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Digital India Power To Empower | MeitY Government of India

In focus

MP APMC Digital Ecosystem

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Editorial

For decades, Indian agriculture has sustained the nation, yet the systems that governed it remained largely manual, fragmented, and inaccessible to many of the farmers they were meant to serve. Market yards operated through physical ledgers. Subsidies arrived late or inconsistently. Farmer identities were scattered across disconnected databases. While the world moved forward, the fields often waited.

Today, that is no longer the case.

Across states, a quiet but decisive transformation is taking shape—redefining how the government serves its most essential citizen: the farmer. With the convergence of technology, policy, and intent, India is building a new framework for agricultural governance—one that is transparent, efficient, and inclusive.

Initiatives like FRUITS (Farmer Registration and Unified Beneficiary Information System) have laid the foundation by unifying farmer data into a single digital identity, enabling accurate targeting for schemes, insurance, and subsidies. The PM-KISAN App now ensures timely Direct Benefit Transfers to over 11 crore farmers, while the Soil Health Card Portal helps them make informed crop decisions based on scientific data. eUrvarak further strengthens the ecosystem by bringing real-time transparency to fertiliser supply chains.

Together, these platforms represent a new approach—data-driven, farmer-centric, and built for scale.

A landmark example of this transformation comes from Madhya Pradesh, where the state's APMC ecosystem has been digitally restructured through the coordinated rollout of three integrated platforms: eMANDI, M.P. Farm Gate App, and eANUGYA. These systems enable seamless, role-based, real-time operations—digitising every aspect from gate entry and auction to payment and dispatch.

Farmers now receive price discovery, payment verification, and legal compliance—without needing to leave their village. Traders, too, benefit from audit-ready records and easier compliance. With over 259 APMCs onboarded, Madhya Pradesh has set a precedent for what a digitally empowered mandi system can look like at scale.

At the heart of these changes is the National Informatics Centre (NIC). As the technology partner behind many of India's core governance platforms, NIC continues to play a critical role in designing, implementing, and scaling systems that are responsive to the needs of citizens. In agriculture, NIC's efforts have been particularly impactful—building bridges between government policy and field-level execution through robust, interoperable platforms.

This issue of Informatics brings together several such initiatives—showcasing how digital tools are helping the state and the farmer move forward together. It reflects a broader commitment: that the benefits of Digital India must reach the last mile, including the last row of the last field.

As we prepare for Digital India @2047, it is clear that the future of agriculture lies not just in better harvests, but in better systems. Systems that are transparent, reliable, and capable of delivering services with dignity.

The shift from soil to server is not symbolic—it is strategic. And its success will determine not just the welfare of farmers, but the resilience of our nation.

-Editor-In-Chief

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Shri Abhishek Singh, IAS assumes charges as the New DG, NIC

The blend of his experience in policy making, technology drive, and public services would be advantageous to the premier IT organisation way ahead

▲ Shri Abhishek Singh, Addl. Secretary, MeitY and CEO, India AI Mission assumes charge as the Director General, National Informatics Centre

On April 21, 2025, Shri Abhishek Singh, a senior IAS officer of the 1995 Nagaland cadre, assumed charge as the Director General of the National Informatics Centre. Known for his pioneering work in digital governance, Shri Singh steps in as the 18th Director General at a crucial moment for India's digital ecosystem. He will continue to hold the position of Additional Secretary, MeitY, where he currently leads key portfolios including Artificial Intelligence, Cybersecurity, and Emerging Technologies.

Shri Abhishek Singh's appointment is more than a routine transition—it reflects the Government's commitment to strategic leadership in a rapidly evolving digital landscape. As CEO of the India AI Mission, he is already steering India's ambitions to become a global AI leader. His current role at MeitY also places him at the helm of national initiatives in digital skilling, data governance, and emerging tech policy.

His previous leadership roles include:

- **CEO, Karmayogi Bharat –** launching capacity-building platforms for India's bureaucracy
- **CEO, MyGov –** reshaping citizen engagement through digital platforms
- **CEO, NeGD –** accelerating e-governance at the national level
- **MD, Digital India Corporation –** conceptualizing large-scale digital transformation projects.

These roles have seen him deliver citizen-centric platforms that integrate innovation, transparency, and service delivery at scale.

Shri Singh is not just a digital visionary—his governance experience is deeply grounded in the field. Between 2017 and 2019, he served in the Government of Nagaland as:

- Principal Secretary to the Chief Minister
- Home Commissioner
- Principal Secretary, Urban Development and Personnel & Administrative Reforms.

Earlier, at the Food Corporation of India, he led major reforms in IT and logistics systems, enhancing efficiency across food storage and distribution.

He has also worked with global organizations such as UNICEF, DFID, and WHO, contributing to large-scale public health programmes like the Pulse Polio Eradication Initiative and the Child's Environment Project—underscoring his ability to implement complex, mission-mode initiatives across sectors.

NIC today is more than just a service provider—it is India's digital backbone. It powers over 7,000 government services, maintains critical infrastructure such as cloud platforms, data centres, and secure communication networks, and supports every tier of government from village-level panchayats to central ministries.

Shri Singh's vision for NIC is both strategic and inclusive:

- Enhance cybersecurity preparedness
- Scale cloud-native digital platforms for governance
- Drive adoption of AI and emerging technologies in public service
- Build state-level digital capabilities for last-mile inclusion

As the world watches India's digital growth story unfold, the role of institutions like NIC becomes even more central. With Shri Abhishek Singh at the helm, NIC is set to move beyond its traditional mandate—emerging as a hub for innovation, resilience, and citizen-first governance.

His leadership blends grassroots understanding with global insight, ensuring NIC continues to evolve as a strategic institution powering a digital, transparent, and inclusive India.

सत्यमेव जयते
Government of India
Ministry of Electronics
& Information Technology
National Informatics Centre

Abhishek Singh, IAS
Director General

Dear Readers,

India's digital journey is one of the most inspiring stories of our time—a story shaped by scale, speed, and above all, inclusion. NIC has played a foundational role in delivering over 2000 digital services across sectors like education, healthcare, and agriculture. But the next leap is more transformative—and Artificial Intelligence would take a centre stage.

AI has the potential not just to improve efficiency, but to truly democratize access—by making services available in mother tongues, by enabling voice-based interfaces, and by understanding the context of the user, not just the language.

Today, 900 million Indians are online. But we must not forget the 500 million who are not yet able to access the benefits of Digital India—not because they are unwilling, but because the platforms are still too complex, the apps too heavy, the language too unfamiliar.

Inclusion means more than connectivity. It means ensuring access to the right device, the right interface, and the right content—delivered in the right way.

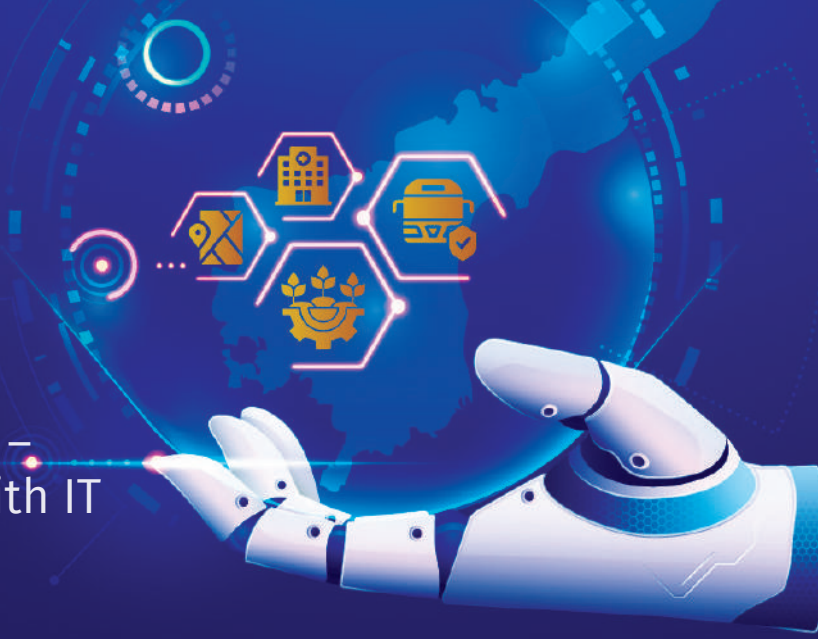
That's where voice tech, AI, and language models come in. A farmer should be able to ask about crop insurance in her dialect. A parent should be able to access health records with a simple voice command. A teacher in a remote village should be able to download learning content without worrying about storage or bandwidth.

