## Responsive

# Integrated Supply Chain Optimization Solution for

Metal and Steel Companies

Agile

Optimizing complex supply chains through cloud solutions

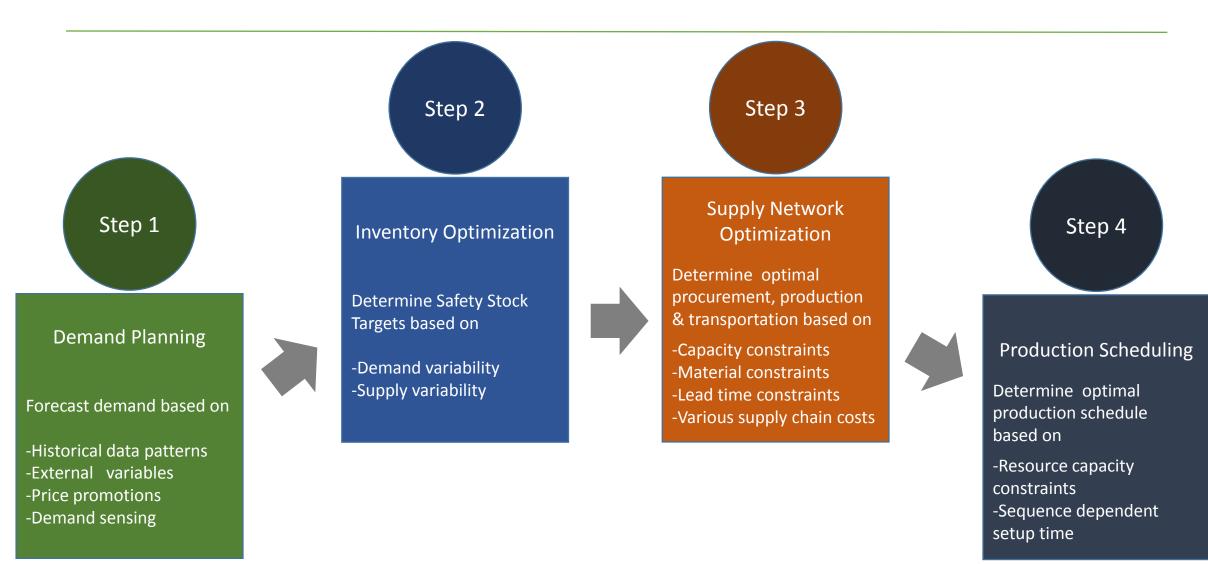
Velocity





Resilient

# Integrated Supply Chain Planning Process



**DOINT**ECHNOLOGIES

# Business case for Demand Forecasting

Demand forecasting is the starting point for any supply chain planning process.

In most organizations, demand planning is done in spreadsheets by using simple formulas like moving average.

The benefits of using a cloud based consensus demand forecasting solution are

- -Consistent and single data view for multiple stakeholders across the organization
- -Better forecasting accuracy using advanced forecasting algorithms
- -Aggregated/disaggregated view of the data for better decision making
- -Planning for new products without a history
- -Price based Promotions planning
- -Demand sensing for competitive intelligence

Increasing forecast accuracy from 65% to 75% will result in

- -Reduction in inventory by ~ 30%
- -Reduction in stock-outs by ~ 10%
- -Reduction in expedited shipping



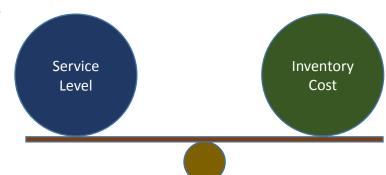
# Business case for Inventory Optimization

Inventory optimization determines the optimal level of safety stock so that the inventory costs are minimized for a particular service level.

In most organizations, target stock calculations are based on Days of Sales Inventory and are determined based on trial and error.

The benefits of using a cloud based inventory optimizer solution are

- -Determining the optimal level of target stock or safety stock for a given SLA
- -Using demand variability and supply variability to determine the safety stock
- -Seamless integration with upstream and downstream planning modules





# Business case for Supply Network Optimization

Supply network optimization determines a global optimal procurement plan, production plan, inventory plan and transportation plan for the entire organization.

