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Logistics excellence – Today's disruptive forces require bold countermeasures

Act now to improve profitability and mitigate rail, ocean and trucking constraints

Logistics in the chemical processing industry is at an inflection point: geopolitical uncertainty and the increasing potential of an economic downturn coupled with gulf coast congestion, driver shortages and rail transportation service providers optimizing their assets to enhance profit margins requires a new approach. Chemical companies must take action now to mitigate risk, improve service, spend and working capital.

On top of these industry challenges, many specialty and commodity chemical producers are performing well below the benchmarks. This makes the need for immediate action even more critical.

The best chemical companies tightly manage working capital with 14 turns per year and spend 2.2% of revenues on transportation costs

By taking a more holistic and strategic approach your company will proactively mitigate risk, and significantly improve EBITDA. The strategies presented in this article will help you build flexibility and nimbleness in your supply chain and proactively address today's challenges.

Today's Challenges in the Chemical Processing Industry and Why You Should Be Concerned

Achieving logistics excellence is a challenge in the Chemical processing industry, especially when compared to other industries. However, in many cases, logistics is treated as an afterthought. Given the sheer volumes, hazardous nature and complexity of transportation modes, many companies spend two to three times the benchmark on logistics, in addition to tying up considerable capital in inventory. This is apparent at both commodity and specialty products providers.

The nature of chemical manufacturing is complex and includes synchronized processing of units that ultimately ship safe bulk and packaged products to customers. However, in most cases, logistics planning is not well integrated into the SIOP process. To compensate, manufacturing plants heavily rely on experienced planners at the plant level to ensure they have enough rail or truck supplied raw material and feedstocks, and the right carriers available for customer shipments. To further compound the problem, many plant level planners are retiring, leaving the planning of these critical logistics assets to a more junior workforce.

In general, Rail spend is not well managed. Rail assets are treated as a commodity with little to no focus on optimization and overall spend. A typical plant will have an abundance of rail cars sitting for "just in case" scenarios, or in many cases for bulk storage due to poor planning. What companies fail to realize is that rail cars are expensive. In addition to lease costs, rail service providers charge hefty demurrage, accessorial and movement changes. Similar dynamics apply to trucking and ocean freight. Without a good overall planning and optimization process, your company is likely spending too much.

In an effort to improve profitability, most rail service providers have moved to a Precision Railroading Model by optimizing rollingstock assets including locomotives, railcars and crews. While their profits have skyrocketed, chemical manufacturers are now forced to absorb the higher costs and longer car cycle times. With nearly 33,000 chemical carloads moved in the US weekly and 4,700 added daily, the impact across the industry is enormous.

A further compounding factor is Gulf Coast Growth & Capital Expansion. The combination of energy related feedstocks and downstream chemicals will be the next railroad commodity surge, causing even greater network congestion. By 2025, as much as $125 billion is currently projected to be invested in new US petrochemical facilities. Railroads simply do not have the infrastructure and capacity to support these new facilities, and Chemical manufacturers are already feeling the impact today.

