



Data & AI Platform Design Service

G-Cloud 14 Service Definition Document

**gravity9: Building Digital Platforms, Turning Legacy Complexity
into Digital Agility**



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Introduction

It's never too early to modernize, but it can be too late!

Legacy complexity is a by-product of your success; your organization has grown and your applications and platforms have grown to keep up and support your ever-changing needs. However, many established organisations initiated their operations before modern solution architectures emerged, while today's proven patterns and practices offer efficiency and longevity.

- **74%** of organizations that experience data breaches are due to vulnerabilities in legacy systems - Ponemon Institute
- **52%** of fortune 500 in 2003 no longer exist today
- **45%** improvement in customer satisfaction for organizations that prioritize modernizing applications - Forrester Consulting

Don't become a statistic!

Legacy systems often struggle with the volume of digital transactions, fail to store necessary data for insightful analysis, and face challenges in meeting regulatory compliance. This hinders innovation and agility, resulting in slower time-to-market. New organisations, unencumbered by legacy systems, possess native agility but lack your expertise, breadth of services, resources, and trusted brand. Imagine leveraging modern architecture to enhance your wealth of experience and capabilities.

gravity9 propels you beyond complex, outdated legacy solutions to a sleek AI-led, micro-service, micro-UI platform enabling continuous innovation.

Our application modernization approach leverages cutting-edge AI technologies and microservices architecture to streamline your operations and drive continuous innovation. With our sleek micro-UI platform, we empower your business to adapt and thrive in today's dynamic market landscape, ensuring agility, scalability, and sustained competitive advantage. Say goodbye to the constraints of the past and embrace a future where innovation knows no bounds with gravity9.

Cloud Technology

For organisations not in the cloud, transitioning to a cloud-based infrastructure is fundamental for modernizing as it offers unparalleled scalability, flexibility, and accessibility. By leveraging cloud technologies, businesses can streamline workflows, improve collaboration among teams, and enhance overall efficiency. Moreover, cloud-based solutions enable real-time data analytics, empowering organizations to make informed decisions swiftly. Embracing the cloud also ensures better resilience against disruptions, as data and applications are securely stored and accessible from anywhere, providing continuity even in challenging circumstances.

Don't just modernize – revolutionize!

gravity9 understand the challenges of legacy systems and with our experience and expertise will, pave the way for your organization's digital revolution. We guide you through the labyrinth of legacy complexity, identifying inefficiencies, bottlenecks, and opportunities to innovate.

By strategically modernizing and optimizing your systems, we streamline operations, reduce technical debt, and empower your organization to thrive in the digital age. Our approach goes beyond mere

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modernization; we prioritize future-proofing your architecture with an emphasis on AI integration and product insulation, ensuring it's scalable and adaptable to evolving technologies and market demands. Through meticulous planning and implementation, we transition your organization from legacy constraints to agile, best-practice solutions.

CORE TO OUR APPROACH



AI

Harness AI to revolutionize operational efficiency and decision-making. Our expertise in AI development empowers organizations to innovate and gain a competitive edge, optimizing performance and profitability through tailored, intelligent system integration.

Engineering

Modernize your applications with confidence and precision. Our expert team specializes in seamlessly transitioning legacy systems to agile, future-proof solutions, ensuring your business stays ahead in today's fast-paced digital landscape.

Product

We are constantly inventing new digital products, services, and revenue streams for our clients by designing, prototyping and building experiences for the next market leaders. We research and define customer journeys by thinking human first to enable technologies fullest potential and build better products.

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Global Presence

Highlighting our global presence, gravity9 has teams located in multiple offices worldwide, bringing a wealth of benefits. This international footprint allows us to tap into a diverse talent pool, ensuring we have the right expertise for any challenge. It also enables us to offer round-the-clock development and support, thanks to the different time zones our teams operate in. Furthermore, our global perspective enriches our understanding of various markets and cultures, which is invaluable in crafting digital solutions that resonate worldwide. Ultimately, our widespread teams enhance our agility, foster innovation, and ensure we can meet our clients' needs with unparalleled efficiency and effectiveness.