As we move forward, let's build digital systems that understand not just what users say—but what they need. Let's go beyond automation and build digital solutions that reflect India's cultural fabric.

The future of governance is inclusive, intelligent, and deeply rooted in India's diversity—and with AI, that future is within reach.

Let's build it together.

Warm regards,
Abhishek Singh



Andhra Pradesh

Empowering through Innovation – Driving Digital Transformation with IT

Edited by **NISSY GEORGE**

Andhra Pradesh, the 7th largest and 10th most populous state of India, is known for its rich cultural heritage, spiritual hubs, agricultural backbone, and a rapidly evolving technology landscape. Located in the southern part of the country, the state has emerged as a vibrant ground for digital governance.

NIC's journey in Andhra Pradesh began in the mid-1980s from Hyderabad. Following the 2014 bifurcation, the NIC State Centre was formally established in Vijayawada in 2017 under an MoU with the Government of Andhra Pradesh. Since then, NIC Andhra Pradesh has been instrumental in fostering robust digital infrastructure, promoting widespread e-Governance, and enabling data-driven governance across the state.

The State Centre supports key administrative offices, including the Secretariat at Velagapudi, all 13 District Collectorates, the High Court, and critical departments such as Revenue, Registration, Agriculture, Survey, Education, Health, Rural Development, Transport, Civil Supplies, Customs, and IVFRT.

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NIC Andhra Pradesh plays a pivotal role in delivering cutting-edge ICT solutions to the citizens' doorsteps by harnessing emerging technologies. As the technological backbone of the state, the NIC AP State Centre seamlessly integrates advanced digital tools across government departments—driving efficiency, transparency, and accessibility in governance. From pioneering initiatives like WhatsApp Governance and the State Data Lake to developing AI-driven platforms and the Property Chain system, NIC AP continues to empower the Andhra Pradesh Government in making public services more citizen-centric, scalable, and inclusive.

NIC AP has led the implementation of several flagship e-Governance solutions such as: Land Records Management System, CARD (Computer-Aided Administration of Registration Department), Bhunaksha, D-Krishi, e-Panta, Vahan & Sarathi, eHospital, eOffice, ePension, Medhas, eDoctor, eCounselling, ePDS, eCabinet, AEBAS, AYUSH Drug Licensing and Doctor Registration System, among others.

Through NICNET, NIC AP ensures secure, high-speed connectivity across the state. NICNET and the National Knowledge Network (NKN) provide seamless network access to government departments and connect seven research and academic institutions, including the State Data Centre. All 13 district offices are linked via 100 Mbps leased circuits in a triangular topology, backed by a 1 Gbps link to the Integrated Network Operations Centre (INOC) with 10 Gbps uplinks—ensuring uninterrupted, secure digital operations across Andhra Pradesh.

ICT Initiatives in the State

NIC AP has been a pioneer in implementing innovative ICT solutions that enhance governance and simplify access to public services for citizens. Some of the key initiatives that have transformed governance in the Andhra Pradesh State include:

WEBLAND

https://webland.ap.gov.in

NIC AP has been instrumental in designing and managing WEBLAND, a secure, workflow-based system for land record management, operational for over two decades. The Webland 1.0 portal introduced a secure, role-based, and workflow-driven digital ecosystem for managing land records, enhancing transparency and service delivery. Integrated with key modules such as: MeeBhoomi, Online Case Management System (ORCMS), Loan Charge Module, and Crop Cultivation Rights Card (CCRC), they enable seamless handling of services like mutations, corrections to ROR/Adangal, and generation of key land documents by designated revenue officials including Tahsildars, RDOs, SDMs, and JCs. Every transaction—by officials or citizens—is logged and auditable.

Key Features

- Online updates of village, pattadar, and land-holding details
- Generation of Adangal and ROR documents
- Biometric-authenticated digital signatures by officials
- Integrated mutation processing via Meeseva and SRO

- Unique Khata numbers for private and government lands
- Coverage of Government, Endowment, and Forest lands
- Land conversion module for agricultural-to-non-agricultural use
- Issuance of e-Pattadar Passbooks

WEBLAND streamlines land governance, bringing efficiency, accountability, and transparency to the doorstep of every landholder.

WEBLAND 2.0

The Government of Andhra Pradesh, with support from NIC, is undertaking a state-wide resurvey of all land parcels, assigning each a Unique Land Parcel Number (LPM). Once verified, these LPMs are integrated into WEBLAND, which acts as the single source of truth for departments including:

- Grama Sachivalayam (GSWS)
- Banks (loan processing)
- Agriculture, Crop Insurance
- Forest, Civil Supplies, AgriStack
- Revenue, Registration, and Survey

Auto-Mutation

To eliminate delays, auto-mutation has been introduced. Upon completion of land registration, mutation is triggered instantly—transferring ownership in seconds without manual intervention, ensuring speed, accuracy, and transparency.

Property Chain

Property Chain, powered by Blockchain Technology, securely records property transactions across stakeholders. The process includes:

- Blockchain ID creation by Survey & Revenue
- LPM-based records pushed to Blockchain CoE server
- Blockchain records integrated with WEBLAND
- Append-only update of ROR fields for tamper-proof history

All transactions are distributed and synchronized, making unauthorized changes virtually impossible.

CCRC

The CCRC (Crop Cultivator Rights Card) empowers tenant farmers by formally recognizing their cultivation rights. It enables access to:

- Subsidized seeds and manure
- Crop insurance
- Compensation for calamity-induced losses

AgriStack

In line with Government of India's digital agri-mission, AP has generated 3.27 crore Farm IDs from land records, integrated with the Central Project Monitoring Unit (CPMU) to streamline scheme delivery and farmer identification.

ORCMS

ORCMS (Online Revenue Court Management System) handles land-related disputes such as encroachments, PTOs, and ROR Act cases. Features include:

- Online filing
- Notice and order generation
- Hearing details with SMS alerts
- End-to-end case tracking

WEBLAND 2.0 positions Andhra Pradesh at the forefront of digital land governance—secure, citizen-centric, and future-ready.

D-Krishi

https://eseed.ap.gov.in/eseednew

D-Krishi is Andhra Pradesh's unified, Aadhaar-enabled platform for subsidized seed distribution, ensuring that only genuine farmers receive their entitled quantity in a transparent, technology-driven manner. Launched in 2017, the system replaces the earlier manual, error-prone process that was vulnerable to middlemen, bogus passbooks, and stock misuse.

The system operates through a web and mobile application, enabling village-level implementation and real-time monitoring. Farmers authenticate using OTP or biometric verification, while land details and eligibility are fetched automatically via integration with Webland, GSWS, CCRC, and e-Crop databases. Stock data is updated in real time, ensuring proper planning, tracking, and utilization of government subsidies.

Key Features

- OTP-based Aadhaar authentication with digital record-keeping
- Accessible via 11,000+ Rythu Seva Kendras across 26 districts
- Eliminates misuse and enables proactive planning
- Consolidates landholding data across the district
- Ensures direct benefit transfer for seeds and micronutrients
- Support for 59 crop varieties and 4 micronutrients at subsidized rates
- Works even with 2G/3G connectivity in rural areas
- OTP, biometric fallback, and restricted multiple transactions

Impact

Since 2017, over 20 lakh farmers have received hassle-free access to subsidized seeds every season.

- Bogus passbooks and double benefits eliminated
- Middlemen removed; queues vanished
- Seamless, farmer-friendly experience
- Extensive media and public appreciation

Highlights

- Integrated with core databases for eligibility verification
- Digital utilization certificates and MIS reports for governance
- Complaint resolution via social media
- Ensures optimal use of government subsidy expenditure

D-Krishi stands as a model for smart, secure, and inclusive agri-governance, delivering the right inputs to the right farmers at the right time.

NIC Andhra Pradesh has been instrumental in transforming digital governance across Andhra Pradesh in contributing G2G, G2E and G2C services under realm of e-governance.

NIC Andhra Pradesh has played a pivoted role in the flagship programs of GoAP namely Office automation, Land Records, Registration, Survey, Agriculture, Transport, Food and Civil Supplies, Education, Health, Election and other sectors

Through their applications i.e. eOffice, AEBAS, WebLand, CARD, Bhunaksha,e-Panta, D-Krishi, Vahan, Sarathi , RCMS, e-Counseling, e-Hospital, PPMS, and other.

