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BUSINESS RESILIENCE & WARGAMING FOR CLOUD SERVICES

GCloud Service Description Document

Bringing Ingenuity to Life.
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BUSINESS RESILIENCE & WARGAMING FOR CLOUD SERVICES

1.1 Short Service Description

PA considers end-to-end resilience requirements (including digital resilience) to deliver reliable public services supported by resilient cloud technologies. Our expertise includes resilience strategy and operating model, business continuity planning, cyber-security, business impact assessment, risk analysis, testing, stress testing, wargaming, training, crisis management/simulation, incident management, and alignment to regulations/standards.

1.2 Key Service Features

1. Resilience maturity assessment using PA tool with 300+ controls
2. Impact and risk analysis of technology, suppliers, people, process, premises
3. Focus on Cloud services: infrastructure, platforms, software, suppliers
4. Cyber security and insider risk detection and protection
5. Tests, stress tests, wargaming, exercises, training, awareness for critical people
6. Resilience governance and associated policies, standards and controls
7. Cloud services integration within government and supplier resilience programmes
8. Resilience monitoring and management platforms
9. Resilient workforce, leadership and culture
10. Supply chain sustainability and resilience.

1.3 Key Service Benefits

1. Benchmarking of resilience requirements against industry best practice
2. Deliver integrated resilience plans and adaptive teams
3. Integrated resilience across infrastructure, platforms, software, suppliers
4. Enhance cyber security capability to maintain public digital trust
5. Embed a resilience culture across suppliers and services
6. Effective governance to preserve the reputation of delivery organisations
7. Commitment from board-level to remediate resilience gaps
8. Understanding of system interdependencies and critical functions
9. Clear business case for investing in resilience measures
10. 20+ years of experience working with complex, IT-dependent organisations.

1.4 Service Definition

PA recognises the increasing need for effective and reliable public services. These must be supported by resilient Cloud suppliers and services to maintain public trust and protect reputation. Additionally, there is a responsibility to make sure selected suppliers and services have appropriate resilience controls in place as organisations procuring and using them require appropriate governance structures to oversee them.

PA's Services

Our services are designed to help public sector organisations ensure Cloud suppliers and services meet their resilience needs. PA brings 20+ years of practical experience in delivering innovative resilience solutions for complex, technology dependent organisations. We have in depth knowledge of the world's leading industry standards (ISO22301, IS27001, ITIL), best practice and resilience controls. With this extensive experience, PA focuses on the resilience of Cloud services and suppliers to support robust public services.

Our team have experience responding to Covid-19, the Japanese Earthquake 2011, 7/7 and 9/11, while working on resilience projects and therefore understand the impact of a crisis and how to best prepare. We also have a world leading wargaming practice to support building, testing and stress testing of resilience plans and rehearsing response teams. We are regularly asked to present our thinking at global conferences and industry forums where our reputation is well-established.

PA's Framework to Designing Resilience Solutions

Through our experience in working with the public sector, we have identified three key areas critical to delivering effective public services. These are: maintaining public trust, protecting reputation and resilient Cloud suppliers and services to achieve a robust and resilient public service delivery model. This is supported by business resilience solutions and an underpinning resilience structure. Together, these develop the confidence required in Cloud suppliers and services that support the public service delivery model.

See the Figure 1.1 below illustrating PA's resilience framework that creates value for public sector organisations using Cloud suppliers and services by ensuring they are robust and resilient.