WE ARE GLOBAL

Our Locations

UK & IRELAND

London
Birmingham
Dublin

POLAND

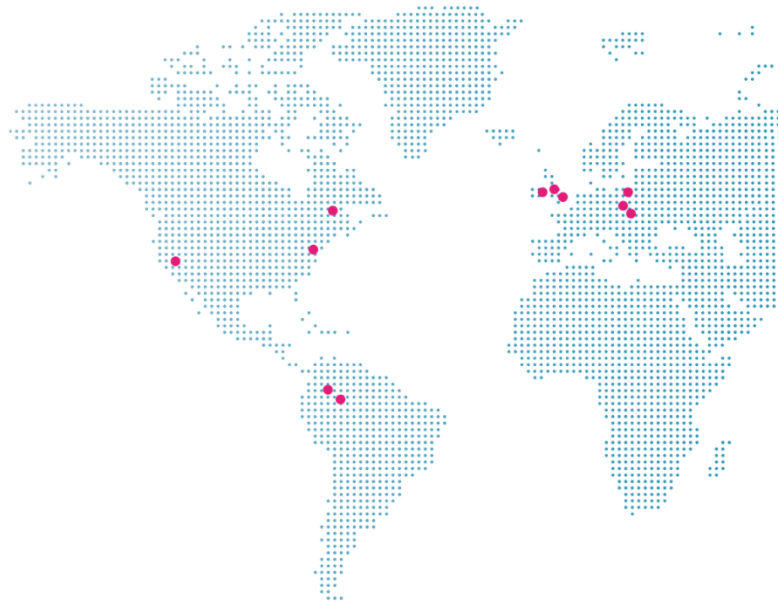
Kraków
Wrocław
Gdańsk

USA

New York City
North Carolina
California

COLOMBIA

Medellin
Bogota





Introduction

Our "Data and AI Platform Design" service offers a comprehensive approach for organisations seeking to unlock the full potential of their data and implement transformative artificial intelligence solutions. We guide clients through a rigorous assessment of their AI readiness, the design and construction of robust data pipelines, the end-to-end development and production deployment of AI systems. This service spans multiple industry-leading cloud platforms (Azure, AWS, GCP, Databricks) to ensure optimal alignment with your specific needs and infrastructure.

Purpose

- **Evaluating AI Readiness:** Many organisations are eager to harness the power of AI but they may be unsure where to begin. Our service starts with a thorough assessment of your current infrastructure, datasets, and business goals. We will identify potential AI use cases, and areas for improvement and help you construct a clear roadmap for your AI journey.
- **Data Pipeline Development:** High-quality AI systems depend on well-organised and accessible data. We design and build robust data pipelines that gather data from your various sources, clean and transform it, and prepare it for machine learning and analytics. This ensures reliable, actionable insights from your data assets.
- **AI System Development & Deployment:** Our team of experienced data scientists and AI engineers craft tailored AI solutions to solve your specific business problems. We cover the entire development lifecycle, from model experimentation and selection to deployment into production environments. Our focus is on creating AI solutions that deliver measurable value and seamlessly integrate with your existing systems.
- **Cloud Agnostic Approach:** To maximise flexibility, we design AI platforms compatible with industry-leading cloud providers like Azure, AWS, GCP and Databricks. This allows you to select the cloud platform that best suits your organization's needs and preferences.

Service Description:

Our "Data and AI Platform Design" service stands as a comprehensive solution engineered to guide organisations through the complex journey of AI and Machine Learning integration. This service is crafted to address the multifaceted challenges and opportunities that come with leveraging AI and big data analytics, offering a pathway to transformative business outcomes through technology.

At the heart of the service is a strategic framework that begins with an evaluation of an organisation's readiness for AI, considering factors such as existing data infrastructure, technical capabilities, and strategic objectives. This initial assessment lays the groundwork for a tailored approach to designing and implementing a robust AI platform, ensuring it aligns with the unique needs and goals of each client.

The service extends to the development of custom data pipelines and infrastructure necessary to support AI applications. Recognising the critical role of data quality and accessibility in AI success, we focus on creating scalable and secure data architectures that facilitate efficient data ingestion, processing and storage. This foundation enables the seamless integration of AI models and algorithms, unlocking the potential to derive actionable insights and automate decision-making processes across the organisation.

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A distinctive feature of this service is its platform-agnostic approach, offering expertise across leading cloud environments including Azure, AWS, GCP and Databricks. This flexibility allows us to design solutions that leverage the best features and services of each platform, tailored to the specific technical and business requirements of our clients. Whether it's harnessing the power of Azure's AI capabilities, AWS's scalability, GCP's analytics prowess, or Databricks' unified data analytics, our service ensures that organisations can capitalise on the strengths of these platforms to maximize their AI and data science initiatives.

Moreover, this service includes a comprehensive delivery process that spans from concept to production. We employ an end-to-end methodology that includes project planning, design, development, testing and deployment, ensuring that AI solutions are not only technically sound but also effectively integrated into existing business processes and workflows. This approach facilitates a smooth transition to AI-powered operations, minimising disruption and maximising the return on investment.

