# [Top 50 Steps Site Visit Executive Achieve Sustainable Logistics Design Strategies Across Supply Line Points]

12/15/2017

Site Visit Executive has established sound approaches to supply line logistics metrics showing it is not a one-size-fits-all solution. Each DoD Service is different and as such each service needs to adopt the strategies that best align with DoD vision and outlook for the future. Here are some steps manufacturers, suppliers, distributors, and retailers can take to encourage more sustainable supply practices and foster creativity and collaboration in engineering a more efficient end-to-end supply stream as technology moves forward at rapid pace.

1. Use Metrics to Stay Ahead of Known/Unknown Risks

By using metrics from field-level troops, Site Visit Executive can know what to create for them, and where they already are instead of the other way around. But DoD can't just suck up all the metrics out there and expect good results to pop out. Must use the right metrics, and use it correctly, to draw the right conclusions, or else it's garbage in and garbage out. There are so many metrics being collected now because of sensors operating on equipment. Now there are metrics suppliers can share with manufacturers and distributors and retailers, but what do we do with all this info?

2. Map Supply Chain Goals

In order to identify areas most in need of sustainable supply practices, Site Visit Executive must inventory all points of the supply pipeline to evaluate the operation. This includes evaluating vendors, third-party collaborations, and connections to other outside organisations to pinpoint points of inefficiency. Identifying potential drags on more sustainable model utilised by DoD will help planners and teams devise strategies that best address a particular point in the pipeline.

3. Establish Realistic Expectations

It's important to realise that sustainable practices and business goals or objectives are not necessarily competing propositions. Once a supply chain has been mapped and areas for improvement identified, teams assigned by Site Visit Executive can then communicate expectations about DoD sustainability benchmarks and progress-points to those inside the supply stream. Establishing these expectations also provides a roadmap for implementation that helps designate responsibility and accountability to right players inside the supply pipeline.

4. Create Baselines and Key Performance Indicators

Simple questionnaires, surveys, process info gathering, and other types of feedback and reporting are essential to Site Visit Executive monitoring the impact of sustainable supply logistics and making adjustments to existing DoD practices to foster greater returns on investment. Creating, sharing, and understanding how these key performance indicator metrics must be applied will also promote of inclusive operations throughout the supply stream.

5. Establish Training Programmes

Knowledge is power. It’s a cliché for a reason. Providing those within the supply chain literature, training, and education on the benefits and necessity of sustainable supply practices in today’s supply landscape will go a long way toward helping Site Visit Executive reimagine how DoD operates and functions in today’s global supply market. Several consulting organisations offer sustainability training and education programs, and companies should look at these programmes as investments in their future.

6. Assess Results

Simply taking the steps to implement sustainable supply solutions is not enough – in fact, that’s just the beginning. Site Visit Executive must remain vigilant as sustainable supply practices begin to take effect in order to enact any necessary course corrections and ensure the integrity and impact of sustainable DoD initiatives. Maintaining a watchful eye on the established metrics and benchmarks for progress will help planners achieve end-to-end visibility and transparency.

7. Create transparent pipeline

Site Visit Executive must have visibility all the way through the supply chain, from the materials that go into the product all the way to the end customer user. That’s the case no matter what the product/service. This isn’t a new concept but no less important — or challenging — to achieve because of all the partners and parts involved in supply systems. But as technology evolves, it’s much easier for DoD to get this type of information. Also keeps the pipeline transparent: talking to each other. It comes down to communication. Supply chain is complex, and everyone’s a part of it. If someone’s not communicating, it breaks down.

8. Build strong supplier administration

One way to keep communication channels open is to have a strong and communicative Site Visit Executive because what good is having a pipeline metrics established if no one at DoD looks at it or uses it? Or no one’s learning from it? Not much. It’s really a forum that allows a lot of two-way dialogue about efficiency process, changes and upcoming plans. If the team finds itself struggling with something, or felt like there was a gap in communication breakdown somewhere within the process, this forum is a gathering to allow for exchange of ideas.

9. Create outside-in, not inside-out supply chain

Creating an outside-in supply chain means using metrics to look at what consumers want and need and predict that demand instead of creating a product and hoping that it lands in the right spot and finds its market, Site Visit Executive is trying to be collaborative and enter these alliances to help DoD share metrics with teams that can make a real difference. That opens up a whole bunch of access points to communicate with all partners and having sound metrics in place because a weak link in the chain could expose everyone, including your customers.

10. Make sure Site Visit Executive has a seat at the table

It used to be that Logistics team would implement a business solution and then go away. DoD will not be successful today unless Site Visit Executive is on the leadership team, and part of the transformation project. Supply chain can no longer just be about cutting costs. When modern supply chain is working right the supply chain is recognised by leaders today as a growth function. Who is involved in supply chain is also changing. Lots of marketing and business people have roles in mitigating supply chain risk. They are now sitting at the table figuring out growth opportunities with Site Visit Executive

***Top 10 Site Visit Executive Q&A Detail Aircraft Systems Engineering Approach to Estimate Cost/Benefits for Mission Success***

As part of ongoing Reviews, Site Visit Executive has been tasked to investigate approaches to develop cost/benefit estimates for systems engineering build so military aircraft and guided weapons programs are delivered to end-users by responsive supply lines. We are interested in investigating design parameters, collecting historical metrics estimating techniques that can be used to better estimate utility of system design/produce programmes utilised by suppliers.

The Job sites we interviewed used a variety of techniques for developing System Engineering estimates, ranging from “top-down” models to “bottom-up” approaches. The type of model they use generally depends on the desired level of fidelity and level of detail of the estimate and on the maturity of the supply programme.