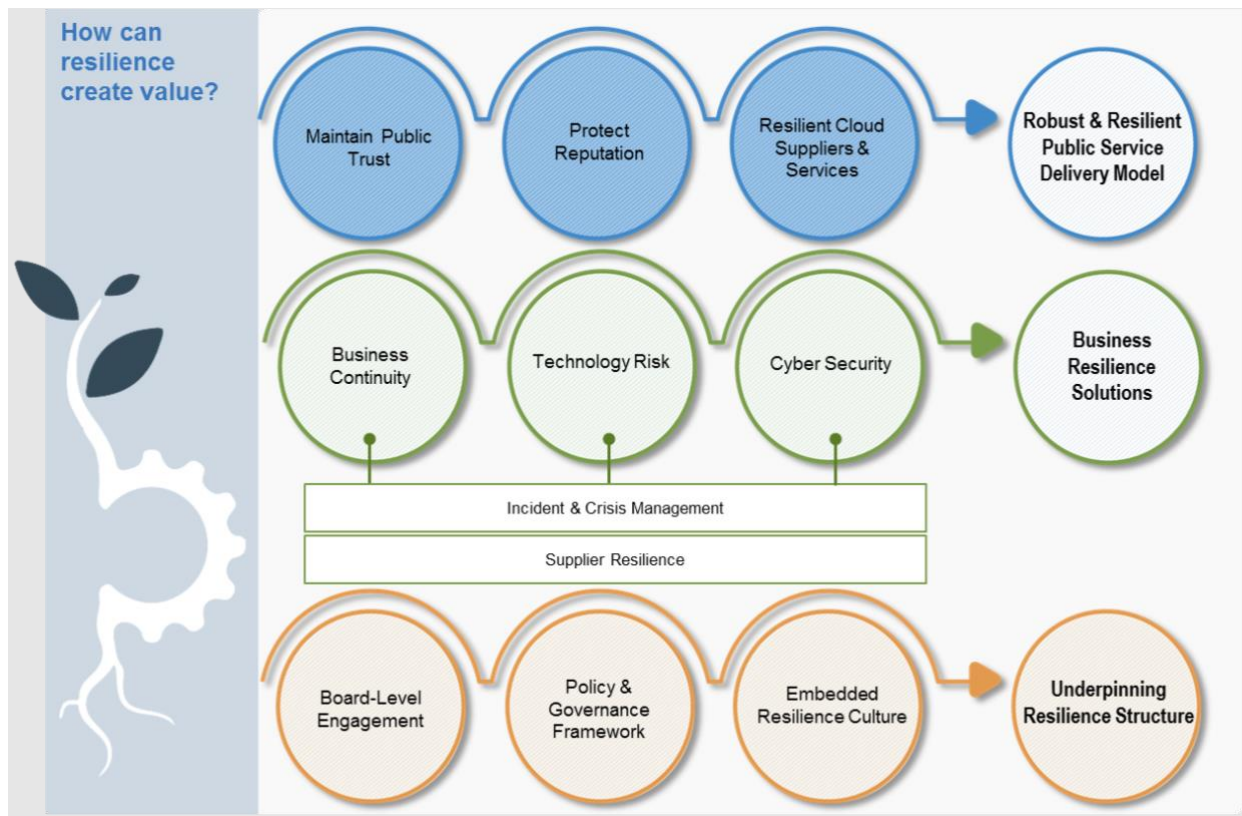


Figure 1.1 PA's Resilience Framework

PA's Key Services

Below is a high-level summary of PA's key services for resilient delivery of public services when using Cloud. These include:

- Resilience Maturity and Gap Analysis Tool
- Integrated Systems Approach that links resilience to business objectives (total value)
- Business Impact Analysis and Risk Assessment
- Business Resilience solutions
- Cyber Security
- Crisis Management
- Technology Risk
- Wargaming, Exercising, Testing, Training and Awareness embedded into a progressive programme to help progress your resilience maturity journey
- Resilience Frameworks
- Board-Level Engagement
- Robust and Resilient Public Service Delivery Model
- Resilient Culture, Leadership and Workforce
- Supply chain sustainability and resilience.

Resilience Maturity & Gap Analysis Tool

Our comprehensive resilience gap analysis tool comprises of over 300 controls from the world's leading resilience standards (ISO 22301, ISO 27001, ITIL), industry best practice and PA's own experience (20years+). We have designed this tool to identify and assess resilience gaps in your Cloud provider's organisation. The assessment is scored against set criteria and detailed findings are evaluated by our experts to provide a high-level summary. This approach covers the key areas where an organisation requires a view of resilience gaps across its Cloud

services and suppliers. Additionally, the tool encourages board-level engagement. We drill down to provide the detailed analysis you require for the practical remediation of these gaps.

