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## ABSTRACT

This project is concerned with designing the vendor-managed program (VMI) to utilize supply reliability at Thai Industrial Gases Public Company Limited (TIG), which focuses on Sulfur Dioxide (SO<sub>2</sub>) customers, by using the principle of VMI concept. Thus, this becomes increasingly beneficial in delivery value to the customer through inventory cost, solves shortage problems and improves reliability.

This paper simulates the process design of VMI on one of the key customers in local market, the process design improve the supply chain processes by focusing on removing supply planning activities from customer site by TIG is a response for controlling supply activities by using VMI program, the dependency on the reliable performance of assets (people, method, and fixed assets) dramatically increases. Reliable assets become an absolute prerequisite for running the business.

The results from the simulation provide the optimal solution before the actual implementation that will impact on the flow efficiency of the distribution, and it can be seen that there has been considerable saving of resources and creation of value chain in the supply chain.

In summary, the new VMI program will be designed to improve the existing process. This will improve customer satisfaction through higher reliability supply, cost reduction through lower inventory, delete emergency transportation cost and absolutely enhance relationships between TIG and customers.