BAE Systems Data and Digital

Service Definition Document

BAE SYSTEMS

BAE SYSTEMS PROPRIETARY

1 Agile Delivery Management and Product Management Lifecycle

BAE Systems combines digital and data experience with scaled Agile, SAFe and SCRUM techniques in our Digital Studio and Digital Factory model for end to end Product Management governance through the GDS lifecycle from Discovery through to Live tracking benefits realisation. We work in both dedicated and collaborative rainbow teams.

We have designed and built our agile delivery framework explicitly to iteratively deliver through a GDS aligned Product Management Lifecycle on critical national systems. Our services are built on a combination of best practice (e.g. Agile, SAFe, ITIL) and extensive lessons learnt from delivering critical national infrastructure projects across government. Our holsitic, end to end lifecyle approach accelerates start-up with common defined ways of working and is explicitly designed to facilitate rainbow teams for close integration with other suppliers, Authority governance and lifecylce management processes.

Our framework is aligned with the DDaT User and Product-Centric approach and ways of working and is based on scalable, autonomous delivery cells of empowered self-managing, highly-collaborative, skilled delivery teams using a BizDevSecOps approach. Depending on scale we can split governance into a Digital Studio and Digital Factory.

The Digital Studio manages a product through the Product Lifecycle with roles of Product Manager, Lead Technology Delivery Manager and Lead Architect who collaborate with the Digital Governing Body to focus on achieving business value with goals that directly trace to end-user needs and benefits. We can work either autonoumously or as a rainbow team with other suppliers as required to plan delivery of a product through Discvery, Alpha, Private Beta, Public Beta, Live and End of Life. In every lifecycle phase we manage a prioritised product backlog, with iterative delivery organised into Epics, Stories and Tasks in Jira for progress tracking against goals that supports delivery in rolling packages of work through our Digital Factory. We monitor progress and feedback on value co-creation with close integration with the business, to decide on progressing the product to next lifecycle phase.

One or more Digital Factory(s) can be provided stand alone to integrate with your existing operating model for additional capacity or be managed by our own Digital Studio for agile delivery of a product in it’s entirety by a teams of skilled engineers. We scale up the size of these engineering teams as needed to iteratively deliver features from the prioritised product backlog using a BizDevSecOps methodology, working in two-week sprints to progress a product through the lifecycle. Our teams deliver frequent automated and tested Agile releases, ensuring continuous compliance through a CI/CD pipeline. Working in a DevOps culture our engineering teams provide support for the product througput the lifecycle, expanding the Ops team once deployed into Public Beta and to cover up to 24/7/365 for Live. We deliver Site Reliability Engineering (SRE) to proactively increase availability, reliability (MTBF) and maintainability (MTTR) appropriate for critical national services.

2 Agile DevOps Delivery

BAE Systems' Agile DevOps teams swiftly develop and deploy Digital Products by leveraging diverse cloud technologies. Our BizDevSecOps approach fosters close collaboration and rainbow team working through our enhanced experience ensuring performance and availability. Whether for individual projects or large-scale transformations, our method co-creates value with customers across technical domains.

We will work to understand, scope and deliver rolling packages of work in a scaled agile manner using our digital delivery framework that we have designed and built explicitly to deliver on critical national systems using a combination of best practice and extensive lessons learnt from delivering critical national infrastructure projects across government. Our holistic, end to end approach accelerates start-up with common defined ways of working and is explicitly designed to facilitate rainbow teams for close integration with other suppliers, Authority governance and processes.

Our framework is aligned with the DDaT User and Product-Centric approach and ways of working and is based on scalable, autonomous delivery cells of empowered self-managing, highly-collaborative, skilled delivery teams using a BizDevSecOps approach. Depending on scale we can split governance into a Digital Studio and Digital Factory.

Our Digital Studio roles of Product Manager, Lead Technology Delivery Manager and Lead Architect will understand and define scope by collaborating with Digital Governing Body to set goals, directly tracing the IT Goals back to the end-user needs and benefits. We can work either autonoumously or as a rainbow team with other suppliers as required to capture clear, prioritised IT goals and deliverables with benefits measurable in business terms. The output is a prioritised product backlog, with delivery organised into e.g. Epics, Stories and Tasks in Jira for progress tracking against goals that supports delivery in rolling packages of work through our Digital Factory.

One or more Digital Factory(s) can be provided stand alone to integrate with your existing operating model for additional capacity or be managed by our own Digital Studio to deliver components and features of a product. We scale up the size of engineering teams as needed to iteratively deliver features from the prioritised product backlog using a BizDevSecOps methodology, working in two-week sprints. Our teams deliver frequent automated and tested Agile releases, ensuring continuous compliance through a CI/CD pipeline. Working in a DevOps culture our engineering teams continue to provide support once deployed into production environments, and from Public Beta to Live we deliver Site Reliability Engineering (SRE) to proactively increase availability, reliability (MTBF) and maintainability (MTTR) appropriate for critical national services.

3 AI/ Machine learning

The BAE Systems GDS-compliant AI delivery service provides a value-driven approach to mission-critical challenges. We provide a comprehensive lifecycle, encompassing AI assessment (Inc. governance & ethics), discovery, concept development (Alpha/Beta), and full deployment with ongoing maintenance. Our experts handle data, models, testing, and analysis for seamless AI integration.

