



From Months to Minutes: A GCC Nation's Agentic AI Transformation in Public Finance Compliance

Delivering the first AI-powered public finance compliance solution with Denodo, transforming manual reviews into real-time intelligent governance

Overview

A leading country within the Gulf Cooperation Council (GCC) operates at a scale and pace few cities can match. Its economy, powered by innovation and global investment, depends on a network of public departments and entities that together shape national fiscal health.

At the center of this ecosystem stands the country's finance authority responsible for maintaining fiscal stability, financial discipline, and public trust. As this GCC nation advances toward a fully digital government, the department faces a growing challenge: ensuring that every financial decision across the public sector complies with evolving laws and regulations in real time.

To meet this challenge, a central government finance authority launched a Compliance Intelligence Program (CIP), a program that reimagines fiscal compliance as an intelligent, AI-driven assurance capability.

Built on Denodo's logical data management platform and AI-powered semantic reasoning, CIP transforms compliance from a manual, document-driven process into a real-time, intelligent governance function.

Challenges

The finance authority faced a complex and resource-intensive challenge: manually reading and interpreting an extensive body of financial laws, then validating every decision and transaction across diverse government projects and departments.

This required comparing financial actions across multiple departments against a complex and evolving set of regulations, something human teams could do only slowly and with limited scope.

- **Legal complexity:** Financial regulations are interdependent and constantly evolving; a single update can alter dozens of related obligations.
- **Departmental diversity:** Each public entity operates under the same financial framework but with distinct workflows and systems, making standardized compliance checks difficult.
- **Manual verification:** Expert teams read and interpreted laws manually, cross-checking them with transactions, a process that was accurate but unscalable.
- **Disconnected data:** Financial and regulatory data resided in separate systems, and existing tools could search certain keywords but not understand meaning, limiting the ability to connect laws with the data they governed.

The Solution

The finance authority built CIP on the foundation of Denodo's Logical Data Management Platform, creating a unified data fabric that enables an AI-driven compliance intelligence program.

Denodo provides secure, real-time access to distributed financial and regulatory data, ensuring every AI decision is based on trusted, current, and governed information.



Denodo as the Foundation of Intelligent Compliance

At the heart of CIP lies Denodo's universal semantic layer, which unifies data from the department's internal systems, financial workflows, and legal repositories into a single logical view without replicating or moving data.

This provides live access to all data, aligns the language of laws with the language of finance, and ensures full governance, data sovereignty, and scalability. Through this architecture, compliance evolves from manual reporting to real-time reasoning drawn directly from operational truth.



How AI and Agent Leverage Denodo

Built on this foundation, a semantic AI engine powered by open-source Large Language Models such as Llama and enhanced with Retrieval-Augmented Generation reads laws, maps them to workflows, and validates compliance in real time.

Six specialized AI agents then automate the reasoning workflow – from research and gap analysis to corrective actions and bilingual report generation – each securely accessing the data it needs through Denodo's unified data layer.



End-to-End Intelligence Flow

Denodo integrates and governs all data, the AI engine interprets laws, and the reasoning provided by agents across this data to produce real-time compliance insights, a closed-loop system that blends human-level understanding with institutional-scale speed.

Key Benefits



Accelerated, Clause-Level Verification: CIP automates compliance checks down to individual law articles and clauses, reducing review cycles from weeks to minutes.



Increased Workforce Efficiency: Removes manual verification, allowing legal and financial teams to focus on higher-value governance work.



Enhanced Financial Governance and Timely Delivery: Provides leaders with visibility into compliance gaps and regulatory alignment, keeping projects compliant, on schedule, and within budget.



Bilingual Intelligence and Accessibility: Automatically generates Arabic and English compliance reports, improving clarity, inclusiveness, and inter-departmental collaboration.



Data and AI Readiness for the Future: Establishes a secure, scalable data and AI architecture supported by Denodo, enabling future automation and analytics across the public sector.

Future Outlook

In its next phase, the finance authority will extend CIP beyond internal operations to verify compliance across other government entities, enabling cross-agency benchmarking and automated policy validation.

This expansion will transform the program into a policy-driven compliance network that delivers standardized, transparent, and scalable financial governance across this GCC nation's public sector.