Also, the service is not just about technology implementation, it's about empowering organisations to innovate, enhance operational efficiency and drive competitive advantage in their respective markets. By providing expert guidance, bespoke solutions and ongoing support, we help businesses navigate the complexities of AI adoption, transforming the promise of artificial intelligence into tangible business results.

Who Needs Data & AI Platform Design?

This service is ideal for a variety of organisations seeking to leverage the power of AI and data science. Here are some specific examples:

- **Established Enterprises:** Larger organisations looking to modernise their operations and stay competitive in the digital age. These enterprises often have vast amounts of untapped data that, with the right AI platform design, can unlock new insights, enhance decision-making and streamline processes across various departments.
- **Public Sector Entities:** Government agencies and public sector organisations aiming to improve service delivery and operational efficiency through digital transformation initiatives. AI platform design can help these entities leverage data to better serve the public, from enhancing healthcare services to optimising resource allocation in urban planning.
- **Healthcare Providers:** Healthcare institutions seeking to leverage AI for improved patient care, operational efficiency and medical research. The design of a robust AI platform can facilitate advanced analytics for patient data, predictive models for patient care and streamlined administrative processes.
- **Companies with limited AI experience:** If your organisation is new to AI, our service provides a guided approach to assess your readiness, build foundational infrastructure, and develop your first AI initiatives. We'll help you navigate the complexities of AI and ensure a smooth start to your data-driven journey.
- **Organisations with existing data but no clear AI strategy:** Many companies have accumulated vast amounts of data but lack a clear plan to utilise it for AI development. Our service helps you unlock the potential of your data by identifying valuable use cases, designing data pipelines for accessibility, and creating a roadmap for building impactful AI solutions.

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- Businesses seeking to optimise existing AI efforts: Perhaps you've already embarked on AI development but are facing challenges with data management, model performance, or deployment. Our service can help you refine your existing platform, streamline data pipelines, or improve the efficiency of your AI deployments. We can also identify opportunities for scaling or expanding your current AI initiatives.
- Companies aiming to migrate AI applications to the cloud: If you're looking to migrate your AI workloads to the cloud environment, our service offers expertise in designing cloud-native AI platforms on leading platforms like Azure, AWS, GCP and Databricks. We'll ensure a seamless transition, optimising your AI operations for cost-efficiency and scalability in the cloud.

Here are some key personas who would benefit from the "Data and AI Platform Design" service:

- Business Leader, Innovation Manager, Marketing Director: We are excited about the potential of AI and want to explore its application within our organisation. However, we lack the technical expertise to determine the best approach. We need guidance on evaluating AI readiness, understanding its potential benefits and creating a roadmap for implementation.
- Chief Data Officer (CDO), Data Analyst Manager: We oversee a vast amount of data within the organisation. We recognise the value of data for AI development but are unsure how to leverage it effectively. We need help identifying actionable use cases, designing data pipelines for accessibility and creating a data-driven strategy for AI implementation.
- Data Scientist, Machine Learning Engineer: We are already involved in AI development within the organisation but facing challenges. These might include difficulties with data management, subpar model performance or inefficient deployments. We need assistance with refining the existing platform, improving data pipelines, troubleshooting model issues or optimising deployment processes.
- IT Director, Cloud Architect: We are responsible for migrating existing applications and workloads to the cloud environment. We are looking for expertise of designing a cloud-native AI platform that leverages the benefits of leading cloud providers (Azure, AWS, GCP, Databricks). We require a service that ensures a smooth transition and optimises AI operations for cost-efficiency and scalability within the chosen cloud environment.

What problem can it solve:

This service is engineered to solve a variety of challenges that clients face on their journey to leveraging AI and data science effectively. These challenges span technical, strategic/operational domains and our service aims to address them comprehensively:

- Complexity of AI Integration

Many organisations struggle with the complexity of integrating AI into their existing systems and processes. Our service simplifies this by providing expert guidance and a structured approach to AI platform design, ensuring seamless integration with current business operations.

- Data Management and Quality Issues

A common obstacle to effective AI deployment is the management and quality of data. Our service includes the design and implementation of robust data pipelines that ensure data is clean, consistent and structured in a way that's conducive to AI and machine learning, thereby enhancing the quality of insights derived.

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- Lack of In-House Expertise

The shortage of in-house AI expertise prevents many organisations from adopting AI technologies. By partnering with us, businesses gain access to our team's deep expertise of AI and data science, bridging the gap in knowledge and accelerating the adoption process.

- Scalability and Future-Proofing

Organisations often face challenges when scaling their AI and data science capabilities to keep pace with growth. Our service addresses this by designing scalable and flexible AI platforms on leading cloud services, ensuring that they can evolve with your business needs.