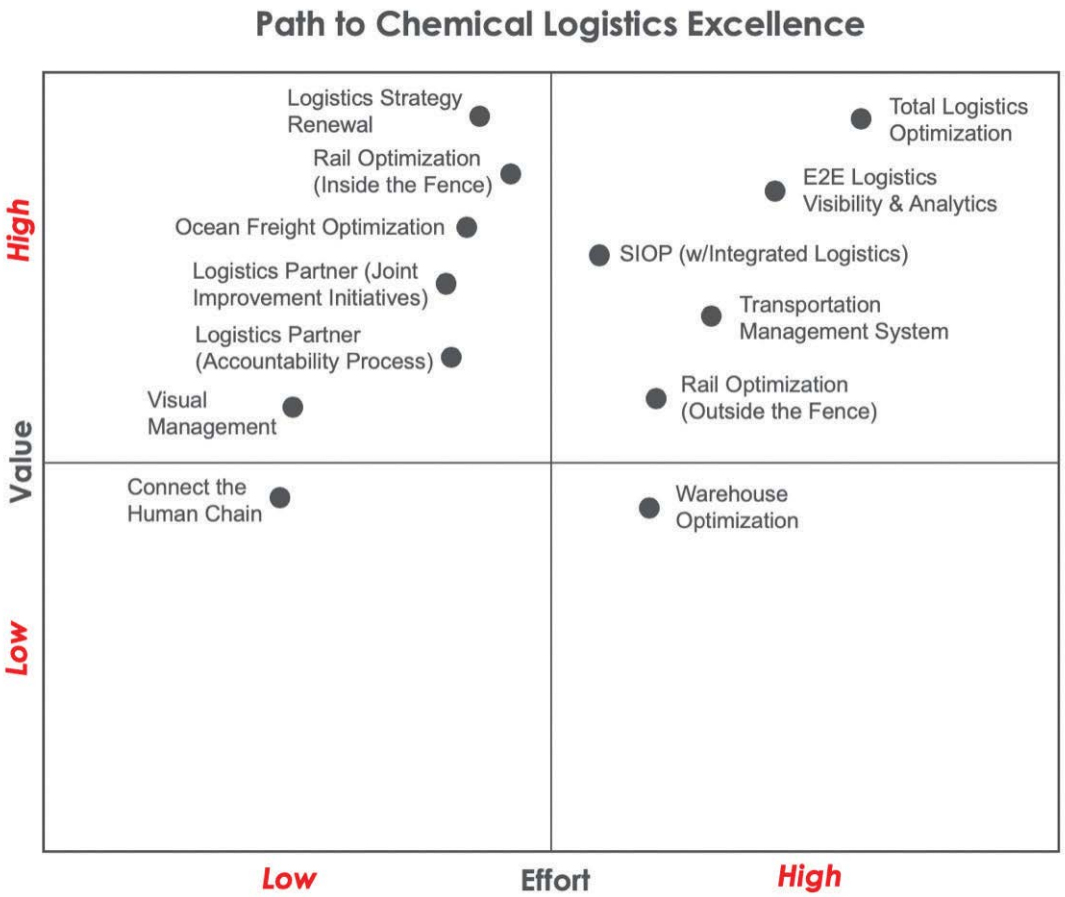
Ocean Freight movement is also becoming more complicated, partly as a result of geopolitical dynamics that are driving identification of new global sourcing markets. In most cases, these markets face infrastructure challenges for both raw materials and finished goods. The port and carrier infrastructure facilities and locations force longer lead times to move materials both into and out of the emerging sourcing markets. This is further compounded by continued port congestion on the gulf coast.

The driver shortages that the Trucking industry are experiencing is only likely to worsen, driving up costs and lowering availability. Recently, there have been a number of cases where drivers simply did not show up to work because they moved to other carriers for higher pay.

Lastly, trade wars, government tensions, and the potential economic downturn are causing some companies to pause and rethink their supply chain network and manufacturing footprint. It's become more and more important to anticipate and manage potential risks.

Action Now Is Critical…How the Best Performers are Navigating Through this Crisis

Building a new logistics excellence strategy to successfully mitigate these risks while maximizing profitability is critical. The world's best companies have established strategic imperatives including best practice processes, systems and tools to anticipate constraints and optimize logistics to increase profitability and reduce working capital. Key attributes of these initiatives are discussed below:



1.Think Strategically (Strategy Renewal)– Continually evaluate market dynamics, re-plan and optimize. By pre-planning and conducting early assessments of your overall logistics requirements, you can consolidate freight not only in terms of destination, but across divisions and plants within your organization. Merge existing and select new carriers that understand chemical regulatory requirements for shipping hazardous materials. Decide on a management approach and performance management system and implement it. Identify redundancies and waste in terms of cost and effort. The savings that can be realized through strategic thinking and a pro-active approach are nothing short of remarkable.

2.Integrate Logistics with SIOP– A comprehensive integrated business planning process and approach must reflect a deep understanding of current rail, over the road, and ocean transportation requirements and challenges, as well as opportunities to counter underlying changes in cycle time and costs. Logistics planning and optimization should be fully integrated into your SIOP process and communications.

