Challenges

A typical challenge related to the sustainment and after market support of a part includes:

The lifecycle support of the platform is not considered during system acquisition. What happens after the steady state manufacturing of the weapon system or part comes to an end and the platform moves into sustainment? The costs to sustain the platform can easily exceed 50% of the original cost to manufacture the part. Was the sustainment of the platform a consideration during the design of the original supply chains? Is the Original Equipment Manufacturer (OEM) going to provide legacy parts or performance based logistics (PBL) support? What is the impact of a global customer base with a global supply chain for the parts being sustained? Who owns the technical data? Who is the engineering authority?

The Solution

The following solution provides both a planning methodology and an implementation strategy to address the needs of the program:

Planning

- **Product life cycle review:**
  - Technical data review for the product
  - Establish present and projected level of demand for the product

- **Expected field life of the product**

- **Repair/maintenance analysis and plan:**
  - Develop high wear components list
  - Consider periodic technology refresh requirements
  - Establish a reset/triage strategy for surge scenarios

- **Create a parts production plan for repair/replacement parts**

Implementation

- Implement the parts production plan using a software infrastructure to manage sourcing events, supplier capabilities, technical data and the recommendation of who should receive the purchase order.

- Provide a method for visibility of the purchase orders in support of the manufacturing process between suppliers.

Solution Benefits

The key benefit to this solution is that it provides a proactive approach to lifecycle support of the product. For legacy products in need of sustainment support, the solution provides a scalable framework for implementation.
Implementation

The professional services required for cost modeling are as follows:

- **Phase 1 – Planning**
  Determine the “as-is” state of the part/platform in need of sustainment or after market support. The deliverable is a summary report of the “as-is” state and the “to-be” requirements, which serve as basis of the Phase 2 Design of the program.

- **Phase 2 – Design**
  Based on the “to-be” scope of the needed production and the size of manufacturing capacity, the production plan proposes a “to-be” supply chain tailored to meet the needs of the client, including the assessment of the technology needed to support the program.

- **Phase 3 – Implementation**
  The production plan is implemented, using technology as needed. Typically, the plan is implemented on a part-by-part basis.

- **Phase 4 – Support**
  Provide ongoing support as needed.

About the Electro-Optics Center

The Electro-Optics Center (EOC), a proud part of The Pennsylvania State University, is a hybrid between the best components of a university and those of private industry. This relationship allows us access to the university’s researchers and scientists, its state-of-the-art facilities and leading edge research.

Our staff, comprised primarily of former industry and DoD personnel, brings experience in exceeding sponsor and corporate expectations. Through the application of this hybrid model, the EOC is able to provide its sponsors with solutions that combine leading edge research with on-time and on-budget deliveries. Learn more at www.eoc.psu.edu.