- Security and Compliance Concerns

With increasing data privacy regulations and security threats, organisations are rightly concerned about maintaining compliance and securing their AI systems. Our service prioritises security and compliance from the outset, embedding these considerations into the design and deployment of your AI platform.

- Resource and Budget Constraints

Developing AI capabilities can be resource intensive. Our service leverages the most efficient and cost-effective technologies and approaches, helping clients optimise their investments in AI and Machine Learning without compromising on quality or performance.

- Uncertainty in Measuring ROI

Determining the return on investment (ROI) for AI projects can be challenging. Our service not only aims to implement effective AI solutions but also to define clear metrics for success and ROI, aligning AI initiatives with business objectives.

Prerequisites

To ensure the successful implementation of the "Data and AI Platform Design" service, organisations must meet certain prerequisites. These requirements are designed to prepare both the client and our team for a smooth and effective engagement. Understanding and addressing these prerequisites upfront can significantly enhance the outcomes of the AI and data science initiatives. Here is what is needed:

- **Organisational Readiness for AI and Data Science:** Organisations must demonstrate a commitment to adopting AI and data science as part of their strategic objectives. This includes having executive sponsorship to drive the initiative and a culture that is open to digital transformation and innovation. Readiness also means being prepared for the change management processes that accompany the integration of AI technologies into existing workflows.
- **Data Availability and Quality:** Access to relevant data is fundamental. Clients should have identified the data sources that will feed into the AI models and ensure that this data is accessible, and structured in a way that is conducive to analysis and model training. Data governance policies should also be in place to address data privacy, security, and compliance requirements.
- **Basic Infrastructure and Technological Resources:** While our service includes advising on the setup of cloud platforms and data pipelines, clients need to have a basic IT infrastructure

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capable of supporting these technologies. This includes having the necessary hardware and software, as well as access to cloud services (Azure, AWS, GCP or Databricks) where the AI solutions will be deployed.

- **In-House Expertise or Willingness to Collaborate:** While it's not essential for clients to have in-house AI experts, having team members with a basic understanding of AI, cloud computing, and data management principles is beneficial. Alternatively, organisations should be willing to work closely with our team and engage in knowledge transfer and training activities designed to build their internal capabilities over time.
- **Clear Objectives and Success Criteria:** Clients must define what success looks like for their AI initiatives. This includes setting clear, measurable objectives for what they aim to achieve through the integration of AI and data science. Whether it's enhancing operational efficiency, driving revenue growth or improving customer experiences, having specific goals will guide the development and implementation process.

Meeting these prerequisites not only facilitates a more effective deployment of the "Data and AI Platform Design" service, it also ensures that organisations can fully leverage the benefits of AI and data science, paving the way for transformative outcomes.

Key Business Benefits:

Our "Data and AI Platform Design" service offers a range of significant benefits that drive value across client organisations. These benefits span operational efficiencies, competitive advantages, innovation and beyond. This ensures that investments in AI and data science translate into tangible outcomes. Here are the primary advantages:

- **Accelerated Time-to-Value:** A well-designed AI platform provides the foundation for rapid AI development and deployment. By streamlining processes and providing a robust infrastructure we help you deliver impactful AI solutions faster, maximising return on investment.
- **Enhanced Decision-Making:** Utilising AI and advanced analytics, our service empowers organisations with data-driven insights for strategic decision-making. By harnessing predictive analytics and machine learning models, businesses can anticipate market trends, customer behaviours, and potential risks with greater accuracy, leading to more informed and effective decisions.
- **Operational Efficiency and Cost Reduction:** AI-driven automation of routine tasks and processes significantly enhances operational efficiency, freeing up valuable human resources for more complex and strategic activities. This optimisation of workflows not only boosts productivity but also contributes to significant cost savings over time, as AI systems streamline operations and reduce the need for manual intervention.
- **Scalability and Flexibility:** Our service designs AI platforms that are inherently scalable, catering to the evolving needs of the business. This scalability ensures that as your organisation grows, your data and AI infrastructure can easily adapt, supporting larger datasets, more complex models, and increased computational demands without compromising performance.
- **New Revenue Opportunities:** AI opens up possibilities for innovative products, services and business models. Our service helps you capitalise on these opportunities, identify new revenue streams and unlock growth potential.
- **Competitive Advantage:** Integrating AI into your core operations positions you at the forefront of innovation. You will possess the ability to adapt quickly to a changing market, improve customer experiences and differentiate yourself from competitors.

