

customer
case
Tata Motors

Optimizing to reduce carbon emissions



W&W
WALLENIUS WILHELMSSEN
LOGISTICS

01 CHALLENGE

Having a proactive approach to sustainability, innovative Indian carmaker Tata Motors wanted to explore ways of reducing CO₂ emissions through optimization of their supply chain. The company also wanted to examine if such an approach would lead to greater cost efficiency.

02 SOLUTION

Wallenius Wilhelmsen Logistics (WWL) entered into a dynamic partnership with Tata Motors, developing and conducting an extensive study together. The study focused on minimizing carbon emissions and costs through optimization of Tata's factory-to-dealer supply chain from a factory in India to dealers in South Africa.

03 RESULT

WWL pioneered a new model for supply chain optimization, making a critical addition to the three traditional optimization factors of lead time, cost and quality by including carbon emissions. New calculation and optimization tools were developed, proving that significant potential carbon emission and cost savings can be achieved through supply chain optimization.

Optimizing to reduce carbon emissions

When Tata Motors wanted to explore the potential of reducing CO₂ emissions through optimization of their outbound supply chain logistics, they chose WWL. In tightly-coordinated cooperation, the companies conducted a study that established a groundbreaking new model for supply chain optimization and proved that CO₂ emissions and costs can indeed be reduced through optimization.

01 A holistic approach to automotive emissions

CHALLENGE

Sustainability-focused, innovative Indian carmaker Tata Motors wanted to expand its efforts in reducing carbon emissions beyond the more traditional areas of vehicle manufacturing and vehicle usage. They decided to explore ways of reducing CO₂ emissions through the optimization of their finished vehicle supply chain. The company also wanted to examine if such an approach would lead to greater cost efficiency. They partnered with WWL, a leading global logistics company with a high level of environmental commitment and a proactive approach to finished vehicle logistics.

The study focused on the outbound supply chain from a factory in India to dealers in South Africa. One example of findings: a typical car (Tata Indica) caused direct emissions of approximately 562 kg of CO₂ from the factory in India to a dealer in Johannesburg, with the majority emitted during trucking from factory to Port of Load, ocean transportation and trucking from VPC to dealers. The objective was to see if, and by how much, emission per car could be reduced through supply chain optimization while also reducing overall costs.

For WWL, the challenge was the lack of a simple tool to measure and optimize on the four factors; cost – time – quality – carbon emission. Both the automotive and the shipping industry expect an increase in cost due to potential legislation and taxation of carbon emissions in the future.