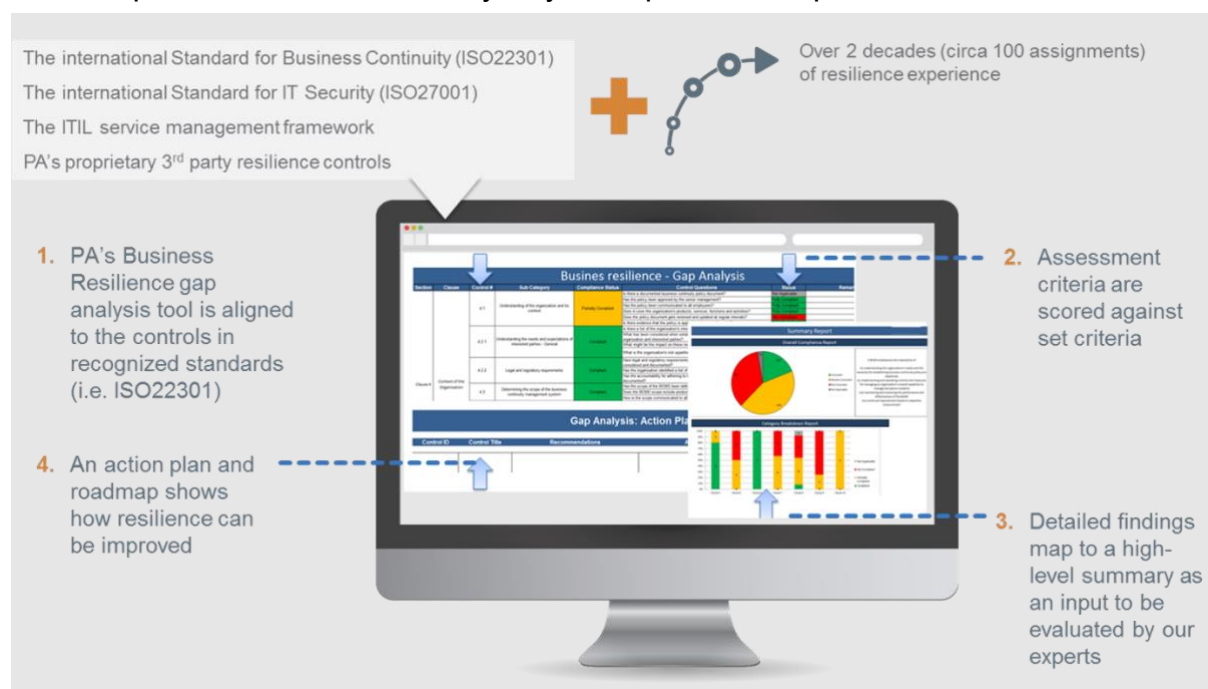


Figure 1.2 PA's Business Resilience Gap Analysis Tool

Business Impact Analysis and Risk Assessment

With our analysis tools, PA assesses an organisation's use of Cloud services and suppliers along with any internal and external factors that impact the delivery of public services. This assessment primarily covers technology, suppliers, people, processes and premises. Our analysis tool identifies key components of Cloud services, such as infrastructure, platforms, software and specialist Cloud services (e.g. data transfer technology) that support public services.

Total Value Systems Approach

Total value quantifies all types of value that an organisation delivers (not just financial), for example social, environmental and reputational. This allows resilience decisions and processes to be prioritised based on a broad set of outcomes that the organisation wishes to deliver. Systems thinking encourages understanding of the broad purpose and scope of the system, rather than a component-centric siloed view. The "system" should include people, assets, leadership and operations and the interdependencies between these. Our bespoke approach provides a clear understanding of business interdependencies and critical functions as well as a clear business case for investing in resilience measures.

Business Resilience Solutions

Within our overall Business Resilience service, we identify three key areas for public sector organisations selecting Cloud suppliers and services. Cyber Resilience, Crisis Management and Technology Risk solutions are critical solutions to achieving robust public services that maintain public trust.

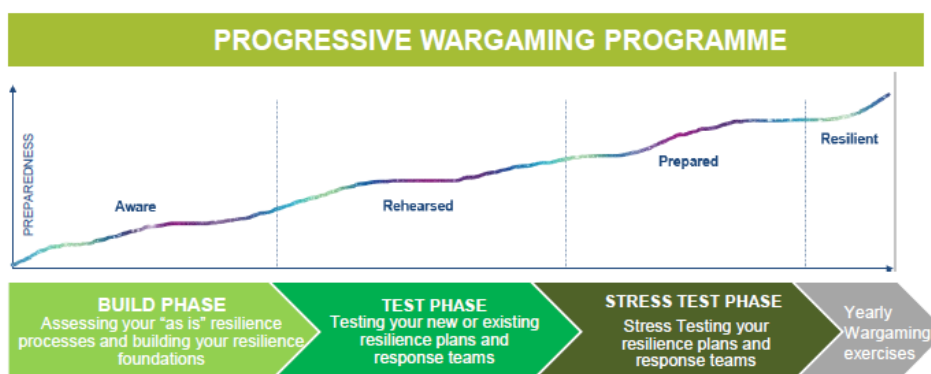
- **Cyber Security:** Public trust and reputation increase the emphasis on the need to adopt a joined-up cyber security approach to provide safe and secure delivery of public services. Despite significant investment in security technology, many organisations are still seeing rising data losses and service disruption. With our cyber security approach

