BMT Reliability Consultants (BMT) is supporting the UK Ministry of Defence (MoD) and UK Industry partners with concept design and product evaluation and support of future Submarine Combat Systems.

BMT provided a concept and design service to support the Submarine Combat System Design Evolution Team as part of a joint MoD and BAE Systems study into qualification and management of COTS procured equipments.

BMT’s role was to design, support and deliver a technical demonstrator to prove the feasibility and performance of an electronic data management service that could deliver accurate feedback on:

- MoD-utilised COTS equipment;
- Qualification status and levels achieved in all disciplines, for example, EMC, Toxicity and Security;
- Warnings and history reports;
- Obsolescence data and qualification expenditure reporting.

The demonstrator is an intuitive, data collection and analysis system capable of providing up-to-date information on recently reviewed or procured equipment and the types of testing conducted together with supporting qualification information. This enables supply chain users to assess equipment that may have already achieved qualification in similar or other environments for further use elsewhere thus having the potential to deliver significant cost savings whilst reducing implementation times and delivering increased equipment in-service life.

**KEY BENEFITS:**

- Delivers ‘real-time’ total visibility of COTS procurement to a wide user community;
- Centralises qualification data in a single resource;
- Supports obsolescence management;
- Prevents procurement process duplication and delivers cost savings;
- Improves in-service life timescales.

**KEY FEATURES:**

- Provides visibility of asset availability, qualification criteria, current usage, reliability issues and user feedback;
- Enables users to make instant decisions on equipment suitability without undertaking lengthy investigations and incurring unnecessary costs;
- Identifies whether equipment is fit for purpose and can be used in specific environments;
- Can be tailored to meet specific requirements.
THE CHANGING ENVIRONMENT

The introduction of open architectures is rapidly changing design through the insertion of COTS. Technology refresh programmes and support regimes are being established to overcome obsolescence and reduce Whole Life Costs and systems will therefore evolve rather than undertake step change.

The reluctance to continue with the development of legacy systems and use COTS provides a greater choice of potential equipment. Organisations can benefit from centralised data capture enabling suitable systems and equipments to be selected, integrated and refreshed simultaneously. Control over obsolescence management and the rate of refresh can also be regained in a rapidly evolving market.

INDIVIDUAL NEEDS

The environments in which Submarines operate demand the highest standards of safety and assurance possible to safeguard both, crew and equipment. Utilisation of COTS equipment requires extensive testing and qualification to support risk management criteria and meet safety case conditions in accordance with MoD standards. The COTS database demonstrator enables individual needs to be targeted and provides variable levels of reporting depending on individual user requirements.

COST BENEFITS

To prevent duplication of effort and loss of existing results, the COTS Database provides a central support service to improve information flow and reduce the workloads placed upon the user. This allows results and data to be shared and will help to improve efficiency during procurement. It can also help prevent unnecessary costs through the wrong choice of product. Through analysis of the data captured it is possible for organisations to benefit from previous experience and as technology refreshes take place the potential to redistribute existing technology (to maintain availability) can be utilised.

Through user interaction, the COTS database can generate reports and outputs which can identify and deliver cost savings, reduce timescales and promote organisations to share and learn from experience ultimately enabling any user to deliver value for money.

Acting as independent auditor, BMT’s role will be to review and validate all data collected for completeness, consistency, and accuracy. Using the Web or secure intranet as necessary, any authorised user can log in and review data in real time. With the use of the in-built analysis tool, users can review in-service achievements, current procurement updates and access data on Utilisation, Availability, Reliability and Qualification data.