



Cost estimating for low volume, long-life products in electronic defence systems

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Cost estimating is a business process area that is critical to many industrial sectors and in particular, the defence sector, where many products have low volumes and long life cycles (e.g. 30-40 years). This project focuses on defining a new methodology for costing products of this nature by creating a hybrid bottom-up and top-down cost prediction approach at sub-system level. Achieving this goal will assist UK manufacturers of electronic defence products to compete in the world market. The combined features of varying customer requirements, multiple sub-systems, highly complex and long lifecycle products means that conventional parametric approaches are impractical and highly unreliable for estimating lifecycle costs.

This project will exploit the fact that these systems are invariably modular in design and production, and they are typically owned by a functional department and so that their costs can be estimated with greater precision. The deliverables from this research will be guidelines for a data-driven integrated cost modelling approach to cost prediction that is built upon identifying appropriate sub-system levels and defining the decision rules that will enable industrialists to position their effort on key elements within these sub-systems. This will be achieved by classifying the methods and techniques and evaluating the rules for estimating cost information from the concept design phase through to actual cost of the designs. From this, an overall cost prediction methodology that can be used from the early concept stage cost estimation through to 'real costing information' will be created. This methodology will focus on through life information, i.e. integrated costing approaches from the initial concept design stage to the in-service and disposal stages.