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TIPS TO TAKE
YOUR LIFE SCIENCES
SUPPLY CHAIN
DIGITAL



Companies that operate in the life sciences industries face a host of supply chain challenges including demand and supply uncertainty; market complexity and regulatory restrictions; mergers and acquisitions; pricing pressures driving the need for cost reductions; and the need for new supply chain capabilities driven by mass customization and more rapid new product introductions. Having the right products at the right place at the right time can literally mean the difference between life and death.

To ensure high customer care while meeting corporate objectives, life sciences companies must digitally transform their supply chain. This ebook offers five tips to help create a digital supply chain.



Benefits of a DIGITAL Supply Chain

- Automate routine tasks and focus on more value-adding activities
- Minimize risk and maximize opportunities
- Optimize multi-plant production, scheduling and labor resources
- Effectively manage complexity through concept to customer supply chain optimization
- Synchronize and align company-wide efforts

Competition in the life sciences industry is fast and fierce, driving increased speeds for new product commercialization even as R&D costs rise and regulatory scrutiny deepens. Traceability, serialization, product tracking and security all complicate compliance for a diverse set of product offerings. With complex factors affecting profitability, life sciences companies need to eliminate excess cost and inefficiencies from global supply chains by automating the routine and focusing resources on value-adding activities.

Digitizing the supply chain not only provides a means to end-to-end visibility, it also provides the foundation for automation through advanced capabilities like algorithmic planning, machine learning and artificial intelligence.

