

G-Cloud 15

Cloud Innovation and Reimagine



AtoS

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1. What is Cloud Innovation and Reimagine?

Cloud Application Innovation and Reimagine empowers organisations to transform legacy applications and databases into cloud-native, future-ready solutions. Leveraging AI-driven insights, automation, and modern cloud architectures, this offering accelerates modernisation while reducing technical debt and ensuring operational resilience. Enhance scalability, maintainability, and performance for future-ready applications.

Cloud Application Modernisation empowers organisations to modernise legacy applications and databases quickly, securely, and with minimal disruption, leveraging AI-driven automation and cloud-native innovation.

The Cloud Application Modernisation service is powered by the DTE (AppMod Toolkit), an Atos proprietary solution that encapsulates our cloud modernisation expertise and industry best practices.

DTE (AppMod Toolkit) is a GenAI-powered solution designed to revolutionise the analysis and modernisation of legacy applications and databases. Our approach makes it effortless to develop new greenfield applications or revamp existing brownfield legacy systems.

DTE (AppMod Toolkit) harnesses the power of GenAI, LLM, and embeddings to equip developers with cutting-edge tools for analysing, refactoring, and upgrading codebases. Our professional services ensure that each solution is secure, compliant, and tailored to meet your unique business needs

- **Accelerated Transformation** – Reduce time-to-market with proven modernisation frameworks, automation, and GenAI-powered insights.
- **Lower Risk & Cost** – Minimise operational disruption and optimise resources through pragmatic, phased approaches.
- **Enhanced Agility & Scalability** – Enable applications to adapt quickly to changing business needs with modular, cloud-native architectures.
- **Future-Ready IT Landscape** – Eliminate technical debt and position systems for innovation, resilience, and long-term growth.
- **Data Integrity & Compliance** – Ensure secure, compliant migration of applications and databases across cloud platforms.



2. What does it deliver?

The modernisation journey follows a structured, phased approach—starting with Assessment and Inception, moving through Initiation, Foundation, Build, Testing, and culminating in Implementation and Hypercare. This ensures a seamless transition with minimal risk and maximum efficiency.

Atos' DTE (AppMod Toolkit) is positioned as a core enabler of accelerated application modernisation, helping enterprises overcome the challenges of legacy systems that hinder innovation and scalability.

Below is the structured, phased approach to modernisation using the DTE (AppMod Toolkit)

Phase 0 - Inception:

Focus: Technical Qualification & Value Proposition

- Initial Discovery:
 - Conduct high-level "Fit for Purpose" assessment using DTE (Pryzm) scans on a sample code subset.
 - Identify "Showstopper" technologies or patterns (e.g., unsupported legacy libraries, binary dependencies) early.
- Scope Definition:
 - Define the specific modernisation path (e.g., Replatform vs. Refactor vs. Rewrite) based on DTE analysis.
 - Select the target architecture (e.g., Monolith to Microservices, On-prem to cloud-native).
- Estimation & Proposal:
 - Use DTE complexity scores to estimate effort for code remediation and testing.
 - Draft the Statement of Work (SOW) outlining the specific DTE modules (CodeTX, DataVoyager) to be utilised.

Phase 1 – Project Initiation

Focus: Governance, Team Onboarding & Environment Planning

- Project Kick-off:
 - Introduce the DTE-driven methodology to client stakeholders (Development, Ops, Security).
 - Establish the "Modernisation Factory" operating model (Roles: DTE Operator, Modernisation Engineer, Architect).

- Repository & Access Setup:
 - Gain access to source code repositories (Git, SVN, TFS) for DTE ingestion.
 - Secure permissions for DTE agents to access legacy databases (for DataVoyager [analysis](#)).
- Detailed Inventory Collection:
 - Run a full-scale DTE (Pryzm) scan across the entire application portfolio.
 - Generate the "Application DNA" report: Lines of Code (LOC), complexity hotspots, dependency graphs, and technical debt metrics.

