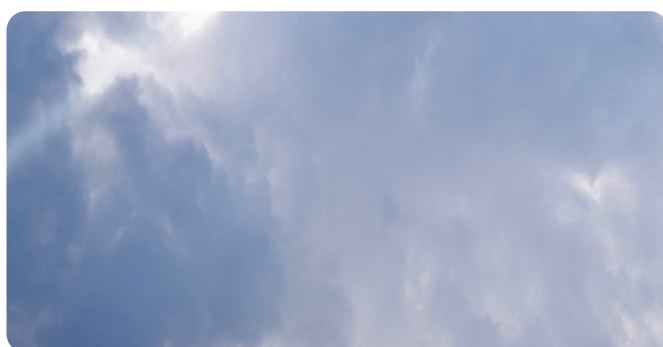
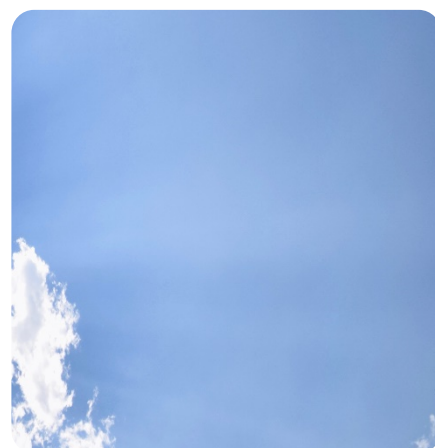




Crown  
Commercial  
Service



# Data Engineering

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GCloud Service Description

**Bringing Ingenuity to Life.**  
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# 1 Data Engineering

## 1.1 Short Service Description

Collecting data and transforming it into actionable insights poses significant challenges for many organisations. It can be a struggle just to bring data into your systems. Siloed data sources and reporting teams mean there is no 'single version of the truth'. Data Engineering unlocks Data for all Analytic needs.

## 1.2 Key Service Features

1. Understanding what data is required to meet your analytics needs
2. Writing data requests and governance around data delivery
3. Building automated interfaces and pipelines for data
4. Building the right storage solution
5. Cleansing, enriching, and feature engineering activities
6. Automation, monitoring and governance to keep data flowing

## 1.3 Key Service Benefits

1. Data is collected and combined from many different sources
2. Data is managed in the most appropriate solution
3. Data is arranged and cleansed
4. Data is made quickly available for use

