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Challenges of having a long logistics supply chain for your materials

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Case Study Introduction

Hazardous cleaning chemical which was mixed from regular bulk chems in a proprietary composition needed to get shipped from US Westcoast to Germany. Supply chain was very easy to disrupt by forecast fluctuations, labor dispute and bad weather. Cost were high as drums were loaded in containers defining shipping batch size. Production batch size (quality data) was not matched to that.

Case Study Challenge

- Chemical had a limited shelf life (decomposition), so could not add too many drums in storage
- Demand fluctuations
- Recipe changes during the ~3 years project
- Sole source supplier who licenced 3rd party IP regarding this specific composition and usage



Case Study Approach

- Initially worked with supplier to increase output to ensure supply chain was permanently well filled and increase stock in a holding facility near customers fab
- In parallel did research on the material and the underlying IP – initial idea was to get secondary source in Europe with licence from the third party patent owners to manufacture
- Evaluated risks and needed investment for on-site mixing as all components of the mixture are available in fab supply systems already

Case Study Results

- Managed to stabilize supply initially and have it stocked close to our fab
- IP research uncovered that the patent was expiring 2 years later so we discussed off-site mixture on the ground in Europe in parallel to on-site mixing system.
- ROI calculation clearly favored on-site system, risk assessment supported this

=> Ultimately build on-site mixing and transitioned to that eliminating critical supply chain



Case Study Critical Success Factors

- Very good team approach to identify legal and technical path towards an on-site solution instead of just an “improved supply chain”
- Willingness to invest in facility systems (ROI)

Case Study Lessons Learned

- When changing a “live” material supply chain one needs to carefully plan transition. Rather have some “waste” due to overstock than to run out. Within limitations it might be possible to stretch the introduction of the new material a bit after qualification to allow “burn off” of existing inventory of predecessor material.
- Material usage might change over time, this can significantly influence the ROI of an alternative solution
- Try to question internal partners (facilities, EHS, etc.) if there might be a completely different approach to get the material, besides just a production site closer by or a second source.



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