Phase 2 – Platform and Foundation Setup

Focus: Tool Installation & Target Environment Readiness

- DTE Infrastructure Deployment:
 - Install and configure the DTE (AppMod Toolkit) environment (SaaS or On-prem/Air-gapped).
 - Configure DTE Language Agents (Java, .NET, Mainframe, etc.) and connect to source repositories.
- Target Landing Zone Setup:
 - Deploy the target cloud infrastructure (AWS/Azure/GCP/OCI) using DTE DesignGenie (IaC generation).
 - Establish CI/CD pipelines integrated with DTE for automated code promotion.
- Baseline & Rules Configuration:
 - Configure DTE CodeTX transformation rules (e.g., "Replace javax.servlet with jakarta.servlet").
 - Define architectural constraints and "Golden Standards" within DTE DesignGenie.
- Data Preparation (DataVoyager):
 - Run DataVoyager to map schema dependencies.
 - Define data masking rules for creating non-prod test datasets.

Phase 3 – Build and Test

Focus: Iterative Transformation & Unit Testing

- Sprint Planning (Wave-based):
 - Group application modules into sprints based on DTE dependency analysis.

- Code Transformation (CodeTX):
 - Automated Refactoring: Execute DTE CodeTX to apply Conversion of the code per target technology patterns (e.g., EJB to Spring Boot,.NET Framework to.NET Core).
 - Manual Remediation: Address complex logic gaps flagged by DTE that require human intervention.
- Database Modernisation (DataVoyager):
 - Convert schema objects (DDL) to the target dialect (e.g., Oracle to PostgreSQL).
 - Execute data migration scripts generated by DataVoyager.
- Unit Testing & Validation:
 - Generate unit test scaffolding using DTE CodeTX.
 - Execute baseline tests to ensure functional equivalence (Business logic matches legacy behaviour).
- Code Review:
 - Use DTE (Pryzm) to re-scan modernised code for quality gates, security vulnerabilities, and adherence to new standards.

Phase 04 – User Acceptance Testing [UAT]

Focus: Business Validation & Performance Tuning

- UAT Environment Deployment:
 - Deploy the fully modernised application to the UAT environment via the DTE-integrated CI/CD pipeline.
- End-to-End Testing:
 - Support business users in executing functional workflows.
 - Triaging defects: Trace UAT bugs back to specific transformation rules in DTE CodeTX for rapid fixing.
- Performance Benchmarking:
 - Compare response times of the modern app against the legacy baseline (captured in Phase 01).
 - Optimise database queries and code performance based on DTE profiler insights.

Phase 05 – Implementation & Hypercare

Focus: Cutover, Stabilisation & Knowledge Transfer

- Cutover Planning & Execution:
 - Execute the final data synchronisation using DataVoyager (CDC pipelines).
 - Perform the "Go-Live" switch (Blue/Green or Big Bang deployment).
- Hypercare Support:
 - Monitor the new application in production for immediate stability issues.
 - Rapid response team (DTE SMEs) available to patch transformation-induced bugs.
- Handover & Closure:
 - Documentation: Deliver final DTE architecture diagrams (DesignGenie), API documentation, and modern codebases.
 - Knowledge Transfer: Train client teams on maintaining the new stack and using DTE for future continuous modernisation (if applicable).
 - Decommissioning: Archive legacy systems and shut down the old environment.

3. What technology does it use?

AtoS' AppMod Toolkit addresses the challenge of modernising legacy applications, which can hinder innovation in various industries. By transforming outdated systems into modern, cloud-native architectures using advanced technologies such as Generative AI (GenAI) and Large Language Models (LLM), the toolkit enables secure, efficient modernisation. It minimises reliance on Subject Matter Experts (SMEs), enabling businesses to optimise costs and timelines while seizing new opportunities.

There are 4 core components of the DTE (AppMod Toolkit)

Pryzm: An advanced analysis engine that decodes complex legacy systems and outlines a roadmap for modernisation, minimising reliance on SMEs. Key highlights include:

- **Cloud Readiness Evaluation:** Assesses the suitability of applications for migration to the cloud, identifying potential challenges and opportunities.
- **Comprehensive Code Analysis:** Provides in-depth insights into code quality, maintainability, and architecture.
- **Microservices Transformation Suggestions:** Recommends strategies for breaking monolithic systems into scalable microservices.
- **Non-Compliance Reporting:** Identifies compliance gaps and suggests solutions to align with modern regulatory standards.
- **Technical Documentation Automation:** This process generates high-level designs (HLDs), UML diagrams, process flows, and requirement specifications to streamline the planning process.

