SABIC’S SUPPLY CHAIN INFRASTRUCTURE IMPROVEMENTS & OPTIMIZATION

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SABIC QUICK OVERVIEW
SABIC IN NUMBERS

40,000
Employees

3rd
Largest Diversified Chemical Company

50
Countries

5
KEY GEOGRAPHIES WITH INNOVATION HUBS
- USA
- Europe
- Middle East
- South East Asia
- North East Asia

2,000
Scientist

10,960
Patent Portfolio Filings
WE HAVE A CLEAR AMBITION

To be the preferred WORLD LEADER in chemicals

We will achieve this by partnering with our customers, helping them achieve their ambitions.

When they grow, we grow. That’s why, for us, our customers’ success comes first.
2025 SABIC SUPPLY CHAIN STRATEGY
SABIC GLOBAL SUPPLY CHAIN AWARDS

• **Gartner Top 25** – *First Middle East Company* to be listed, came in at a respectable No. 63 among all other companies

• **EcoVadis** – *Gold* Certification level and listed as a preferred supplier

• **QRi & PwC** – *Future Brand Index No. 13* (up 72 places) for Top 100 companies based on market capitalization.

• **CDP** - 97 out of 100 for environmental reporting, *37 percent above the average score*, in a global sustainable supply chain management
SUPPLY CHAIN STRATEGY WILL FOCUS ON SUSTAINABILITY AND DIFFERENTIATION TO REALIZE 2025 AMBITION

Global leadership in Supply Chain¹

**FINANCIAL**

World class financial performance
- Value Chain Optimization & benchmarking – Profit S&OP
- Strategic Sourcing embedded
- Leveraged synergies & economies of scale
- Performance Diamond

**MARKET**

Adapt to/differentiate in markets
- Leading Best-in-class SC processes and systems to enable differentiated service models
- Global Supply Chain governance
- Lead modality shifts to optimize SABIC global Supply Chain

**FEEDSTOCK**

Increase flexibility & competitiveness
- World class inbound Supply Chain processes and Systems
- Effective production & feedstock optimization
- Enhance network model capabilities
- Model product flows and Supply Chain cost projections

**TECHNOLOGY**

Creating a competitive edge
- Global FANAR+ platform
- Leading SC Planning, Execution and Customer Service systems
- Global standardized and harmonized processes to support technology
- Sustainable and responsible Supply Chain practices

1. As defined by Gartner – SC strategy must lead to top 3 Chemical company and make the “Top 25 Supply Chain Organization” group
INFRASTRUCTURE IMPROVEMENTS & OPTIMIZATION INITIATIVES
1. **SHIFTING LOCAL & REGIONAL SHIPMENTS TO RAIL**

| **NATIONAL** | • Fulfilling long term national initiative  
|             | • Improved fuel efficiency  
|             | • Reducing road damages, less maintenance  
|             | • Compliance with Government directives  

| **NATURAL CAPITAL** | • Sustainability – reduction of CO2 emission  
|                    | • Fewer accidents  
|                    | • Avoiding spillage of fuel and product  

| **ECONOMIC CAPITAL** | • Greater market visibility through hub distribution & logistic support  
|                     | • Reduction of fuel consumption  
|                     | • Supply Chain cost optimization  
|                     | • Improved customer service – lead times  

**KEY METRICS & TRENDS**

- **Trucks**: ↓400,000
- **Road Maintenance**: ↓9.4 M $
- **CO2 Emission**: ↓86%
- **Fuel Consumption**: ↓75%

Source of image: Saudi Railway Company (SAR)
2. PLANT – PORT CONNECTIVITY

MORE RELIABLE CONNECTIVITY BETWEEN PORT AND PLANT TO ENSURE:

• Increased distribution efficiency & reliability
• Reduced risks of traffic congestion and accidents
• Integrated logistics chain approach

KEY METRICS & TRENDS

- ↓500 Trucks/Day
- ↓46% CO2 Emission
- ↓33% Energy Consumption
3. SUSTAINABLE TRANSPORTATION

SUSTAINABILITY: CLEAN FUEL FOR GAS CARRIER PROPULSION

- Stricter emission regulations in European waters (SECA)
- New ethylene gas carriers -- world's first LNG-fueled gas carriers -- equipped with dual fuel engines.
- LNG for propulsion >> clean fuel option with zero sulphur emission
  - > 90% reduction in soot particles and Nox
  - 20% less CO2
- Project LNG Bunkering → New LNG Bunker in SABIC "UK"

