

Supply Chain Optimisation



BAE SYSTEMS

We are Techmodal

A collaborative data consultancy, bringing the capability and creativity you need to unlock the strategic potential in your data.

As Defence and Government experts, we understand the unique complexity of your constraints. Adaptive, imaginative and iterative, we meet you where you are – and start with what you have.

We focus on making more of your existing tools and technology. Applying smart thinking and continuous improvement to uncover the insight in your data – and help you move past your stickiest problems. Optimising your investments, operations and outcomes. Maximising the impact of your resources towards a better future.

Our clients operate in high-stakes, highly technical and highly secure environments. The pace is fast; the demands are complex and the cost of getting decisions wrong is high. They need partners who bring clarity, precision and practical expertise – not complexity for its own sake.

Our value comes from combining deep analytical strength, applied technology expertise and hands-on consulting experience. We turn ambiguity into clarity and insight into action.

What we offer

We operate at the cutting edge of digital innovation and at the heart of organisations that keep vital infrastructure running, national security protected, and armed forces prepared. Our teams provide:

Decision advantage

We give organisations the insight to act with clarity and pace, ensuring choices made today hold up under tomorrow's pressure.

Our strength comes from being data-led, operationally aware and grounded in real-world context. We explore options, test scenarios and highlight trade-offs before action is taken, building confidence in complex and high-consequence environments.

Technology that works

We help organisations unlock the full value of their technology and existing investments. Our solutions are shaped to our clients' environments – secure, scalable and designed for reuse – delivering faster outcomes and greater value for money.

We stay user-driven, not technology-driven, ensuring what we build is usable, dependable and impactful.

Delivery impact

We work shoulder-to-shoulder with clients to turn ambition into results. Our approach is collaborative, adaptive and focused on rapid progress.

We build momentum early, provide clear answers before the conversation moves on and ensure delivery stays aligned to purpose. Whether defining strategy or supporting implementation, we bring clarity, structure and practical leadership.

Strength in secure and complex environments

All our work is delivered by security-cleared teams who understand the realities of Defence, national security and critical infrastructure.

We design and assure solutions that are resilient, secure and governed — engineered to work in environments where constraints are real and reliability matters.

Powered by BAE Systems Digital Intelligence

We combine the pace, creativity and agility of a specialist consultancy with the depth, reach and security of BAE Systems.

Clients benefit from a unique blend of niche expertise and enterprise-scale capability, with seamless access to Digital Intelligence, engineering, cyber and equipment programmes when required.

Service Overview

Techmodal's Supply Chain Optimisation (SCO) service enables organisations to assess their supply chain across all layers, identify weaknesses, pinch points and risks, and model optimisation scenarios. Our service helps clients ensure supply chain readiness, resilience, and efficiency, whilst balancing key metrics across cost, risk, and resource.

Our service integrates with business data sets, client technologies and established processes to help organisations configure themselves to be ready and responsive to operational, emergent, and long-term commitments, requirements, and goals.

We employ a comprehensive range of modelling approaches and technologies to suit client requirements and leverage client technology investments. This includes Discrete Event Simulation (DES), Agent Based Modelling (ABM), System Dynamics, and cost & risk modelling methodologies.

Our Agile delivery approach is ISO-9001 compliant and follows the Government Digital Services (GDS) framework, applying the principles of iteration, user-centred design, and collaboration. Techmodal's SCO service offering is delivered in four stages:

- 1. Discovery & Data Collection:** An exploration and understanding of the organisation's objectives, challenges, and constraints. Identifying the business questions to be answered. In tandem, our team collaborates with stakeholders in gathering relevant data from various internal and external sources for building accurate and reliable models. Data is assessed for quality, completeness, ownership, sensitivity, and relevance.
- 2. Model Development:** Computational and/or simulation models are constructed based on the collected data and the specific requirements of the strategic decision-making process. This is done in collaboration with stakeholders and end users to ensure models are relevant and aligned to the business context in which they will be used.
- 3. Scenario Analysis:** Developed models are used to conduct scenario analyses, where scenarios are evaluated to gauge their potential impact on the organisation's objectives. This identifies optimal strategies and mitigates risks.
- 4. Business Insights and Reporting:** Findings from the scenario analyses are synthesised into actionable insights and presented in a clear and concise manner, with a focus on User Interface and User Experience (UI/UX) design for Business Intelligence (BI) and data visualisation. Reports are generated to communicate key findings, KPIs, and recommendations to stakeholders, enabling informed strategic decision-making.