In most organizations, supply planning is done in silos where only production capacity, production lead time and raw material constraints are considered. Production, procurement, storage and transportation are all planned independently and each function is optimized locally.

The benefits of using a cloud based supply network optimizer are

- Considers all aspects of the supply chain to generate optimized procurement, production, storage and transportation plans.
- Capacity constraints like production, storage and transportation are considered.
- Constraints like minimum order quantity, lot size, procurement and transportation lead times are considered.
- Costs like fixed and variable transport cost, procurement cost, volume discount and inventory carrying cost are considered.





## Business case for Production Scheduling

Production scheduler optimizes the sequence of production orders so that the make-span is minimized.

In most organizations, production scheduling is still done in spreadsheets using very rudimentary logic like prioritizing based on due dates of customer priorities.

The benefits of using a cloud based production scheduler are

- Considers resource capacity and material constraints together to create feasible plans
- Alternate routings, alternate BOMs, alternate machines can be modeled
- Sequence dependent setup time, process dependent setup time, processing time and teardown time can be modeled





# Case Study of one of Asia's largest Aluminium company

## **About the Client**

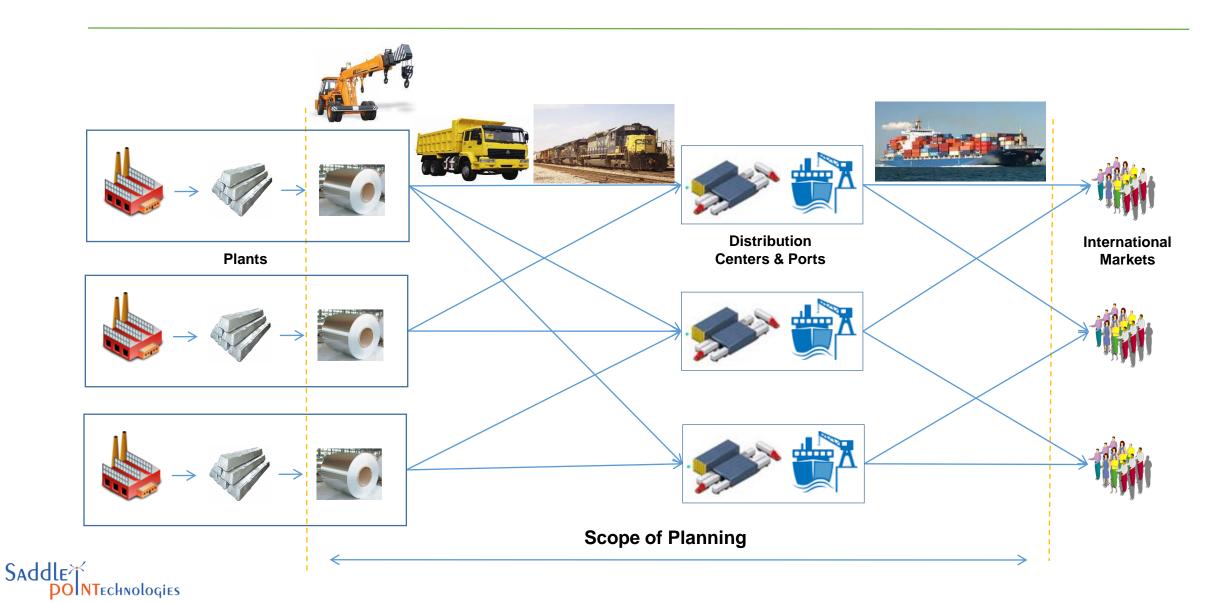
- A 3 billion USD company with more than 50 units spread across 13 countries
- One of the biggest producers of primary Aluminium in Asia
- Among the largest Aluminium rolling companies in the world

## Focus of the deployment

Only optimizing the logistics planning that is constrained by the ship docking date and rake availability constraints.