BAE Systems combines our heritage in digital and data with our AI research and development expertise to deliver an AI solution delivery service. Our service is tailored for mission-critical challenges and aligns with Government Digital Service (GDS) standards. This service uniquely caters to organizations seeking to integrate artificial intelligence responsibly and effectively, ensuring governance, ethics, transparency, compliance and justifiable trust are at the forefront of its methodology.

The lifecycle begins with an enterprise assessment of AI capabilities. This initial phase evaluates the organization's current technological framework and readiness for AI integration, assessing areas such as data governance, ethical AI use, transparency in AI operations, and adherence to regulatory and compliance standards. This foundational assessment ensures that AI solutions are built on a solid, compliant base that considers all facets of responsible AI deployment.

Following the assessment, the service progresses into the Alpha phase, where concept development takes place. In this stage, innovative ideas are brainstormed and initial prototypes are crafted, focusing on how AI can address specific organizational challenges. This is followed by the Beta development phase, where these concepts are further refined and developed into functional models, ready for more rigorous testing and iterations.

As the solution matures, it moves into the live phase, where the AI system is fully deployed within the organization. This stage involves continuous monitoring and maintenance to ensure the system performs optimally under real-world conditions. The Operations phase supports ongoing needs, including regular updates and troubleshooting, to adapt to evolving requirements and technologies.

Integral to this service are key processes such as Data Discovery and Data Wrangling, which ensure that the data used is relevant, clean, and well-organized. Model identification or development is also crucial, selecting or building AI models that best meet the specific needs of the client. Model deployment and continuous maintenance are part of the lifecycle, ensuring the AI solutions remain robust and effective. Testing and Analysis throughout the process guarantee that the AI solutions not only meet the initial requirements but also continue to provide value and adapt to new challenges over time.

Overall, this AI solution delivery service offers a thorough, structured approach to integrating AI into mission-critical operations, with a strong emphasis on ethics and compliance, ensuring sustainable, effective, and responsible AI usage.

4 Business Analysis and Requirements Management for Cloud Solutions

BAE Systems provides Business Analysis and Requirements Management services for capture, validation, management and traceability of cloud-based requirements. We use a range of techniques to iteratively elicit and elaborate both functional and non-functional requirements (NFRs) to ensure benefits realisation of cloud including user experience (UX), customer journeys, availability and security.

At BAE Systems, our Business Analysis and requirements management adapts to cloud, as cloud enables agile development where users will evaluate a product using User Stories, User Journeys and Scenarios. This is particularly relevant in cloud as solution acceptance is generally based on user evaluation of the product against their user needs rather than compliance against a set of requirements. Where development is waterfall, we enable compliance at the testing stage of a solution delivery, as part of business acceptance testing. Alternatively, we can support assessment of a variety of solution options against requirements including existing corporate tools, or commercial off-the-shelf packages as solution options. In all cases, a gap analysis helps inform the business of the requirements not fulfilled by the solution(s).

Our requirements management approach for cloud environments typically stores and organises requirements in a backlog to support ongoing agile prioritisation and delivery of associated features, including their configuration management and change control. The iterative nature of developing in a cloud environments means that changes to requirements should always be anticipated due to the complex and continuously evolving business environment and evolving understanding of consumer needs through the product lifecycle. We therefore plan to manage and accommodate change in line with business need. This is a fundamental principle incorporated in cloud based Agile development methodology, whilst in Waterfall a more rigorous process for requirements change control is needed where changes to scope are managed by assessing the impact on the requirements baseline and delivery process, and ensuring approval by the business before ensuring the change is delivered. Rigorous Configuration control is required to manage versions of requirements artefacts and ensure updates are tracked and delivered effectively. Requirements tooling such as Jira and Jama provide a range of features to support effective requirements management.

We understand that for successful delivery of value to the business, it is the traceability of requirements that is essential to track the value, lifecycle and provenance of requirements. We enable the prioritisation of feature development for delivery of traceable end business value. Vertical traceability links related requirements through analysis artefacts, up and down the requirements hierarchy in order to demonstrate consistency and alignment right back to higher-level business goals and end consumer needs, whilst horizontal traceability tracks requirements from their origin, how they have evolved and how they are implemented in the design and achieved as an outcome in the solution. Together these techniques enable effective requirements management for cloud based development of digital products including compliance assessment and change control.

5 Business Case and Benefits Management

BAE Systems specialise in providing structured support for strategic, outline, and full Green Book compliant, compelling business cases.

Our approach includes the development of cost, risk, and benefit models for comprehensive economic appraisal, facilitating informed decision-making and ensuring Green Book compliance.

We offer tailored support in navigating spending approvals, managing stakeholders, and establishing Managing Successful Programmes compliant benefits management frameworks. Our focus extends beyond business case development to ensuring benefits are tracked throughout the lifecycle of each initiative.

We define meaningful and measurable Key Performance Indicators (KPIs) that support the business case, enabling organisations to monitor progress and measure the impact of transformational initiatives effectively.

Our expertise in Green Book compliance, stakeholder management, and benefits tracking enables organisations to navigate complex challenges with confidence, driving successful outcomes and maximising value from their investments.