3.Link Logistics to your Supply Chain– A best practice for transportation logistics involves adopting an "inclusive" approach to your total supply chain. For example, when you work with your suppliers, you are able to leverage new opportunities and take advantage of logistics synergies. By approaching your customers to discuss transportation options, you can add value to your products and establish a unique customer service approach to delivering the goods, while also planning strategically to keep costs down and improve your overall competitiveness. A revolutionary approach that is being adopted by many forward- looking companies is to look outside their own supply chain for partnering opportunities with other shippers. A collective approach can be highly effective by maximizing transportation volumes and minimizing cost.

4.Improve Strategic Partnerships– Logistics service providers are critical supply chain partners. Work towards your goals as a team, be aligned on performance metrics, and hold monthly progress reviews. Conduct joint improvement projects to identify savings and improve service. By transforming your providers into crucial links within your supply chain, you can work together towards reducing administrative obstacles, establishing excellent lines of communication, transparency, sharing technologies (such track and trace) and ultimately, lowering costs.

5.Deploy Rail Optimization Best Practices (Both Inside and Outside the Fence)– Implement strategies to right size rail car fleets, optimize car cycle time and cost, improve inside the fence operations, and hold railways accountable for performance. A car cycle time analysis will typically reveal further opportunities to take days and weeks out of the delivery and return

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cycle by sharing metrics and performance with customers and railways as a method to set standards and avoid fees. Optimize the class one return routing gaps by using triangulation routing to schedule movement of goods during return or repositioning of equipment. Properly managed inside the fence operations will substantially reduce inventories and costs. Other inside the fence optimization efforts can increase the utilization of loading and off-loading work processes and resources. Proper maintenance planning with predictive capability will improve car availability.

6.Implement TMS (Transportation Management System)– To further optimize performance, a properly implemented TMS is mandatory. Good TMS systems and processes automate optimization of routes, bidding, equipment, and drivers. These deployments tend to remove 5-10% out of the over the road spend while improving service for both common carrier and private fleet operations.

7.Deploy Visual Management and Connect the Human Chain– Ensure you have visibility of your entire logistics network including planned and scheduled movements. Implement visual performance indicators to anticipate changes and track progress to avoid disruptions and meet customer commitments. Ensure all employees understand what is required and they take ownership. Engage the front line in daily problem-solving meetings to accelerate decision making and ownership. Build teamwork and accountability.

8.Digitize to Provide E2E Visibility & Optimization– Chemical companies need real-time visibility of inbound and outbound materials by carrier type (Rail, Trucking and Ocean) to plan and run their operations. A robust logistics system is essential. Leverage technology to provide real-time visibility, analytics, simulation and decision making. ■

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About ARGO

The Argo chemical practice leverages industry experts with deep experience in supply chain and operations, and our "Best Run Chemical Operations Playbook to improve profitability and manage risk. We work with many global chemical processing companies to implement Rail, Ocean and Over the Road optimization programs to improve customer service, reduce working capital and spend.
www.argoconsulting.com

A Quick Example of How Argo Helped One Chemical Company Create Major Savings
Situation: A large global chemical industry client with rapidly increasing demand that outpaced production supply required them to build inventory and add costly static storage.

Solution: Argo developed an inventory management strategy using CPFR and rail car modeling to reduce dwell time and fleet size by 15%-20% resulting in total annual savings of $7M-$9M in a single location. This also resulted in reducing static inventory requirements by 4,500 to 8,000 tons.

Argo's proven team of industry experts understand how to rapidly transform your operations to **achieve breakthrough performance**.

Our results-driven experts come from the chemical process and petrochemical industries and bring years of experience driving step change operational improvement and ensuring *advanced sustainment**.

We understand heavily regulated, asset intensive industries and excel in **Manufacturing, Maintenance and Supply Chain Excellence and driving Merger Integration and Synergy Programs.**

We are different... Performance not PowerPoint. And we were recently ranked among the Best Small Firms to Work For® NINE consecutive years.

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