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Sustenance engineering vital to mitigate supply chain risks in MedTech industry

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Look for a partner with sustenance engineering and supply chain experience with safety-critical and regulated products



The pandemic has taught us the importance and need for sound healthcare infrastructure. In the current situation, not only has the demand gone up for medical devices, but it has also caused disruptions in their supply chain network.

The dilemma:

Usually, the manufacturing operations and supply chain work at a well-orchestrated synchronization. Medical device manufacturers work with numerous suppliers to source components and materials that go into the making of the final product. The quality and delivery leave an impact on the company's returns and brand equity. This delicate balancing – between manufacturing and supply chain operations - continues to pose a challenge even in today's technologically advanced world. Adding to this, the pandemic has only increased the pressure on supply chain operations.

The impact is visible on sustenance engineering efforts like remediation, design change management, and design transfer from one supplier to another. As sustenance programs need dedicated bandwidth of the skilled resources, the problem has only increased with the supply chain disruptions induced overload, delayed shipments, and subsequently resulting in loss of profits.

Additionally, the engineering teams are also grappling with the challenge to accelerate midlife feature enhancement programs and new product introduction programs, fulfilling the pandemic and post-pandemic market needs.

De-risk with a 2-in-1 approach:

Many supply chain disruption-related problems have a technical solution. For example, a minor tweak in the design can enable an alternate part to be used in manufacturing, or a legacy product may need remediation in its design documents for effective design transfer to a new supplier.

Essentially de-risking the supply chain bottleneck has two critical tasks in equal measures: Supply Chain and Engineering.

In a typical capital natured medical device portfolio, over 20% of engineering teams are invested in sustenance programs, and over 25% of the engineering budget is spent to keep the designs ready for production and aftermarket service. The need of the hour is to augment engineering capacity and strike a balance with the engineering budget, by bringing down portions of sustenance engineering costs. To do so, one will need to take a closer look at their engineering budget, identify the gaps and successfully manage them.

Most tasks in a sustenance program (say, 50-75%) do not require highly skilled engineers. Assigning the prime engineering talent in sustenance activities results in driving up the cost for most manufacturers. Moreover, this may also result in low team morale and reduced job satisfaction, as few may find these projects not-so-challenging.

One can easily address this problem by seeking partners outside the organization, who fulfill the required criterion of engineering and supply chain expertise for sustenance projects. This will come at a reduced engineering efforts cost while ensuring the programs are not delayed due to the limited nature of the in-house engineering capacity. Look for organizations that provide sustenance engineering and supply chain solutions under one roof. This can also aid in unlocking the full potential of the internal engineering talent pool.

The ideal partner to collaborate:

Outsourcing to an experienced provider helps in keeping the prime talent focused on innovations and preserve the competitiveness in the organization.

Here are some typical considerations on how to leverage an external partner. Starting with important and quick in delegating tasks:

- Scrubbing the BOM: Let the partner do this for the entire product portfolio in production. Irrespective of the known risks, an in-depth analysis of Bill of Materials (BOM) will unearth many hidden risks. Tasks like classifications of sourcing risks, availability of equivalent parts, alternate sources, and others are time-consuming, but valuable and critical data in risk mitigation strategies.
- Should Costing: Revisit the costing of legacy custom parts and assemblies. This will be useful in accelerating the re-bidding process.
- Remediation: Revisit the existing technical documentation of legacy parts and mitigate the accumulated technical debts. Should there be a supplier change, this refreshed and revalidated technical document can help avoid surprises and delays in sourcing from the new suppliers.
- Supplier Communications: Offload the regular supplier follow-ups and status update tasks with the external partner. This will free up the internal supply chain groups for more critical and specialized tasks.
- Options Analysis: For designs that need change, engage the partners to come up with alternate design options, recommendations, pros-cons assessment, and other similar activities. This will augment well with the internal team’s assessments, thus freeing up their bandwidth to focus on indispensable design tasks.
- Carve-out: Make a list of designs/modules/sub-assemblies that’s easy to define and needs minimal interfaces with an external design team. Keep an inventory of such a prioritized list ready, should a contingency come up to delegate the tasks. It will be relatively easy in making a prompt decision.

Look for a partner with sustenance engineering and supply chain experience with safety-critical and regulated products. Leveraging their experience in options analysis and tradeoff decisions are key while looking for an effective sustenance engineering partner. Hence, partners that have a wider geographical presence will be able to assist in exploring wider options and executing programs seamlessly.

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