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# Cloud Services for Transport

GCloud Service Description Document

**Bringing Ingenuity to Life.**  
[paconsulting.com](http://paconsulting.com)

**Corporate Headquarters**

10 Bressenden Place  
London  
SW1E 5DN  
+44 20 7730 9000  
**paconsulting.com**

**Prepared by: PA Consulting**

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## Contents

|                                                                                             |          |
|---------------------------------------------------------------------------------------------|----------|
| <b>Cloud Services for Transport</b>                                                         | <b>4</b> |
| 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 Delivery strategy                                                                     | 5        |
| 1.4.2 Packaging and Procurement Strategy                                                    | 5        |
| 1.4.3 Procurement Delivery                                                                  | 5        |
| 1.4.4 Implementation                                                                        | 6        |
| 1.5 Why PA Consulting Group (PA)? A trusted partner for cloud, AI, and digital technologies | 6        |
| 1.5.1 Why PA for cloud, data and AI                                                         | 7        |
| 1.5.2 Cloud capability (assess, design, build, assure, run)                                 | 7        |
| 1.5.3 AI, ML and data (from strategy to scale)                                              | 7        |
| 1.5.4 Quantum and emerging technologies                                                     | 8        |
| 1.5.5 Cyber security and digital trust                                                      | 8        |
| 1.5.6 What PA will bring                                                                    | 9        |
| 1.5.7 PA is fully equipped to manage any challenges or requirements you may present         | 10       |
| 1.6 A Genuine commitment to Social Value                                                    | 10       |
| 1.7 Security Clearance                                                                      | 11       |
| 1.8 Next Steps                                                                              | 11       |



# Cloud Services for Transport

## 1.1 Short Service Description

PA Consulting provides comprehensive cloud support for the regulated transport sector in the UK. Our support brings together our detailed knowledge of and experience in implementing technology enabled services to the road, rail and aviation sectors with our capability in designing, procuring and delivering cloud-based services.

## 1.2 Key Service Features

1. Design of cloud models for asset management, including technology
2. Design cloud models for command and control and rostering
3. Designing smart ticketing approaches, including SEFT and Oyster
4. Mobility As A Service (MAAS) offerings including autonomous vehicles
5. MSP compliant visions and blueprints
6. Customising / personalisation of transport information services to individuals
7. Architecture services for cloud delivery models including telecommunications
8. Procurement support, including requirements development, for transport technical solutions
9. Systems engineering and implementation support for transport technical solutions
10. Change management support for implementation of control room software

## 1.3 Key Service Benefits

1. Deep knowledge of the road, rail and aviation sectors
2. Rapid access to expertise in transport specific software solutions
3. Cloud delivery experience enables rapid design and solution delivery
4. Cloud procurement capability ensures delivery approach fits the PCR
5. Proven competence of applying MSP in the transport sector
6. Continuous dedication to skills transfer and client coaching
7. Combined best practice experience across central and local Government
8. Understanding of approvals process resulting in 'decision ready' products
9. Transport sector implementation expertise ensures best of breed solutions

## 1.4 Service Definition

PA Consulting Group has deep experience in supporting the design, procurement and delivery of IT and IT enabled services across the UK transport sector including using Cloud and Cloud-compliant approaches. We have advised central government rail and road organisations (including Executive Agencies and Arm's Length Bodies) as well as local authorities and dedicated transport organisations. Our service offerings have led, and influenced, the delivery of the delivery of cloud and agile IT procurement in transport, from the design and procurement of asset management, command and control and rostering systems to transport specific applications moving data from the track or road side to the staff responsible for the operation of the network and converting it into information. We support the implementation and ongoing delivery of such disaggregated delivery models. We not only understand the issues facing IT procurement, we have successfully navigated great outcomes for our clients. Our service can be categorised in terms of:

- Delivery strategy
- Packaging and procurement strategy; • Procurement delivery; and
- Implementation.

