



## **Systems Engineering Estimation & Decision Support**

The SEEDS team is part of the Aerospace Manufacturing Research Centre (AMRC) - <http://www.uwe.ac.uk/cems/research/centres/amrc.html>. Our expertise is in working with organisations mainly those involved in manufacturing or distribution of products. We apply techniques for managing, categorising and visualising information to support costing of complex products and managing of supply chains.

Our main area of research and consultancy is that of software techniques for analysing and reporting on the costs involved in design and manufacture of products, and integrating such tools into the infrastructure that exists in organisations.

We are involved in cost modelling solutions, and have experience of working with aerospace and other organisations. We have been working with Rolls-Royce aerospace, Airbus, a wholesaler supplier, and Koala Publishing. Research projects have involved providing means to visualise cost information generated by estimation packages, essential for cost estimation. Visualisation of the cost information permits in depth analysis so as to locate high cost and risk. This is aided by our knowledge of Semantic Web technologies. The Semantic Web is an approach invented by Tim Berners-Lee (a UK physicist), for information sharing and retrieval. This technology is more affordable than traditional software development and enables integration of software systems.

We provide collaboration and consultancy through Knowledge West with Bath University and a cost modelling collaboration with Southampton University and companies including Rolls-Royce. We also provide continuous professional development training and education with AMRC, and Bristol University.

The SEEDS group is among the leaders in the development of software packages to guide aircraft designers, such as the Affordable Composites Evaluation System. Such packages give an immediate indication of the costs of designs, enabling these to be kept to a minimum without compromising performance or safety. In another project, the Implied Cost Evaluation System (ICES), a dynamic software package has been developed enabling companies to take cost into account at the early 'conceptual' stage of the design process when major, and expensive, elements of the design process are evolving.

A further project, the Design Analysis tool for Unit-cost Modelling project (DATUM), applies the ICES technology using commercial, web based tools. We are working to enable users to program by means of our Semantic Web research and consultancy. To achieve this we are using a systematic computer independent approach to our Decision Support and costing modelling.

**SEEDS Web site - <http://www.cems.uwe.ac.uk/amrc/seeds/>**

**Tel: +44 (0)117 32 82474**

**+44 (0)117 32 83820**

**Email: [Robert.Marsh@uwe.ac.uk](mailto:Robert.Marsh@uwe.ac.uk)**

**[John.Lanham@uwe.ac.uk](mailto:John.Lanham@uwe.ac.uk)**