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Engagement Overview

The "Data and AI Platform Design" service is structured around a cohesive, three-phase engagement process designed to ensure a smooth and effective collaboration between our team and our clients. This structured approach ensures that clients are well-prepared, fully supported and empowered with the necessary knowledge to leverage AI and data science technologies successfully. Below is a detailed overview of each phase:

- Phase 1: Onboarding (3-4 Weeks)

Project Kick-off Meeting: We'll initiate the project with a kick-off meeting involving key stakeholders from your organisation and our team. This meeting lays the groundwork for collaboration by establishing project goals, timelines, and communication channels.

Data & AI Readiness Assessment: Our team will conduct a comprehensive assessment of your current data infrastructure, skillsets, and existing AI initiatives (if any). This assessment identifies potential use cases, highlights areas for improvement, and helps establish a clear roadmap for your AI journey.

Solution Design & Scoping: Based on the findings from the assessment, we'll work collaboratively with you to design a customised AI platform solution that aligns with your specific needs and budget. This phase also defines the project scope and establishes clear deliverables for each stage.

- Phase 2: Service Delivery (Variable Length)

Data Pipeline Development: Our data engineers will design and implement robust data pipelines tailored to your data sources and chosen cloud environment (if applicable). This ensures seamless data collection, cleaning and transformation while preparing your data for AI and machine learning applications.

Custom AI System Development: Our team of AI engineers and data scientists will work closely with you to develop AI solutions that address your business challenges. This phase includes model exploration, experimentation, selection, and fine-tuning to achieve optimal performance.

Deployment & Integration: We'll carefully deploy your AI models into production environments, ensuring they seamlessly integrate with your existing systems and infrastructure. This includes comprehensive monitoring and performance optimisation to ensure ongoing effectiveness.

- Phase 3: Knowledge Transfer & Support (2-3 Weeks)

Documentation & Training: Our team will provide comprehensive documentation outlining the functionalities of your AI platform and data pipelines. Additionally, we offer training sessions for your designated personnel to empower them to manage and maintain the platform independently.

Post-Deployment Support: We are committed to your long-term success. We offer ongoing support after deployment, addressing any questions or challenges you may encounter while utilising your AI platform. This ensures a smooth transition and maximises value over time.

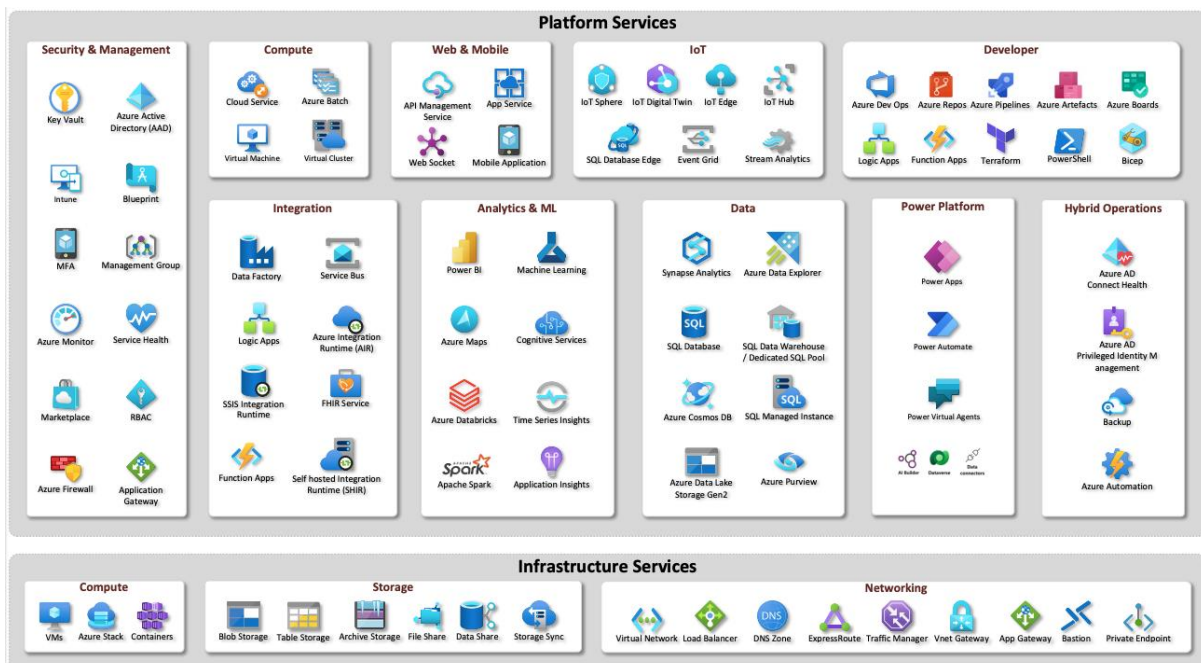
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Please Note: The duration of Phase 2 (Service Delivery) will vary depending on the complexity of your AI requirements. We work closely with you throughout the process to ensure efficient project execution and timely delivery.

