



Crown
Commercial
Service



ARTIFICIAL INTELLIGENCE (AI) ARCHITECTURE

GCloud Service Description Document

Bringing Ingenuity to Life.
paconsulting.com

Corporate Headquarters

10 Bressenden Place
London
SW1E 5DN
+44 20 7730 9000

paconsulting.com

Prepared by: PA Consulting

Reference: PA RM1557.15

Version: 1.0

Contents

ARTIFICIAL INTELLIGENCE (AI) ARCHITECTURE	4
1.1 Short Service Description	4
1.2 Key Service Features	4
1.3 Key Service Benefits	4
1.4 Service Definition	5
1.5 Why PA Consulting Group (PA)? A trusted partner for cloud, AI, and digital technologies	8
1.5.1 Why PA for cloud, data and AI	8
1.5.2 Cloud capability (assess, design, build, assure, run)	8
1.5.3 AI, ML and data (from strategy to scale)	9
1.5.3.1 Quantum and emerging technologies	9
1.5.4 Cyber security and digital trust	9
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



ARTIFICIAL INTELLIGENCE (AI) ARCHITECTURE

1.1 Short Service Description

PA's AI Architecture Services are at the innovation forefront, offering tailored solutions for seamless AI integration into business strategies. Emphasising strategic, ethical, and compliant design, PA collaborates with clients to create scalable AI frameworks, ensuring data privacy and empowering teams through partnerships with AI Cloud providers for continuous digital transformation.

1.2 Key Service Features

1. Evaluating current capabilities to identify enhancement and growth opportunities.
2. Strategic planning for future AI state with actionable steps.
3. Guiding seamless transition from traditional to AI-driven business processes.
4. Integrating AI functionalities into existing systems for immediate benefits.
5. Quick wins identified through thorough current AI infrastructure analysis.
6. Utilising Cloud AI offerings to enrich architectural capabilities.
7. Establishing guardrails to govern and secure AI architectural developments.
8. Ensuring AI solutions scale with your business demands efficiently.
9. Encouraging innovation-driven architecture that anticipate future AI advancements.
10. Ethical AI embedding transparency, fairness, accountability, and oversight.

1.3 Key Service Benefits

1. Architect AI strategies targeting key business goals and priorities.
2. Drive Innovation with AI, fostering new value and differentiation.
3. Accelerate enterprise AI adoption to achieve transformational outcomes.
4. Craft AI-enabled operating models to realise sustainable AI value.
5. Ensure AI transparency using Explainable-AI to build regulatory compliance.
6. Uphold AI ethics with conscious, socially responsible AI systems.
7. Maximise AI impact by conducting impact assessments and optimisations.
8. Leverage leading enterprise AI platforms to accelerate capability building.
9. Utilise Cloud AI for smarter, more innovative, efficient solutions.
10. Harnessing AI Innovation Network to bring cutting-edge AI capabilities.

1.4 Service Definition

In the rapidly evolving digital landscape, Artificial Intelligence (AI) stands at the forefront of innovation, driving transformative change across industries. At PA, we understand the pivotal role AI plays in shaping the future of businesses. Our AI Architecture Services are designed to empower organisations to harness the full potential of AI technologies, ensuring a seamless integration into their digital strategy.

Our AI Architecture Services offer a comprehensive suite of solutions that cater to the unique needs of each client. We believe in a strategic approach to AI integration, one that aligns with your business objectives and amplifies performance. Our team of experts collaborates with you to assess your current architecture, identify opportunities for AI implementation, and develop a roadmap that paves the way for intelligent automation and decision-making processes.

At the heart of our service offering is the bespoke architectural design, tailored to meet the specific AI ambitions of your organisation. Whether you aim to improve customer experiences, optimize operational efficiencies, or innovate product offerings, our architects craft scalable and robust AI frameworks that drive tangible results. We leverage cutting-edge technologies and methodologies to build architectures that are not only resilient but also adaptable to the ever-changing tech landscape.

In deploying AI solutions, we place a strong emphasis on compliance and ethical considerations. Our architectures are designed with data privacy and security at their core, adhering to the highest standards of regulatory requirements. We navigate the complexities of ethical AI, ensuring that our designs promote fairness, transparency, and accountability, thereby fostering trust among stakeholders.