6 Cloud Transition Services

BAE Systems support the migration of legacy applications to the cloud. This includes application assessment and planning, cloud migration strategy, data management, automation strategy, testing, implementation, ITIL transition and post migration support. We balance the trade-offs between privacy, risk, security, change, agility and cost, ensuring service continuity and benefits realisation.

BAE Systems cloud transition service is designed efficiently migrate your legacy applications to the cloud, ensuring a smooth transition that aligns with your organisational needs and strategic goals. We specialise in a holistic approach, handling everything from application assessment and cloud migration strategy to implementation and ongoing support. By managing this transition, we ensure that your move to the cloud balances critical factors such as privacy, risk, security, agility, and cost, while maintaining continuous service delivery.

The process begins with a thorough assessment of your existing applications to determine cloud compatibility and dependencies. We employ TIME (Tolerate, Invest, Migrate, Eliminate) analysis to group and evaluate applications, ensuring that each one is optimally aligned with your migration goals. Risk assessments are integral to our strategy, identifying potential application risks and devising robust mitigation strategies to ensure a secure transition.

Our service includes detailed architecture visioning, planning, and design, with a focus on security and the establishment of a clear business case for the cloud transition. We offer various migration strategies, such as re-hosting, re-factoring, and re-platforming, based on your specific needs. This is supported by comprehensive business continuity planning for both cloud and hybrid environments, ensuring that your operations remain stable and secure throughout the migration process.

Post-migration, we continue to support your transition through testing, validation, and implementation services, backed by a team of SC and DV cleared solution and technical architects. This end-to-end support not only increases your business agility but also enhances your IT infrastructure's simplicity, allowing you to focus more on development and less on operations.

Our cloud transition service helps deliver the benefits of cloud, implementing infrastructure which is secure, scalable and aligned to your future goals and priorities.

7 Data Acquisition Services

BAE Systems offers a comprehensive portfolio for intelligence gathering, information analysis and insight generation. This includes precise and flexible communications interception capabilities. We offer robust data analysis through our high quality processing and data analysis and analytics tools to help optimise decision making and improve operational efficiency.

Effective decision-making hinges on precise, reliable intelligence. BAE Systems comprehensive data acquisition service is engineered to equip customers with the tools necessary for high-stakes intelligence gathering, thorough information analysis, and insight generation. Featuring advanced communications interception capabilities, our service provides a robust foundation for national security and law enforcement initiatives.

Our service stands at the forefront of ethical business practices in intelligence, ensuring all operations adhere strictly to local legal and regulatory frameworks. This commitment not only safeguards the rights of citizens but also enhances trust and cooperation, allowing controlled access to critical communications data.

By integrating seamlessly with existing infrastructure, our solutions enhance operational efficiency without disrupting ongoing processes. The precision of our targeted interception capabilities, supported by cutting-edge machine learning, allows for the consolidation of information into a single, actionable intelligence picture. This capability is pivotal in enabling faster, more accurate responses to national security threats and criminal activities which reduces the economic and social costs associated with crime.

Our team of SC and DV-cleared data scientists and analysts are adept at transforming raw data into quality insights that drive decision-making. With robust data cleansing processes, we ensure the accuracy and reliability of the intelligence provided, empowering your organisation to make informed decisions swiftly, maintain public safety, and uphold national security.

8 Data Compliance Services

BAE Systems help you safeguard public trust and uphold privacy commitments. We assess your ability to meet the security and privacy requirements of UK GDPR and the Data Protection Act. We design and implement solutions and organisational measures to improve compliance, gain accreditation and prepare for future privacy trends.

Our data compliance service provides support for organisations needing to navigate the complexities of compliance with the UK GDPR and the Data Protection Act. We not only assess your current capabilities but also design and implement robust solutions that strengthen your privacy frameworks and ensure you are prepared for future trends in data protection.

Our approach begins with a thorough analysis of your existing data management policies and processes, identifying areas where enhancements are necessary. By integrating 'data protection by design and by default' methodologies, we establish robust organisational measures that meet exceed regulatory requirements and are designed with flexibility for the future in mind. This proactive stance not only helps in securing accreditation but protects against data breaches, significantly reducing your risk exposure.

Our service extends beyond internal practices to consider your supply chain, reviewing every level of your operations. This comprehensive coverage is critical in maintaining a resilient data protection strategy that upholds the highest standards of privacy and security.

Training and continuous support form a core part of our offerings, equipping your staff with the necessary knowledge and tools to uphold and advocate for data privacy. This not only enhances your reputation but also builds lasting trust with stakeholders and users by demonstrating a commitment to ethical data practices.

Our data compliance service helps structure your organisation in a way where data security and privacy requirements are at the heart of decision making, allowing you to focus on growth and innovation while safeguarding the trust of citizens.

9 Architecture as a Service

BAE Systems "Data Architecture as a Service" is a one-stop shop for organisations seeking to enhance their data architecture capabilities. With scalable services, we ensure flexibility and agility, leading to successful project delivery and measurable results.

At the core of our service are strategic guidance, governance, and assurance. Our Data Architects collaborate within a broader community of architectural domains, including Business, Enterprise, Solutions, and Security. This holistic approach ensures that data-driven transformations and underlying technologies optimise processes organisation-wide, extending beyond data alone.