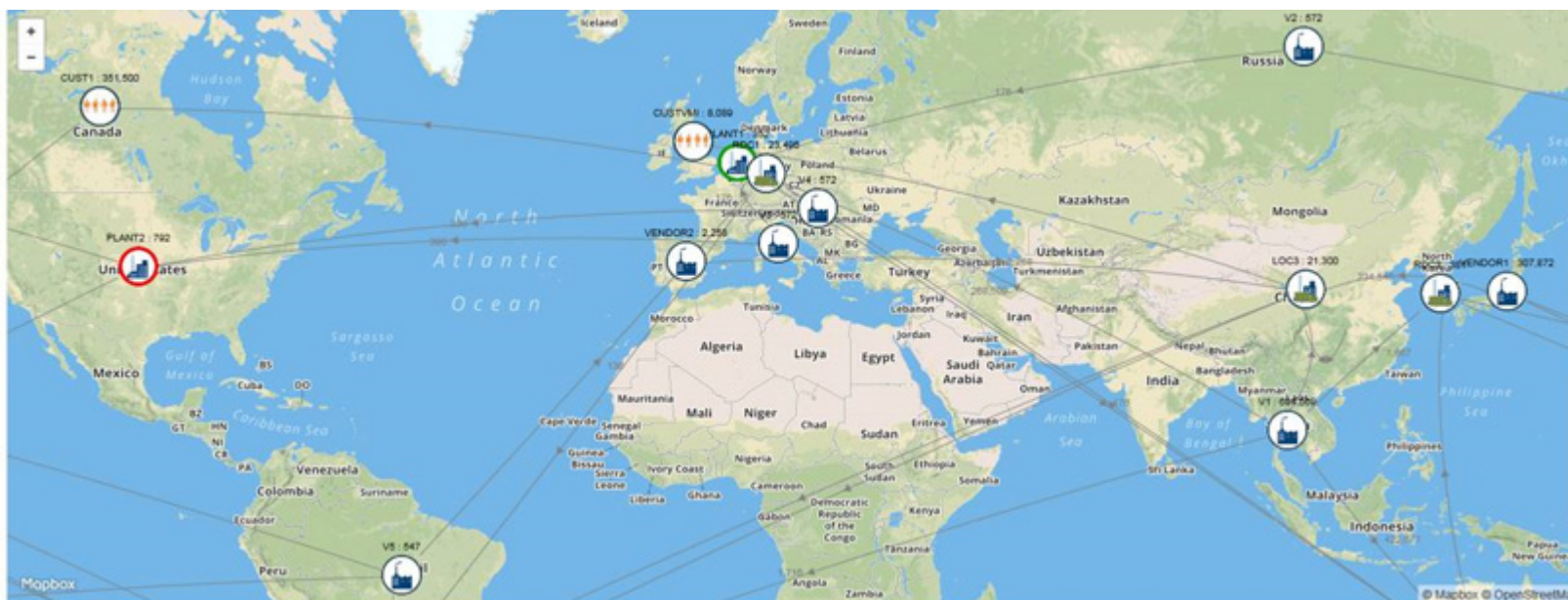


Figure 1: Geographical digital twin

Life sciences companies are innovation machines operating in a difficult landscape. Factors such as the demands of clinical trials and high product availability requirements contribute to a complex supply chain landscape. Whether involved in discrete or process manufacturing, right-sizing inventory is critical to minimizing risk and maximizing opportunities.

Multi-echelon Inventory Optimization (MEIO) determines the optimal buffer locations and quantities for all types of inventory across all interdependent tiers to optimize customer service while minimizing costs. MEIO allows you to shrink inventory buffers, reduce costs by as much as 30% while providing high-levels of product availability.

MEIO answers two questions simultaneously:

What is the optimal mix of SKUs that needs to be kept at each location and time period?

What are the optimal buffer locations of SKUs throughout the network and the resulting commitments in between echelons?