Our collaborative approach extends beyond architectural design to encompass end-to-end service delivery. We engage with cross-functional teams within your organization, facilitating knowledge transfer and skill development to ensure that your workforce is equipped to manage and evolve the AI architecture. Our commitment to collaboration ensures that we deliver solutions that are not only effective but also empower your teams to drive continuous improvement.

We use our strategic partnerships with Google, Microsoft, and Amazon Web Services (AWS) to help clients extract value from enterprise agreements and test breakthrough technologies by getting access to Cloud AI services.

With PA's AI Architecture Services, you unlock the power of AI to accelerate your digital transformation journey. Our services are not just about building technology; they're about building the future of your business. By choosing PA, you gain a partner that is dedicated to your success, one that brings a wealth of experience, a passion for innovation, and a commitment to excellence.

Our Core Services

Our AI Architecture Services are pivotal for organisations aiming to harness the power of AI effectively. Our architecture-specific offerings are not just about building a strong AI foundation; they're about creating an AI ecosystem that grows with you, ensuring long-term success in your AI endeavours.

1. **Strategic AI Advisory:** At PA, we begin our engagement with a strategic advisory that aligns your AI ambitions with your business vision. Our experts evaluate your AI readiness, pinpoint integration opportunities, and craft a bespoke AI adoption strategy.
2. **Custom AI Architectural Design:** Our service is the bedrock of your AI journey, involving the meticulous crafting of AI architectures. We handpick suitable AI models, data frameworks, and compute solutions, ensuring a flexible and scalable foundation that integrates seamlessly with your existing infrastructure.
3. **Advanced Data Engineering Solutions:** Recognising data as the cornerstone of AI, we offer sophisticated data engineering services to guarantee data integrity, accessibility, and governance. Our solutions encompass robust data pipelines, secure data storage, and adherence to stringent data protection standards.
4. **Tailored Model Development & Training:** PA excels in curating precise and dependable AI models. Our offerings cover the entire spectrum from model selection to deployment, with a focus on transparency and ethical AI practices.
5. **AI Performance Tuning:** Our services are designed to fine-tune your AI systems for peak performance, leveraging algorithmic enhancements and hardware acceleration to ensure your operations run at optimal efficiency.
6. **Compliance & Security Frameworks:** With PA, your AI systems will be fortified against threats and fully compliant with regulatory requirements, incorporating cutting-edge security protocols and ethical guidelines.
7. **Scalable Cloud Solutions:** As your AI demands grow, our cloud integration services provide the agility to scale resources effectively, ensuring your AI architecture evolves in tandem with your business needs.
8. **Integrated MLOps & DevOps Practices:** We streamline the AI lifecycle by fusing MLOps with traditional DevOps, ensuring a smooth CI/CD pipeline for your AI models.

Our Capability

We provide exceptional value by leveraging the power of Artificial Intelligence to drive strategic decisions, enhance business processes, and unlock untapped opportunities.

We take a results-driven approach to every project, using cutting-edge AI technology and a team of global experts who are passionate about data and its potential. Whether you need to create a digital twin of your business, optimize processes, or develop innovative solutions, we have the expertise to help you achieve your goals.

As an AI first consulting firm, we remain at the forefront of the fast-evolving technology landscape and partner with leading technology companies to provide the best solutions for your business. With our independence from suppliers, you can trust that our advice and guidance are always impartial and tailored to your specific needs.

Partner with us to unlock the full potential of AI for your business and drive sustainable results through innovation and strategic decision-making.

Driving growth and mitigating risk: using AI to create value

Propositions

Enterprise AI	
Generative AI	
Human Centric AI	
Responsible AI	
Regulatory AI	
Infrastructure AI	
Machine AI	

How we help ?

