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Asset Management: Enhanced Decision Support

GCloud Service Description Document

Bringing Ingenuity to Life.
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Reference: PA RM1557.15

Version: 1.0

Contents

Asset Management: Enhanced Decision Support	4
1.1 Short Service Description	4
1.2 Key Service Features	4
1.3 Key Service Benefits	4
1.4 Service Definition	5
1.4.1 Our Approach to developing Enhanced decision support within your organisation	5
1.4.2 Our enhanced decision support Track Record includes:	5
1.4.3 Our People We deliver end-to-end innovation through ingenious collaboration.	6
1.5 Why PA Consulting Group (PA)? A trusted partner for cloud, AI, and digital technologies	7
1.5.1 Why PA for cloud, data and AI	7
1.5.2 Cloud capability (assess, design, build, assure, run)	8
1.5.3 AI, ML and data (from strategy to scale)	8
1.5.3.1 Quantum and emerging technologies	8
1.5.4 Cyber security and digital trust	8
1.5.5 What PA will bring	10
1.5.6 PA is fully equipped to manage any challenges or requirements you may present	11
1.6 A Genuine commitment to Social Value	11
1.7 Security Clearance	12
1.8 Next Steps	12



Asset Management: Enhanced Decision Support

1.1 Short Service Description

Asset management organisations require strategic and tactical decisions to be made to drive value from their asset base. We offer asset management decision support as a process to support organisations drive consistency in intelligent decision-making and support digital asset management software implementation and usage across infrastructure asset management organisations.

1.2 Key Service Features

1. Asset management system assessments, transformation and development
2. Development of asset management strategy and plans
3. Decision support and asset management tool implementation support
4. Value framework development
5. Embedding scenario planning capabilities
6. Development and implementation of risk frameworks
7. Asset data strategy development and implementation
8. Uncertainty testing, scenario modelling and confidence analysis
9. Digital asset management system support including implementation
10. Aligning strategies, with policy, regulatory plans, and delivery plans

1.3 Key Service Benefits

1. Maximising value of assets owned
2. Improved justification of capex, opex, totex investment cases.
3. Greater insight from your asset data.
4. More efficient intervention selection
5. Consistent decision making – more auditable, traceable decisions
6. Risk based decision making
7. Optimisation of requirements, solution, design, implementation.
8. Enabling accurate and comprehensive financial planning for complex scenarios.
9. Enablement of rigorously evidence-based decisions across organisational boundaries
10. Consolidating data from disparate sources into a single view.

1.4 Service Definition

1.4.1 Our Approach to developing Enhanced decision support within your organisation

At PA we recognise that our clients are continually having to adapt and improve their decision-making approach to drive value from their assets and meet new challenges. These challenges require more sophisticated processes and systems to continually outperform the business environment, particularly with ever increasingly complex challenges and constraints.

At PA our asset management approach to solving these challenges through enhanced decision support cuts across the decision-making lifecycle, we help our clients by delivering across a range of supporting services including:

Developing a complete and comprehensive **Decision-Making Framework(s)**, which defines the business rules for against the outcomes that the business wishes to drive.

Helping organisations define and continually improve their **Value Frameworks** to ensure coverage of the six capitals and methods for quantifying investment contributions within an Asset Management context.

Defining and continually improving **Risk Frameworks**, and processes for quantifying risk, to ensure alignment with the measures of value and board engagement on risk.

Maintaining a well-defined, end-to end process for **risk and value measurement** through the Asset lifecycle to inform the most cost effective and efficient intervention points.

Independent validation or development of approaches to **Whole-Life Risk & Cost Modelling**, enabling the future health of the asset base to be forecast and analysed within long-term strategies. We are also able to support organisations understand and model the systems within theirs and related networks. We will ensure that decision support tools such as these inform the optioneering process and enable a wide range of possible options to be developed that consider future scenarios.

An up-to-date **Asset Management System** which puts **Scenario Planning and Uncertainty Analysis** at the forefront of strategies, frameworks, and processes. We will support clients embed the behaviours necessary to thoroughly consider future outcomes when making investment decisions.