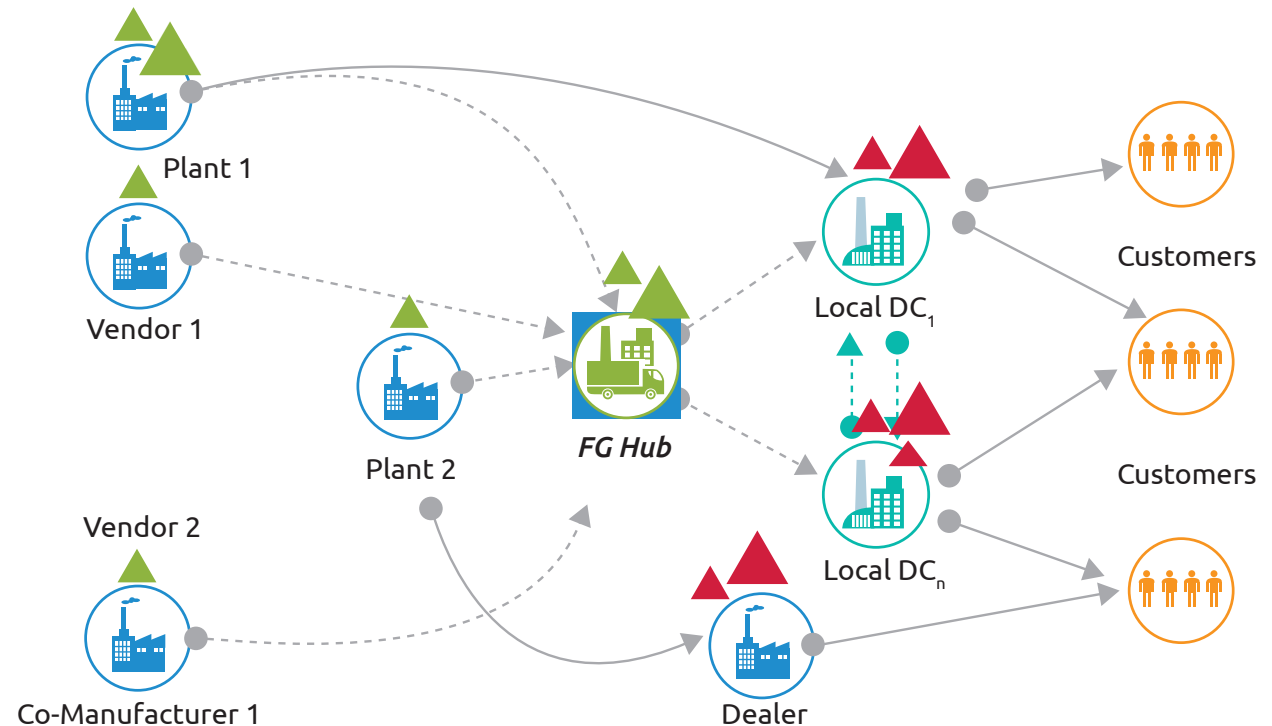


Figure 2: Logical digital twin

Life sciences companies are pressed by market demand for greater product variety and patient specific products. Shifting to flexible production capabilities enables efficient production of a greater variety of products, but adds complexity of multi-facility scheduling, where the same products can be produced in multiple locations.

Complex manufacturing operations require two levels of production planning:

- **Tactical**, in which aggregated levels of production quantities are assigned to production sites based on expected demand and known capacities.
- **Detailed**, in which batch processes are planned and plants are scheduled to meet projected demand and specific customer orders.

Integrating tactical and detailed production planning poses significant challenges but also provides the greatest payoff, in the form of system-wide efficiencies and customer responsiveness.

PRODUCTION PLANNING

TACTICAL

Aggregated levels of production quantities are assigned to production sites based on expected demand and known capacities.

DETAILED

Batch processes are planned and plants are scheduled to meet customer orders.

To make the optimal use of critical resources and inventory while meeting customer and forecasted demand requires supply chain optimization from concept to customer that considers all constraints, costs and capacities across the extended supply chain simultaneously.

Medical device makers have challenges around assembly, procurement and kitting, as well as deployment into healthcare offices or the third parties who serve them. Pharmaceutical producers use active ingredients in large batches (forming co- and by-products), or organic materials to grow compounds from single cells to production quantities. New product introductions for drugs, diagnostic material and medical equipment are priority-driven. Trade-offs between product characteristics, supplier capabilities, manufacturing efficiencies, inventory holding costs, replenishment frequency, and sales channels are complex. Effectively managing this complexity is key to maintaining high customer service while meeting corporate objectives.



*Play this 60 second
Concept to Customer video
to learn more.*

Sales and operations planning (S&OP) can assist with balancing capacitated supply with variable demand. However, those that take a spreadsheet-driven approach find that S&OP success depends on investing a significant amount of time manipulating data to develop a demand consensus and achieve a simple supply feasibility match. Advanced S&OP or Integrated Business Planning (IBP) enables a company to focus on tactical and strategic decisions that minimize risk and maximize company objectives while ensuring a continuous alignment between demand and supply.

It is extremely challenging to align supply capacity to variable demand for thousands of items, while meeting corporate objectives. The potency of ingredients changes over time. Technological advancement is swift. Product life-cycles are limited. Market share is won or lost based on how well a company predicts market shifts and how fast they can react to them. Synchronizing and aligning company-wide planning and execution can mean the difference between success and failure.