Our experienced SV and DV architects provide expert advice for cloud and digital data systems, ensuring seamless migration and future-proofing investments. Equipped with methodologies, tools, and accelerators, our skilled professionals deploy swiftly, readily adapting to your requirements to ensure architecture delivers tangible value from the outset.

Our specialty lies in creating architecture strategies, roadmaps, and models that integrate legacy systems with new technologies, aligned with your risk appetite, investment profile, and priority outcomes.

TOGAF certified architects produce specific artefacts to optimise efficiency and align standards, while governance implementation ensures compliance, risk mitigation, and operational excellence, safeguarding project outcomes for long-term success. Central to our approach is empowering your teams with expert knowledge, enabling them to maintain industry best practices and standards long after the project concludes.

10 Data Quality, Analytics and Insights

BAE Systems develops analytics-driven data products and services for customer discovery and innovation, combining our deep government experience with advanced data quality tools to deliver actionable insights.

We utilise open-source and leading commercial tools to enhance quality and provide rapid insights, uncovering hidden value in data. Our focus is on delivering impactful data products/services based on trusted, high-quality data to drive organisational advancement.

Our secure, user-centred solutions transform complex and messy data into clear, intuitive visualisations, guiding informed decision-making at all levels. We take a foundation-first approach. We leverage advanced tools and methodologies to clean, standardise, and enrich your data, creating a foundation for reliable analysis and informed decisions.

Our team of highly skilled SC and DV cleared professionals, including data analysts, scientists, and security experts, utilise a blend of proven techniques and cutting-edge tools like predictive modelling and data mining. This allows us to uncover hidden patterns and trends within your data, translating them into actionable recommendations that address your organisations specific challenges and goal

We believe transparency is key. Complex findings are transformed into clear, user-friendly visualisations – accessible dashboards and reports designed to enhance situational awareness and facilitate clear communication across teams

Our commitment extends beyond delivering insights. We foster a data-driven culture within your agency by collaborating with your team and sharing knowledge. This ensures long-term sustainability and maximises the value of your data investment.

11 Data Science Services

BAE Systems offers agile and customised solutions through its "Data Science as a Service," leveraging advanced analytics and machine learning capabilities to tackle complex challenges faced by government departments. Our team of SC and DV cleared experts specialises in Explainable Artificial Intelligence (AI) and Human-Machine Teaming, ensuring transparency and collaboration between AI systems and human operators.

Our expertise extends to critical systems, ensuring a deep understanding of capability in mission-critical environments. We provide secure environments for research activities, enabling our clients to explore and experiment with data in a safe and protected manner.

We specialise in data synthesis and simulation for intelligence applications, enabling government agencies to model and simulate various scenarios for strategic planning and risk assessment. Our services also include data anonymisation and context analysis, ensuring privacy and compliance with regulatory requirements.

With capabilities in object detection, target identification, and image and CCTV processing, we enable government agencies to enhance security and surveillance operations. We provide platform and system health monitoring, diagnosis, and prognostics, ensuring the reliability and performance of critical system

Our dedicated research capability and creative approach ensure innovative uses of cutting-edge Data Science services and capabilities, and with our deep understanding of critical systems, clients can trust our solutions to align seamlessly with their mission objectives.

12 Data Strategy

BAE Systems' Data Strategy service is a modular offering designed for government organisations, tailored to their specific requirements throughout their data strategy journey. We adapt our services to each client's needs, fostering ongoing innovation and advancement.

Our core services start by establishing a strategic data vision that aligns with the organisation's overarching objectives, ensuring that data initiatives generate value. Utilising tools like our "opportunity assessment methodology," we uncover hidden insights, provide structure for evaluating opportunities based on risk profile and spending cycles, and clarify how data supports strategic goals. Using advanced analytics and data science, we identify key opportunities for value creation.

Based on our assessment, we develop a tailored data strategy with clear objectives, priorities, and initiatives. From data governance to architecture and analytics capabilities, our strategy is aligned with the client's goals and scalable for future growth. We provide a detailed implementation roadmap, guiding clients through delivery with prioritised initiatives, resource allocation recommendations, and a timeline, enabling confident execution of their data strategy.

Beyond strategy development, we help clients build the necessary organisational capabilities for successful execution. This includes talent development, change management, and establishing data-driven decision-making processes to foster a data-centric culture.

Continuous improvement is integral to our approach. Our business case experts collaborate with clients to develop Green Book compliant, compelling data business cases with benefits management and realisation plans, ensuring maximum and measurable value from the outset

13 DevOps Platform Engineering Services

BAE Systems improves the speed and quality of software delivery, focusing on automation, Continuous Integration/Continuous Delivery, rapid iteration and scalability in secure environments. Our goal is to automate as much of the development process as possible across cloud environments to enable delivery teams to focus on delivering business value.

BAE Systems DevOps platform engineering service is designed to enhance the speed and quality of your software delivery, leveraging advanced automation, continuous integration (CI), and continuous delivery (CD) to support rapid iteration and scalability within secure environments. Our primary objective is to automate as much of the development process as possible across diverse cloud environments, allowing your delivery teams to concentrate on creating business value.