Co-financed by the European Union
Trans-European Transport Network (TEN-T)

LNG propulsion concept has inspired new US ethane supply chain to Europe for use in vessel propulsion
4. PARTNERING WITH SHIPPING LINES ‘SHUTTLE SERVICE’ FOR ASIA

HOW TO ENSURE CUSTOMER SERVICE LEVEL IS MET:

• Deliver high-volume products (i.e. Methanol, MEG, MTBE) mainly through hubs and terminals

• Large, dedicated, single-product vessels with offloading capacity to feed hubs and key customers

• Optimise costs, number & size of vessels:
  • Move products from plants to regional hubs in bulk
  • Plan inventory, frequency of arrivals and storage capacities at plants, ports and hubs

• Optimise Product Mix:
  • Small number of multi-product vessels used to smooth production peaks/troughs and 'mop up' volumes
5. END-TO-END OPTIMISATION TECHNIQUES

A. Integrated LP Feedstock Planning Tool

- Demand Planning
  - Business & Financial Planning
    - Demand forecasts
      - Target stocks
      - New products
  - Supply & Inventory Planning
    - Supply & inventory plan
    - Plant availability plan
    - Plant bottlenecks, Realized usages & yields

- Logistics Capacity Planning
  - Agreed plan
  - Proposed plan

- Production Planning Optimisation
  - Agreed plan
  - Proposed plan

- Scheduling
  - Plant measure-ments
  - Analog-digital signals

- (Real-Time) Plant Optimisation
  - Setpoints

- APC / Feed Maximisation
  - Setpoints

- Regulatory Control
  - Valve controls

B. Outbound Optimization

- Increase Supply Chain agility, efficiency & responsiveness...
- Volatility in shipments
- Inventory & Logistics cost optimization
6. UNIQUE DESIGN FOR SPECIALTY SUPPLY CHAIN

CONTEXT
New specialty chemical business launched in GCC. There are certain operation and supply chain characteristics where specialty chemicals differ from the Commodity business. We need to start shedding light to have a better understanding and prepare our Supply Chain (infrastructure and systems) of the Specialty unique operational & supply chain requirements needed.

COMMODITY CHEMICALS Vs. SPECIALTY CHEMICALS

COMMODITY:
• Primarily price-driven
• Fewer technical barriers
• Little or no product differentiation
• Less emphasis on marketing & product development

SPECIALTY:
• Low volume and high value added products
• Designed for specific applications
• Value-added pricing
• Focused on research & development
• Strong emphasis on customer service

SPECIALTY CHEMICAL PRODUCTS

- Cell Phone Keyboards
- Wire Connections
- Solar Panels
- Lexan Sheets
- Tire
- Tomography Machine

SPECIALTY SUPPLY CHAIN CHALLENGES
• Service-oriented business
• Small delivery volumes
• Special transportation modes (i.e. air freight)
• Customers are sensitive to on-time delivery
• Special packaging needs
HOW TO DESIGN YOUR SUPPLY CHAIN?
CONSIDER FOUR PILLARS IN YOUR SUPPLY CHAIN DESIGN

1. Feedstock and Raw Materials
   - Product flow diagrams
   - Identify optimal hub locations
   - End-to-End SC assessment
   - Conceptual design of intra-site logistics (off-site support facilities), storage & handling facilities (solids, liquids & specialties as applicable)
   - Conceptual infrastructure design of outbound logistic handling facility i.e. railway marshaling yard, tanks, berths, truck terminal..etc.
   - Inbound feedstock Supply
   - Inbound Non-feedstock Material (chemicals, additives..etc.)

2. Modeling
   - Supply Chain Strategy
   - Supply Chain operational model
   - Organizational design
   - Processes blue print
   - High level scope needs of transportation requirements from production plants to external storage facilities / port’s (pipelines, roads..etc.)
   - Operational design
   - Operation philosophy

3. Production Handling & Storage
   - ERP strategy
   - Defining Non-SAP Applications
   - Systems blue print for ERP & other business applications
   - System architect
   - System configuration

4. Product Transport to Port
   - High level assessment capabilities for 3PLs (third-party logistics providers) available in relevant markets
   - Evaluate export and import ports capabilities and capacities,
   - Define “Strategic” high-level global logistic network planning

5. Port Storage & Handling
   - Global Network modeling
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