NIC District Centres are playing diverse roles right from executing various projects under e-governance and Digital India initiatives and their contributions in General Elections work are commendable.

I convey my heartfelt greetings to the entire team at NIC Andhra Pradesh for their hard work, dedication and look forward to our continued journey towards keeping pace with technological advances. The extended support of network infrastructure and connectivity provided by NIC across the state has brought about a transformative shift in the ICT landscape of Andhra Pradesh.

K.Vijayanand, IAS
Chief Secretary
Government of Andhra Pradesh

e-Panta

https://karshak.ap.gov.in/ecrop/

The e-Panta system is a comprehensive digital crop booking platform developed by NIC AP for the Department of Agriculture to address the long-standing challenge of inaccurate crop data and beneficiary identification in farmer welfare schemes. It captures real-time sowing information across Agriculture, Horticulture, and Sericulture for the Kharif, Rabi, and Summer seasons—becoming the single source of truth for planning, verification, and benefit delivery.

Crop booking is conducted jointly by the Agriculture and Revenue Departments, with data sourced from Webland, RoFR, and CCRC databases. The platform recognizes a wide range of cultivators—including owners, tenants, CCRC-certified farmers, and those cultivating under informal or undocumented arrangements.

NIC, Andhra Pradesh has been playing a pivotal role in the design, development, and implementation of the Land Records Management System (WEBLAND) for more than two decades. The WEBLAND 1.0 portal provided land management through a role-based workflow and a secure environment for maintaining land records, with key modules such as MeeBhoomi, the Online Case Management System (ORCMS), the Loan Charge Module, and the Crop Cultivation Rights Card (CCRC)—all offering seamless, transparent, and efficient citizen services.

Presently, under WEBLAND 2.0, NIC-AP has implemented Auto-Mutation of land records after the registration process, dynamically through online. All the services based on the Land Parcel Map (LPM) based data of the ReSurvey is also being maintained. A Proof of Concept for the Property Chain - the first of its kind in India has been developed, integrating workflows of the Survey, Revenue, and Registration Departments to maintain the Single Source of Truth (SSOT), with support from the Centre of Excellence in Blockchain Technology, NIC, Bangalore.

The Government has decided to implement the Property Chain very soon. NIC-AP is expected to successfully complete this initiative, leveraging emerging technologies for the benefit of the citizens of Andhra Pradesh.

G. Jaya Lakshmi, IAS
Special Chief Secretary
Revenue & Registration, GoAP

System Features

- Web, Services, and Mobile App ecosystem
- Geo-referenced crop booking with e-KYC (Biometric/OTP/Facial Authentication)
- Prevents duplicate bookings on the same land parcel
- Supports single, inter, and mixed crops across all land types
- Real-time SMS alerts and digital certificates to farmers
- VAA/VRO authentication for field-level validation
- Supervisory checks and random booking ID assignments for transparency
- Social audits by villagers to ensure accountability
- Automated PMFBY registration for crops
- Integration with procurement, insurance, and subsidy platforms for:
- Input subsidies
- Crop damage compensation
- Insurance verification and settlement

Impact

- 100% crop coverage across 1.5 crore acres in Andhra Pradesh
- Inclusion of all owners, cultivators, and tenant farmers, across all crop types
- Beneficial for planning and operations of multiple departments—Agriculture, Horticulture, Sericulture, Social Forestry, Civil Supplies, Irrigation, Markfed, Seed Corporations, and more
- Geo-fenced booking across all revenue villages
- Physical and digital acknowledgements issued to every farmer

e-Panta ensures accurate, tamper-proof, and farmer-centric data management—powering efficient governance, timely welfare delivery, and data-driven agricultural planning across Andhra Pradesh.

e-Hospital

https://nextgen.ehospital.gov.in

The NextGen eHospital platform, offered under a SaaS model, provides a comprehensive suite of cloud-based modules to streamline hospital operations across OPD, IPD, diagnostics, billing, inventory, and administration. Key modules include Patient Registration, Lab & Radiology Information Systems, Appointment, Ambulance, OT, MRD, Dietary, Store, Feedback, and more. The integrated e-BloodBank manages end-to-end blood services, while ORS (Online Registration System) allows citizens to book appointments online.

Andhra Pradesh launched the eHospital project on January 6, 2022, beginning with 54 hospitals. Out of 279 hospitals, 278 hospitals migrated to NextGen and remaining 1 hospital will migrate soon in June 2025.

Recognition

Andhra Pradesh has been recognized as the top integrator in the country for on boarding the highest number of government health facilities to the eHospital platform.

AYUSH Portal

https://ayush.ap.gov.in

The AYUSH Portal, launched by the Government of Andhra Pradesh, is a unified digital platform for managing the licensing and regulation of traditional medical systems—Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy. Developed with support from NIC, the portal offers end-to-end digital services including online registration, application submission, document upload, fee payment, inspections, and issuance of digitally signed licenses.

Key Benefits

- End-to-End Online Processing – Fully digital, eliminating manual visits and delays
- Transparency & Accountability – Every step is trackable with defined responsibilities
- Faster Service Delivery – Automated workflows speed up inspections and approvals
- User Empowerment – Real-time application tracking and timely status updates
- Support for AYUSH Growth – Enables structured expansion of traditional medicine system

e-Doctor

https://online.apmc.ap.gov.in

Launched on 01 March 2020, the e-Doctor portal—developed by NIC AP for the Andhra Pradesh Medical Council (APMC)—offers a fully digital, transparent, and efficient system for the registration and certification of medical professionals.

Key Services

- Provisional & Final Medical Registration
- Renewal & Re-Registration
- Additional Qualification Entry
- No Objection & Good Standing Certificates
- CME Certificates
- Tatkal & Non-Tatkal Modes with Slot Booking

Achievements

- 24,000+ doctors registered
- Integrated secure payment gateway and QR code validation
- Supports digital signatures, SMS alerts, and document chaining
- Significantly reduced paperwork and processing time
- Ensured data accuracy, compliance, and ease of access

ePDS

https://epds1.ap.gov.in/epdsAP/epds

The ePDS platform ensures food security and efficient ration distribution in Andhra Pradesh through end-to-end digital integration of ration card management, supply chain automation, and fair price shop operations, in line with the National Food Security Act, 2013. It also supports Minimum Support Price (MSP) for farmers, price stabilization, and grievance reduction.

Developed by NIC AP, the portal facilitates issuance, modification, and management of ration cards and beneficiary data, while enabling real-time monitoring of Supply Chain Management (SCM).

- Stage-I Transport: FCI godowns/Sugar Factories → Mandal Level Stock Points (MLS)
- Stage-II Transport: MLS Points → Fair Price Shops
- SCM is tracked through: https://scm.ap.gov.in/Home_SCM
- The state has 439 MLS Points, with 29 managed by GCC and the rest by AP Civil Supplies Corporation Website: https://civilsupplies.ap.gov.in

The ePDS-RCMS and distribution data are also integrated with the central IMPDS platform via APIs for national-level tracking. Additionally, the Deepam LPG Cylinder distribution is managed digitally via: https://epds2.ap.gov.in/lpgDeepam/

▲ Fig 2.1 : e-Cabinet application was launched by Hon'ble Chief Minister of Andhra Pradesh

epds/publicepdsDashBoard.epds

ePDS Andhra Pradesh ensures transparent, accountable, and citizen-centric food delivery across the state—right from procurement to doorstep delivery.

Bhunaksha

https://bhunaksha.ap.gov.in/bhunakshalpm

The Bhunaksha software, developed by NIC using open-source tools, supports the re-survey of agricultural lands in Andhra Pradesh. It enables generation of ULPINs, land parcel maps, and online subdivisions post-resurvey.

- **ULPIN (Unique Land Parcel Identification Number):** A geo-referenced ID based on cadastral maps, offering integrated land services to citizens and departments.
- **LPM (Land Parcel Mapping):** Defines boundaries, ownership, and geographic attributes of land parcels to improve land administration, reduce disputes, and support investment decisions.

