Challenges

The design of complex parts often ignores the cost targets for the desired product. Typical challenges include:

**Designers do not factor in the target cost of the product into their initial design.** The design of the product proceeds with little understanding of all of the cost factors, including engineering, materials, tooling and the manufacturing process required to make the product.

**Experience cost problems when scaling production from low to high volume.** When product prototypes are made in a low volume environment, the cost factors to scale the manufacturing process are often not clearly identified or anticipated.

**For legacy parts, the procurement history drives the price of the part.** The customer often has price expectations, based upon historical expenditures. Current pricing often exceeds historical pricing due to the size of the order, the current price of raw materials, the availability, accuracy and completeness of technical data and the availability of fixtures required to make the product. What “should” the part cost?

The Solution

Cost modeling software, proactively integrated with the product development process, is critical to the ultimate success of a product. The program requires the involvement of the appropriate costing experts early in the design process, who can factor in the “target” cost requirement as needed for accurate product costing.

The benefits to cost modeling include:

**Reduces risk in the product lifecycle**

Including target cost factor early in the development process ensures the success of downstream efforts to manufacture the product at the desire price point. Product costs can be better predicted based on specifications, CAD models, and process information.

**Reduces the product lifecycle**

Time to market is improved by reducing engineering change orders made necessary by cost overruns.

**Potential reduction in cost**

By understanding the factors that drive the cost of the product, the design team can proactively make wise decisions regarding the targeted price in the lifecycle.
Implementation

The Professional Services required for cost modeling are as follows:

- **Phase 1 – Discovery**
  Determine the “as-is” product development cost modeling practices.

- **Phase 2 – Design**
  Determine the proposed “to-be” process and best practices that would be implemented using the cost modeling software.

- **Phase 3 – Implementation**
  The tasks needed to implement the cost modeling software, including process and best practice improvements and training key personnel, to create cost models.

- **Phase 4 – Support**
  Ongoing support of the software and cost models created.

The cost modeling solution requires a software application such as Cost Vision (www.costvision.com). A demonstration of the software can be provided.

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.