Key Reports Generated

1. **Architecture Overview**
 - Technical overview diagram
 - System Context diagram
 - Component diagram
2. **Technical Overview**
 - Application Overview
 - Main Components/Modules
 - Dependencies
 - Security Measures

- Technical Task List
 - Complete non-compliance report
3. **Code Analysis**
 - File-level analysis
 - Purpose and Task level details
 - Business logic
 - Method-level information
 4. **Domain Insight**
 - Domain Concepts
 - Bounded Contexts
 - Data Flows
 - Business Processes
 - Service Boundaries
 5. **End point analysis**
 - Sequence diagram
 - Technical and Functional details

Design Genie: Design Genie specialises in generating UI/UX and architectural designs and validating them against the AWS Well-Architected Framework to ensure alignment with cloud best practices.

- **Target Architecture**
Designing or creating a cloud-centric architecture for an application based on what is required for the system, its context, and goals
- **Architecture Review**
Conduct Well-Architected Framework-based to ensure the design and rules align with recommended architectural principles.
- **UI/UX design**
Produce UI and UX design artefacts based on the specifications outlined in the user style guide

CodeTx: Application Modernisation - CodeTx updates outdated applications into modern, scalable solutions using AI-driven workflows. It speeds up modernisation timelines while ensuring best practices are followed. Key highlights include:

- **Code Upgrade :**
Perform version upgrades on Java applications that depend on Struts, Spring, and Hibernate, bringing them up to the newest releases.
- **Code Migration**
Move and transform code between technologies while updating framework implementations to current standards
- **Code ReArchitect**
Transform application logic by isolating key code components and rearchitecting them for compatibility with the target stack and modern frameworks
- **Code Refactor**
Make precise inline refactoring changes when minor updates are required, such as adjusting data access logic for database changes or adapting to a new application server's requirements.
- **Code Reimagine**
Transform user stories into implemented features by generating the corresponding code in the application
- **Monolithic decomposer**
A monolith decomposer helps extract discrete components from a single deployable application and rearchitect them into a target architecture, such as microservices, to improve maintainability and agility.
- **KnowledgeBase**
A repository of best practices for migrating and modernising applications to the target stack.
- **High-Coverage Unit Test Generation:** Automates the creation of unit tests, ensuring over 80% code coverage.

Technologies Supported for Analysis & Transformation

Current Technologies:

- Java
- .NET
- VB 6.0
- Thingworx

- Access Forms
- Excel Forms
- Clojure
- Uniface

Target / Upgraded Technologies:

- Technology Upgrade
- Angular, React, Vue
- Java Spring,.NET Core
- NodeJS, Python

DataVoyager: Database Schema Assessment & Migration simplifies database migrations, reducing effort by 65% and minimising downtime while optimising performance. Key benefits include reliable performance and smooth transitions between platforms.

- Schema Analysis and Compatibility: Assesses database schemas for Pseudocode, business logic and compatibility with target platforms like Azure SQL, PostgreSQL, and SQL Server.
- Automated Migration Scripts: Generates ready-to-deploy scripts for seamless database transitions.
- Performance Optimisation: Identifies opportunities for performance tuning and recommends schema improvements.
- Dependency Mapping: Analyse and resolve database dependencies to prevent migration bottlenecks.
- Object Analysis report: Provides a comprehensive overview of database objects and their relationships
 - Count Analysis: A summary of the number of tables, views, stored procedures, functions, triggers, and other objects in the database.
 - Object Dependency Chart: A visual representation of dependencies among objects, showing how tables, views, and procedures are interconnected.
 - Object-Level Detail Information: Detailed metadata for each object, such as name, type, schema, creation and modification dates, and dependency links.
- Object reports: Identification of Security Vulnerabilities, e.g. PI data. Performance enhancements suggestions

Database Modernisation Overview

Current Databases:

- Oracle
- DB2
- SQL Server
- MS Access
- Sybase
- MySQL

Target / Upgraded Databases:

- PostgreSQL
- MySQL
- SQL Server
- CockroachDB.