Status (as of now):

- Total Villages: 17,597
- Resurvey Completed: 7,015 Villages
- ULPINs & LPMs Generated: 84,82,015
- Online Subdivisions Done: 1,91,067

Mobile App for Resurvey Operations

An Android-based app developed by NIC AP supports real-time data entry, attendance logging, inspection tracking, and survey progress monitoring during resurvey activities at village and mandal levels. A companion web app enables block allocation, SMS alerts to farmers, and customized reports for administrative use.

PENMAN

Designed by NIC AP for the Principal Accountant General (PAG) office, PENMAN (Pension Management System) is a web-based platform that streamlines pension workflows for All India Services, Judicial Services, and State Government employees. It ensures transparency, efficiency, and end-to-end digital processing for stakeholders including the Finance Department, Treasuries, Government Offices, and the AG Office.

Key Features

- Employee data is sent electronically to the AG Office, registered, verified, and authorized through a role-based workflow. The system generates an ePPO (Electronic Pension Payment Order), which is sent directly to treasuries

▼ Fig 2.2 : Website Inaugurated by Shri Satya Kumar Yadav, Hon'ble Minister of Health, Family Welfare and Medical Education, Govt. of A.P.

- PENMAN is integrated with the Document Management System (DMS) via APIs, linking current data with legacy records—eliminating the need for redundant scanning and saving time and storage costs
- All ePPOs are secured using digital signatures to ensure authenticity and legal validity
- Implemented with the Centre of Excellence in Blockchain Technology (NIC, Bangalore), the system secures ePPOs using blockchain, ensuring tamper-proof document integrity. Production rollout is underway
- Users can register for SMS notifications for real-time updates on pension processing

Impact

The implementation of PENMAN has significantly accelerated pension processing, reducing authorization time from the earlier 30–45 days to just 7–10 working days. This has not only improved service delivery but also minimized administrative delays. By digitizing the entire pension workflow, PENMAN promotes a paperless, efficient, and eco-friendly office environment, reducing manual errors and enhancing overall governance. It stands as a model of modern, transparent, and citizen-centric pension management in Andhra Pradesh.

e-Cabinet

https://ecabinet.ap.gov.in

e-Cabinet is a secure, web-based platform designed to enable paperless cabinet meetings for the Government of Andhra Pradesh. It streamlines agenda management, document uploads, meeting coordination, and information retrieval—reducing paperwork while enhancing efficiency and confidentiality.

The application includes modules for Ministers, the CM Office, Meeting Day Management, and a Waiting Lounge for Secretaries. It is fully customized to meet AP's administrative needs.

Andhra Pradesh conducted its first paperless cabinet meeting in August 2024, and since then, over 25 meetings have been successfully held through the platform. NIC AP trained all OSDs/PS to ministers to ensure smooth adoption and usage.

House of Parliament & AP State Assembly Elections 2024

NIC Andhra Pradesh provided end-to-end technical and logistical support to the Election Commission and State Government for the smooth conduct of the 2024 General Elections in the state. Services included robust ICT infrastructure and custom-built software solutions to ensure a transparent, efficient, and secure electoral process. NIC AP developed and deployed PPMS (Polling Personnel Management System) and CPMS (Counting Personnel Management System) using ASP.NET and SQL Server, facilitating randomized deployment of polling and counting staff. Technical assistance was also extended for ERONET, Poll Day Monitoring, and other election-related applications.

At the request of the Chief Electoral Officer,

The adoption of VAHAN and SARATHI, developed by NIC, has transformed the delivery of RTA services in Andhra Pradesh. These digital platforms have enabled efficient, transparent, and citizen-friendly services, accessible anytime and anywhere.

Through VAHAN, the state effectively manages a vast database of over 1.8 crore vehicle records, covering registration, tax payments, fitness, and permits. The integration of a secure online payment gateway has facilitated fully digital, cashless transactions for citizens.

SARATHI has simplified all driving license-related services, including application, renewal, and slot booking, ensuring minimal need for physical visits.

The e-Challan system, integrated with ANPR cameras and mobile enforcement tools, has strengthened road safety and compliance.

While the platforms offer a robust framework with a wide range of modules, a few challenges persist. Manpower constraints, limited ownership in issue resolution, rigid process flows, and data migration inconsistencies occasionally affect seamless service delivery. Addressing these gaps with greater flexibility, timely support, and a collaborative spirit will further enhance the system's effectiveness.

These platforms support Andhra Pradesh's vision of "contactless, paperless, and faceless" governance, and we look forward to continued collaboration with NIC to improve further and enrich RTA services for the people of the state.

Manish Kumar Sinha, IPS
Transport Commissioner
Government of Andhra Pradesh

NIC teams incorporated real-time feature enhancements and district-level customizations starting January 2024. A dedicated team from the State Unit and District NIC offices played a pivotal role in the successful execution of the simultaneous Parliamentary and State Assembly elections.

CARD

https://ainibhrit-card.ap.gov.in

CARD (Computer-Aided Administration of Registration Department) is a flagship e-Governance initiative by the Government of Andhra Pradesh, aimed at fully digitizing the land registration process. Launched in 1996 and expanded statewide by 2003, CARD replaced time-consuming manual procedures with an electronic registration system—streamlining property valuation, stamp duty assessment, document handling, and title verification.

To enhance document privacy, AI–Nibhrit has been developed as an AI-driven solution that intelligently masks personal identifiers such as Aadhaar numbers, PAN numbers, and biometric data (e.g., fingerprints) in Certified Copies (CCs) of land records. This ensures secure sharing, protects against identity theft, and aligns with data protection norms.

Key Innovations

- AI Algorithms trained to detect and mask sensitive information
- Hybrid Access Models for SROs and citizens—manual and auto modes
- End-to-End Digital Workflow for CC request, approval, and delivery
- Secure PDF Handling to prevent data leaks post-masking
- Scalable Engine capable of processing high CC volumes daily

The application is ready for launch following final review by the Commissioner, IGRS—marking a key step toward privacy-first digital governance in land registration.

SIC Portal

https://sic.ap.gov.in

The SIC RTIMIS (State Information Commissions Right to Information Management Information System) is a digital platform developed to manage the complete lifecycle of RTI applications under the RTI Act, 2005. It enables efficient filing, tracking, and resolution of RTI requests across Public Authorities (PAs), promoting transparency and accountability in governance.

Built on a multi-tier architecture, RTIMIS includes a User Interface Layer for citizens, Nodal Officers, and PIOs; an Application Layer for managing workflows and alerts; and a Database Layer for securely storing requests, roles, and logs.

Key Features

- Online Filing & Tracking of RTI applications
- SMS/Email Alerts for pending actions
- Role-based Access for Citizens, Nodal Officers, PIOs, and Appellate Authorities
- Real-time MIS Dashboards for monitoring performance and pendency
- Digital Audit Trail for every action taken on a request

The SIC Department Portal also provides citizens access to RTI Act information, cause lists, and Commissioner decisions. The RTIMIS application is finalized and will be launched soon after departmental approval—paving the way for a transparent, responsive, and citizen-centric RTI ecosystem in Andhra Pradesh.

e-Transport

https://sarathi.parivahan.gov.in
https://vahan.parivahan.gov.in

Andhra Pradesh has made significant strides in digitalizing transport services through the SARATHI and VAHAN platforms, enabling faceless, paperless, and contactless service delivery across the state.

