CASE STUDY

EMCA · GOVERNMENT & PUBLIC SECTOR · MIDDLE EAST

A Government Digital Services Authority in the Middle East Launches a National PKI to Underpin Citizen e-Services with eMudhra emCA

SECTOR	REGION	SOLUTION
Government & public sector	Middle East	emCA

CLIENT OVERVIEW

The organisation is a government authority in a GCC nation responsible for the digital transformation of public services. As part of a national e-government programme, the authority was tasked with establishing a national Public Key Infrastructure to enable authenticated, legally recognised digital interactions between government entities, businesses, and citizens. The PKI would underpin digital signatures on official documents, secure authentication for government portals, and trusted machine-to-machine communication across government systems.

THE CHALLENGE

The authority had no existing PKI infrastructure and was building the capability from the ground up. The national e-government programme required that government employees be able to sign official documents digitally, that citizens could authenticate to government service portals using government-issued digital credentials, and that government-to-business data exchanges were secured with trusted certificates. Without a national PKI, these use cases depended on ad hoc solutions — commercial certificates procured individually by each ministry, shared passwords for portal access, and unsigned document workflows that were difficult to audit. The authority needed to deploy a Root CA and subordinate CA hierarchy that met international PKI standards and was capable of being operated and maintained by its own team after the initial deployment.

> *"We were building a national PKI from nothing. We needed a partner who could deliver the technology, handle the compliance requirements, and make sure our own team could run it independently afterwards."*
>
> **Director of National Digital Infrastructure**

THE SOLUTION

eMudhra deployed emCA to establish the authority's national PKI hierarchy, comprising a Root CA and two subordinate issuing CAs — one for government entity certificates and one for citizen-facing credentials. The deployment included HSM-backed key management at both the Root and subordinate CA levels, ensuring that all cryptographic keys were generated and stored within hardware security modules with dual-control access policies. Certificate profiles were configured for government employee signing certificates, citizen authentication certificates, and SSL/TLS certificates for government portals. The emRA Registration Authority module was deployed to enable each ministry to operate its own RA function for employee certificate enrolment. eMudhra provided comprehensive compliance documentation aligned to the authority's national digital governance framework and delivered a structured training and handover programme to enable the authority's team to operate the CA infrastructure independently.

RESULTS

The national PKI went live within the agreed project timeline. Government employees across eight ministries were issued signing certificates in the first phase, enabling legally recognised digital document signing for official correspondence and approvals. The authority has since extended the PKI to citizen authentication certificates used on the national e-services portal.

METRIC	BEFORE	AFTER
National PKI capability	No national PKI; ad hoc commercial certificates	Root CA + 2 subordinate CAs operational
Government document signing	Physical signatures; no digital signing	Legally recognised digital signing for 8 ministries
Key security	No HSM-backed key management	All keys in HSM with dual-control policies
Ministry RA capability	No in-ministry enrolment process	emRA deployed across participating ministries
Operational self-sufficiency	No internal PKI operations capability	Authority team trained and operating independently

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.