TECHMODAL

G-CLOUD SERVICE DEFINITION

Operational Insights
Data-Driven Wargaming
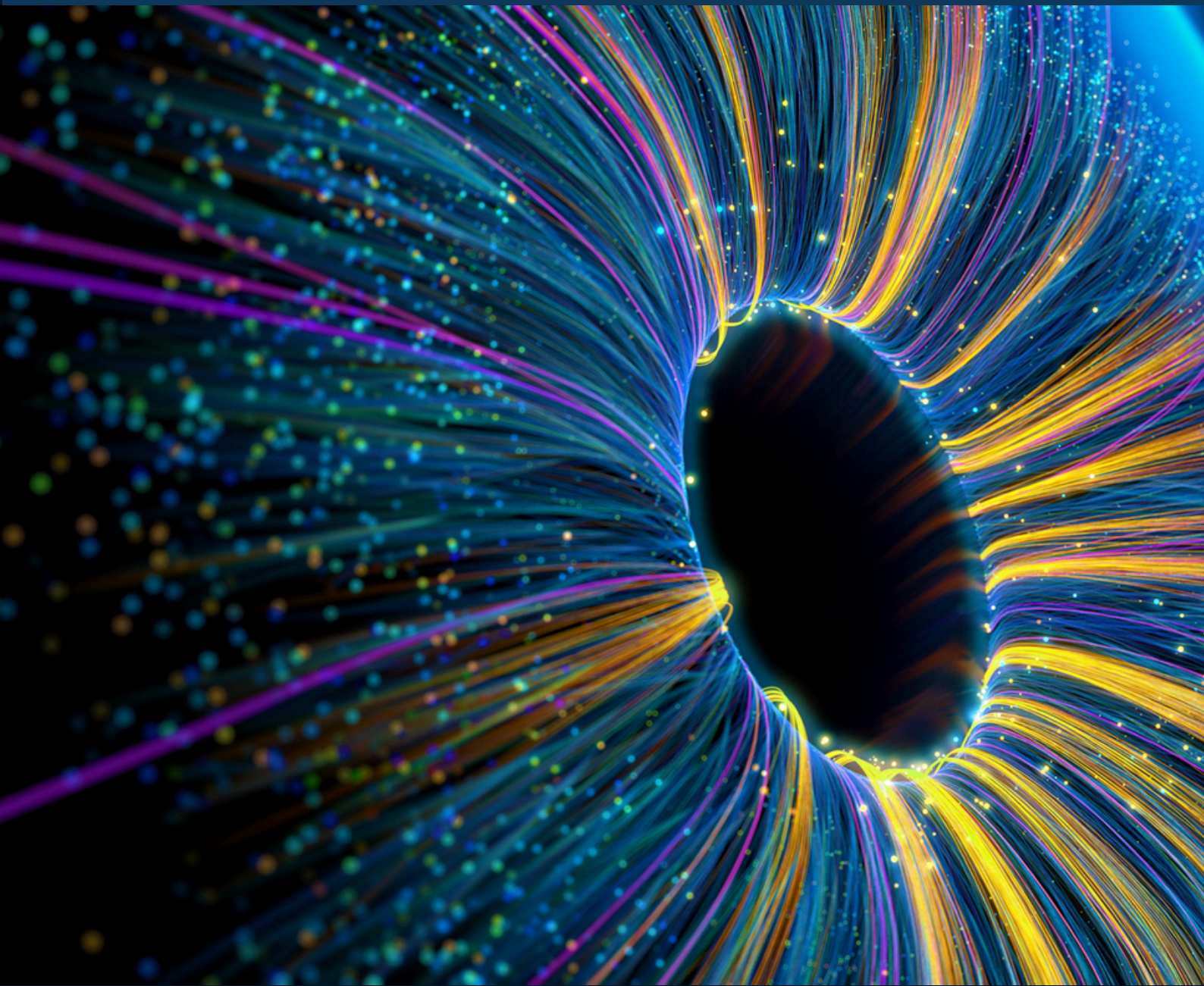
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TECHMODAL

01 - ABOUT US

Who we are

We are Techmodal, a Bristol-based data science and analytics consultancy with 200 data and technology professionals. For the past 20 years, Techmodal has excelled in delivering rapid-impact, innovative solutions to solve some of the most difficult data problems in UK Defence and Public Sector.