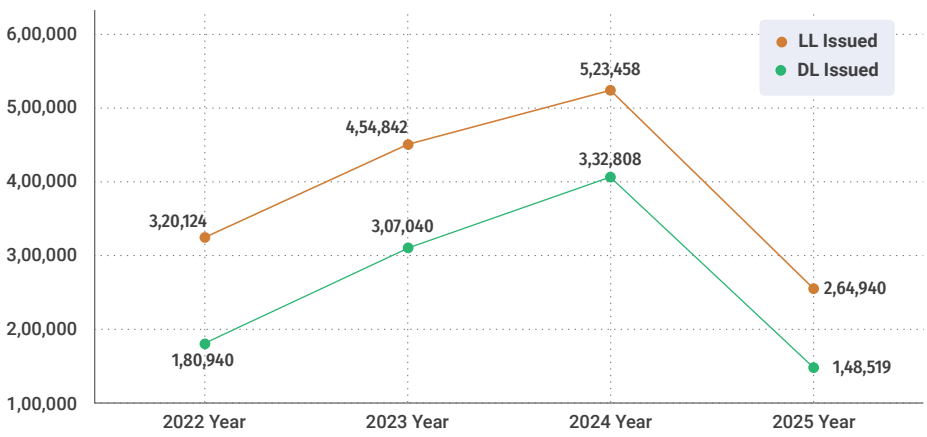
SARATHI Highlights

- 53 services upgraded to completely faceless, ensuring zero office visits
- Migrated all transport services across 83 offices (Jan 2022–Dec 2023)
- 10 Automated Driving Test Tracks operational
- Issued 15.13 lakh Learner's Licenses and 9.64 lakh Driving Licenses, generating ₹220 crore in revenue

VAHAN Highlights

- 57 services made faceless and ready by June 2024
- New Non-Transport Registrations and Fancy Number Auctions launched in April 2022
- Statewide rollout completed by December 2024
- 12 Automated Fitness Management Systems (AFMS) functional
- Integrated VAHAN with e-Pragathi until full migration in Dec 2024

▼ Fig 2.3 **Year wise statistics on LL and DL issued in Andhra Pradesh**



- Total revenue generated: ₹8,396 crore

eChallan

- eChallan system implemented for Transport and Police Departments
- Payments enabled via Meeseva, APOnline, and Sachivalaya Centres
- Integrated 1,640 CCTV cameras and 26 speed guns with the Integrated Traffic Management System (ITMS) for automated challan generation
- e-Transport in Andhra Pradesh stands as a model for next-gen, citizen-centric governance, combining digital efficiency with real-time enforcement and transparency.

Other Initiatives in the State

eOffice

https://eoffice.ap.gov.in

eOffice is a paperless digital platform that streamlines file workflows in government offices, enhancing transparency, efficiency, and accountability. It integrates modules like eFile, Knowledge Management, and MIS dashboards for seamless governance.

The platform is operational across the Andhra Pradesh Secretariat, State Departments, Raj Bhawan, Police Headquarters, and all 26 districts, with over 1.2 lakh users—among the largest eOffice deployments in India.

The Secretariat instance and 18 district instances are upgraded to latest version 7.3.13, with regular training programs conducted for departments and districts to ensure smooth adoption.

eOffice is a key pillar in Andhra Pradesh's journey toward digital-first, responsive administration.

e-Counselling

https://polycetap.nic.in

e-Counselling, developed by NIC AP, is an end-to-end digital platform designed to streamline admissions into Polytechnic and D-Pharmacy diploma courses across the state. Built with a student-first approach, it ensures transparency, efficiency, and ease of access through robust ICT infrastructure and intuitive user interfaces.

NIC-AP extended full technical support to the State Board of Technical Education and Training (SBTET) for smooth conduct of POLYCET-from online registration and payment to hall ticket generation, rank cards, and allotment.

System Highlights

Student Portal

A one-stop solution for:

- Registration & Application Submission
- Online Payment Integration
- Option Entry & Allotment Orders
- Self-Joining Report and Final Confirmation

Department Portal

Enables complete operational control through:

- **Admin Module –** System setup, access, and process flow
- **Helpline Centre Module –** Document verification and student support
- **College Module –** Seat data updates, student verification, admission status
- **Verification Module –** Ensures authenticity of submitted documents

▲ Fig 2.4 e-Counselling year wise statistics

APDPHARMACY e-Counselling

A parallel platform for Diploma in Pharmacy admissions, mirroring the same modular structure for smooth processing, institutional coordination, and real-time student engagement.

Spot Admission Phase

After regular counselling, colleges conduct spot admissions to fill vacant seats on a first-come, first-served basis. Colleges upload details and process bulk fee payments to DTE, with system-generated reports maintaining full transparency and accountability.

Key Benefits

- **End-to-End Digitization:** From registration to final admission—fully paperless
- **Student-Centric Design:** Real-time updates, flexible options, and simplified access
- **Administrative Efficiency:** Well-structured modules for departments and colleges
- **Transparency & Accountability:** Every allotment and transaction is traceable

e-Counselling redefines the admission experience in Andhra Pradesh-digital, dependable, and designed for the future.

AEBAS

https://nicap.attendance.gov.in

AEBAS eliminates manual attendance processes through Aadhaar-enabled biometric authentication, improving accuracy, accountability, and ease of use across government offices in Andhra Pradesh.

Key Highlights

- Migrated from L0 to L1 fingerprint devices as per UIDAI guidelines
- Ongoing integration of autonomous bodies under a unified state-level portal
- AIIMS Mangalagiri launched AEBAS on April 5, 2025, calling it a major step in tech-driven governance

AEBAS is also operational at NIC AP State Centre, all District and Sub-Centres, AP Secretariat, High Court, IVFRT Visakhapatnam, and Customs Visakhapatnam, covering NIC officers and NICSI outsourced staff via desktop and mobile facial recognition apps.

S3WaaS

In Andhra Pradesh, the State Portal and 26 District Portals are hosted on the S3WaaS platform. These portals have been live and operational since 2023, featuring the latest Content Management System (CMS) capabilities along with secure and audit-compliant architecture.

Content updates are coordinated by the respective District DIOs, under the ownership and supervision of the District Collectors.

GeM

NIC AP actively uses the GeM (Government e-Marketplace) portal for transparent and efficient procurement of goods and services.

Jeevan Pramaan

https://jeevanpramaan.gov.in

Implemented across 196 Sub-Treasury Offices and key power departments (APSPDCL, APEPDCL, APGENCO, APTRANSCO), Jeevan Pramaan enables digital submission of life certificates by pensioners under the Digital India initiative.

IVFRT

IVFRT MMP: Immigration, Visa and Foreigners Registration & Tracking Mission Mode Project (IVFRT MMP) of Ministry of Home Affairs is a secure and integrated system that facilitate legitimate travelers while strengthening national security. Various modules of IVFRT Project have been successfully implemented at Immigration Check Posts, FRO offices, State Home Department at A.P Secretariat, A.P Intelligence Department and Subsidiary Intelligence Bureau, Vijayawada. The project has been implemented successfully at the Immigration Check Posts at Visakhapatnam, Vijayawada & Tirupati Airports and Visakhapatnam, Kakinada and Krishnapatnam Seaports for providing immigration services by

setting up of ICT infrastructure and providing day to day support and eFRRO system at Foreigner's Registration Offices in all districts in Andhra Pradesh and providing services to foreigners for registration, visa and other services. In addition to eFRRO system various modules like Prior Reference Check (PRC), Pak Tracking System, C-Form, S-Form, Sri Kartarpur Sahib Module, Look Out Circular Module are implemented at the SP & FRO offices and recently District Police Module, , Foreigner's Identification Portal are implemented for tracking the illegal immigrants and over staying foreigners in Andhra Pradesh.

ICPS

ICPS (Indian Citizenship Processing System) has replaced manual procedures in Andhra Pradesh. Implemented in collectorates, SP offices, and the Home Department, it facilitates citizenship applications through birth, descent, registration, or naturalization.

NDAL-ALIS

Implemented across district collectorates and police commissionerates, the NDAL-ALIS portal provides secure, centralized issuance of arms licenses through the National Database of Arms Licenses.

ITI Admissions Portal

NIC AP's ITI application manages the complete admission life cycle for over 500 government and private ITIs. Modules include application processing, merit list generation, seat allotment, and admission slip issuance. Each year, over 50,000 students are admitted through this transparent, online system.

Here is a crisp, structured, and professionally edited version in Hemen's style, ensuring clarity and flow across all sections:

APBOCWWB

The APBOCWWB (AP Building and Other Construction Workers Welfare Board) application enables the issuance of Labour Cards to construction and building workers. Integrated with NREGA and e-SHRAM, the system fetches authenticated worker data to streamline registration and benefits distribution.

APDCA

The Andhra Pradesh Drug Control Administration (APDCA) application handles end-to-end processing of Drug Firm Licenses, Renewals, and Amendments. In 2024 alone, 4,970 licenses were issued, 4,565 renewed, and 7,165 amended. Modules include Query handling, Inspections, Pharmacist Registration, Payments, with Email notifications and Digital Signature integration for secure and transparent operations.

UBD

The UBD (Unified Births and Deaths) web application is successfully implemented in all ULBs and RLBs, enabling real-time, standardized registration of births and deaths across the state.

NREGA

NIC AP led the successful migration from the TCS-developed RAGASOFT to the Government of India's NREGA platform in 2022, ensuring compliance and continuity in MGNREGS operations across the state.