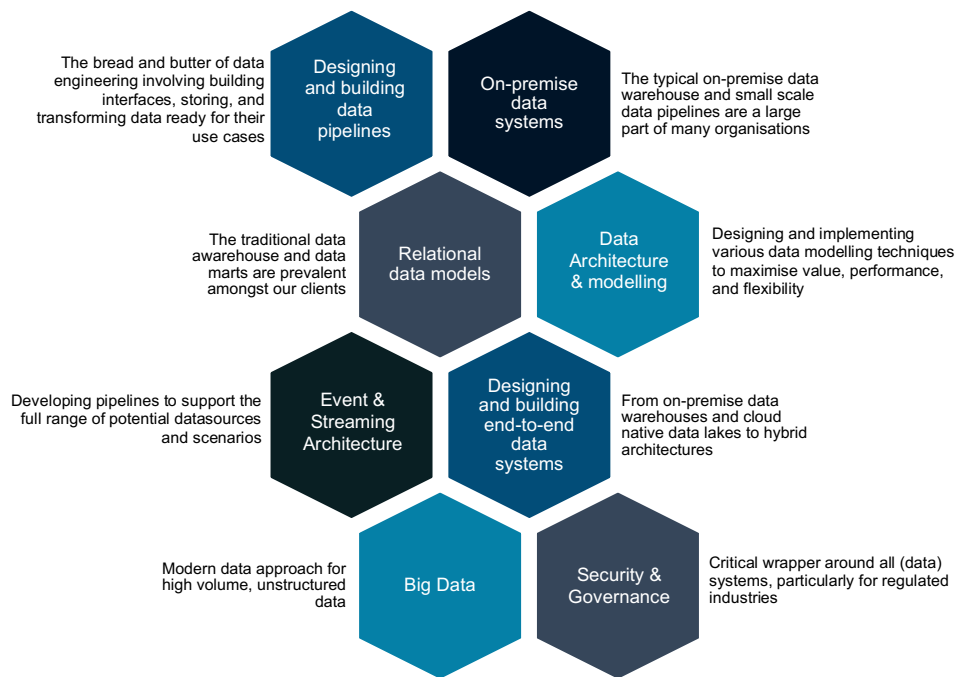
## 1.4 Service Definition

### **Our Approach to Data Engineering**

We know from extensive on-the-ground experience the challenges associated with making the shift from ad-hoc, manual reporting, to large scale enterprise BI to more proactive and advanced use cases.

It's not enough to replace your data warehouse with a data lake, nor will upgrading your data visualisation tools magically provide new actionable insights. It's not a case of 'build it and they will come'. Instead, democratising data and creating a data-driven culture will be critical for long-term success.

### **Key areas of our expertise**



## 1.5 Why PA?

PA Consulting Group (PA) is a leading IT consultancy and one of the largest advisors to the UK government. We work as a trusted partner to help the UK Government apply an assured cloud delivery approach when developing their most complex information systems and cloud solutions. PA is well placed to work with clients to help assess readiness, design, build, deliver, and test, to take advantage of cloud solutions. We will bring:

- Leading experience in identifying the costs and complexity drivers for moving existing or new IT services to cloud environments.
- Experience and knowledge to challenge the client organisation to ensure the key stakeholders are aligned ahead of the move to a Cloud solution.
- Access to the latest cloud vendor migration developments, ensuring a best-in-class approach, based on our work with major clients in both the public and private sector in the UK and overseas.
- Experience supporting cloud, in-house and hybrid systems side-by-side.

More specifically we will bring:

### Ideation & Strategy:

- Cloud strategy and advisory services
- Assessment of cloud readiness
- Cost-benefit analysis and ROI modelling
- Security and compliance assessment

### Design & Architecture:

- Custom cloud architecture design
- Integration with existing IT infrastructure
- Multi-cloud and hybrid cloud solutions
- Disaster recovery and business continuity planning
- Robust solution delivery meeting GDS best practice and ISO27001

### Development & Deployment:

- Cloud-native application development
- Containerization and microservices & serverless architecture
- DevOps practices and CI/CD pipeline setup
- Automated testing and quality assurance

### Implementation & Migration:

- Data migration to the cloud
- Legacy application modernization
- Cloud service provider selection and management
- Implementation of Infrastructure as Code (IaC)

### Operations & Management:

- Continuous monitoring and incident management
- Performance optimization and cost management
- Backup and restore operations.
- User training and change management.

#### **Innovation & Scaling:**

- Scalable infrastructure to support growth.
- Implementation of AI and machine learning capabilities
- Internet of Things (IoT) integration
- Ongoing innovation workshops and R&D

### 1.5.1 Social Value

Building a positive human future is at the core of PA's organisational purpose and we live this value as a key advisor and partner to the UK public sector and by delivering tangible benefits to communities and society.

We are passionate about the positive impact PA can have on wider society, making a significant contribution to efforts in tackling inequality, wellbeing, online safety and ensuring effective stewardship of the environment and fighting climate change.

We are committed to maximising Social Value by using our specialist knowledge and skills to develop firm-wide health, well-being and, diversity and inclusion initiatives for our own people, project-specific initiatives with our clients and wider community benefits. We can work with you to deliver measurable improvements across your key social value initiatives.

### 1.5.2 Security Clearance

PA are a government List X accredited company who have a dedicated Security Vetting team. 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). 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.

### 1.5.3 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 [Twitter](#).

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