02 A partnership seeking opportunity

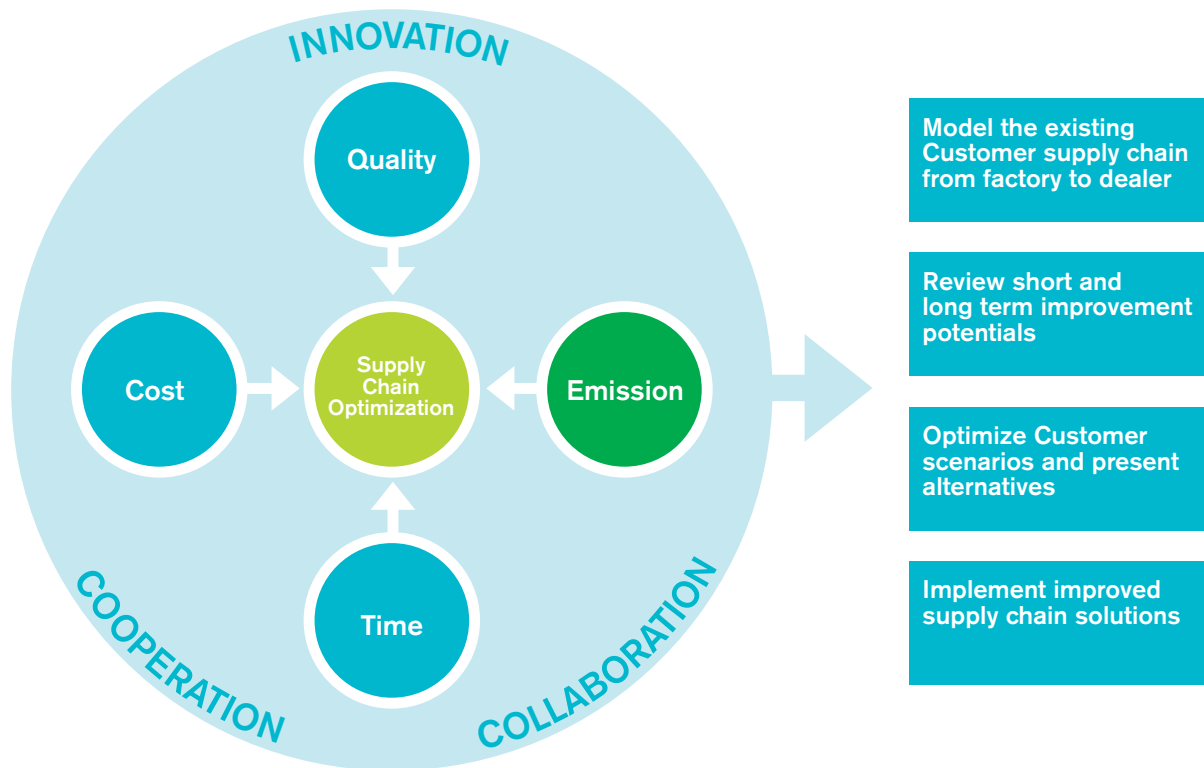
SOLUTION

Tata Motors and WWL partnered to conduct a study focusing on the relationship between carbon emission and costs through optimization of the supply chain from a factory in India to South African dealers.

The objectives of the study were to:

1. Design a model for supply chain optimization based on the four drivers: cost, time, carbon emissions and quality
2. Collect detailed information on the existing Tata Motors supply chain from a factory in India to dealers in South Africa
3. Identify short and long-term improvement potentials and discuss alternative solutions with Tata Motors

WVL'S SUPPLY CHAIN OPTIMIZATION MODEL



There were no standard tools from which to choose that provided a comprehensive methodology to fit the purpose of the project. A WVL carbon calculator and optimization model was therefore built to evaluate various distribution scenarios in South Africa and to identify a range of short, medium and long-term potential improvement opportunities.

03

RESULT

Progressive, smarter logistics

The optimization study, including redesigning the distribution network in South Africa, has shown potential long-term saving of carbon emission to be approximately 17% with commensurate cost saving. Similarly short-term initiatives such as reduced fuel filling, improved driver training, truck design, backhaul utilization and forecasting are estimated to reduce carbon emissions by approximately 7% with commensurate cost savings. These findings are expected to be validated by actual implementation of the identified measures.

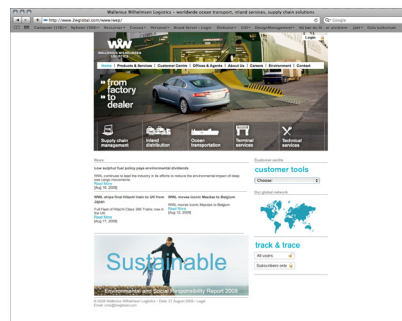
TATA MOTORS

- Established in 1945
- India's largest automobile company
- World's 4th largest truck manufacturer
- Operations in India, the UK, Spain, Thailand and South Korea
- Brands include Tata Daewoo, Hispano Carrocera, Jaguar and Land Rover
- Annual revenues of USD 14 billion in 2008-09

»» Driving the industry forward

- »» Pursue 4-factor optimization
- »» Build active partnerships
- »» Adopt early to win
- »» Discard the lower emissions = higher costs myth

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CONTACT INFORMATION

For more information and offers, please contact your WWL account manager or nearest WWL office. You can also contact WWL through the company web site.

Wallenius Wilhelmsen Logistics (WWL) is a leading independent provider of global factory-to-dealer transport solutions for the automotive, agricultural and construction equipment industries. The company also specialises in handling complex project cargoes such as rail cars, power generators, mining equipment and yachts. WWL's sophisticated supply chain management services ensure an efficient integration of ocean transportation, inland distribution, terminal handling and a large comprehensive range of specialised technical services.

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