Unlock full **Portfolio Investment Optimisation** across a portfolio of programmes, projects, and interventions to enable leadership to understand where they are going to realise the most value for money. We may support organisations achieve this through better use of existing systems or by deploying our own tools to solve the problem.

A fit-for-purpose **Operating Model and Competency Framework** to deliver planning processes effectively using the data and insights available from the business.

1.4.2 Our enhanced decision support Track Record includes:

Utilising GIS by bringing data to life to support strategic investment planning submissions

We supported Highways England to analyse and model visual evidence that our work to support them create the strategic investment case for the renewal of all assets across the English Strategic Road Network over the next 5 year regulatory period- 2020-25.

We developed a Geographic Information System (GIS) platform which analysed various data sets geographically to uncover insights on trend for various asset types. This included vehicle accident data, bridges, central reservation (Vehicle Restrain System), weather condition and traffic flow.

We used internal GIS experts and worked collaboratively with Highways England talking to experts in their regions and asset subject matter experts. We built an understanding of historical national accident trends and identified areas which were deemed hot spots to focus our attention. With this information, we were able to suggest that particular bridges and vehicle restraint systems were more likely to be impacted across the network – this detail supported both investment cases for renewals.

We also undertook extensive data analysis of central reservations, by joining this dataset with accident data to generate insights and key relationships to feed into their strategic and regulatory discussions.

PA are able to utilise GIS to support operational decisions by recognising pattern and trend in data which may otherwise go unnoticed. By overlaying datasets from multiple sources, we uncover insights to support key decisions such as areas of interest, historical location trends and add the “where” factor to data.

From incidents to insight: Reducing traffic congestion using ‘dark data’ insights

Highways England’s traffic officers look after motorways and major trunk roads, clearing accidents and breakdowns to keep traffic flowing smoothly. They wanted to improve the number of times they cleared incidents in under one hour: a standard not achieved for nearly 7,000 incidents a year. To understand this issue – and work out how to address it – we worked with Highways England to turn their ‘gut instincts’ about the problems into powerful and tailored organisational insight.

Working with Yorkshire and Northeast region, we found completely new ways to use their data. By focusing on their hypotheses, we initially confirmed long-held hunches on performance variation. We established up to a 10 per cent performance drop at specific times over a patrol shift. We then established the root cause from data collected every day but not looked at before for this purpose. The problems stemmed from travel times for traffic officers at specific times of day. Using this insight Highways England could optimise the way they deployed officers from new and existing base sites.

These changes cut clear-up times by up to 15 minutes per incident, allowing over 100,000 more hours for other key operational activities. Nationally, patrols could hit the one-hour target in up to 2.5 per cent more cases. What’s more, we estimate the time motorists would no longer spend in motorway tailbacks could be worth £17.3 million a year to the economy. We have since worked with other Highways England regions to rollout this insight to roll it out nationally and to build on this success.

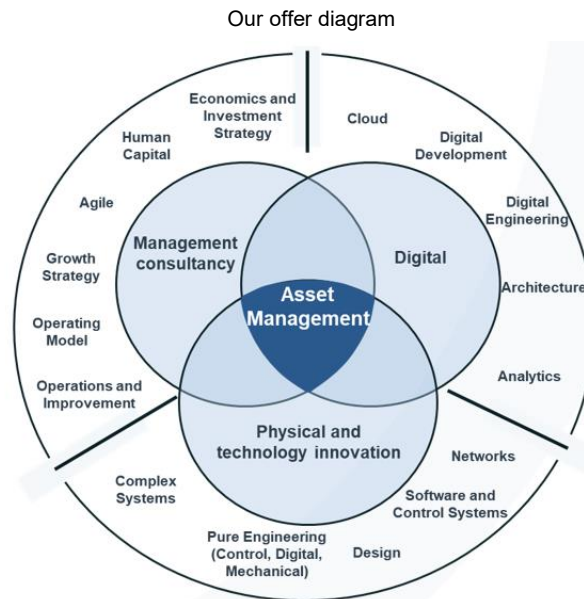
1.4.3 Our People | We deliver end-to-end innovation through ingenious collaboration.