By automating your delivery pipelines from build and test to deployment, our service ensures frequent, rapid, and reliable code changes, aligning tightly with business demands. Utilising the most appropriate tools for infrastructure management, such as Infrastructure-as-Code (IaC) with Terraform, Ansible, Puppet, and ARM templates, our platform supports seamless and consistent environment creation. This automation extends to the full spectrum of cloud services including IaaS, PaaS, SaaS, and FaaS across leading platforms such as AWS, Azure, and Google Cloud, employing tools like CloudFormation and Azure DevOps for streamlined operations.

Containerisation with Docker, orchestration with Kubernetes (including EKS and AKS), and Openshift are integral parts of our service, enabling scalable and efficient application deployment. Additional technologies like Helm for package management and Istio for service mesh architecture enhance our containerisation and orchestration capabilities. Our AI-powered operations enhance real-time monitoring, logging, and alerting with tools like Prometheus for monitoring and Elasticsearch for logging, ensuring that your applications are always performing optimally and securely.

With SC and DV cleared professionals in platform engineering we provide a secure foundation for private, public, and hybrid cloud hosting. Our approach not only significantly reduces deployment errors and vulnerabilities but also increases deployment frequency, leading to quicker releases and continuous improvement through technologies like Git for version control and Jenkins for automation.

Our DevOps platform engineering service is designed to improve the speed and quality of your delivery, allowing development teams to focus on meeting user needs and delivery business value in a cost effective and efficient way.

14 Digital Strategy

BAE Systems' "Digital Strategy" services for government offer a comprehensive set of methodologies, tools, and innovative ways of working to leverage existing legacy platforms, emerging digital platforms, and cloud technologies.

Specialising in “escaping from legacy,” we enable organisations to enhance operations, improve experiences, boost productivity, and increase efficiency in their technology choices and digital platforms. We guide organisations from conceptualisation to implementation to optimise digital products and services, reduce costs, mitigate risks, and unlock significant value.

Our approach is grounded in a modular framework, flexible and customised to meet each organisation's specific needs. This includes conducting investment appraisals, developing robust business cases, and creating strategic roadmaps, operating models, and helping your organisation prepare and deliver change.

Central to our methodology are our risk assessment tools, assumptions validation, and health checks to assure success from every angle. Our business case experts focus on developing Green Book compliant, compelling digital business cases, with benefits management and realisation plans for maximised and measured value from day one.

As technology-agnostic advisors, we provide impartial and strategic digital guidance specific to each organisation's requirements and digital aspirations. Additionally, our services extend to encompass handover management, mentoring, and coaching, ensuring a seamless integration process.

Backed by a team of SC and DV Cleared Staff, comprised of skilled Business Consultants, Architects, and Digital Strategists, we offer unparalleled expertise and support throughout your digital transformation journey.

15 Discovery and rapid problem exploration

BAE Systems enables Discovery and Rapid Problem Exploration through using our GDS aligned agile and iterative methodology. Based on 'Google Design sprints', we work collaboratively with clients to discover and learn about their problem(s) - capturing, evaluating and refining - to take ideas and concepts through to tangible outcomes quickly.

Our 'Futures' Innovation team of experts explore new ideas within a proven Innovation framework. This includes continual market-scanning to surface new opportunities for further digitalisation from emerging technology.

To focus on real problems, our approach includes creative workshops with the Buyer's users – bringing together the Buyer's knowledge of the issue and our problem-solving experience. It follows the approach in GDS Discovery - prioritising value versus feasibility in order to produce a roadmap for digitalisation that delivers value early.

Options Analysis is a key part, and encompasses the Buyer's problem as a requirement; alongside: NFRs; legacy technology integration considerations; licencing; TCO; vendor roadmap, solution interoperability, strategic fit.

Communication of the potential for a new technology is part of the framework – to active participants through workshops, and wider stakeholder community through 'lunch and learn' sessions. To industrialise this, we built our own innovation accelerator, supported by enterprise-scale engineering excellence. The Innovation team foster the latest tools, technologies and techniques to design and deliver innovative solutions, services and prototypes for the National Security and Government Domain.

Our structured Solutions Workshop process helps identify opportunities for innovation, and generates the solutions to meet agreed objectives and outcomes. Highly structured it enables us to take the customer problem into a series of Prototypes, Designs and Development Plans, and provide all materials to solve a customer's hardest issues. It takes place over a week of intense problem solving to create compelling solution concepts in 5 days.

We invite customers to be part of key sessions during the week, driving decisions and ensuring the solution concepts are jointly owned. The team deliver on a number of customer focused capabilities such as Solution Workshops; Rapid Prototyping; Bootcamps and SME Engagement.

16 Hyper automation

BAE Systems combines AI, ML, RPA and other automation technologies in to a hyper-automation framework to optimize complex business processes in a way that is more comprehensive than traditional automation. By automating decision-making and repetitive workflows we increase productivity and operational efficiency, while providing deep insights to drive business decisions.

Our hyper-automation services integrate advanced technologies such as Artificial Intelligence (AI), Machine Learning (ML), Robotic Process Automation (RPA), and other cutting-edge automation tools into a robust hyper-automation framework. This service is specifically designed to transform and optimize complex business processes far beyond the capabilities of traditional automation methods.

At the core of our service, AI and ML algorithms work to automate decision-making processes, enhancing accuracy and speed while reducing the need for human intervention. These technologies enable the system to learn from historical data, predict future outcomes, and make intelligent decisions that boost productivity and operational efficiency.