We deploy teams to deliver fast, actionable insight from complex, siloed and sensitive data. We are user-focused and technology agnostic, meaning we deliver solutions together with users to specific needs, aligning to customers' technology investments and strategies.

Benefits of working with us

- Deep understanding of data and its context to extract maximum insight
- Exploitation and application of disruptive technologies and approaches
- Partnership approach providing collaboration, knowledge transfer and upskilling
- Repeatable solutions that provide significant Return on Investment (ROI)
- High quality, rapid impact, agile delivery

Our offerings

Data Analytics Consultancy

Applied Data Science	**Modelling & Simulation**	**Operational Insights**
Applying data science tools and techniques to real-life operational challenges	Utilising domain knowledge and modelling expertise to enable customers to make better decisions	Data-led insights into operational challenges with embedded domain experts

Software Development Development of scalable, robust and secure applications, enabling customers enduring access to their data and insights

Our customers
We've built a reputation for getting things done and doing them well. This is why we are a trusted partner across UK Public Sector.

Ministry of Defence

Home Office

Department for Transport

Cabinet Office

ORR OFFICE OF RAIL AND ROAD

NHS

Met Office

NCA National Crime Agency

Our values
Our people are the lifeblood of the business. We're proud of the variety of backgrounds and experiences our people bring to the business as we believe this empowers different perspectives that drive our innovation.

But no matter how different our background, our shared passion for using data to solve complex problems keeps us all connected. Our culture is built on four core values:

Get it done, do it well We find practical solutions to difficult problems and do not get lost in process and theory. We are agile, flexible, and tenacious with a commitment to promoting quality and sustainability.

Communicate boldly We believe that being honest and straightforward is key to building trust. This entails being brave enough to tell customers and colleagues what they need to know rather than what they want to hear.

Grow with integrity We are an ambitious company run by a team whose aim it is to make people proud. This is achieved by valuing our culture and embracing the diverse perspectives of our people.

Reward people with opportunities Our success depends on our people. We give individuals the freedom to experiment and develop, so they remain challenged and engaged.

02 - SERVICE OVERVIEW

Data-driven wargames that identify and quantify risks of a process, examines the impact of potential changes to that process, and improve the decision-making of stakeholders involved.

Wargaming is recognised as a valuable tool for commanders, leaders and managers, both within and outside the Ministry of Defence. It is a decision-making technique that provides structured but intellectually liberating safe-to-fail environments to help explore what works (winning/succeeding) and what does not (losing/failing), typically at relatively low cost. A wargame is a process of adversarial challenge and creativity, delivered in a structured format and usually umpired or adjudicated. Wargames are dynamic events driven by player decision making. As well as hostile actors, they should include all 'oppositional' factors that resist a plan.

All of these aspects provide a powerful tool to assess a complex process or system and to train players in how to work together to make decisions in a complex environment, both enabled by our data-centric approach.