We have proven experience of handling data sets in a wide range of formats and at various degrees of scale, quality, complexity, and maturity to reduce manual effort, produce sustainable insights and develop decision support tools. Utilising the latest vendor tools and open-source technologies on cloud and on-premises infrastructure, we combine extensive technical expertise with proven solution deployment credentials and sharp focus on business need, often working in secure, constrained environments.

We work with our customers' existing technology stacks wherever possible to maximise the pace of delivery, align with wider digital and data strategies and derive maximum value from existing investments. To support this, we are experts in using a range of COTS and open-source tools and platforms, ensuring we can bring the most effective solution to our customer's challenges.

Techmodal has repeated experience of developing and deploying modelling and analytics solutions on customer platforms, including on-premises infrastructure and cloud environments such as Amazon Web Service (AWS), Microsoft Azure and Oracle Cloud Infrastructure (OCI). Our work spans different classification levels and we have experience of MODCloud (AWS, Azure and Palantir Foundry), Army Hosting Environment (AHE) and Navy Digital environments.

Where required, we provide flexible support, training, and knowledge transfer services to ensure client staff are upskilled on using and sustaining SCO capability. Our services include an online Service Desk (with a full issue resolution cycle between user and specialist), floorplate support, bespoke and flexible-format training packages.

We have deployed our SCO service for a major aircraft programme, answering key supply chain questions with DES and cost modelling, including warehousing/distribution location, maintenance scheduling impacts, aircraft availability targets, supply chain vulnerability (e.g. defunct supplier), spares provisioning, and pilot training (including the infrastructure and resources required).

Techmodal's SCO service provides organisations with the benefit of a structured approach to navigating complex strategic challenges, facilitating informed decision-making, and driving long-term success.

Service Features

- Consultancy services to identify key business questions and model design
- Development of robust, scalable, iterative modelling capability aligned to business need
- Use of open-source and COTS platforms and tools aligned to business need
- User Interface and User Experience (UI & UX) development
- Flexible support and training options based on business and user needs
- Scalable solutions, either on-premises or cloud
- Alignment with existing enterprise solutions, such as: inventory and business management systems; Business Intelligence tools etc.
- Discrete Event Simulation, Agent Based Modelling, System Dynamics
- Cost and Risk Modelling
- Compliant with ISO-9001 and Government Digital Services (GDS)

Service Benefits

- Improved decision making: By simulating scenarios and analysing outcomes, decision-makers gain valuable insights for informed choices.
- Risk mitigation: Modelling identifies potential risks, enabling the development of contingency plans to minimise adverse impacts.
- Resource optimisation: Identifying promising opportunities aids in prioritising investments, optimising resource allocation for strategic goals.
- Enhanced strategic planning: Quantitative analysis and scenario planning enable anticipation of future trends, fostering resilient strategies.
- Competitive advantage: Anticipating market changes and responding proactively empowers organisations to capitalise on opportunities, staying ahead of competitors.
- Stakeholder alignment: Modelling facilitates communication among stakeholders, fostering collaboration and ensuring decisions align with organisational objectives.
- Long-term perspective: Encouraging a focus on future performance and sustainability helps organisations avoid short-term thinking, creating long-term value.
- Continuous improvement: Through iterative refinement based on new data and insights, organisations adapt strategies in real-time, staying responsive to evolving market conditions.

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