Technology Stack Overview:

In the "Data and AI Platform Design" service, we utilise a diverse technology stack across various cloud providers—Azure, AWS, GCP and Databricks—to ensure the delivery of a robust, scalable and efficient AI and data platform tailored to our clients' specific needs. This section outlines the key services from each provider that we leverage to build and enhance AI & Data Platforms.

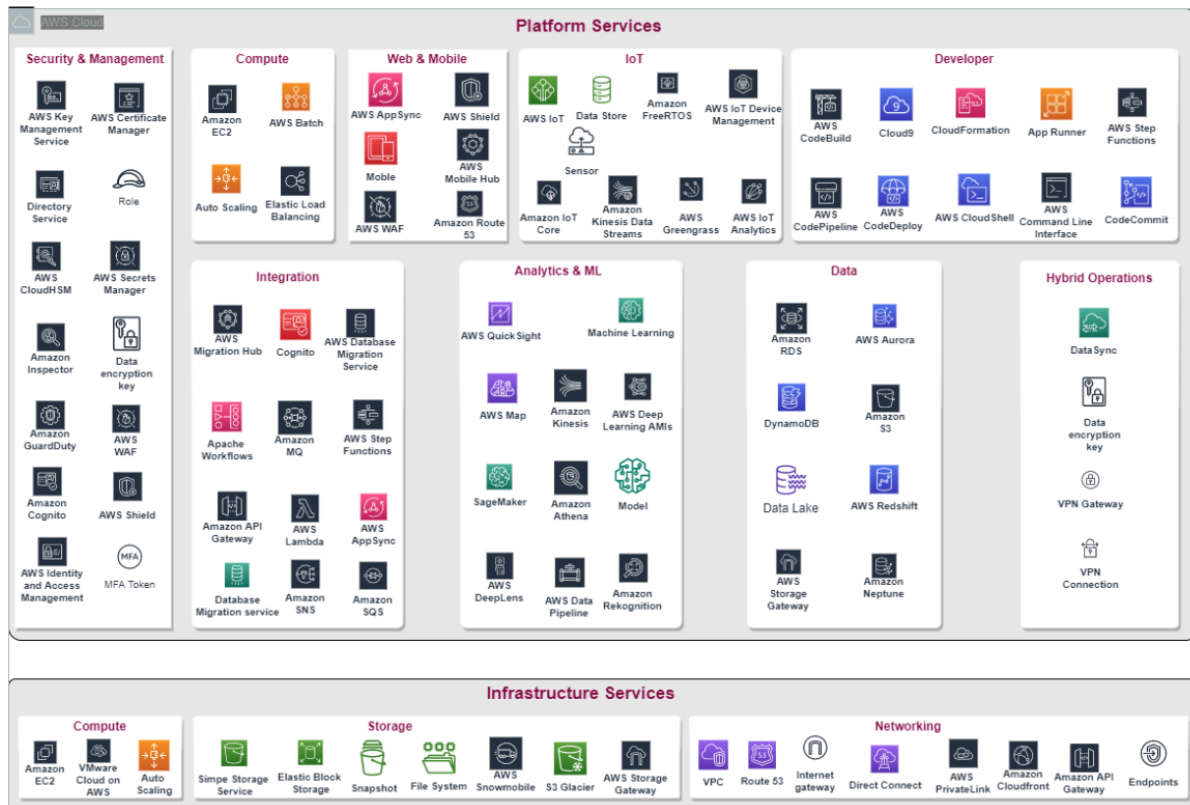
Azure



- Azure Machine Learning: A cloud service for training, deploying, automated machine learning, and tracking ML models.
- Azure Data Factory: Integrates with a wide array of data sources for data preparation, integration, and transformation.
- Azure Databricks: An Apache Spark-based analytics platform optimized for the Microsoft Azure cloud services platform.
- Azure Cognitive Services: A collection of APIs and services for AI capabilities including vision, language, speech and decision-making.

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AWS



- Amazon Bedrock: a fully managed service that offers a choice of high-performing foundation models (FMs) to build and scale generative AI applications.
- Amazon SageMaker: A fully managed service that provides every developer and data scientist with the ability to build, train, and deploy machine learning models quickly.
- AWS Glue: A serverless data integration service that makes it easy to discover, prepare and combine data for analytics, machine learning and application development.
- Amazon Redshift: A fast, scalable data warehouse that makes it simple and cost-effective to analyze all your data across your data warehouse and data lake.
- Amazon Rekognition: Provides powerful image and video analysis for facial recognition, object detection and more.