4. What terms apply?

To the fullest extent permitted under G-Cloud 15 Framework Agreement and the Call-Off Contract, Atos will provide the Services in accordance with the Atos Supplier Terms (which will include, but may not be limited to, the Supplier Acceptable Use Policy, Supplier Data Processing Agreement, Supplier Specific Shared Responsibility Model, Supplier SLAs and Supplier Licence Terms and any applicable Third-Party Terms outlined in this Service Description document and the Order Form) and this Service Description document.

For clarity:

- Atos Supplier Terms may be modified in accordance with the provisions of the Call-Off Contract, and remain effective except where expressly overridden.
- Hyperlinks included in the Atos Supplier Terms and Service Description document remain effective where they point to Atos' or the relevant Third-Party Terms or documents. Should a hyperlink cease to function, Atos will work with the client to update it through the agreed procedure.



5. Termination

Termination shall be in accordance with:

- The G-Cloud 15 Framework terms and conditions
- Any terms agreed within the Order Form of the relevant Call-Off Contract
- For this specific service, by default Atos ask for at least thirty (30) days prior written notice of termination without cause.

Atos commits to the continued provision of services for the duration of the Call-Off Contract subject to the terms and conditions of the G-Cloud 15 Framework Agreement, the Call-Off Contract, the Atos Supplier Terms and the applicable Third Party Agreements (as defined in the Atos Supplier Terms and indicated in the Order Form) related thereto.



6. How do I order?

Please contact our team at: gcloud@atos.net

- We will prepare a quotation for your review, including any applicable volume discounts.
- Once the quotation is agreed, we will issue the necessary documentation (as required by the G-Cloud Framework) and request a purchase order from you.
- Upon receipt of your purchase order, we will configure the services in line with the agreed requirements. Where applicable, you will also receive access to our self-service portal to begin provisioning services.
- If you are a new customer, you may need to complete additional 'new supplier' forms.
- Invoices will be issued to you and to Crown Commercial Service (CCS), quoting the purchase order number, for the services procured.
- We will also submit the required monthly management information reports to Government Procurement.



7. Glossary

Term	Definition
AI	Artificial Intelligence
AWS	Amazon Web Services
CDC	Change Data Capture
DDL	Data Definition Language
DTE	Data Terminal Equipment.
IaC	Infrastructure as Code
LLM	Large Language Models
LOC	Lines of Code
PI	Personal Information
SaaS	Software as a Service
SLA	Service Level Agreement
SME	Subject Matter Experts
SOW	Statement of Work
UAT	User Acceptance Testing
UI	User Interface
UX	User Experience



8. Why Atos

Atos has been a trusted partner on every G-Cloud iteration since the framework began, helping public sector organisations modernise with confidence. We combine global expertise with deep UK experience, delivering secure, scalable cloud solutions that meet the highest government standards.

As Europe's leading provider of cloud and cybersecurity services, Atos offers end-to-end capabilities - from migration and hosting to SaaS and consultancy - supported by UK delivery centres and strategic partnerships with hyperscalers.

Our focus on innovation, sustainability, and social value ensures that customers not only achieve operational excellence but also contribute to a greener, fairer future. With Atos, you gain a proven partner committed to driving efficiency, resilience, and transformation across public service.



About Atos

Atos Group is a global leader in digital transformation with c. 67,000 employees and annual revenue of c. €10 billion, operating in 61 countries under two brands – Atos for services and Eviden for products. European number one in cybersecurity, cloud and high-performance computing, Atos Group is committed to a secure and decarbonized future and provides tailored AI-powered, end-to-end solutions for all industries. Atos Group is the brand under which Atos SE (Societas Europaea) operates. Atos SE is listed on Euronext Paris.

The purpose of Atos Group is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

Learn more at: atos.net