TECHMODAL

G-CLOUD SERVICE DEFINITION

Applied Data Science
Data Science and Advanced Analytics

TECHMODAL

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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.

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

Techmodal has 20 years' experience of applying data science methods to address our clients' business challenges. We help our customers to digitise workflows and enhance those workflows with Artificial Intelligence (AI).

We employ the latest tools and thinking in the field of data science and analytics to help our customers derive maximum value from their data. 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.

Techmodal specialises in developing solutions iteratively and responsively, addressing initial requirements and flexibly accommodating changes during the development process. We work collaboratively with our clients to deliver projects at the full range of maturity and Technical Readiness Level (TRL), from data discovery and strategy to capability demonstrators and hosted production applications.

Our service combines our extensive technical expertise with a sharp focus on business need. We bring expertise in all aspects of data science, including experience of developing forecasting, classification and optimisation algorithms and utilising the latest in Natural Language Processing (NLP), Computer Vision (CV) and Generative AI to address challenges of unstructured image, text, video and audio data. We have a demonstrable track record of employing the latest vendor tools and open-source technologies, along with proven solution deployment credentials, utilising both cloud and on-premises infrastructure and working in secure, constrained environments.

Our delivery methodology is ISO9001-compliant and follows the Government Digital Services (GDS) framework as follows:

Understanding Your Data (Discovery) We begin with an exploratory discovery phase where we ask every question we can of both the user community and the data. We assess user needs, build a clear understanding of business challenges, context and constraints and capture user stories to inform future phases.

We perform data discovery, applying statistical analysis to understand existing data structures and highlighting data quality issues early so we can take proactive steps to improve this over the project. The outputs of this phase are:

- Clear answers to a small number of well understood and scoped questions.

- An assessment of what can currently be achieved and what questions could be answered with additional sources.

This phase focuses on adding value; the benefits are understood from conception and managed through delivery.

1.2 Concept Creation (Alpha)

With a detailed understanding of the user requirements and the nature and structure of the data available, the next phase is a solidifying capability demonstration. This Alpha phase includes experimentation and testing to ensure any solution we develop is fit for purpose and meets business needs. Extensive feedback and thorough testing (including CI/CD validation & Unit Testing) are central to our development approach.

As firm believers in ethical development practices, we ensure that all models are explainable; our clients understand how any outputs are determined, bringing confidence in the work we deliver.

1.3 Concept Validation (Beta)

Our Beta phase takes the concepts developed in Alpha and ensures they work in a representative operational environment. This includes extensive user testing and feedback as we iteratively develop and improve our offering throughout a project. This ensures the final product is delivering against the user stories and benefits identified in Discovery. Delivered solutions are stress-tested to ensure they can handle data outliers and control for data drift from inputs. This also helps ensure scalability; the solution scales to meet both current demands and future growth without the need for extensive redevelopment work.

Production Models (Live)

In the Live phase we focus on deployment and integration of any solution, hosting seamlessly within suitable infrastructure (on-premises or cloud) and connecting to all relevant data feeds. This includes integrating the solution with downstream systems that use the insights, while retaining the ability to build upon the project should further requirements emerge. This ensures the solution is sustainable. We provide clear technical documentation and well-written, formatted, and commented code.

We ensure all calculations and assumptions are validated and satisfactory to the client. This is combined with working to influence the cultural attitudes our clients have towards their data, such as unawareness of the full value of their data until tangible insights have been generated.

By working with our clients to establish a chain of consequence from data source to output, we demonstrate the potential their data holds. We enable them to recognise other business problems that might benefit from similar solutions. This creates a positive feedback loop on

improvements in data quality and outputs, essential to a sustainable solution.

Flexible Deployment and Hosting
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 data science 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.

03 - SERVICE FEATURES

- End-to-end discovery and development, from strategy to deployment
- Latest in Machine Learning and AI technologies
- Natural Langage Processing, Computer Vision, Large Language Models
- Repeatable data processing and Extract Transform & Load (ETL) pipelines
- Model deployment via DevOps/DevSecOps pipelines
- Clear, ethical development practices and outputs that empower end users
- Intuitive User Interface for seamless interaction between human & AI
- Service delivery follows Government Digital Services (GDS) framework and ISO9001
- Explainability and transparency
- Chain of consequence from data source to output

04 - SERVICE BENEFITS

- Proven approaches and model architectures
- Strong track record of deploying data science and analytics solutions in secure environments
- Scalable solutions, either on-premises or cloud
- Flexible infrastructure and hosting options
- Vendor agnostic and experienced in open-source software
- Greater utility from existing data
- Enhanced business decisions

- Business insight through powerful data visualisation
- Better awareness of critical information
- Improved process efficiency
- Increased understanding of cost, and ability to better manage risk
- Financial performance improvement
- Enabling delivery of strategic objectives
- Managing compliance to contractual, legal and policy requirements
- Improved resilience through scenario modelling

END OF DOCUMENT

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Visit our website

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