Clients trust us to combine their experiences with our own ingenuity. Our offer is more complete than that of any other single consultancy:

We offer management consultancy to drive and release change, to shape bolder organisations and to develop the capabilities of talented people. We offer digital consultancy to get the most from a technology-driven world through data analytics, digital twin thinking and smarter system architecture.

We offer physical and technology engineering and innovation to lift our thinking off the page and into the real world. It enables us to literally bring our ingenuity to life, leaving our clients with working solutions, not reports. We are a cross-sector capability and are experienced both client and regulator side counsel.

We bring the best of PA's knowledge to every conversation and challenge, across strategy, digital, transformation and analytics.



1.5 Why PA Consulting Group (PA)?

A trusted partner for cloud, AI, and digital technologies

PA Consulting Group (PA) is a leading technology and innovation consultancy and one of the UK government's most trusted advisors, combining strategy, delivery assurance and deep engineering to turn complex ambition into assured outcomes. We bring end-to-end capability across cloud architecture, data and AI, cyber, and advanced technology R&D, backed by a track record of scaling innovation in the public and private sectors.

Our UK work is anchored by secure, standards-led delivery. PA maintains ISO/IEC 27001 certification across global operations, demonstrating disciplined information security and operational control, and applies UK government good practice (GDS, NCSC CAF) across cloud and digital programmes.

We combine consultancy with real engineering. At our Global Innovation & Technology Centre (Cambridge), 300+ scientists, designers and engineers operate extensive labs and studios to prototype and industrialise solutions, bridging physical and digital from concept to production.

1.5.1 Why PA for cloud, data and AI

- **Hyperscaler alliances without vendor lock-in.** PA is Premier Tier with **Google Cloud** (13+ years; 150+ certifications; specialisations in infrastructure, data analytics, app dev and security) and holds deep **AWS** and **Microsoft** credentials, accelerating secure data foundations and generative AI at scale while keeping advice independent and outcome-led.
- **Responsible AI you can trust.** Our Responsible AI framework, governance toolkits, and risk policy make AI adoption transparent, auditable, and compliant, embedding lifecycle controls, model documentation, and human-in-the-loop safeguards aligned to evolving regulation.
- **Impact beyond pilots.** We help organisations become *intelligent enterprises*, using data and agentic AI to create and protect value, with pragmatic roadmaps from use-case selection to scaled operations.
- **Proof through delivery.** Our client stories span enterprise data platforms, IoT and analytics (e.g., Rentokil Initial), and product innovation at scale (e.g., Unilever) where PA has put data and AI at the heart of continuous, market-leading improvement.

1.5.2 Cloud capability (assess, design, build, assure, run)

PA applies an assured cloud delivery approach to complex government and regulated environments, blending client-side delivery assurance, multi-cloud architecture, and resilient operations:

- **Strategy & readiness.** Maturity assessments, target operating models for hybrid/multi-cloud, and cost/benefit modelling; proportionate GDS compliance and ISO 27001 controls embedded upfront.
- **Design & architecture.** Secure, well-architected patterns across Azure, AWS, and Google Cloud; data platforms, identity and access, and cross-domain solutions for sensitive estates.
- **Build & deploy.** Cloud-native engineering, DevSecOps (CALMR), CI/CD, infrastructure-as-code; automated testing and quality assurance to accelerate safe release.
- **Migration & modernisation.** Legacy transformation, platform reviews, and workload migration tuned to resilience and cost; pragmatic FinOps to keep spend predictable and efficient.
- **Operate & optimise.** Observability, incident management, performance tuning, backup/restore, and change management, maintaining business continuity and reducing total cost.
- **Client-side delivery assurance.** Forward-looking, risk-based assurance that keeps complex programmes on track, covering governance, architecture, testing, migration, service readiness and cutover. See our *IT Delivery Assurance* service.

