

Collaborative Supply Planning of Multi-site Refineries

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A number of major oil refineries producing various fuels in large quantities have forged an alliance or merged the operation to facilitate the acquisition of raw materials, and the delivery of products. An integrated model of supply network and production planning is proposed for the collaboration among these refineries manufacturing multiple fuel products at different locations. The distribution costs can be reduced by relocating distribution centers as well as by reconfiguring their linkages to various markets. Moreover, the multiple fuel products manufactured need to be segregated during storage and transportation to be able to satisfy the demands of the various markets. The production planning, therefore, should be an integral part of the supply-network planning, and vice versa. The efficacy and usefulness of the integrated model is illustrated with an example involving three refineries and four varieties of fuel products.

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