High Court of Andhra Pradesh – Official Website

https://aphc.gov.in

Developed by NIC AP, the official portal provides access to cause lists, judge profiles, notifications, e-filing, and judicial manuals—serving both legal professionals and the general public as a one-stop legal information hub.

Online Certified Document Application – High Court of AP

https://digi-apply.aphc.ap.gov.in/ecdapply/login.php

The Online Certified Document (CD) Application allows users to apply for digitally signed certified copies of court orders and judgments. With integrated payment gateway, users receive access credentials via SMS once verification and digital signing are complete.

WaterSoft

https://rwss.ap.nic.in

WaterSoft is a state-wide web-based MIS launched in 2009 for the Department of Rural Water Supply and Sanitation (RWSS). It integrates all offices and labs, offering modules for planning, monitoring, and decision-making. New modules are continuously added to meet departmental needs with enhanced transparency and accountability.

Drinking Water Transportation & Monitoring App

NIC AP has developed two Android apps for RWSS:

- **Water Tanker Movement App –** Tracks real-time movement of tankers
- **Monitoring App –** Enables field staff to inspect and verify water delivery

These apps ensure timely, accountable water delivery to rural habitations, with SMS alerts for trip monitoring. NIC AP received the elets National Water Innovation Summit 2020 award for this product under Efficient Water Transportation & Distribution.

ICT Infrastructure in Andhra Pradesh

NIC AP has built a robust and scalable ICT infrastructure to support the State and Central Government's digital initiatives. This backbone enables seamless communication, data exchange, and citizen service delivery, enhancing governance efficiency across departments.

NIC LAN

NIC Andhra Pradesh has established a comprehensive LAN infrastructure connecting key government office across the state for efficient communication and data exchange, LANs in Vijayawada and Amaravathi serves 500 nodes across the sites like the Secretariat, Departments and NIC Centres. Network extended to all 13 districts, encompassing over 500 nodes. All LANs are connected with 1Gbps bandwidth links with redundancy. All the nodes in the LANs protected with secure systems like centralized End point protection and Antivirus systems. All the NIC LANs and data centre are connected to 1/10Gbps uplinks to state NoC gateway. Departments LANs are connected with 10/34/100Mbps connectivity.

In today's rapidly evolving digital era, reliable, secure, and citizen-centric digital infrastructure forms the backbone of effective governance. The National Informatics Centre (NIC), Andhra Pradesh, has consistently demonstrated excellence in providing technological support that empowers both administration and judiciary alike.

It is commendable that NIC Andhra Pradesh, through its State and District Centres, has extended steadfast technical expertise, ensuring smooth e-Governance initiatives and judicial digitization across the State. Their contribution towards case information systems, e-Courts, and digital documentation has significantly enhanced accessibility, transparency, and efficiency in our justice delivery process.

A notable achievement in this regard is the successful design, development and management of the Online Certified Document (CD) Application system. This initiative has simplified the process for litigants and advocates to obtain digitally signed certified copies of judgments and orders, enhancing convenience, transparency, and accountability. The secure integration of online payments and document delivery reflects NIC's commitment to citizen-friendly innovation.

take this opportunity to appreciate the NIC Andhra Pradesh team for their unwavering commitment and innovation in supporting the High Court and subordinate judiciary. Their role is invaluable in shaping a digitally empowered legal ecosystem for the people of Andhra Pradesh.

Rao Raghunandan Rao
Judge and Chairman
Computer Committee High Court of AP

NICNET & NKN

NIC AP delivers high-speed, secure internet and data centre services through NICNET and NKN.

- NICNET serves government offices statewide, linking all district offices via a triangular, redundant leased-line topology
- NKN connects 7 key research, academic, and government institutions, including the State Data Centre
- Backbone bandwidth includes 1 Gbps connectivity to INOC and 10 Gbps uplinks at the state level for uninterrupted performance

Email & Messaging Services

NIC provides secure, government-grade email and messaging services to over 2 lakh users across departments and PSUs. Services include:

- Disaster recovery, anti-virus/anti-spam protection
- 24/7 technical support for seamless operations

Video Conferencing (VC)

A network of 27 VC studios has been set up across the State Centre, districts, and Secretariat to support official meetings and coordination. NIC AP also extends on-site technical support during high-level VVIP events and provides remote VC facilitation for government departments.

Important Events organized

Judges Dashboard Inaugurated: The Hon'ble Chief Justice of Andhra Pradesh, Sri Justice Dhiraj Singh Thakur, inaugurated the Judges Dashboard developed by NIC AP at the High Court on 08 Jan 2025, in the presence of Hon'ble Judges.

- **Technical Education Website Launched:** Smt. C. Naga Rani, IAS, Director of Technical Education, launched the department's new website on 03 July 2023, developed by the eCounselling Team, NIC AP
- **Chairman APMC Lauds NIC:** The Chairman of APMC appreciated NIC AP's work on a recent application, commending its efficiency, user-friendliness, and completeness, and recommended future enhancements
- **ePension (PENMAN) Portal Launch:** Smt. Manjula, PAG, officially launched the ePension portal developed by NIC AP, in the presence of Dr. R.K. Pathak, DDG, NIC HQ
- **Cybersecurity Awareness Initiative:** As part of Safer Internet Day, NIC AP conducted cybersecurity awareness programs. A brochure was released by PB Siddhartha College in the presence of Shri S. Madhusudhana Rao, ASIO (State)
- **National Recognition at ArogyaManthan 2022:** Andhra Pradesh bagged six national-level awards at Arogya Manthan 2022, marking milestones in AB-PMJAY and the Ayushman Bharat Digital Mission
- VVIP VCs like Pragati (Pro-Active Governance and Timely Implementation) VC chaired by honorable Prime minister every month with chief Secretaries and cabinet secretaries.
- NIC AP regularly supporting various events through VCs like Hon'ble President, Cab secretaries, CIC, and other VIP VC like Vikasit Bharat, Rozgar mela and inauguration of central and state projects.

▲ Fig 2.5 : Hon'ble Prime Minister reviewing with Chief Secretaries through PRAGATI VC

Accolades

- Webland Project received the prestigious SKOCH Award 2024 for its transformative contribution to land records management in Andhra Pradesh
- The Chief Electoral Officer, AP commended NIC AP for delivering outstanding technical support during the General Elections 2024, ensuring seamless operations across the state
- The eHospital Project was lauded by Shri G.S. Naveen Kumar, IAS, Special Chief Secretary, Health & Family Welfare, in 2022 for its exceptional performance and user impact across hospitals and staff
- Andhra Pradesh secured six national-level awards at ArogyaManthan 2022, held in New Delhi, commemorating the 4th anniversary of AB-PMJAY and 1st anniversary of Ayushman Bharat Digital Mission
- NIC AP was honoured with the Award of Excellence under Efficient Water Transportation & Distribution for its Drinking Water Transportation App, at the Elets National Water Innovation Summit 2020

▼ Fig 2.6 : Hon'ble Chief Justice of the High Court of Andhra Pradesh, Shri Dhiraj Singh Thakur inaugurating the "Judges Dashboard", in the presence of Hon'ble Judges of the High Court, Andhra Pradesh

Way Forward

NIC AP is at the forefront of delivering cutting-edge ICT solutions, aligning with the visionary leadership and digital aspirations of the Government. Leveraging emerging technologies, the State Centre continues to reimagine governance through innovation, integration, and impact.

A flagship initiative under this vision is Property Chain—India's first-of-its-kind blockchain-based land record system. Developed in collaboration with the Centre of Excellence in Blockchain Technology, Bengaluru and IIT Hyderabad, this project aims to seamlessly integrate the Survey, Revenue, and Registration departments into a unified Single Source of Truth for land records. By using blockchain, it ensures transparency, security, and immutability in land asset management.

Beyond land governance, NIC AP is driving next-gen digital services across G2G, G2E, and G2C domains. These solutions embed Artificial Intelligence (AI), Machine Learning (ML), and Data Analytics to enhance administrative efficiency, optimize public service delivery, and empower citizens through digital inclusion.

Contact for more details

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Haridwar, Uttarakhand

Empowering Governance in the Spiritual Capital of Uttarakhand

Edited by **VINOD KUMAR GARG**

Established in 1998, NIC Haridwar has evolved into a critical pillar of technological support for the district administration. As the primary ICT enabler in the region, NIC Haridwar has consistently played a transformative role in advancing e-Governance, enhancing administrative efficiency, and improving public service delivery.

