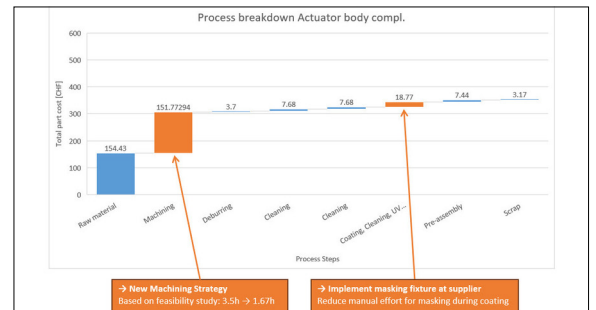
Result: The resulting action plan includes various aspects, ranging from data clean-up to future CAPEX investments. For buy parts, clear sourcing recommendations can be derived by balancing storage requirements, ordering costs, and unit prices. For make parts, the action plan points toward selected investments and optimization projects, including a possible multi-cavity tool for the bonded gate and an optimized machining strategy for the actuator body. Furthermore, there are multiple opportunities for flow optimization throughout the end-to-end process. Most notably, the assembly layout

could be optimized to improve intra-logistics and to integrate a Kanban staging area for the main subassembly. In essence, the visualization creates transparency across the current value chain, while the derived actions could reduce the total product cost by more than 40%.

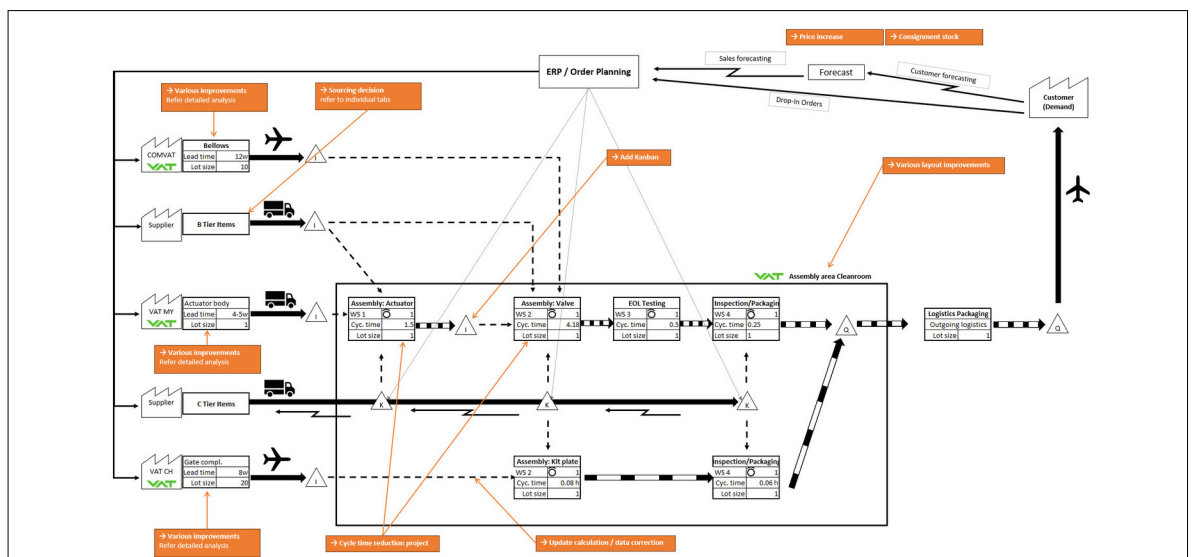
ESV Product
VAT Group AG



Single part process cost breakdown "actuator body compl."
VAT Group AG



End-to-end value stream mapping
VAT Group AG



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Subject Area
Supply Chain Management

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