CASE STUDY

EMSIGNER · LOGISTICS & TRANSPORT · GLOBAL

A Global Logistics Enterprise Achieves Digital Transformation of Invoice Authentication with eMudhra emSigner

SECTOR	REGION	SOLUTION
Logistics & transport	Global	emSigner

CLIENT OVERVIEW

The organisation is a global powerhouse in the logistics industry, with a presence spanning more than 130 countries. Its service portfolio covers land transport, air and ocean freight, contract logistics, and supply chain management. Renowned for its commitment to innovation and customer-centric solutions, the organisation serves as a trusted partner for businesses worldwide, ensuring the seamless flow of goods across a complex, globalised supply chain.

THE CHALLENGE

In the face of rapidly evolving technological and cybersecurity landscapes, the organisation was confronted with the challenge of keeping its document processing systems both secure and efficient. With the increasing prevalence of cyber threats and the need for swift, authenticated transactions, incorporating a robust digital signature system for invoice documents became imperative. The primary obstacle was integrating a new signing system with the organisation's existing enterprise applications — which included multiple logistics and financial management platforms — without disrupting day-to-day operations.

The organisation also required a solution capable of handling the conversion and validation of invoice data formats seamlessly across its technology stack. Security of cryptographic keys, integrity of signed documents, and compatibility with its existing enterprise resource planning and logistics platforms were all non-negotiable requirements. Finding a trust service provider with the technical depth to address all of these simultaneously, without requiring a disruptive system replacement, was the central challenge.

> *"Our invoice processing chain spans multiple enterprise systems across several geographies. We needed a digital signature solution that could integrate cleanly, process high volumes without friction, and provide the legal non-repudiation required for our compliance obligations — all without burdening our internal IT teams."*
>
> **Head of Digital Operations, Finance and Compliance**

THE SOLUTION

eMudhra tailored a solution using the emSigner platform, engineered to integrate seamlessly with the organisation's existing enterprise applications. The system was designed to fetch invoices in XML format from the integrated platforms, convert these documents into JSON format with precision, validate the JSON invoices using emSigner, and then securely transmit the validated data through the appropriate clearance and portal infrastructure for digital signing and IRN generation.

Company seals used for signing were stored securely in eMudhra's Hardware Security Modules (HSMs). Only hash values of invoices are transmitted to the signing engine — ensuring data integrity without exposing document content externally. Once digitally authenticated, documents are automatically returned to the organisation's ERP system, ready for further processing and archival.

The implementation delivered fortified security: the HSM-based digital signature solution protected the invoicing system against tampering and unauthorised access, ensuring that only authenticated documents entered the processing chain. Operational efficiency was optimised through automated processes that eliminated manual intervention, delivering faster invoice processing times and a significant reduction in errors.

eMudhra's commitment extended beyond solution delivery. From the initial stages of supply and deployment through installation, customisation, and ongoing maintenance, the organisation had a reliable technical partner at every step, ensuring business continuity throughout the integration phase.

RESULTS

The HSM-based digital signature deployment transformed the organisation's invoice authentication process, delivering measurable improvements in security, speed, and operational resilience.

METRIC	BEFORE	AFTER
Invoice authentication method	Manual — hardware token or PIN-based signing	Fully automated — API-driven, HSM-backed signing
System integration	Disconnected — manual handoffs between applications	Seamless — emSigner integrated with all ERP platforms
Document integrity assurance	Limited — no automated tamper detection	Full — HSM-backed, tamper-proof signed output
Invoice processing speed	Slow — manual intervention at every stage	Significantly faster — automated end-to-end pipeline
Cryptographic key management	On-premise — CAPEX-intensive	eMudhra-managed HSM — zero internal key infrastructure
Business continuity during integration	Risk of disruption to live operations	Maintained throughout — smooth parallel integration

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.