RPA brings a unique strength to our framework by automating repetitive and time-consuming tasks. By deploying bots that mimic human actions in executing routine tasks across various applications, RPA frees up valuable human resources, allowing them to focus on more strategic activities. This not only accelerates workflow processes but also significantly reduces errors and inconsistencies.

We provide comprehensive support through every phase of the hyper-automation lifecycle, from initial discovery and planning to implementation and ongoing support. Our approach is tailored to align with GDS and Government standards, ensuring compliance and security in all operations. We engage with stakeholders to understand specific needs and challenges, ensuring our solution delivers maximum business value.

By adopting our hyper-automation services, customers can achieve higher levels of efficiency and innovation, leading to greater customer satisfaction and business outcomes. Our end-to-end support model ensures that our clients can confidently navigate their hyper-automation journeys.

17 ITOM

BAE Systems has a Target Operating Model advisory service (A-TOM) that rapidly delivers a more efficient and effective operating model, focusing on how ICT functions deliver tangible business value and meet evolving business needs. We accelerate the timeframe for definition of an ITOM through design patterns and reference models.

BAE Systems Digital Intelligence has a long and established track record of designing and implementing Target Operating Models (TOMs) with a range of partner and customer organisations. We have significant experience of doing this across a range of customer sectors. An Operating Model can be illustrated from many different perspectives; the scope and context of the area being reviewed are key to determining the most appropriate and relevant approaches. A deep insight into the customer landscape is required to fully understand the drivers for change, current structures, processes and stakeholders operating in this space.

We develop the high level ‘overarching’ model and then more detailed models in specific areas to reflect the priorities in the model being developed. We then collaborate to develop a number of potential options for review in order to ascertain whether one of them, or elements of different models, works best as the final ITOM. This is an iterative approach, with each stage conducted in alignment and collaboration with key customer stakeholders.

At BAE Systems Digital Intelligence, years of experience across multiple customers and sectors has taught us that designing a new business, function or service in isolation rarely leads to it being successfully embedded. Instead, up front design should take place in parallel with work to ensure it can be implemented within the Authority organisation. The key to creating buy-in to a successful ITOM is to define 'just enough' detail at the ITOM advisory stage to establish a valuable design for the new function, and then engaging with the teams on the ground to own the business change by defining and implementing the detail through the associated transformation programme.

We have therefore developed the approach of Digital Agility, which brings together our key management consulting disciplines as a coherent set of activities required to take an ‘end to end’ approach to development of an ITOM and organisational transformation. This set of capabilities provides the analytical, design, engagement and business change interventions required to successfully create and launch a new service, function, product, or even entire new organisational structure.

We bring this broader perspective during the ITOM design phase in order to maximize the value and success of the selected model through being implemented and run.

18 Managed Innovation

BAE Systems help our customers understand, assess and leverage new, digital, data and Artificial Intelligence (AI) technologies and methods quickly, leading to well-formed Discovery and Alpha phases. Achieved by fostering an innovative, user-centric, value focused and hypothesis-led culture, that isn't afraid to fail, learn and iterate.

We successfully deliver innovation through an adaptable GDS aligned agile and iterative approach. This may include staff working across different opportunities and at different stages of the lifecycle. The ethos is one of collaboratively operationalising change by taking concepts through to tangible outcomes. Project Gate Reviews are put in place between each of the stages to ensure adequate governance, lessons learned, feedback, evidenced based decision making and continuous improvement.

Mobilisation – setting up the Ideation and Governance processes as well as identifying and engaging stakeholders. We build relationships with Workstream Leads, the Client's Leadership and Key Stakeholders. The Team defines Statement of Works (SoWs) for commissions and are involved in Commission deliveries

Ideation – learning about and refining the actual problem, using a repeatable process. By using a Core Team and Innovation Lead, we capture and add opportunities, support the evaluation process with the Workstream Leads and Client's Leadership, prioritise the opportunity backlog and build and evolve the Innovation Roadmap.

Discovery – exploring and scoping the problem and potential solution. We provide seamless support into existing Discoveries and undertake specific activities.

Proof of Concept (PoC) – building a narrow, working, end-to-end capability. By defining outcome based SoWs, with clear alignment to strategic goals, we enable traceability throughout delivery and our Core Team ensures that strategic objectives are achieved. We then deploy a multi-skilled team or lead the delivery of an external supplier.

Pilot – building a simple service solving the whole problem. (As with the PoC), our Core Team will define outcome based SoWs and build and manage a multi-skilled team.

Transition to Operations (TTO) – success is measured when the benefits proven in Pilots are able to be implemented across the enterprise. To support initiation of TTO, we gain commitment from stakeholders, provide materials and knowledge to support and drive the implementation of the benefits realisation strategy. Our Innovation Lead is responsible for delivery and integrates with the Client's leadership team to maintain an understanding of the strategic agenda and opportunities. The Team capture and add opportunities to the Innovation Backlog and maintain an Innovation Roadmap.

Innovation from Other Organisations, Sectors and Academia: We use thought leadership, white papers, advisory input and our innovative offerings to support the delivery of Innovation.

