BMT Defence Services

PLATFORM CAPABILITY ASSESSMENT TOOL

Developing and analysing capability, and generating cost estimates for Naval Platforms is integral to the progress of platform design and the development of an optimal Fleet Mix. BMT has developed a Naval Capability Assessment Tool to assist both the end customer and the engineer to understand critical aspects of design, across a complete fleet.

PLATFORM UNIT PROCUREMENT COST (UPC) TOOL

UPC Tool uses a variety of inputs from a vessel's design to generate cost. These include weight breakdown, engine power, equipment fitted, electrical load and initial & design costs. Output Cost can be shown for build options in various regions of the world. The tool includes differences in labour capitation rates, steel prices, shipyard facilities, productivity and independent bench-marked 'best practice' ratings. Output can also show the reduction in UPC across a class of Ships due to series building and learning factors.

BMT PLATFORM CAPABILITY ASSESSMENT TOOL

To mitigate cost and complexity escalation, the designer and end customer/operator needs to understand the impact of capability decisions on the design. The tool:

- Links equipment options to established Maritime Doctrine;
- Ensures equipment options, operations, roles and capabilities are incorporated and their relationships mapped. This provides an output for the Platform against Doctrine;
- Is fully auditable; the reason why a Platform receives a particular result can be easily traced;
- Can be used within the concept and design phase of a new Platform to compare different concepts and designs or compare existing native/foreign Platforms;
- Can be integrated into the Business Case to provide a strong base of evidence for capability requirement decisions.

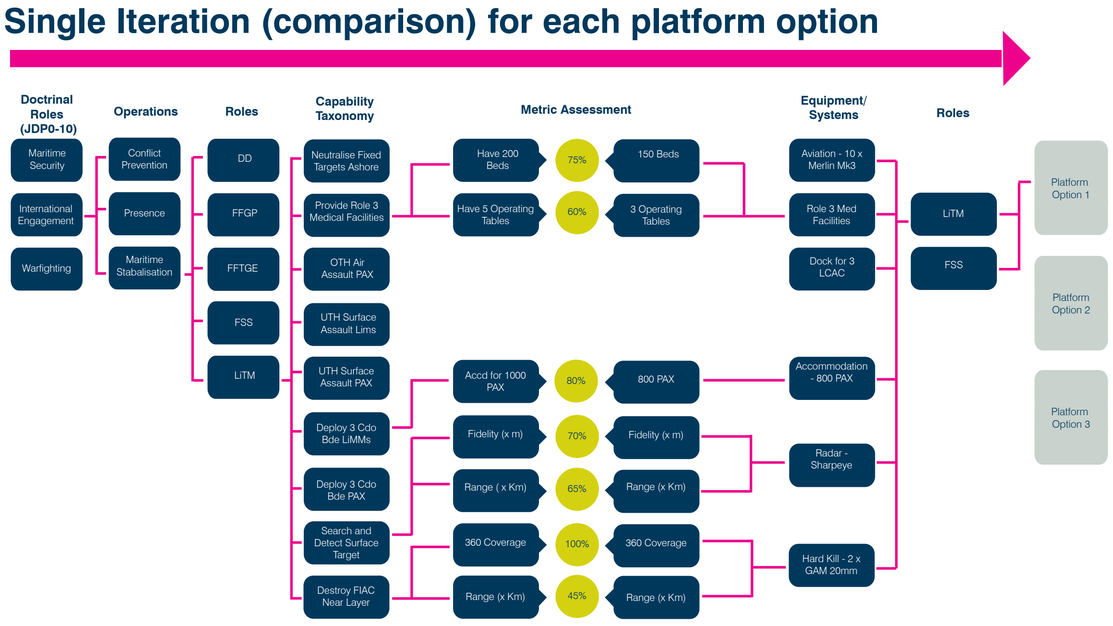
THIRTY YEAR THROUGH-LIFE COST (TLC) TOOL

Our TLC Tool gives an indication of the likely cost of running a platform for 30 years. Factors taken into account include:

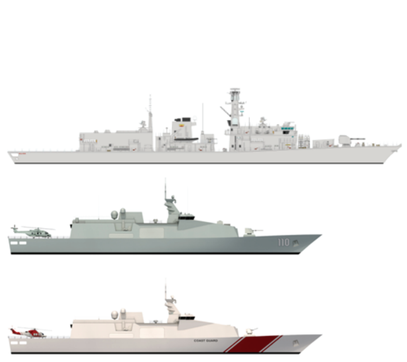
- Manpower Capitation Rates;
- Fuel Costs (including Lubricating Oil costs);
- Cost of consumables;
- Maintenance Costs (MP1-4);
- Mid-Life Update Costs.