GCP (Google Cloud Platform)

- Vertex AI: A managed service that offers everything you need to build and use generative AI, from AI solutions to Search and Conversation, to 130+ foundation models, to a unified AI platform.
- Google Cloud Bigtable: A fully managed, scalable NoSQL database service for large analytical and operational workloads.
- Google Cloud Dataflow: A fully managed streaming analytics service that minimizes latency, processing time and cost through autoscaling and batch processing.

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Databricks

- Unified Analytics Platform: Provides a collaborative environment for data science and engineering teams to work closely with SQL analysts and business users.
- MLflow: An open-source platform for managing the end-to-end machine learning lifecycle, including experimentation, reproducibility and deployment.
- Delta Lake: An open-source storage layer that brings reliability to data lakes, providing ACID transactions, scalable metadata handling and unifying streaming and batch data processing.

Delivery Process:

Understand -> Plan -> Build -> Deliver

Team Structure:

Based on the delivery process, we can identify the required team. Typically we need the following team members:

- Account manager,
- Product Owner,
- AI Engineer (Data Scientist),
- Lead Developer,
- Data Engineer,
- QA Engineer,
- DevOps/MLOps Engineer

Scope of Service:

This service is designed to provide comprehensive support and guidance for organisations starting their AI and data science journey. This section outlines the specific areas covered by our service, in addition to those aspects that fall outside our scope of delivery.

- Readiness Assessment: Evaluating the current state of your organisation's data and AI capabilities to determine readiness for deploying AI solutions.
- Data Pipeline Design and Implementation: Developing robust data pipelines that are scalable, efficient, and secure, tailored to your specific needs.
- AI Platform Customisation: Leveraging cloud services to design and deploy customised AI systems that support machine learning model development, training and deployment.
- AI Solution Development: Assisting in the development of AI models and solutions, including the integration of AI capabilities into existing systems and processes.
- Cloud Infrastructure Setup: Configuring and optimising cloud infrastructure across Azure, AWS, GCP and Databricks to host and manage your AI and data platforms.
- Security and Compliance: Implementing security measures and compliance checks to ensure your AI and data platform adheres to industry standards and regulations.

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By defining the scope of service and exclusions clearly we aim to set accurate expectations for our clients, ensuring a transparent and successful partnership. Our goal is to empower your organisation with the tools and knowledge needed to harness the power of AI and data science, while simultaneously understanding the boundaries of our engagement.

Deliverables:

The "Data and AI Platform Design" service comes to end with a set of deliverables designed to provide clients with everything they need to leverage AI and data science effectively. These deliverables include strategic guidance, technical implementations and actionable insights, ensuring clients are well-equipped to drive their AI initiatives forward. Here's an overview of the key deliverables associated with this service:

- **AI Readiness Assessment Report:** A detailed analysis of the current state of the client's data, infrastructure, and capabilities in relation to AI readiness, highlighting areas of strength and opportunities for improvement.
 - Purpose: To provide a clear starting point for the AI journey, offering insights into what is required to move forward with AI integration.
- **Data Strategy and Architecture Plan:** A strategic document outlining the proposed data architecture, including data collection, storage, management and governance practices.
 - Purpose: To ensure the organisation's data infrastructure is robust, scalable, and aligned with AI objectives, facilitating efficient data flow and processing.
- **Cloud Infrastructure and Platform Design:** A comprehensive design of the cloud infrastructure tailored to the client's needs, specifying the cloud services (Azure, AWS, GCP, Databricks) and configurations for hosting the AI and data platforms.
 - Purpose: To provide a scalable and secure cloud foundation that supports the deployment and operation of AI applications and data pipelines.
- **AI Solution Development Roadmap:** A phased plan detailing the steps for developing and deploying AI models, including timelines, milestones, and resource requirements.
 - Purpose: To guide the client through the process of implementing AI solutions, from concept to production, ensuring a structured and efficient approach.
- **Data Pipeline and Integration Blueprint:** Technical documentation outlining the design and implementation of data pipelines, including data ingestion, processing, and integration mechanisms.
 - Purpose: To enable seamless data flow and accessibility, ensuring data is ready and available for AI applications.
- **Security and Compliance Guidance:** A set of guidelines and practices for maintaining data privacy, security, and compliance with relevant regulations throughout the AI implementation process.
 - Purpose: To protect the organisation and its data assets, ensuring AI solutions adhere to legal and ethical standards.
- **Training and Knowledge Transfer Materials:** Customised training programs and documentation designed to upskill the organization's team, covering the operation and maintenance of the AI and data platforms.
 - Purpose: To empower the client's team with the knowledge and skills needed to sustain and evolve their AI capabilities independently.