1.5.3 AI, ML and data (from strategy to scale)

- **Strategy & governance.** AI blueprints, operating models, and policy; enterprise data governance; regulatory readiness; centre-of-excellence setup and change adoption.
- **Engineering & MLOps.** Data platforms on Azure/AWS/GCP, pipelines and feature stores; robust ML lifecycle with monitoring, drift detection and auditability.
- **Generative & agentic AI.** Secure integration of LLMs (including Copilot) into workflows for measurable productivity and quality gains, using guardrails, system cards and ROI framing.
- **Responsible AI.** Lifecycle controls and assurance tooling to manage bias, security and transparency.

1.5.3.1 Quantum and emerging technologies

PA's applied physics and quantum engineering teams help clients unlock near-term value, combining quantum techniques with classical systems for decision support, advanced sensing and secure communications:

- **Decision support & optimisation.** Hybrid quantum/classical algorithms to accelerate complex planning, routing and resource allocation where speed and quality of decisions matter.
- **Quantum sensing & RF.** Novel quantum radio and Rydberg-based sensing to enhance spectrum use, detection sensitivity and resilience in contested environments.
- **Commercialisation insight.** Advisory at the “whole-stack” level, hardware, supply chain, interfaces, and ethics, to move from lab to market within national strategies.

These capabilities are industrialised at our Cambridge centre, turning concepts into robust prototypes and pre-production systems across sectors like defence, energy and transport.

1.5.4 Cyber security and digital trust

Digital trust is central to PA's approach. We design security into architecture, operations and culture, aligning to NCSC CAF and GovAssure, and delivering testing, red-team, SOC design and OT/IoT security:

- **Transformation & architecture.** Secure-by-design patterns, cloud security, identity, and cross-domain data protection (including NCSC-approved Oakdoor data diode products).
- **Assurance & regulation.** CAF/GovAssure alignment and pragmatic remediation plans for government organisations.
- **Testing & resilience.** CREST-aligned penetration testing, red-teaming, incident readiness, and operational resilience.

1.5.5 What PA will bring

Ideation & Strategy

- Cloud strategy and advisory services
- Cloud readiness assessments
- Cost/benefit and ROI modelling
- Security and compliance by design.
- AI/ML and data strategy (blueprints, operating model, governance) with Responsible AI policy and guardrails.
- Quantum opportunity framing and whole-stack commercialisation roadmaps.

Design & Architecture

- Bespoke enterprise and cloud architectures
- Integration with existing IT infrastructures
- Hybrid/multi-cloud design
- Continuity and disaster recovery
- Data platforms and MLOps patterns
- Security, privacy and resilience embedded by design in technical designs
- User-centred-design
- Secure cross-domain solutions and high-side/low-side integration where required.

Development & Deployment

- Cloud-native engineering
- Containerisation, microservices and serverless
- DevSecOps (CALMR) with CI/CD and automated testing
- Generative AI and Copilot enablement with measurable productivity outcomes and run-controls.

Implementation & Migration

- Data migration and legacy modernisation
- Vendor selection and management
- Infrastructure-as-code with progressive, low-risk cutover.

Operations & Management

- Observability, incident management, SIEM/SOC design
- Performance optimisation and cost management (FinOps)
- Backup/restore
- User training and change adoption.

Innovation & Scaling

- Scalable cloud infrastructure to support growth
- AI/ML implementation and scaling
- IoT integration
- Ongoing innovation sprints and R&D, supported by our Cambridge engineering labs for rapid prototyping and pre-production.

1.5.6 PA is fully equipped to manage any challenges or requirements you may present

Across strategy, design, build and run, PA blends independent advice with hands-on engineering, operating to ISO 27001 and UK government standards, and backed by hyperscaler partnership depth. Whether the brief is modernising a sensitive cloud estate, industrialising AI responsibly, or de-risking a quantum-adjacent programme, we bring the multidisciplinary team to get from idea to reality, safely, quickly, and at scale.

