



Systems Engineering: Are you ready to take the journey?

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Has your company started to change how it manages and shares engineering data and system development program information?

In the evolving world of information technology, managing system complexity and communicating critical design and program information in a collaborative and efficient way is difficult.

Attempting to transform large amounts of supporting design documentation from their multi-version and disconnected formats into dynamic digital versions, while keeping pace with rigorous program schedules, can feel nearly impossible.

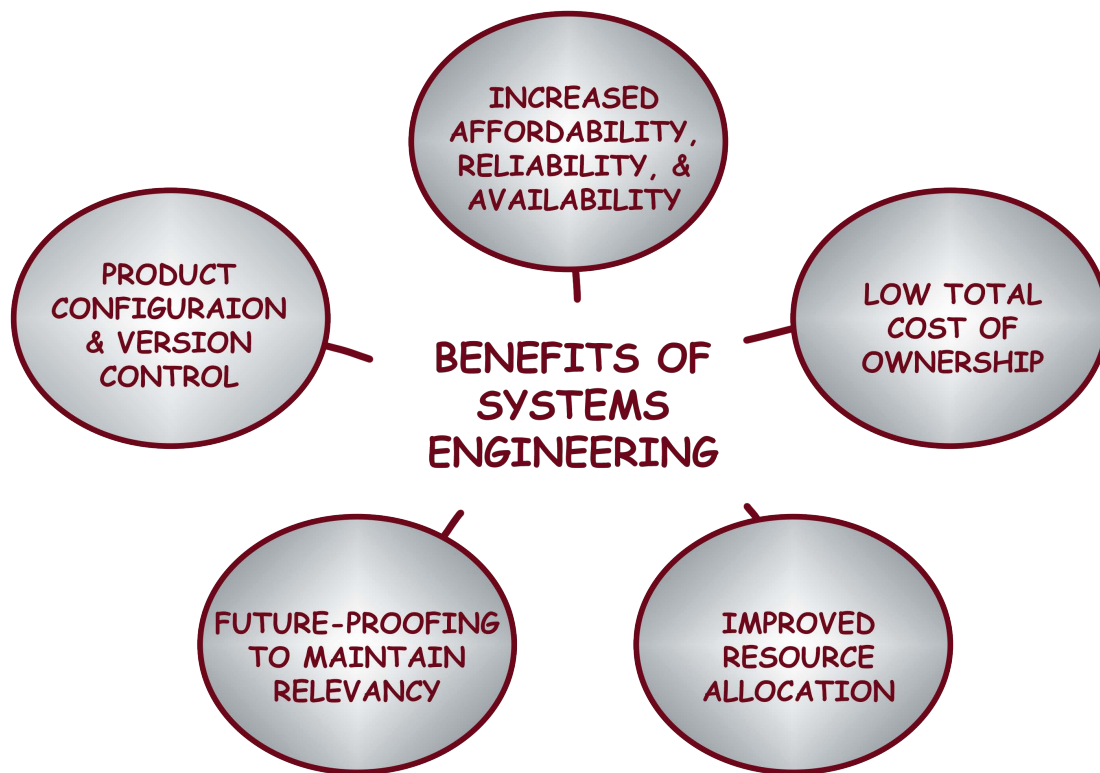
So how and where do you start?

Throughout the defense contracting and industrial sectors, **systems engineering** and **Model-Based Systems Engineering** (MBSE) are becoming increasingly common and even required methodologies when designing, developing, optimizing, and sustaining complex systems – and for good reason.

It is not uncommon for a company's systems to undergo early development activities without sufficient consideration given to the **challenges of maintaining the long-term support and cost-effective sustainment of the system's overall life cycle**. Unfortunately, this often results in unexpected system failures, costly downtime, greater total costs of ownership, and increased resources needed to resolve these problems.

By implementing traditional systems engineering and MBSE practices, your company can more effectively manage its system's lifecycle and ensure that its system architecture maintains consistency and meets customer's functional and performance expectations. This can be particularly important when there is a heavy organizational reliance on legacy support systems and non-digital or disconnected documentation, regardless of your sector—defense, aerospace or industrial.

Just like with any tool, it comes down to how well the tool is being utilized. **Adopting a model-based approach** to system architecture development and documentation can help to **improve the overall performance, reliability, affordability, and sustainment of complex systems.**



Engineering organizations, including their leadership, must first understand the commitment required to implement and sustain such an initiative. There is often an assumption that a modeling framework such as MBSE can be adopted with limited time dedicated for implementation, training, or organizational understanding and still be successful. However, the truth is that MBSE and the System Modeling Language on which it is based, is a paradigm that requires a minimum fluency and general understanding by everyone involved in order for it to be leveraged effectively throughout an organization.

Therefore, **it may be necessary to invest in external resources to assist the transition of your system designs into MBSE models allowing you to stay focused on your company's key products.**

It's important to choose a partner who can guide you in the right direction and take on the heavy lifting while minimizing the impact on your operations and staff. As a systems engineering agent to the DoD, Systems Innovation Engineering (SIE) brings significant experience and expertise, coupled with the engineering disciplines of our system engineers and modelers to help implement systems engineering or further leverage a company's existing investment.

Furthermore, we bring **deep knowledge and experience in threading MBSE into a company's downstream physical design and support solutions, including Product Data Management (PDM), Supply Chain, and Maintenance Repair and Overhaul (MRO).**

To begin this journey and partnership, let SIE provide you with a complementary systems engineering consultation and assessment to better understand your engineering organization's unique requirements and begin creating a custom systems engineering and MBSE integration plan for you today.

Give us a call to talk further and explore all you have to gain by implementing systems engineering practices into your organization!

SIE – We protect your future.

