

Supply Chain & Distribution

Competition today occurs at the extended enterprise level, where the structure, capabilities, and performance of your company's supply chain and distribution system is often a greater determinant of business success than internal operations. ILS has helped many clients to design and improve these systems to eliminate waste, reduce costs, and enhance their ability to deliver value to their customers.

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[wptabtitle] What We Do[/wptabtitle]

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We apply ILS System™ to identify and implement structural and operational improvements in your supply chain and distribution systems. ILS System™ is a structured process for working with clients that starts by creating a clear future state vision of what a lean supply chain and distribution system would look like in your business and what it would accomplish. The future state is then implemented through a special engagement process with your people that results in fast transformation, strong learning, exceptional results, and change that sticks. See Our Approach for more information.

The advances we create together will be designed to meet your unique needs. They address areas such as:

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Extended enterprise value stream design

Your extended enterprise value stream starts at an appropriately low level in your supply chain, extends through internal operations, and ends with distribution of your products to customers. Here the goal is to structure and integrate the components of this value stream in a manner that creates new operational capabilities that enhance your ability to deliver value to your customers and create new, long-lasting competitive advantages. For example,

1. A rapid-response supply chain and manufacturing system can enable reactive buying strategies that respond quickly and precisely to this season's demands. This will maximize current sales and minimize end-of-season inventory obsolescence inherent in forecast-driven supply approaches. Such approaches are extremely valuable in businesses such as clothing retail and catalog operations.

2. Strategies where you provide and manage consignment stock at your customer's distribution network using their real time sales/consumption data can enable you to reduce demand variation on your plants and streamline internal production operations, establish low cost external logistics systems based on JIT principles, and streamline your customer's purchasing function. The relationship also creates strong barriers to

entry against future competitors that help to sustain business with that customer over the long term.

3. In a lead-time-driven business where quick delivery of custom designed systems is key, e.g., design and build of commercial HVAC systems, supply chain structure is critical to success and should complement your rapid lean product development system. Supply chain partners who have sourcing power and capability to sequence-build custom subassemblies immediately on demand can reduce costs, shorten lead times, and enhance your facility's operational stability through focus on core competencies, BoM simplification and reliable sourcing. These partners can also collaborate in your product design process to further enhance value delivery to your customers.

- **Lean Distribution**

Warehousing and distribution are highly amenable to lean approaches, and the performance gains when these approaches are applied are generally dramatic. These include a strong emphasis away from poorly synchronized large-batch or wave-driven systems. These systems require complicated hardware and generally result in non-value-added handling and consolidation operations. Instead, lean systems deploy order-driven flows where releases are designed to level-load work at each of the pick faces and pull mechanisms control synchronization in real time so that consolidation efforts are minimal. Great attention is given to eliminate non-value-added steps in put-away, picking, and replenishment and IT is designed to support low-waste processes with built-in quality control. Special slotting strategies and sorting methods can, if effectively designed, eliminate significant levels of motion waste. Stocking parameters are designed so that pull mechanisms can be used to drive pattern replenishment, an approach that reduces the risk of stock-outs at primary storage locations; levels replenishment workloads from day to day; and reduces the effort required to pick, sort, and put-away replenishment stock. Lean distribution is a field under development and ILS is a strong leader in the advance of new and innovative approaches.

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[wptabtitle]Our Approach[/wptabtitle]

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We work with our clients through a structured approach that we call ILS System™.

ILS System™ begins with a site visit and discussion about your needs. We then conduct a detailed assessment of your current state. In the case of supply chain and distribution, frequently map current state processes to identify system-level waste and opportunities for value creation. Operations are carefully observed with a trained eye to identify all forms of waste. Historical performance data and time measurements may be gathered. Through our learning and experience with many clients, we have developed lean models for distribution

operations (see What We Do) and various aspects of supply chain structure that we contrast with your current state to help in identifying improvement opportunities. On the basis of this information, we synthesize an achievable future state design that promises high performance gains, quantifying what those gains should be, in terms such as improvement in productivity measures such as lines per hour, reduced lead times, reduction of logistics costs, etc.

As part of the assessment process, we consider your internal skill sets and resources; training needs needed to support, sustain, and build upon the improvements; and the urgency for making them. This helps us develop an effective plan of action and select the best engagement models to use in implementing the future state.

An ILS Engagement Leader is assigned to your company. Working closely with key leaders and influences throughout the company, we prioritize and schedule critical improvement activities and identify leaders and teams for executing them.

Following ILS System™, we execute the projects through a form of highly effective operational improvement workshops called bootcamps. We carefully prep for bootcamps, completing the activities necessary to ensure rapid and effective operational restructuring during the bootcamp event, which typically lasts from 2-4 days. This might involve gathering data, conducting analyses, lining up resources, light fabrication, installing storage units, etc. During the bootcamp, your teams learn the principles, practices, tools, techniques, and underlying theories behind everything we do. They then design, pilot, implement, problem-solve, and confirm the effectiveness of the improvement projects. The days are long and the work is intense. But by teaching the participants, they understand, contribute to, and enthusiastically support the change. We set high goals and objectives and push the teams to achieve better outcomes than they believed were possible.

Other engagement models -€“ e.g., value stream design workshops or IT improvement workshops -€“ are employed depending on the projects and your needs. In all cases, we insure that everyone learns and can effectively support the future state system they create.

Once future state operations are in place, we typically follow through with an important component of ILS System™, the implementation of an effective lean daily management system that insure effective deployment of personnel, real time visibility of problems, and rapid and effective resolution.

It is often the case in Supply Chain and distribution projects that ILS will conduct special analyses and develop special tools for routine use in your operations as part of your future state process. Examples include:

- Tools for periodic re-slotting of inventory in your warehouse so that priority transfers of SKUs between locations are identified and a high pick density is consistently maintained along your primary pick paths as demand for your products change over time.
- Technically accurate procedures for designing stocking parameters in distribution and supply chain systems that actually achieve their intended service rate targets.
- Procedures to level-release orders in distribution centers so that work loads are

balanced across all pick areas. This makes it much easier to synchronize flows, minimizes the effort required for consolidation, and enables level staffing of pick areas across the day.

- Electronic dispatch boards for use in real time synchronization control.
- Pattern production and pattern replenishment system designs that build many different types of efficiencies into operations.

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Distribution Example 1. This large distribution center had a sophisticated WMS, hardware, and infrastructure, including flow rack presentation systems for each picking, voice pick, pick to light, conveyance/diverter systems used for carton flow control and sorting, and a sort lane system where cartons arrive for final pallet build. Wave picking was deployed in an effort to gain full carton pick efficiencies so that picks from common locations could be batched across orders.

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