# Client's Supply Chain Network



# Case Study of one of Asia's largest Aluminium company

## **Business Problem**

An ERP backend was in place. Most of the transactions were automated

The entire logistics planning was being done manually using spreadsheets and home grown tools

Ship docking dates are known in advance and any delay carry huge demurrage charges

Unnecessary inventory built-up was happening at the distribution centers near the ports

## **Project Objective**

 Generate an optimal and feasible logistics plan that is constrained by the ship docking date, rake availability constraints and other resources like handling resources, loading resources and transportation resources.



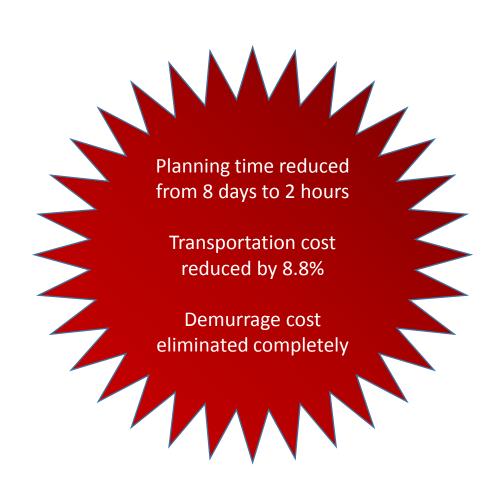
# Case Study of one of Asia's largest Aluminium company

## **Solutions Deployed**

- Supply Network Optimizer

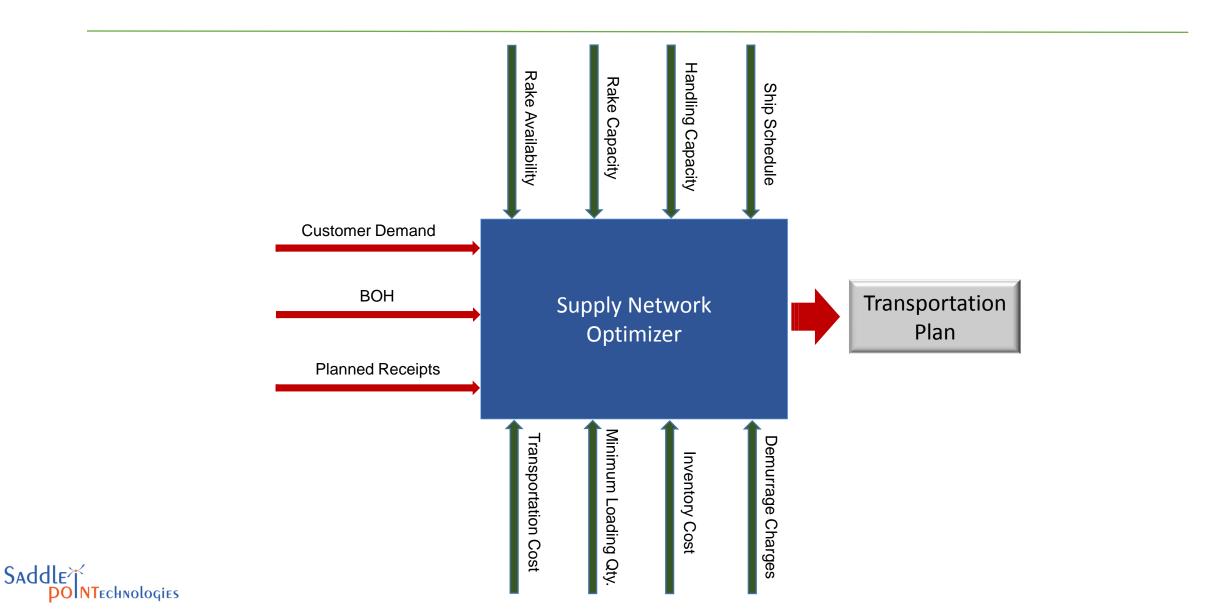
## **Features**

- Rake availability and rake capacity with minimum loading constraints
- Ship docking schedule is taken as a constraint
- Handling resource constraints and truck availability constraints
- Stock-on-hand and planned receipts are taken as constraints while planning





# Automated and Optimized Planning Process



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