CASE STUDY

EMSIGNER · GOVERNMENT & PUBLIC SECTOR · MIDDLE EAST

A National Civil Aviation Regulatory Authority in the Middle East Achieves 99.9% Uptime for Signing Workflows with eMudhra emSigner

SECTOR	REGION	SOLUTION
Government & public sector	Middle East	emSigner

CLIENT OVERVIEW

The organisation is the federal regulatory authority for civil aviation in a leading Middle Eastern nation, responsible for overseeing the safety, efficiency, and compliance of aviation operations across the country's airspace. A member of the global civil aviation and air navigation standards bodies, the organisation operates one of the region's most advanced air-traffic management centres and drives innovation in safety and digital transformation across the national aviation ecosystem. Regulatory compliance, operational continuity, and data sovereignty are foundational to its mandate.

THE CHALLENGE

The organisation sought to replace manual, paper-based workflows — covering maintenance records, safety certificates, and regulatory approvals — with a fully digital, legally compliant signature platform. The requirements were exacting: data hosting within the country's borders, compliance with national electronic transactions legislation, seamless integration with existing Oracle enterprise applications, and enterprise-grade uptime to support hundreds of daily sign-offs across mission-critical aviation operations.

Additional requirements included meeting national data-residency rules through cloud infrastructure hosted within the country, with an on-premise disaster recovery setup. The platform needed to support advanced qualified electronic signature standards, optional national digital identity authentication, and structured multi-party signing workflows with delegation and ordered routing — all with tamper-proof audit logs and automated document archival back into the organisation's document management system.

> *"Aviation cannot tolerate downtime or ambiguity in its documentation chain. We needed a digital signing platform that was legally compliant under national law, integrated natively with our Oracle environment, and delivered the resilience and audit trail that regulatory oversight demands."*
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> **Director of Digital Transformation, Air Navigation Centre**

THE SOLUTION

eMudhra deployed emSigner Gateway on a containerised, SaaS-style infrastructure hosted within the required region, supplemented by an on-premise disaster recovery environment. The solution delivers API-driven, PKI-based electronic signatures fully compliant with national electronic transactions law, with an SLA of 99.9% uptime and a recovery time objective of 24 hours or less.

Integration workshops were conducted to map the organisation's Oracle workflows, compliance requirements, and disaster recovery specifications. The emSigner Gateway was then provisioned on cloud infrastructure within the country and the on-premise DR container was configured, with full API and webhook connectivity established to the Oracle applications environment. End-to-end signing tests were conducted and a comprehensive training programme — including hands-on sessions for platform administrators and end-users — was delivered prior to go-live.

The solution leverages cloud HSMs for cryptographic key management and supports national digital identity authentication as an optional second-factor layer for signatories. Structured workflow templates accommodate multi-party signing, ordered routing, and delegation across the organisation's diverse operational teams. Tamper-proof audit logs with comments and timestamps are automatically archived back into the Oracle and document management systems, creating an instantly accessible, regulator-ready audit trail.

Manual handoffs and paper-based document routing were fully eliminated. All signing — from maintenance approvals to regulatory certificate sign-offs — now occurs directly within Oracle applications, with no exports, imports, or offline steps required.

RESULTS

The emSigner Gateway deployment delivered a step-change in the organisation's operational efficiency and regulatory posture, while providing the resilience and auditability required for mission-critical aviation administration.

METRIC	BEFORE	AFTER
Platform uptime SLA	No formal SLA — on-premise manual system	99.9%+ with disaster recovery within 24 hours
Regulatory compliance (national e-transactions law)	Non-compliant — paper and scanned signatures	100% compliant — legally binding digital signatures
Paper-based workflows	100% manual — paper collection, scanning, filing	Fully digital — zero paper in signing workflows
Oracle application integration	Not integrated — manual exports required	Native integration — in-app signing via REST APIs
Audit readiness	Manual retrieval — time-consuming	Instant — tamper-proof, timestamped digital logs
Document archival	Manual filing in physical and local digital storage	Automated archival back to Oracle and DMS

About eMudhra. eMudhra is a globally trusted provider of digital trust services, offering eSignatures, PKI, Certificate Lifecycle Management, Multi-Factor Authentication and Identity & Access Management solutions. Licensed by the Controller of Certifying Authorities (CCA), India, eMudhra serves 1,000+ enterprises across 40+ countries, helping organisations build secure, compliant and paperless digital ecosystems.

Customer name withheld for confidentiality.