Research, Horizon Scanning and Innovation: our 'Futures' Team conducts horizon-scanning with clients and approaches challenges in new ways. Our AI Labs takes research into prototyping with a focus on cutting edge algorithms, sensors and science, partnering with academia for research. We also provide access to our broader Innovation Ecosystem, a central point of engagement across our partner, technology and academia landscape.

19 Operating Model Design and Change Management for Cloud

BAE Systems has a longstanding heritage and experience of designing Government Operating Models for both hybrid, two-speed IT or dedicated cloud delivery with the necessary business change management to realise the value. Cloud enables new ways of working and benefits realisation requires transformational change at all levels of the organisation.

BAE Systems Digital Intelligence has a long and established track record of designing and implementing Target Operating Models (TOMs) for optimizing use of Cloud with a range of partner and customer organisations. An Operating Model can be illustrated from many different perspectives; the scope and Cloud context of the area being reviewed are key to determining the most appropriate and relevant approaches. A deep insight into best practice Cloud operations as well as the customer landscape is required to fully understand the drivers for change, current structures, processes and stakeholders operating in this space.

We understand that a Cloud based operating environment is designed to adapt and iterate, and often has to operate alongside legacy IT. As such, we don't believe there is such thing as a 'steady state' cloud operating model or a one size fits all design.

Instead, our customers need a model that flexible by default to changing business needs. Our iterative approach to Operating Model Design and Change Management will ensure we deliver value, quickly. We design and embed a kit bag of well proven digital practices as up front accelerators to achieving value from investment in cloud platforms. This includes fostering an iterative DevSecOps culture with Site Reliability Engineering (SRE) practices that provide our customers with unique advantages when implemented successfully within Cloud based Digital Operating Models. The Digital TOM provides a blueprint that focuses on how people, processes data, and cloud based technology can be organised and leveraged to quickly and iteratively deliver value, through both hybrid, two-speed legacy IT and dedicated digital operations according to customer needs.

Providing successful orchestration and delivery of initiatives that make the digital transformation happen - and last - with a focus on assessing how much change is needed, designing a plan to manage it, developing a compelling "case for change" to be promoted by senior leaders, and understanding and embedding the elements needed to overcome resistance and adopt your new Cloud Operating Model.

At BAE Systems Digital Intelligence, years of experience across multiple customers and sectors has taught us that designing a new business, function or service in isolation rarely leads to it being successfully embedded. Instead, up front design should take place in parallel with work to ensure it can be implemented within the Authority organisation. The key to creating buy-in to a successful ITOM is to define 'just enough' detail at the ITOM advisory stage to establish a valuable design for the new function, and then allowing the teams on the ground to own the change by defining and implementing the detail through the associated transformation programme.

We have therefore developed the approach of Digital Agility, which brings together our key management consulting disciplines as a coherent set of activities required to take an 'end to end' approach to organisational transformation. This set of capabilities provides the analytical, design, engagement and business change interventions required to successfully create and launch a new service, function, product, or even entire new organisational structure.

We bring this broader perspective during the Operating Model design phase in order to maximize the value and success of the selected operating model through being implemented and run.

20 Rapid Prototyping

BAE Systems' rapid prototyping employs product-centricity so that DevSecOps teams incrementally deliver user-centric products that are trusted, secure and intuitive. We align to customer roadmaps, working to GDS and TCoP standards, iteratively planning, building, releasing and operating products at pace, utilising our methodology (aligned to GDS phases: Discovery to Live).

Discovery: our DevSecOps teams support the Product Owner, identifying solutions to user needs, assessing product feasibility, considering API integration and legacy technology. They design the Technical Architecture and perform Threat Modelling, generate a prioritised Epic-level backlog and product roadmap, allowing for benefits and estimation prior to testing ideas in Alpha.

Alpha: our teams support refining the backlog into user stories, working with UX Designers to develop UI prototypes, iterated following user testing. Alpha includes configuring accessibility requirements (working to WCAG 2.1 AA and GDPR standards), understanding the NFRs and developing technical prototypes (integrating APIs), to test the architecture. Approvals will be obtained to process user data, including testing of security controls, with CI/CD pipelines, automation and the service model set-up.

Private Beta: our teams support live product testing with a subset of users, where products, CI/CD pipelines, test automation and the service model are improved, balancing delivery with technical, service and security debt.

Public Beta: our teams continually improve the products, support the service for anyone that needs it, improve pipeline automation, and ramp-up the service model.

Live: our teams look to the longer term for maintaining high quality products and service, measuring performance and support continued user engagement.

All work is managed in Sprints, using Agile Scrum cadence (backlog refinement, sprint planning, review and retrospective, with daily stand-ups).

21 Service Design and Management

BAE Systems provide ITIL4 aligned Service Strategy, Service Design, Service Transition and Service Management. We deliver 24/7 critical national infrastructure Managed Services, scaled Service Integration and Management (SIAM) services or DevOps support in accordance with GDS including TCoP and HMG security standards through with UK, nearshore or offshore delivery centres.

BAE Systems has a mature Service Architecture and Service Delivery Management workforce who are SIAM, ITIL v3, ITIL 4 and Service Management SMEs with qualifications that include ITIL v3 Expert, v4 Managing Professional, ITIL v2 Strategic Leader and TOGAF 9 certifications. We have extensive experience of working across Government throughout the service lifecycle from Service Design, Service Transition through to ongoing Service Management of live critical national infrastructure services up to 24/7265. This includes the design and delivery of SIAM, working both client side advisory for design or as a delivery partner for the end service.