- Architect your AI strategy
- Build and integrate AI innovations
- Assure AI development quality
- Build sustainable AI execution muscle
- Build AI transparency and trust
- Ensure ethical AI
- Accelerate AI impact & value creation

Centres of Excellence

	Generative AI
	Natural Language Processing
	Machine Learning / Reinforcement Learning
	Computer Vision
	ML Ops

Our Approach

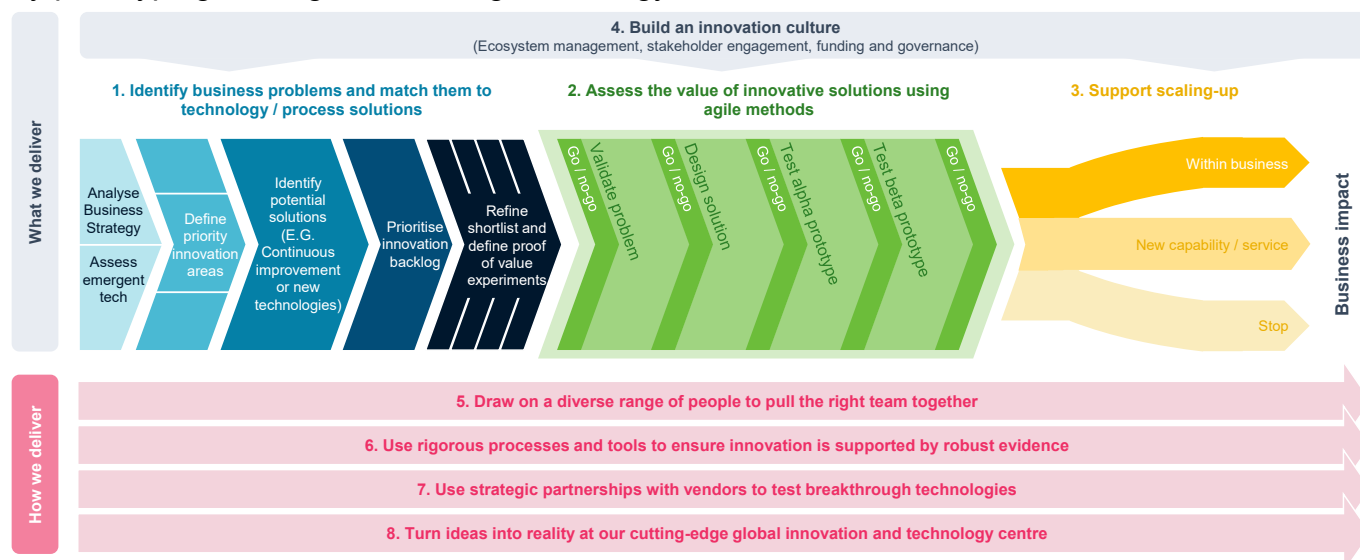
We deliver innovation by identifying business problems where a new approach is needed, matching them to technology / process solutions, assessing the value of innovative solutions using agile methods and building an innovation culture that secures senior buy-in and supports scaling-up. We draw on a diverse set of skills, rigorous processes, strategic vendor partnerships, and our in-house technology.

We combine diverse teams of data experts who are driven by their passion for data, technology, and AI. It's only through embedding inclusion and diversity into everything we do that we can create a culture where our people feel inspired and empowered to collaborate.

We help our clients to get the value out of data, by making our solution real. We use your desired outcomes to drive our approach and choice of technology. This means we tackle problems with an innovative approach and challenge mindsets, by combining expertise with experience.

We mobilise and work at pace to deliver what you need when you need it, independent from suppliers, this allows us to provide truly impartial advice, guidance, and solutions. We work with our strategic partners to deliver end-to end digital services, which align to client needs.

We turn ideas into reality at our cutting-edge Global Innovation and Technology Centre (GITC) by prototyping, testing and building technology-based solutions for our clients



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](#).

Corporate Headquarters

10 Bressenden Place

London

SW1E 5DN

+44 20 7730 9000

This proposal has been prepared by PA Consulting Group on the basis of information supplied by the client, third parties (if appropriate) and that which is available in the public domain. No representation or warranty is given as to the achievability or reasonableness of future projections or the assumptions underlying them, targets, valuations, opinions, prospects or returns, if any, which have not been independently verified. Except where otherwise indicated, the proposal speaks as at the date indicated within the proposal.

paconsulting.com

All rights reserved

© PA Knowledge Limited 2026

This proposal is confidential to the organisation named herein and may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical or otherwise, without the prior written permission of PA Consulting Group. In the event that you receive this document in error, you should return it to PA Consulting Group, 10 Bressenden Place, London, SW1E 5DN. PA Consulting Group accepts no liability whatsoever should an unauthorised recipient of this proposal act on its contents.