

## DEFENCE COMMUNICATIONS SYSTEMS

Optima Systems Consultancy is an independent Systems Engineering and Management Consultancy. We recognise the challenges involved in developing today's complex systems and understand the benefits that a structured Systems Engineering approach can provide, through all phases of a project's lifecycle.

We work with our clients to break down complexity, identifying and tackling underlying problems in a structured way, and managing the technical and programmatic challenges facing their projects. We pride ourselves on delivering the independent and impartial advice needed to make pragmatic decisions and develop a balanced system. In short, we enable client success.

Optima's team of SC- and DV-cleared consultants has substantial experience in Military environments, within both public and private sectors. Our combined capability extends across all UK Defence domains, including those of nuclear submarine and weapons programmes. We understand the risks associated with the design of high-integrity and extended lifetime systems, and the associated challenges of obsolescence management. We are comfortable working in highly-regulated safety and security environments.

Optima specialises in deploying small, expert Systems Engineering and Management teams to work within client organisations. However, we can also undertake work at our security accredited premises in North Bristol.



## OUR DEFENCE COMMUNICATIONS EXPERIENCE

Our consultants' substantial experience in this field includes:

- Provision of independent customer support to BATCIS Delivery Team for the BCIP 6 Validation Phase. This examined many of the options for BCIP future development that has now been taken into MORPHEUS.
- Technology Readiness Level assessment for BCIP 5 and support across DLOD maturity tracking for fielding of BCIP increments. Engaging across Land DLOD owners to track plans for fielding.
- Provision of expertise to industry on the installation of BCIP and future MORPHEUS into land vehicle systems.
- Delivering expertise in open system architectures for combat systems across defence including support the Warrior CSP as both Chief Engineer and Lead Systems Architect.
- Leading as Chief Architect for the Guidance to Engineering Activity and Review (GEAR) that is core to MOD Systems Engineering process across DE&S procurement and acceptance. Development of P-EMP for DE&S customers to support compliance to MSP requirements based on GEAR dimensions and review schedule.
- UK Technical lead to NATO developing interoperable IFF waveforms for mounted and dismount combat systems.



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## OUR DEFENCE COMMUNICATIONS EXPERIENCE

- Development and demonstration of ad-hoc, self-forming networks to support local Dismount Situational Awareness based in mmW technology with high cell reuse, GVA interfacing and integrated with BOWMAN for higher level Situational Awareness feed.
- PhD expertise in understanding and optimising complex networks to provide high resilience, high capacity networks based on balanced mixed technology solutions.
- Applying Systems Engineering expertise to support the MORPHEUS Coordinating Design Office (CDO) team with complex platform integration of the existing Bowman, ComBAT, Infrastructure and Platform BISA (BCIP) tactical communication system onto land platforms.

Our involvement included technical assurance of the Transition Partner's Evolve to Open platform integration deliverables and the study/demonstration work programme. We also identified interventions required by the platforms to incorporate the solution and defined a Statement of Work for a system integration study for replacement Multi-Mode Radios (MMR).

As a result, the programme was able to de-risk the integration into platforms for the future phases. Our contract was extended twice and we received excellent feedback and thanks from our client.



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## OUR SYSTEMS ENGINEERING SERVICES

At Optima we use a Systems Thinking approach to Systems Engineering and broader consultancy, typically applied to complex technologies and industries. Systems Thinking aims to successfully manage the complexity and risk in a multi-faceted project, defining needs through all stages from architecture and design to delivery, disposal & replacement.

Examples of the activity we are asked to lead on include:

### Systems Engineering best practice

- Engineering process development
- Systems Engineering & Engineering Management
- System Architecture design & review
- Requirements capture & management
- Trade-off studies
- Technology Maturity & Technical Risk assessment
- Technology Roadmaps and technology insertion planning
- Trials design, planning & conduct
- Data analysis
- System Verification & Validation
- Simulation & Modelling
- Management of Interfacing Programmes & Systems
- Programme & Project Management

### Enterprise Change

- Engineering process development, best practice & training
- Governance
- Stakeholder management
- Negotiations & facilitation
- Systems Engineering Training

### Independent Assessment & Assurance for Acquisition & Investment

- Independent Systems Analysis & Technical Assurance
- Technology Maturity & Technical Risk assessment
- Pan Defence Lines of Development assessments
- Tender assessment management
- Options assessment & Multi Criteria Decision Analysis