Our Service Architects construct a target service architecture as a TOM and where relevant transition states as Interim Operating Models, which supports the transition of a product through the GDS Lifecycle into Live using the rigour of best practice ITIL. We map user journeys through the functional service interactions, focusing on the core service value chains to minimise duplication, integrate with the existing IDD service framework and reduce hand off friction. We take the technical architecture of the end-to-end solution and map who supports what, when, and who interacts with whom (Service Responsibility Diagram/Matrix) exposing service boundaries between support activities, roles, security considerations and risks. We will agree these with other parties ensuring boundaries are clear and there are no ‘gaps or overlaps’ in technology support. For example, responsibility of Middleware or Databases. We then use a holistic model of end-to-end service responsibilities, incorporating ITIL 4 Capabilities with input from IT4IT and ISO2000. We identify ownership for each capability end-to-end, ensuring no ‘gaps or overlaps’ in the service responsibilities. For a critical national infrastructure support service at the Home Office, we mapped the as-is and to-be service ownership, identifying gaps and risks in the existing model that supported the implementation of a Product Management approach. Finally, we work with the Authority to design SLAs by focusing on the impact on the business and the user, identifying the level of service that the end-user expects and turning these into measurable SLRs, including the parameters, responsibilities and expectations we have on service providers. We have template SLAs with quantifiable measures and targets that we tailor to fit the SLRs.

We follow up and deliver on our Service Design with our extensive Service Management experience in supporting products in both Public Beta and Live, for example in accordance with GDS service requirements, including TCoP and HMG security standards. We employ 30+ Service Delivery Managers, across 4 UK based locations. Our Leeds Delivery Centre provides UK business hours and 24x7 live services for our customers, with 650+ UK-based personnel supporting live services, delivering product-centric support using consolidated product backlogs across development and support.

22 Strategic Technology Advisory

BAE Systems' 'Strategic Technology Advisory' services equip organisations to make well-informed technology decisions that align with their objectives, delivering tangible value. Our modular approach allows us to tailor services to each organisation's specific needs, fostering innovation and advancement.

Central to our methodology is a transparent investment framework, guiding organisations in making practical decisions on investment allocation, risk management, and planning cycles aligned with strategic goals.

Our team of strategists, technologists, and business experts effectively bridge the gap between technical requirements and business objectives. Senior leaders benefit from our insights, enabling them to navigate complexities confidently, ensuring alignment and support throughout the organisation.

Our services result in the development of robust technology strategies, roadmaps, and transformation portfolios, aligning technology initiatives with organisational objectives. Leveraging our experience, clients gain access to best practices, proven methodologies, and accelerators.

We prioritise risk mitigation, proactively identifying and addressing technology risks to enhance resilience, agility, and collaboration. This proactive approach ensures organisational resilience and facilitates smooth technology adoption. We support enterprise-wide change management, driving sustainable change and maximising the impact of technology initiatives.

We facilitate innovative technology adoption, empowering organisations to maintain a competitive edge and establish leadership in their industries. With our comprehensive support, organisations confidently navigate complexities, driving success in an evolving digital landscape

23 User Experience and Service Design

BAE Systems work with user groups, identifying their pain points and future needs, to deliver seamless digital, user experiences. We employ a Human Centred Design methodology to understand the user journey and run ethnographic studies, to capture requirements and design intuitive product features, for continuous usability testing and feedback.

We integrate the six key principles of User Centred Design (UCD), as defined in ISO9241-60, into our work. We take a collaborative, iterative approach to UCD through GDS Discovery to Live, embracing a 'fail-fast' mind-set, avoiding leading users to premature solutions. We achieve this with continuous user research, understanding user problems / needs and the user journey context, achieving best possible outcomes from digital and data products. We work to WCAG 2.1 AA and GDPR standards, ensuring accessible and usable products. We have ranked top 10 in E-consultancy Top 100 Digital Agencies.

In Discovery, we work with the Product Owner to identify the appropriate user groups, research their priority problems / needs (using interviews and ethnographic studies, supported with as-is / to-be scenarios, user journey maps, personas), ensuring problems identified are worth solving. We identify digital and data solutions, working with DevSecOps to generate a backlog of epics, with a business case and product roadmap, informing priorities for Alpha.

In Alpha, we refine the backlog into user stories ideated into UX designs (using functional user flows). Designs are shown to users for feedback, then developed into interactive UX prototypes (using tools such as Figma, Adobe XD or actual code). Prototypes are tested with users (in lab-based usability tests) and with staff (using operational dry-runs) to test the wider user experience prior to Private Beta.

In Private Beta, we continue to perform user research further improving the user experience allowing DevSecOps to harden the product solution, continually learning from a subset of users and demographics in live. Learnings and benefits are measured using GDS KPIs, such as # of completed transactions.

In Public Beta and Live, we continue to research and test the solution (refining products and improving the service, identifying new epics in the process) as the service is scaled and opened up to anyone that needs it.

All UCD activities are managed in Sprints using a dual-track process, ensuring designs are ready for DevSecOps product delivery. We have our own UCD approach, using Lean design principles, enabling product prototyping within 1 week.