### 1.4.1 Delivery strategy

We use our knowledge of the transport sector to define and present strategies for the delivery of cloud based services to achieve the important and specific needs of transport organisations. We develop the strategy through gaining a full understanding of, and sometimes documenting, the organisations enterprise architecture and technical strategies. The strategies consider key areas of interest to transport organisations including services covering network management and asset maintenance. We have specific expertise in command and control systems and ITIL based service management. We present the delivery strategy in a number of formats, including visions and blueprints in line with MSP, and other views in line with TOGAF. Our strategy development is achieved in a collaborative manner.

### 1.4.2 Packaging and Procurement Strategy

The advent of the disaggregated IT delivery model including Cloud has added to the importance of designing the right IT service packages to deliver the requirement. We apply an evidence based approach, supported by extensive market sounding and an understanding of the best approaches to integrate across the packages (including use of disaggregated models and the Agile development approach) and benchmark based 'should cost' modelling, to develop the right packaging of services for the customer requirement and a good understanding of the likely costs of the services to support the business case. Having developed and agreed the packages we support the development of the choice of the right approach to procure the right supplier. In recent assignments we have procured packages using frameworks (including G-Cloud), Open, Restricted and Competitive Dialogue procurement routes, demonstrating our understanding of the range of approaches available. Our evidence based analysis is presented in a manner to ensure decision makers are supported and decisions fully justified and are compliant with the Cabinet Office digital agenda.

### 1.4.3 Procurement Delivery

In our experience, procurement delivery in IT and IT-enabled services must both recognise the complexity of tower based or disaggregated models and be efficient and lean for both the public and private sector. We have developed a lean based methodology to achieve such

procurements, which is underpinned and supported by best practice materials gained from our extensive experience.

We plan procurements through five inter-related streams, ensuring that all the relevant aspects of a procurement are covered:

- **Requirements:** the requirement (including constraints and issues on transition to the new service) is the most important part of any procurement. It is imperative that requirements are clearly understood and articulated. For service-based procurements, these requirements must also consider transition, transformation (including design of the retained organisation) and service management. We provide a full output based requirements development service, underpinned by the MSP POTI approach;
- **Commercial procurement:** the contract, including payment and performance (including commercial incentives), needs to support achievement of the requirement and provide a full and implementable range of recourses. We provide a quantification-based approach to the development of the commercial positions, based on our practical experiences in the market. We develop the procurement documents, including PINs, OJEU, invitation to tender and contract notice. We work closely with legal advisors to ensure our clients have appropriate protection within the constraints of the chosen procurement route, including G-Cloud;
- **Evaluation:** Evaluations must be Most Economically Advantageous Tender and in line with the Green Book. We design quality and price evaluations that meet these criteria and are compliant with the procurement regulations [should we explicitly use Public Contract Requirements?]. We are also able to provide support in benchmarking the reasonableness of the proposed charges, to ensure the detection of abnormally low tenders;
- **Discovery:** As well as the customer understanding the supplier, the supply market needs to understand the customer and due diligence is the key to understanding that this is the case. We have a tried and tested due diligence approach to support discovery and fully cover due diligence risk; and
- **Project management:** Successful procurement requires the bringing together of a diverse range of parties and stakeholders, from users, suppliers, technical experts and decision makers and be designed and managed to mitigate the risk of successful legal challenge. We have proforma plans that we have used on numerous procurements that will ensure timely and quality procurement, and we are experts in the monitoring and delivery of the plans.

#### 1.4.4 Implementation

As well as supporting the implementation of new service providers we are also able to support the development and delivery of the solution through our Agile development team. Our support ranges from capturing, cleaning and transferring data from existing solutions, to configuring software and, if necessary, developing bespoke interfaces into legacy software. We are also experienced in designing and delivering the business change associated with the implementation.

### 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](mailto: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.

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

### Corporate Headquarters

10 Bressenden Place

London

SW1E 5DN

+44 20 7730 9000

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