Top-down models typically use parametric approaches when little detailed information is known about programme.

Bottom-up approaches are used as a programme becomes more mature and better information is available that allows more-detailed comparisons with prior experiences.

Many aircraft system reports use historical metrics to develop parametric estimates that link cost/benefit to various independent variables like Speed.

The word 'parametric' is used to describe techniques in math that introduce an extra, independent variable called a parameter to make them work.

In the literal meaning of the terms, a parametric statistical test is one that makes assumptions underlying source sample populations to be normally distributed and measures derive from an equal-interval scale.

1. Contract cost/benefit breakout reporting define the content of internal/external work order categories to combine measures of effort for these functions under different conditions, or do you estimate and track them separately?

2. Are all system engineering functions charged as direct drivers i.e, size/duration of multi-year contract, programme complexity like number of work order drafts/reviews, weight and teaming arrangements, or are there any indirect costs that would be picked up in the overhead accounts?

3. How do major milestones i.e., time to first flight, time to first avionics flight, time to first guided launch affect system engineering cost/benefit estimates?

4. What independent variables are used to estimate the overall system engineering costs/benefits of typical programmes trends compared to previous projects—what do expenditure profiles look like?

5. For system engineering is there a steep ramp up and ramp down leading to a low level-of-effort for the duration of the development with peak spending rate related to a key milestone, such as Critical Design Review prior to supply of product?

6. What activities account for profile and how do they change through the development program- provide programme schedule overrun profile to provide the supply context of the programme?

7. How does fixed/variable estimation of tasks change when a programme moves from the Development phase into the Produce phase, ie percentage of manufacturing, cost improvement curve, fixed headcount into sustain engineering phase?

8. How does rate of units produced in a lot, number of Engineering Change Orders and increased use of performance-based supply logistics specs acquisition initiatives affect system engineering costs?

9. What is the effect of system engineering decisions pushing more of the design/trade-off assessments to preferred suppliers to be explored in the same amount of time at the same cost as historical programs, or is there an actual reduction of effort required?

10. How will Systems-of-Systems concepts acquisition initiatives affect system engineering estimates- What work content phased across programme time frames has changed?

***Top 10 Service Life Cost Structures for Product Supply/Support Upgrade training Components Availability/Reliability***

1. Base System Operation Costs for system to include including paying suppliers, fuel for the system, and so on.

2. Distribution Cost to supply the product to its field -unit destination for use by Troops.

3. Information Technology Resource Costs of supplying new system requires extensive info processing capability to accommodate on-board metrics will involve time added to the O&S costs.

4. Maintenance Costs incurred to conduct routine maintenance, at whatever level, including compatibility using Automated Maintenance scenario tools and resources.

5. Test and Support Equipment Costs associated with developing and acquiring diagnostic equipment and tools required for the new system how to use and maintain the new system.

6. Training Costs associated with all systems require some level of costs to train users and maintainers on hand how to use system

7. Supply Support Cost: Costs associated with supply of spare parts for depot for repairs, etc.

8. Retirement/Recycling Cost incurred when new system will reach the end of its useful life and must be appropriately discarded

9. Technical Info Costs to build library of metrics is vital for any complex system to include costs associated with collecting, maintaining, and assessing this tech info

10. In-Service Engineering and Logistics Costs associated with administration and execution of the service life requirements.

***Top 10 Engineering Requirements Translate Design Parameters into Budget/Readiness Goals for Supplying Specs Ensure System Perform***

1. Allocate the system-level requirements down to a level i.e., subsystem, component, or assembly level meaningful to the design and manufacturing engineers.

2. Inherent factors are a function of the time and money available for design and test, the robustness of design assessments, the available technology, and other competing requirements

3. Performance Factors Trade-offs between competing requirements are made to reach "optimal compromises." For example, it is extremely difficult to optimise both of two inversely related engine requirements for an aircraft, such as high reliability and high thrust-to-weight ratio

4. Trade-offs are made that produces an engine design that is reliable enough to ensure acceptable aircraft availability, but which still has an adequate thrust-to-weight ratio.

5. Support Infrastructure Factors include operating and supply/support concepts to ensure reliability performance. Specialisation of skills and other personnel policies will affect the operating and support concepts

6. The number of required spares as well as supply pipeline times within the support concept can be directly affected by the maintenance concept i.e., levels of repair, a single location/base performing maintenance for several locations, etc. and inspection

7. Spares supply line buys are determined not only on the basis of the maintenance concept and available funding, economic order quantities, and other factors.

8. Operating Concept Factors impacting supply to field-level units affect reliability/availability performance of any system

9. Must accurately account for the types of mission that the system will be subjected to, supply line requirements, the need for operations at remote bases, etc.

10. Operating Scenario type/location makes: reliability/availability performance function of the type/Locations to impose different stresses on a system than others

***Top 10 Systems Engineering Work Reach System Capable User Requirements function of Supply Line Logistics***

1. Must account for the entire service life of the system/capability acquisition.

2. Functions that systems engineering accounts for are development, manufacturing/production/construction, supply lines for deployment/fielding, operation, support, training, and verification.

3. Systems engineering ensures that the correct technical tasks are accomplished during the acquisition process through planning, tracking, and coordinating.

4. Development of total system design solution that balances cost, schedule, performance, and risk

5. Development and tracking of technical information required for supplier decision making

6. Verification that technical solutions satisfy customer requirements for timely supply

7. Development of a system that is cost-effective and supportable throughout service life

8. Adoption of the open systems approach to monitor internal and external interface compatibility for the systems and subsystems,

9. Establishment of supply line metrics baselines and configuration control

10. Proper focus and structure of supplier teams for system and major subsystem level design.