Strategically located in the sacred city of Haridwar, on the banks of the Ganges, NIC Haridwar has been at the forefront of deploying cutting-edge IT solutions, offering technical consultations, and implementing a broad spectrum of mission-mode e-Governance projects. These include citizen-centric applications, digital platforms for administrative processes, and integrated systems that promote transparency, accountability, and real-time monitoring.

From facilitating digital election management and video conferencing services to spearheading paperless governance through e-Office, the centre is deeply integrated into the digital transformation journey of the district. It serves as both an innovation hub and a reliable execution partner for government departments, ensuring that technology becomes an enabler for inclusive development and better governance.

NIC Haridwar's contributions extend beyond routine ICT support—it plays an active role in planning, developing, and customizing solutions that cater to the unique needs of the district. With a citizen-first approach and a commitment to continuous improvement, NIC Haridwar remains instrumental in bridging the digital divide, empowering administrative systems, and delivering timely, efficient, and transparent services to the people of Haridwar.

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NIC Haridwar drives digital transformation by providing critical ICT support to the district administration. It implements e-Governance initiatives, manages online services and provides digital platforms for public access. This centre plays a crucial role in advancing technology-driven solutions and enhancing the delivery of digital services to citizens.

ICT initiatives in the district

District Website

Developed using the S3WaaS framework, the official district website of Haridwar serves as a centralized information hub for citizens, businesses, and tourists. It provides dynamic content updates on public services, welfare schemes, local governance, and official announcements. The website includes dedicated sections for e-services, RTI applications, tenders, and downloadable forms, making essential resources easily accessible. It also offers comprehensive information on tourist attractions, religious events such as the Kumbh Mela, and logistical support for visitors. With multi-language accessibility and adherence to GIGW, the platform is both inclusive and user-friendly. This initiative significantly enhances digital outreach and helps bridge the communication gap between the district administration and its stakeholders.

e-Office

The deployment of the e-Office suite in over 40 district offices has transformed Haridwar's administration into a paperless, efficient system. It enables faster file movement, better record management, and real-time workflow tracking, enhancing accountability and coordination.

> NIC has played a key role in helping out the digital culture in the district. The consistent efforts show the technical strengths of NIC officials. The role of the District NIC team in the development and maintenance of the District website, support in the General elections to the Loksabha and local bodies is worth mentioning. I appreciate the dedicated efforts of the NIC District Haridwar in making e-Governance initiatives successful in the district.
>
> 
>
> **Mayur Dixit, IAS**
> District Magistrate, Haridwar

Aligned with sustainability goals, e-Office boosts transparency and significantly reduces decision-making time.

AEBAS

NIC Haridwar has implemented the Aadhaar Enabled Biometric Attendance System (AEBAS) in 25 government offices, enabling accurate, tamper-proof attendance tracking through Aadhaar authentication. This has led to improved punctuality, better discipline, and automated reporting for HR and compliance, fostering a culture of accountability and professionalism across departments.

NextGen e-Hospital

The NextGen e-Hospital system at JNSM Government Hospital, Roorkee, marks a significant move toward digital healthcare, with over 1.26 lakh patient registrations. It enables online registration, OPD queue management, and digital tracking of prescriptions, lab reports, and medical history. Integrated with Aadhaar and Health IDs, the platform ensures seamless access and portability of health records, greatly improving the efficiency, accessibility, and quality of public healthcare in the district.

IRAD

The district administration, with support from NIC Haridwar, leverages the IRAD (Integrated Road Accident Database) platform to record and analyze real-time accident data across departments. It generates data-driven insights for identifying hotspots, improving emergency response, and guiding infrastructure planning. Through targeted training and timely reporting, IRAD plays a crucial role in reducing road fatalities and shaping effective, coordinated policy interventions.

▲ Fig 3.2 : Hon'ble PM interacted with farmers of Village Lathedevalhurn through Video Conference

Other initiatives in the District

Elections

NIC Haridwar has played a crucial role in ensuring the smooth conduct of State Assembly, Lok Sabha, and local body elections by providing robust ICT support and implementing key digital solutions. One of the major contributions is the development and deployment of the Election NIC Haridwar has been instrumental in supporting State Assembly, Lok Sabha, and local body elections by deploying essential ICT tools and applications. The Election Polling Personnel Deployment System digitizes staff data and enables the random, transparent assignment of personnel for polling and counting duties. The Poll Day Monitoring System (PDMS), available as both a web portal and mobile app, tracks key election activities in real time—before, during, and after polling—through dedicated dashboards for ROs, DEOs, and CEOs.

To ensure better oversight, the Polling Party Tracking System uses GIS technology to monitor the movement of polling staff, providing live updates to senior officials via customized dashboards. In addition, NIC Haridwar provided on-ground technical support for key ECI applications, including Encore, cVigil, and webcasting, ensuring secure, transparent, and tech-driven election management in the district.

VC Services

The district centre provides VC support for district administration and other departments through the VC studio. Video Conferencing services have been extended to cover the Central Information Commission (CIC). This service facilitates efficient communication, collaboration, decision making and coordination across multiple governmental levels.

▼ Fig 3.1 : DIO and ADIO, NIC Haridwar providing support in running ECI IT applications during election

Events & Workshops

Safer Internet Workshop

A workshop on safer uses of the internet was organised for students, Citizens and Government officials on 11th February'2025. The workshop was organised for online safety, responsible digital behaviour and cyber hygiene practices. It encouraged participants to create a safer and better internet by adopting secure online habits.

Events and VIP Programmes

NIC Haridwar regularly supports state-level events, VIP visits, and live-streaming arrangements. From setting up control rooms to enabling webcasts for public addresses by dignitaries including the Hon'ble Prime Minister and Chief Minister, the centre ensures robust ICT infrastructure and execution. Notable events include:

- VC interaction of the Hon'ble Prime Minister with farmers in Lathedevalhurn village.
- Live streaming of the Nari Shakti Mahotsav, attended by the Hon'ble Chief Minister of Uttarakhand.

Way Forward

NIC Haridwar envisions becoming a leader in digital transformation, bridging the digital divide by empowering every citizen through innovative and accessible e-Governance solutions. It aims to foster a digitally inclusive society where technology drives sustainable development and enhances the quality of life for all.

Contact for more details

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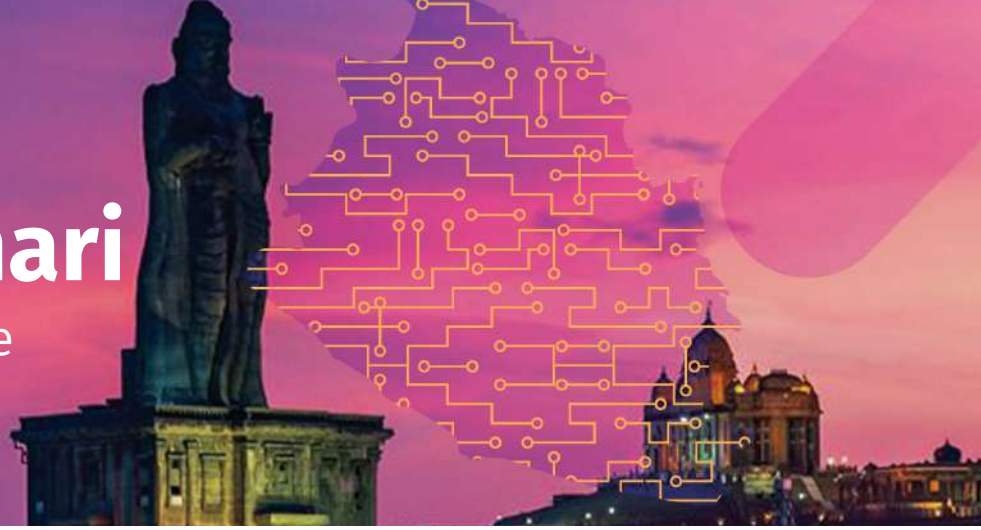
Kanniyakumari

Explorer in e-Governance



Edited by **NISSY GEORGE**

At India's southernmost tip, Kanniyakumari is not just where three seas meet—it's where tradition meets transformation. Since 1989, the NIC District Centre has been the driving force behind the district's digital evolution.

