

ROKE



Data Analytics as a Service

G Cloud 15
Service Definition

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Data Analytics as a Service– Service Definition

Benefit from a cost-effective support for users to access compute and software resources suitable for analysing data arising from the use of large analytic facilities. Roke provides independent, vendor neutral guidance, implementation and support optimised for flexibility, performance, and cost. Truly Interoperable, Extendible and Dynamic for all new builds for a data-driven future.

Roke provides users with constructive data analysis to extract information encoded in data. Data Analytics as a Service (DAaaS) adds value to organisations by reducing large datasets to key statistics, revealing hidden patterns and relationships, and ensuring the creation of visuals that aid human understanding of data.

We provide independent advice on technology selection – data platforms and schema, data fusion and enrichment, data analytics and machine learning algorithms, and data visualisation.

Our data analysts provide uncertainty assessments and can quantify the levels of statistical error, eliminate bias, and correct for it.

With data analysis experts and compute resources all co-located with experimental data archives, we efficiently and easily process data, within a managed, secure virtual environment.

We provide Agile, full-stack software delivery for a range of cloud deployment models, and support for managed services.

Service Offering

- Data analysis and Uncertainty assessment
- Systems architecture, development, and service management
- Data architecture and implementation
- Data ingest and enrichment of structured and unstructured data sources

- Data analytics and visualisation

Roke provides support across the full development lifecycle from data strategy, requirements gathering, design, development, support, and maintenance. Services and platforms can be developed following Agile and continuous integration methodologies to provide frequent, incremental deliveries.

Roke has experts in data analytics, architecture design, machine learning, and visualisation. We can provide a complete, complex solution for ingesting, storing, processing, analysing, and visualising data, or a targeted solution that can be integrated into existing platforms. Solutions can also be provided as a managed service.

Detailed Service Definition

Data analysis and Uncertainty Assessment

Roke works closely with clients to support them in understanding what data analysis they have, where it is, and in what state. This helps identify any gaps and any quick wins that may deliver value early on and with minimal intervention. We also work to develop data analysis with the client, understanding the 'Why?' 'What?' and 'How?' questions: Why does the organisation need data analytics, what does the technical and business solution look like, and how will the organisation get there. We provide a roadmap to bring the organisation through its data analysis journey. We view this as an important first step before any data analysis begins.

Systems architecture, development, and service management

Roke's certified cloud engineers provide advice and consultancy on best practice for security, cost effectiveness, and performance. We have a strong track-record of developing big data architectures using open-source technologies, exploring which options are ideal given their strengths and weaknesses, as well as the opportunities and threats associated. Roke can provide solutions to integrate with existing architectures to be managed by clients or provide managed services. By working closely with clients, Roke can rapidly design and integrate new features to managed services and adapt as client needs change. Roke is experienced in a range of cloud-based architecture patterns and has deployed server less solutions as well as platforms that take advantage of IaaS, PaaS, and SaaS offerings. Our security experts also provide insights to the shared responsibility model, carefully considering where the cloud provider, Roke, and the client are responsible for security in cloud deployments.

Data architecture and implementation

Roke has a dedicated team of data engineers, architects, and analysts to provide bespoke, data-driven solutions. We design and implement data lake structures for storing enormous quantities of varied data, fusing together multiple sources, and providing insights through bespoke analytics and dashboards. Systems are developed with security in mind, providing monitoring and auditing capability to manage access and authentication as well as optimising cost and performance. Roke has experience with several data storage solutions and utilise open-source technologies that best suit the situation, often combining multiple sources to gain insights across a domain.

Data ingest and enrichment of structured and unstructured data sources

Roke has designed and developed solutions that ingest and process several data formats, from Internet Connection Records to video streams. We further fuse and enrich existing data sources with open-source information to provide a richer insight across a domain as opposed to isolated analytics. By effectively fusing data sources to provide the wider view, we deliver a single view to analysts for rapid triage and insight.

Data analytics and visualisation

We work closely with clients to understand the required data insights from a given opportunity, designing bespoke algorithms, transformation pipelines, and data visualisations. Roke has built dashboards across a range of data and insight complexity challenges, for example visualising metadata. Further, Roke has developed client capability and infrastructure so end users can create their own visualisations. Our experts in user experience also ensure a dynamic and appropriate workflow for users as they navigate applications and visualisations.

Our data analysis experts provide several analytics covering a range of capabilities including computer vision, natural language processing, statistics, geo-based analysis, acoustic processing, and anomaly detection. We use a range of methods for data analysis from deep neural networks to big data processing technologies.

Key Services

Data analytics, data modelling, visualisation, and service management

- Assessment of the correct application of analytic techniques
- Data quality assurance

- Cloud architecture
- Reduced risk of vendor lock-in through independent design
- Independent advice on technology selection
 - Data platforms / schema / fusion / enrichment / analytics / visualisation
 - Machine learning algorithms

Data architecture and implementation

- Data modelling
- Data storage using document, key-value, relational, and graph database technologies
- Data lifecycle management
- Metadata and data provenance management

Data ingest and enrichment of structured and unstructured data sources

- Data fusion
- Data migration and ETL from legacy data storage platforms
- Rapid integration of new data feeds and analytic features

Data analytics and visualisation

- Stream and batch data processing
- Artificial intelligence and machine learning consultancy and development
- Auditing and monitoring



Pioneering Technology for Global Security & Future Warfare

At Roke, we stand at the forefront of defence and security, delivering cutting-edge intelligence and engineering solutions that protect nations, troops, borders, critical national infrastructure and businesses. We bring the credibility of a long-standing defence and security leader, the precision of a specialist, and the agility to solve complex, high-stakes challenges with purpose and impact.

Roke is at the forefront of shaping the future of digital defence, intelligence, and national security.

We are Roke. We are Changing Worlds.

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