We design, develop and deliver wargames and experimentation through an Integrated Analysis & Experimentation Campaign Plan (IAECP), using best practise from the Defence Wargaming Handbook. Our approach incorporates data-centric modelling and simulation of the client's systems and processes around a wargaming structure, giving quantitative and qualitative evidence to inform decisions.
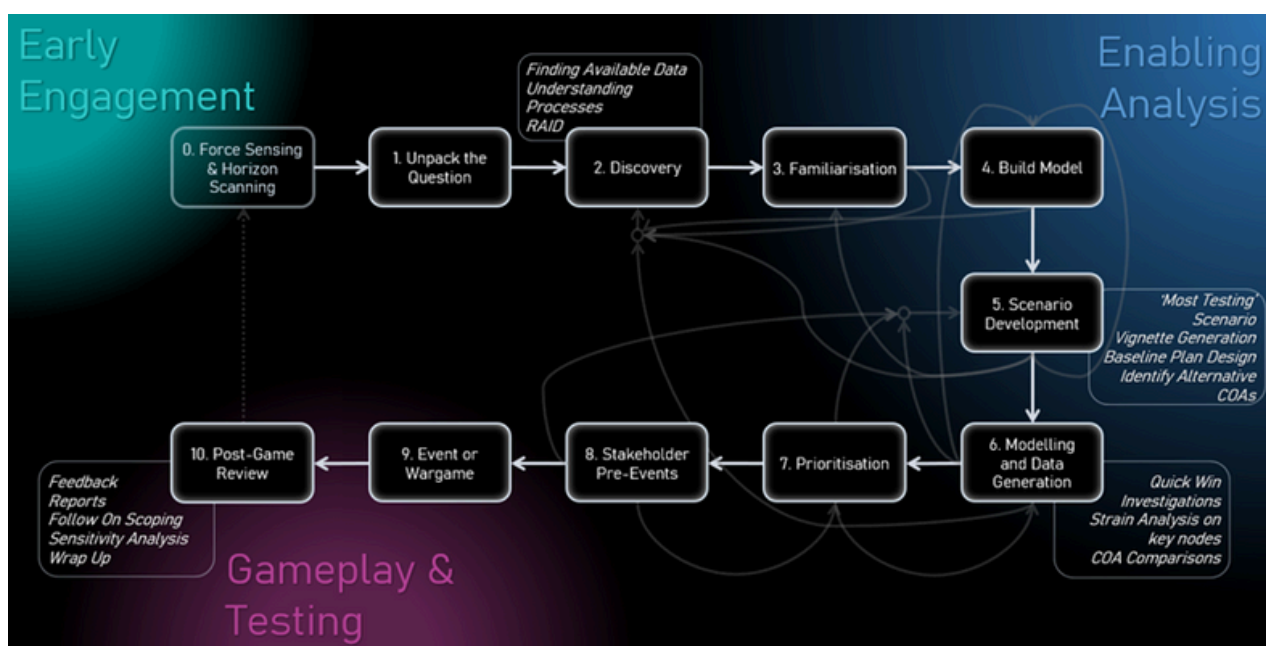
The IAECP approach delivers an end-to-end examination of the client's process. On first contact we aim to immerse ourselves in the client's problem landscape, identifying and working closely with SME's to fully understand the issues and risks faced, and familiarise ourselves with the wider context. This knowledge helps us develop simulation models and other technical tools to inform decision making. The development of these models is done concurrently with the design of scenarios and vignettes that will most appropriately test the system, leading to the identification of 'quick win' topics and areas for further investigation.

Key stakeholders are engaged along the way, ensuring that the whole community is invested in the outcomes of the work. This can include pre-wargame events such as deep-dive investigations and industry engagement days, gathering as much evidence as possible to reach the desired outcome of the wargaming programme.

Using a data-driven wargame to capstone the programme encourages attendees to consider their decision making in an adversarial setting. Live modelling and supporting tools can enables focused conversations, quantifying the impacts of the courses of action and examining the sensitivity of the system to changes in any assumptions used. Our data-driven wargaming solution gives the client a programme designed to deliver a complete risk picture with mitigations, where we provide support over the whole lifecycle from development to facilitation to report writing.

The approach has been successfully delivered for senior levels of Defence who must deliver concurrent complex tasks and who rely on a wide range internal and external partners to deliver its operational effect.

03 - SERVICE FEATURES

- Identification and quantification of risks to a process
- End-to-end process investigation using a data-centric approach
- Tailored use of modelling & simulation
- Live sensitivity analysis to deepen discussion
- Red team focussed wargame methodology
- Coherence with the Defence Wargaming Handbook
- Flash and follow-on reports as required

04 - SERVICE BENEFITS

- Risk identification and development of targeted mitigation actions
- Quantitative and qualitative evidence
- Improved decision making in adversarial settings
- Increased awareness of issues for attendees of the games
- Improved teamwork and decision processing ability for players
- Engagement with technological experts
- Wide engagement with community of interest

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Visit our website

www.techmodal.com/overview

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