1.6 A Genuine commitment to Social Value

At PA, we believe in the power of ingenuity to create a positive human future. Central to this ambition is our commitment to developing high-quality opportunities that enable individuals to acquire leading-edge skills, all within an environment that supports personal wellbeing and growth. We invest in our people through comprehensive training and development, ensuring they are fully prepared to tackle our clients' most complex challenges and advance their own careers.

We recognise that diversity drives innovation. Therefore, our recruitment practices are inclusive, welcoming individuals from all backgrounds. Every member of our team is empowered to reach their full potential through inclusive policies, processes, and a culture that is continuously improved using robust data.

We are passionate about creating genuine opportunities for those facing significant barriers to employment. Since 2023, our Digital Apprenticeship Programme has offered a Digital and Technology Solutions Degree through the University of Roehampton or Northumbria University. Our apprentices typically include first-generation professionals, college leavers, and individuals from ethnic minority backgrounds, many living in deprived areas. Additionally, we offer summer internships for undergraduates entering their final year, hosted at both our central London office and the Global Innovation and Technology Centre in Cambridge.

Economic responsibility is integral to our purpose. PA is accredited as a Living Wage employer, and where relevant, we ensure that our suppliers and subcontractors are paid at least the minimum living wage. We are also a signatory to the Prompt Payment Code, demonstrating our commitment to fair and responsible payments to suppliers.

Our carbon reduction targets have been validated by the Science Based Targets initiative (SBTi). We have a published carbon reduction plan and are committed to achieving carbon net zero by 2040, in alignment with PPN 06/21 criteria for UK public sector contracts exceeding £5 million. In 2024, we achieved a silver EcoVadis rating, reflecting our ongoing progress in sustainability.

We are dedicated to delivering targeted social value and will collaborate with you to determine the most effective approach for you, ensuring our efforts have the greatest possible impact.

1.7 Security Clearance

PA are fully compliant with industry best practices for information security, which includes compliance with the UK MOD Industry Personnel Security Assurance (IPSA) standard, against which we are independently audited every three years. PA also has multiple sites with FSC (previously List X) where our dedicated in-house Security Vetting team are based. This allows PA to achieve security vetting of its employees in a time effective manner ensuring the correct processes are always followed (In accordance with the Security Policy Framework/GS007). As a matter of standard process, PA puts all its eligible employees through the Baseline Personnel Security Standard (BPSS), set out by the Cabinet Office. Those employees working on, or planning to work on, government projects are automatically put forward for SC clearance which are processed via UK-SV (formally the Defence Business Services – National Security Vetting). PA also process DV vetting through the UK-SV and other agencies, these are generally client sponsored.

PA currently have a large pool of cleared individuals (80% of UK Staff). Should a resource be identified where clearance is needed, the PA Security Vetting team will then process the individual through the relevant clearance procedure. The team will also be able to validate all existing clearances held by PA employees when requested.

1.8 Next Steps

This service is intended to help customers develop and deliver successful outcomes regardless of the life cycle stage they are at. PA prides itself on working with clients and helping them to deliver outcomes whilst also providing them the ability to 'stand on their own' so that they can move their solutions forward without future involvement. Please contact us on GCloudFramework@paconsulting.com to discuss your needs further.



About PA.

We believe in the power of ingenuity to build a positive human future.

As strategies, technologies, and innovation collide, we create opportunity from complexity.

Our diverse teams of experts combine innovative thinking and breakthrough technologies to progress further, faster. Our clients adapt and transform, and together we achieve enduring results.

We are over 4,000 strategists, innovators, designers, consultants, digital experts, scientists, engineers, and technologists. And we have deep expertise in consumer and manufacturing, defence and security, energy and utilities, financial services, government and public services, health and life sciences, and transport.

Our teams operate globally from offices across the UK, Ireland, US, Nordics, and Netherlands.

PA. Bringing Ingenuity to Life.

Discover more at paconsulting.com and connect with PA on [LinkedIn](#) and [X](#).

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