

Options Analysis



Sula provides high quality, independent analysis of complex options in a wide range of equipment and acquisition domains. We develop robust and auditable assessment processes, using our expertise and engineering judgment to bring clarity to the most complex of subjects without compromising the detail needed to distinguish between different approaches or concepts.

Our Expertise

Options Analysis can be applied at a wide range of levels, from detailed trades of technologies and components through to the development and assessment of strategies providing long-term guidance across a broad domain. Our expertise covers this entire range.

- Sula helps the customer produce a clear and justified boundary to the problem, taking into account capabilities that are delivered by other assets in an increasingly networked environment.
- Through focussed stakeholder consultations, we identify the full extent of the potential solution space and develop credible options to span this space.
- Sula applies pragmatic engineering judgement to develop and apply a rigorous assessment process that delivers sufficient fidelity for the task, simplifying the problem without sacrificing the ability to capture all relevant behaviours, eg. adaptability to a changing military environment.
- We produce a clear understanding of each option and its benefits and drawbacks, together with a justified down-selection of options for further consideration.

Future Helicopter Strategy

Sula helped the MoD devise the strategy for providing helicopter lift capability over the next 25 years.

Recent operational experience suggests there are gaps in the current capabilities, and planned out of service dates are looming for some platforms.



Equipment options included life extension programmes, modifying existing platforms to provide swing-role capabilities and the acquisition of new platforms. Sula also considered a number of acquisition strategies including conventional procurement of platforms through to contracts for the provision of a defined operational capability comprising trained personnel and helicopters where and when needed.

In consultation with all major stakeholders, Sula developed a series of acquisition strategy options for helicopter lift, and a robust process to evaluate them. We identified the most cost-effective option,

For more information about Sula and how we can help you, please contact us on 01453 844660 or email info@sula.co.uk

and produced a decision support tool allowing the customer to examine the effects of varying underlying assumptions of the acquisition strategy.

Our analysis also suggested that significant improvements in front line capability could be realised through alternative commercial approaches and the increased utilisation of training aircraft.

Future Mine Countermeasures

The Future UK Mine Countermeasure (MCM) strategy sets out a vision to transform RN MCM through a mix of Portable, Organic and Dedicated systems.

Sula identified and explored feasible options for the Dedicated strand, analysing a very wide range of potential platform and MCM systems and operational concepts in terms of cost, capability, risk and maturity.



We brought clarity to the complex problem of how to measure through-life capability and cost of very different MCM concepts, particularly when the options have very different out of service dates.

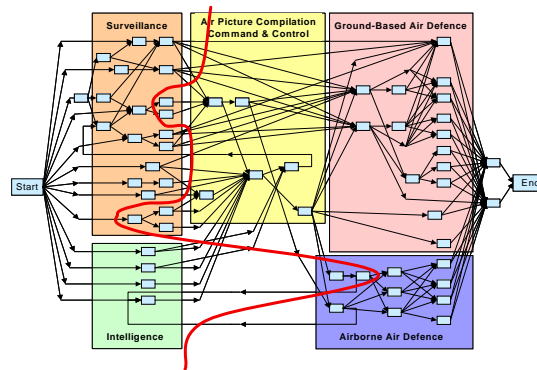
Our ability to place the MCM capability in the wider operational context allowed us to identify key assumptions that needed to be verified through detailed Operational Analysis and doctrinal analysis.

Integrated Air Defence Systems

Sula has developed a robust and auditable process to identify and assess countermeasure concepts capable of degrading or defeating an entire Integrated Air Defence Systems (IADS).

The variety of IADS is huge, ranging from one man with a shoulder-launched weapon and a mobile telephone through to an integrated network of highly capable sensor and weapon systems. We needed to capture all possible system behaviours including reversionary operating modes, fallback procedures and alternate communications paths or C2 structures.

Our approach was to develop a novel combination of functional breakdown and a mathematical graph theory to represent a generic IADS architecture, including all possible system behaviours.



When populated with detailed equipment attributes from Defence Intelligence publications, the graph could be used to identify weaknesses and to develop countermeasure concepts that could demonstrably defeat or degrade the entire IADS. Synergistic effects of different counters can be investigated explicitly and in detail without the need for extensive modelling or scenario development.

MIDAS

Sula has provided systems analysis expertise in support of the electro-optic countermeasures, decoy deployment and system integration concept studies for the Maritime Integrated Defensive Aids Suite.

We developed justifiable and auditable assessment processes; defined detailed metrics to capture and represent all relevant cost, capability, risk and maturity data; and conducted a series of trades to optimise the various concepts.

For more information about Sula and how we can help you, please contact us on 01453 844660 or email info@sula.co.uk