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- Post-Deployment Support Plan: An outline of the support and maintenance services available post-deployment, including options for ongoing assistance, monitoring and optimisation.
 - Purpose: To ensure the client continues to derive maximum value from their AI investment, with access to expert support when needed.



Case Studies

Major Healthcare Provider

A major healthcare trust required a brand-new system designed and built to address critical issues with their existing process and better serve their needs in the medical technology space (the previous approach was inefficient, potentially inaccurate, and difficult to maintain or scale). Specifically, the client required a way for care providers to review medical technology products for suitability and to communicate with suppliers who needed an efficient way to provide up-to-date product information in relevant formats.

gravity9 won the project tender process, transforming the experience and delivering the “Technology Adoption Platform” by designing and building a highly scalable web-based solution with the potential to serve the entire healthcare provider. After initial conversations, the project began with executive team discovery meetings to map what is “truly” needed, followed by iterative event storming to ensure the product meets stakeholders’ needs.

Built around MongoDB, Azure, React and Java, it reduces maintenance workloads, provides a clear communication channel, and enables storing relevant and accurate product information.

Utilised Technology Stack

- Cloud: Azure, Azure AD B2C, Terraform
- Database: MongoDB Atlas
- Backend: Java, Spring Boot
- Frontend: React, NextJS, MUI component

Employee Wellbeing Provider

Our client provides technical employee wellbeing solutions for physical, mental, and financial health. The client approached gravity9 and spoke with Founder Noel Ady to discuss a new module to their existing Mental Health solution that would enable communication between domain microservices and CRM (Customer Relationship Management) in a multicloud environment. Additionally, we would provide additional security, improve system performance, and provide domain separation.

The initial solution uncovered additional requirements, which gravity9 designed and built into the second iteration before conducting a final optimisation pass to streamline further, displaying an evolutionary architecture approach. The client was delighted with the overall result, especially gravity9’s ability to adapt and implement event-driven architecture.

gravity9 achieved a remarkable outcome that met all the client’s expectations, demonstrating expertise in designing and deploying event-driven architecture and delivering a solution that supports asynchronous communication and facilitates evolutionary changes in response to the dynamic business environment.

Utilised Technology Stack

- Cloud: Multi-Cloud
- QA: SpecFlow, Living Documentation
- Development: .NET Core

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National Defence Organisational

A major defence organisation sought to reform how they generate useful analytics for gauging and reacting to public opinion to NATO operations in specific geographic areas. Their previous approach was to research and generate reports manually, which was resource-intensive, delay-prone, and at risk of accuracy issues. Partnering with MongoDB, gravity9 scoped, developed, and delivered a replacement cloud-based system over a three-week period.

The delivered system can collate data from multiple sources, allowing easy, customisable generation of data-rich reports based on up-to-date information plotted against any number of data points, including GIS. Built around React.js, Node.js, MongoDB, and Microsoft Azure, this system has reduced resource overheads and enabled rapid delivery of relevant and accurate information to decision-makers within the organisation. Resource and actual costs have also been reduced as a result.

Utilised Technology Stack

- Cloud: Microsoft Azure
- Database: MongoDB
- Backend: Node.js
- Frontend: React.js

Beauty & Pharmaceutical Retailer

As part of a fast-track ideation and rapid-build development project, gravity9 partnered with MongoDB to help a popular health and beauty retailer and pharmacy build a new Beauty Concierge application to increase customer loyalty and encourage repeat business in the retail domain. Prior to gravity9's involvement, no history of customer consultations or recommendations was stored, meaning returning customers would have to "start over" be re-interviewed, providing them no advantage at this vendor versus their competitors. The client outlined the project requirements, providing a starting point for a more profound consultation process in which gravity9 challenged, revised, and reached a consensus on the form and shape of the project.

A web-based solution was created, tailoring the customer experience via an accessible in-store app. The app maintains customer profiles and preferences allowing consultants to access this information as well as sales logs and KPI's, creating a more personalised, bespoke service unique to the client. The product is built with a .NET Core backend, Angular frontend, and MongoDB database.

The solution has been delivered to the client and initial reception has been extremely positive, with scope for additional functionality, integration, and quality-of-life improvements to be added later. Customers can enjoy a more intimate shopping experience which encourages trust, brand loyalty, repeat business, and increased footfall versus competitors.

Utilised Technology Stack

- Cloud: Microsoft Azure
- Database: MongoDB
- Backend: .NET Core
- Frontend: React



Enquiries

For enquiries, please contact:

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