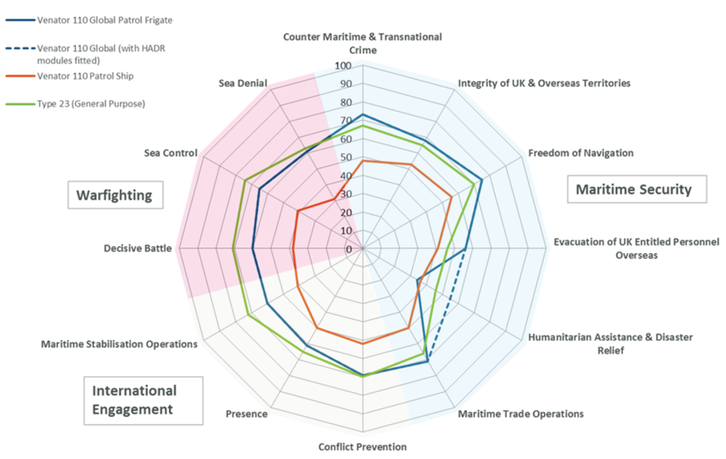
SINGLE PLATFORM ANALYSIS

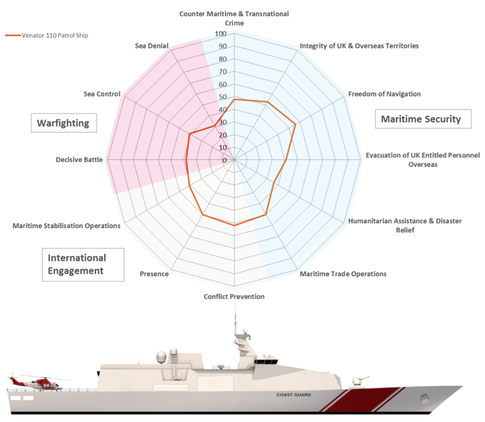
Single Iteration (comparison) for each platform option



Combined Capability Plot





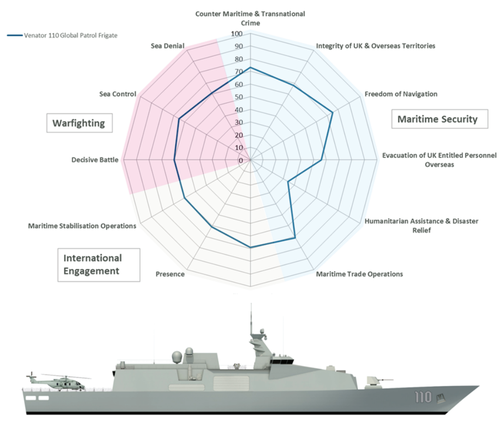


UPC – UK Build	
UK UPC Single Ship	£218 M
UK UPC Class of 6 Ships	£126 M
UK UPC Class of 15 Ships	£113 M

UPC – RoK Build	
RoK UPC Single Ship	£160 M
RoK UPC Class of 6 Ships	£95 M
RoK UPC Class of 15 Ships	£87 M

30 Year TLC	
Single Ship	£1,387 M

Cost to Procure 15 Ships & Run for 30 Years
£22,506 M

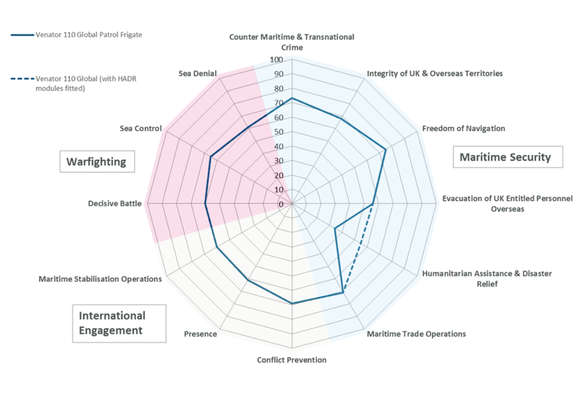


UPC – UK Build	
UK UPC Single Ship	£242 M
UK UPC Class of 6 Ships	£151 M
UK UPC Class of 15 Ships	£138 M

UPC – RoK Build	
RoK UPC Single Ship	£184 M
RoK UPC Class of 6 Ships	£120 M
RoK UPC Class of 15 Ships	£111 M

30 Year TLC	
Single Ship	£1,934 M

Cost to Procure 15 Ships & Run for 30 Years
£31,078 M



FORCE MIX ANALYSIS

Multiple Iterations (sum) for each platform in force mix