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Service



Workforce efficiency through digitisation

GCloud Service Description Document

Bringing Ingenuity to Life.
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Workforce efficiency through digitisation

1.1 Short Service Description

A digital workforce not only works more efficiently but also captures higher quality information for strategic decision making. We develop process and enable with the right technology to improve hand-offs, provide on-demand information to site, and feedback high quality, actionable information that directly supports successful delivery of business transformation.

1.2 Key Service Features

1. Optimising delivery of maintenance, repair, and Asset operations.
2. Develop a systems picture integrating digital and analogue asset information.
3. Enablement of a data driven preventative maintenance strategy.
4. Intelligent resource management based on defined priorities.
5. Demand elimination through the application of technology
6. Work basket prioritisation based on service level parameters.
7. Development of digital service catalogue / policies to codify operations.
8. Implementation of tools that enable collaboration for faster problem solving
9. Hierarchy of needs development in support of technology deployment.
10. Optimised decision making delivered through AI and machine learning.

1.3 Key Service Benefits

1. Motivating staff, empowering, and providing support and training
2. Consolidating data into a single view that drives service benefit
3. Reduction in cost via the automation of predictable, repeatable activity.
4. Asset maintenance forecasting through intelligent data.
5. Avoidance of sub-optimal decisions and solutions within siloes.
6. Faster processing times for information reducing customer wait times.
7. Exploiting improved management information (MI) for evidence-based decisions
8. Improved efficiency and effectiveness of asset management processes
9. Asset management arrangements aligned to ISO 55001
10. Risks made visible and properly managed

1.4 Service Definition

1.4.1 Our approach to workforce efficiency through digitisation.

As companies are tasked with driving ever more efficient delivery, a more adaptive approach to investing in digital solutions is needed to enable a step change in performance and to create the conditions for continuous improvement to be fully implementable, with digital as a true enabler rather than a constraint.

In this context, delivery includes performance across all Asset Management and Operations activities: long term investment planning; capital delivery planning, capital programmes, and operations and maintenance.

Not only do these issues currently exist in the specific activities above, but they also exist in the form of dependencies between these activities. A more comprehensive end-to-end approach to applying digital solutions, based on a clear strategy and architecture, would support enhanced performance throughout the lifecycle across all activities.

We support clients in developing digital strategies and architectural roadmaps to articulate how digital will transition over time to be more embedded across the organisation, more adaptive to change, and deliver ongoing benefits

We enable clients to specify, procure and implement solutions addressing asset investment planning and asset management needs, capital programme delivery management needs, spatial data management and analysis needs, operational and situational awareness needs, and field force enablement needs.

We support clients in changing their ways of working to enable a continuous improvement delivery capability for digital solutions, making digital a true and adaptive enabler rather than a constraint.

We provide digital engineering to deliver integrated solutions to meet specific client needs which cannot be met by individual packaged solutions, and which enable continuous improvement and adaptiveness

We support clients in aligning data and digital strategies and delivering against both to derive real value from being truly digital and data driven.

1.4.2 Our workforce efficiency through digitisation track record includes:

Harnessing the power of Digital Twins

In June 2019, the CEO of a UK nuclear company engaged with PA to understand the value of a digital twin. PA offered to demonstrate the technology and the value to the client. In 4 weeks, a team with staff from the London, Cambridge, Belfast and Frankfurt offices created a physical representation of one key utility in the site along with its digital equivalent. This was demonstrated to the CEO of the company in mid-Aug at Cambridge. The demo showed 3 key improvements.

- Reducing waste by 100000 tonnes per year

Synchronizing demand and production realising £8m per year

Improving asset reliability by 25% per year.

PA went on to complete a pilot project on site that has identified £3m/year cashable savings.

Creating insights from rich and diverse datasets

We worked with Highways England, to find completely new ways to use their data.

With a hypothesis focussed approach we established up to a 10 per cent performance drop at specific times over a Traffic Office patrol shift. We found root causes from data collected every day but not used for this purpose before.

Using this insight, we described how you could optimise the way you deployed officers from new and existing base sites.

Our work supported new understanding and capability change. It enabled our client to become more informed in management of resource and started a wider programme of more dynamic analytics and reporting.

Network Rail, Intelligent Infrastructure.

The Intelligent Infrastructure programme improved asset reliability, cost efficiency and sustainability in line with ISO55000 and Network Rail's objectives.

We facilitated widespread stakeholder buy-in and enterprise capability change requirements, galvanising leadership.

We set out the asset information needs and the range of enablers that 'Intelligent Infrastructure' would require.

We created a sustainable implementation roadmap, including an improved understanding of how to manage the complex integration and evolution of many existing inter-related information systems

We have helped Network Rail to move away from time-based, manual inspections towards planned, asset condition and risk-based approaches.

Optimising the maintenance and renewal of critical assets

Level crossings present the highest safety risk to public users. Their capacity and reliability drives Network Rail's ability to meet its growth and performance commitments to customers, passengers, funders, and the general public.

We developed an optimised asset lifecycle plan for the maintenance and renewal of these critical assets over the whole life.

We established the degradation and performance over their lifecycle

We estimated risk profiles across the asset portfolio to balance proactive with reactive maintenance

Our support helped to target strategies that maximise outcomes within affordability and deliverability constraints

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 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.

1.5.4 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.

1.5.5 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.

1.5.6 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.

1.5.7 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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