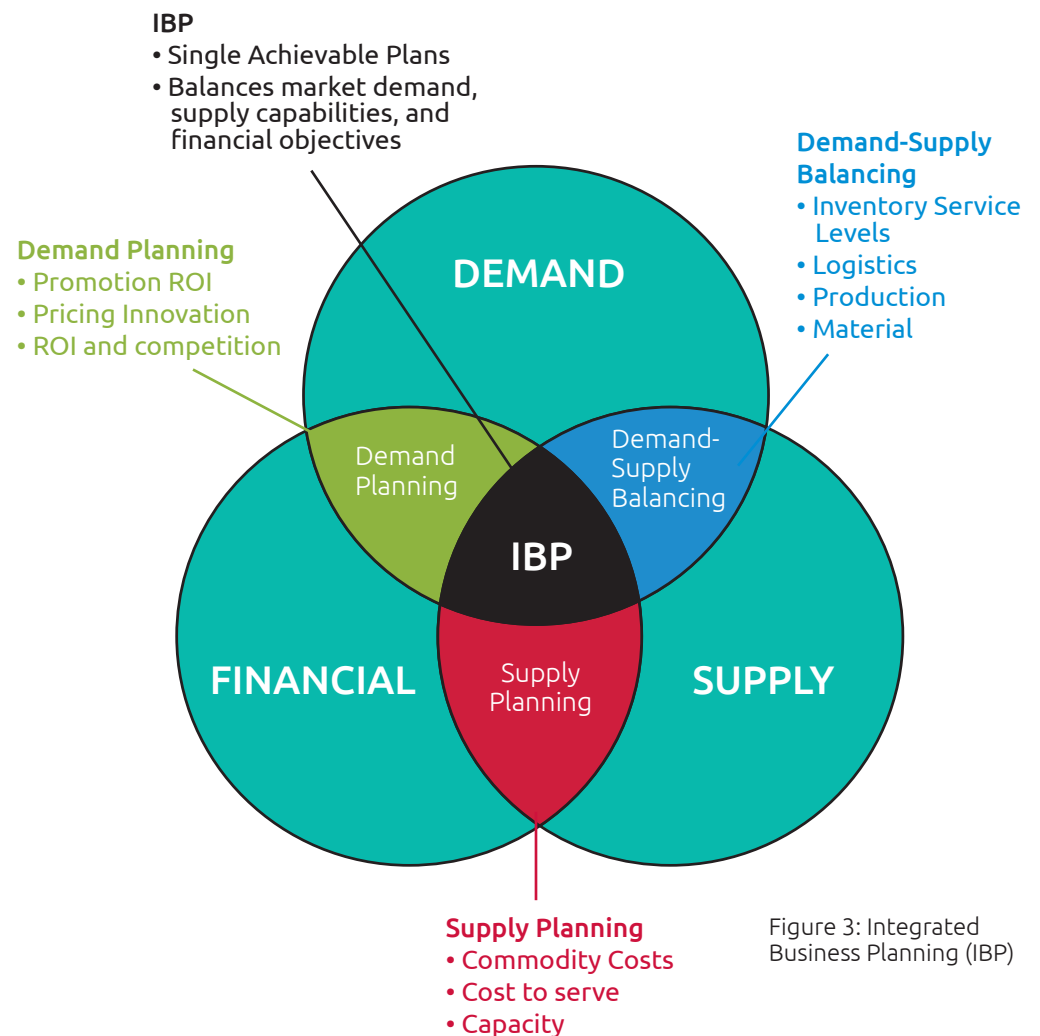


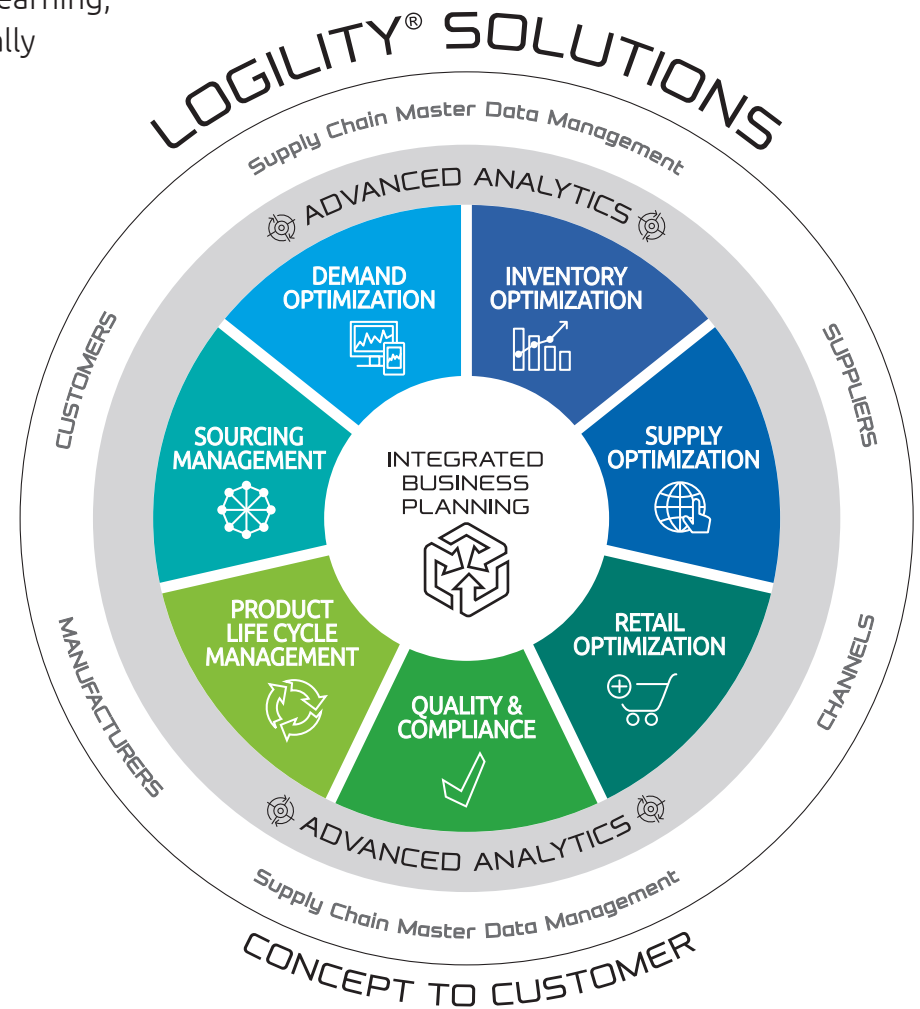
Figure 3: Integrated Business Planning (IBP)