including insider risk detection and protection, we ensure safe and secure use of Cloud services and suppliers.

- **Crisis Management:** In the past few years, we have seen the impact of data security failures and resultant reputational damage to organisations across industry sectors. From these prominent events, organisations can lose their loyal customers and brand names in an instant. Following our proven approach, we identify priority functions to design a crisis management framework. This assists in maintaining public trust and protecting reputation. Furthermore, it ensures continued delivery of Cloud services used by public services in the event of disruption.
- **Technology Risk:** New technologies, e.g. Cloud services, are disrupting current public service delivery models. However, legacy technologies frequently lack the resilience new public service delivery models require. Furthermore, when new technology is outsourced, e.g. to Cloud suppliers, new threats and risk governance challenges emerge for public sector organisations. PA helps assess these new technology related risks, achieve clarity to address challenges and assist in gaining board-level engagement and support.

Wargaming, Exercising, Testing, Training and Awareness

As a result of assessing the use of Cloud services and suppliers, it may be necessary to implement a business resilience wargaming, exercising, testing, training and awareness programme. A resilience wargaming programme provides a series of progressive exercises that have the unique ability to build, test and stress-test an organisation's organisational resilience. We design and tailor a progressive resilience testing programme comprising a combination of different types of exercises from awareness workshops, desktops, simulated exercises to live wargaming exercises. We bring to life key features of disruptive event scenarios, together with appropriate ecosystem stakeholders (role played or role injected) to help teams identify where key risks, interdependencies and unknown unknowns lie, examining both contextual and behavioural dimensions.



This will help you achieve and demonstrate robust and resilient public services.

By using PA's Driving and Releasing Change (DRC) methodology, we work with organisations to embed a Resilient way of working. We believe in more than point-in-time interventions and so using the DRC approach makes a programme "stick", resulting in saved effort and cost.

Resilience Frameworks

To bring together our assessments, analysis, resilience strategy recommendations and solutions, we define and design resilience frameworks (examples include: business continuity, crisis/incident management, cyber resilience). This provides clarity, structure and organisation to maintain resilience requirements, standards and controls for Cloud suppliers and services.

Board-Level Engagement

Board-level engagement is an essential component to a robust and resilient delivery model. We implement communication structures and processes to report risks, impacts and disruptions to

Cloud service delivery to your board. This provides clarity of risk and impact to the organisation and delivery of public services.

Robust & Resilient Public Service Delivery Model

We recognise it is critical for public sector organisations to ensure the resilience of both Cloud suppliers and services along with their overall public service delivery model that encompasses them. With our proven business resilience approach, we define, design and deliver an integrated resilient delivery model.

Risks change and evolve over time, and PA supports the development of an organisation's model to ensure new threats are identified and the response proactively planned. We will help plan governance and testing events to continuously evolve and adapt your Business Continuity Planning, minimising impact from emerging threats. This covers the critical components of Cloud suppliers and services that support a public-sector organisation.

Resilient Culture, Leadership and Workforce

Our integrated approach recognises that cloud services are part of a system that relies on people as well as technology. We deliver cultural change programmes to embed resilience practices into an organisation. We develop resilience leadership and skills at board level and within the workforce. Workforce resilience is a key challenge – ensuring redundancy of skill sets, succession planning and maintaining a healthy and happy workforce is key for resilience.

Supply Chain Sustainability and Resilience

COVID, Brexit, the Suez Canal Blockage and Ukraine crisis have highlighted the fragility of the global supply chain. We use our systems-based approach to understand the sustainability and resilience of value chains and advise on potential impacts and subsequent changes in procurement and supplier requirements.

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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