CONCLUSION

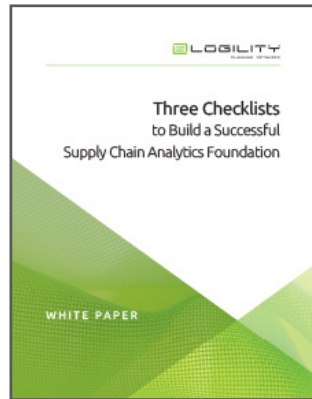
In today's hyper-competitive business environment, life science companies need their supply chains to be an engine for growth and a means to drive customer satisfaction. The availability of big data and advanced solutions—infused with optimization, machine learning, and artificial intelligence—makes the timing right to digitally transforming to smart, connected and agile supply chains.

An intelligent supply chain that uses advanced analytics to understand and respond to customer needs can speed up a life science company's ability to develop, commercialize, plan, source, make, deploy and fulfil value-adding services and products.

The transformation to a digital supply chain is challenging, but Logility can help. The Logility Voyager Solutions® platform provides advanced supply chain planning and optimization capabilities that can help life sciences companies optimize, automate and accelerate the entire concept to customer business process.



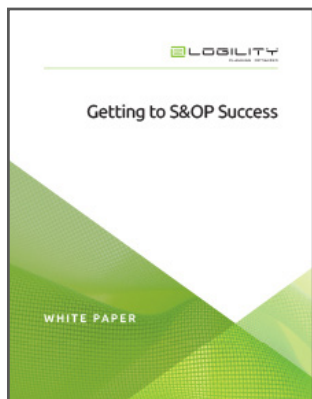
ADDITIONAL RESOURCES



Three Checklists to
Build a Successful Supply
Chain Analytics Foundation



Eight Methods that
Improve Forecast
Accuracy



Getting to S&OP
Success



The Inventory
Optimization Handbook

ABOUT LOGILITY

“Logility has the largest installed base of supply chain planning and optimization customers among application software vendors.”

Principal Analyst
Technology Evaluation Centers

Accelerating the digital supply chain from product concept to customer delivery, Logility helps companies seize new opportunities, sense and respond to changing market dynamics and more profitably manage their complex global businesses. The Logility Voyager Solutions SaaS-based platform leverages an innovative blend of artificial intelligence (AI) and advanced analytics to automate planning, accelerate cycle times, increase precision, improve operating performance, break down business silos and deliver greater visibility.

Worldwide Headquarters **800.762.5207**

United Kingdom **+44 (0) 121 629 7866**

www.logility.com

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