With over 20 major e-Governance initiatives—ranging from land record digitization to real-time dashboards and disaster response systems—NIC has streamlined workflows, enabled data-driven decisions, and ensured 24/7 access to citizen services.

Quietly efficient and deeply integrated, NIC continues to power Kanniyakumari's shift toward faster, smarter, and more transparent governance.

Promoting Tourism through Technology

While Kanniyakumari is celebrated for its breathtaking landscapes and cultural heritage, NIC has played a crucial role in digitally enhancing its appeal as a tourist destination. With a focus on accessibility and user experience, a dedicated tourism section was designed and integrated into the official district website.

Key Features:

- Visually engaging index page of top tourist spots
- Clickable cards with Google Maps, transport info, and photo galleries
- Detailed guides with highlights, bus routes, and travel tips
- Smooth navigation across desktop and mobile devices

This digital initiative empowers both domestic and international tourists to explore Kanniyakumari confidently and plan their trips with ease.

Featured attractions include Thiruvalluvar Statue, Vivekananda Rock Memorial, Padmanabhapuram Palace, Glass Bridge, Vattakottai Fort, Thirparappu Waterfalls, Muttom Beach, Sunset viewpoints, Pechiparai Dam, Mathoor Aqueduct, Suchindram Temple, and Adikesava Perumal Temple

G. A. Shaik Mohamed
Sr. Technical Director & DIO
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Kanniyakumari, where three seas meet, blends natural beauty with digital progress. While renowned for its spiritual landmarks, the district is also emerging as a model of e-Governance. Since 1989, NIC Kanniyakumari has powered 20+ digital initiatives—enhancing public services, tourism access, and administrative efficiency through technology.

ICT Initiatives in the District

The NIC Kanniyakumari District Centre supports a wide range of ICT-based services that directly impact governance, public safety, legal administration, and citizen welfare. Below is a snapshot of key initiatives across domains:

Land Records Management

NIC digitized Agriculture, Natham, and Town Records, enabling citizens to access clean, validated Record of Rights (RoR) via Common Service Centres. Intensive efforts included cleansing physical records, stakeholder training, and backend validation to ensure accurate data migration.

Court Case Monitoring System (CCMS)

All district departments were onboarded onto the CCMS portal. NIC facilitated regular training sessions to streamline legal process tracking and inter-departmental communication.

ICT Support During General Elections

As the nodal agency for ICT operations, NIC managed end-to-end election tech services—Nomination, Permission Modules, FST/SST Monitoring, CVigil, Web Streaming, SMS tracking, Control Room setup, and real-time Result Publication—ensuring smooth digital coordination during elections.

e-Sanad Verification Services

NIC enabled secure, digital attestation and apostille services, benefiting citizens and academic institutions through transparent certificate verification.

Citizenship Portal

The District Administration effectively leveraged the portal for verification and recommendation processes related to citizenship, supported by continuous NIC assistance.

Social Welfare Schemes (OAP Automation)

NIC provided technical support for automating the Old Age Pension (OAP) sanction and disbursement process, ensuring timely benefits through transparent, digital workflows.

Integrated Road Accident Database (iRAD)

More than 100+ training sessions for police and 50+ inter-departmental review meetings were conducted. NIC coordinated onboarding of nodal officers and ensured smooth rollout of this critical data-driven road safety initiative.

Patta Transfer Appeal Management System (PTAMS)

NIC ensured effective use of PTAMS by RDOs and DROs through continuous support and training, enabling transparent and efficient management of patta transfer appeals.

e-Procurement & e-Auction

NIC supported seamless adoption of e-Procurement for Arasu Rubber Corporation

Limited, Nagercoil, and extended training and tech support to ensure transparent procurement and auctioning processes.

Network Services

Video Conferencing

As part of broader digital initiatives, NIC supported the setup of high-speed network infrastructure and video conferencing facilities across key government offices. Around 60 systems were configured and integrated with secure, high-speed connectivity, enabling seamless communication, virtual meetings, and enhanced access to digital services for administrative coordination.

Email & Communication Services

The district team facilitated secure email operations with Two-Factor Authentication (2FA) via the Kavach app, resolving user issues and coordinating with the Chennai email support unit for escalations.

Events & Digital Innovations

Thiruvalluvar Statue Silver Jubilee

In 2025, Kanniyakumari celebrated the 25th anniversary of the Thiruvalluvar Statue, a towering symbol of Tamil pride, culture, and philosophy. NIC Kanniyakumari played a central role in the digital planning and execution of this landmark event—ensuring smooth coordination, real-time communication, and wide public reach through a suite of smart ICT solutions.

Dedicated Event Web Portal

A specialized section was created on the district website featuring:

- Detailed cultural programme schedules
- Dignitary profiles and press releases
- Live streams of major events
- Daily photo and video updates
- Archives of speeches and media coverage

Guest Logistics App – Control Centre Support

NIC developed and deployed a custom mobile application to manage VIP logistics and departmental coordination. Features included:

- Pickup/drop schedules with live tracking
- Department-wise updates from Protocol, Police, and Transport
- Centralized dashboard access by the Collector's Office
- Real-time alerts and communication tools for quick decisions

NIC provided backend configuration, user training, and 24/7 technical support during the entire event window.

Social Media Integration + Online Gallery

To maximize public engagement and digital presence:

- Live feeds from Instagram, Facebook, and X (Twitter) were embedded on the event site
- A dynamic photo gallery was updated daily with high-resolution images of celebrations
- Citizens could relive event highlights through an online archive of visual and media content

By blending cultural pride with digital precision, NIC ensured the Silver Jubilee celebrations were not just memorable—but digitally inclusive and efficiently managed.

NIC also extended ICT support during the Kanniyakumari Book Fair 2025, inaugurated by District Collector Smt. R. Alagumeena, IAS. The event was live-streamed with end-to-end technical assistance from NIC, ensuring smooth digital coverage and wider public outreach.

Accolades

NIC Kanniyakumari's sustained efforts in strengthening e-Governance have been widely acknowledged at the district level. In 2024, the District Centre was honoured with the Independence Day Award by the District Collector for outstanding contributions to digital governance and public service delivery.

▼ **Fig 4.1 : During a hit-and-run case review, the IRAD system was effectively used to generate reports for victim compensation under the 2022 Hit and Run Accident Scheme. It streamlined data collection and report generation, proving its value in real-time case handling.**

In recent years, we have witnessed a remarkable digital transformation where technology has played a pivotal role in enhancing citizen engagement and streamlining government services. More than 20 e-Governance applications were upgraded which includes the successful execution of the Silver Jubilee Celebration of the Thiruvalluvar Statue—an event that highlighted the district's ability to seamlessly blend heritage with innovation.

We have also made dedicated efforts to digitize the tourism sector by providing real-time information on travel routes, location details, and local connectivity. This initiative empowers visitors and effectively showcases the finest attractions of Kanniyakumari to the world.

Looking ahead, we remain committed to leveraging technology to make district administration more efficient, transparent, and accessible to all citizens. I extend my heartfelt congratulations to the NIC team for their consistent and dedicated support in driving this digital journey forward.

R. Alagumeena, IAS
District Collector, Kanniyakumari

Way Forward

NIC's initiatives have significantly enhanced digital governance in Kanniyakumari district by promoting smart infrastructure, improving citizen services, and increasing administrative efficiency. These efforts will continue to drive a more connected, responsive, and transparent district administration.

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North Goa

Sands of Serenity, Waves of Innovation

Edited by **SUSHMA MISHRA**

Located in the vibrant city of Panaji, NIC North Goa District Centre bridges the district's rich cultural heritage with a forward-looking digital transformation. As North Goa continues to evolve, blending traditional roots with technology-driven innovation, the Centre has emerged as a critical enabler of efficient governance.

Through targeted implementation of key e-Governance initiatives such as land record digitization, e-Courts, and citizen service portals, the District Centre has streamlined administrative workflows, reduced paperwork, and simplified service access. Its consistent efforts are empowering departments and citizens alike—bringing the benefits of Digital India to the grassroots.

ICT Initiatives in the District

North Goa District Website

northgoa.gov.in

The official district portal, developed by NIC using the S3WaaS platform, serves as a one-stop source for comprehensive administrative and civic information. It hosts details on public utilities, welfare schemes, emergency contacts, and citizen services. Content is available in English, Konkani, and Marathi, reflecting Goa's inclusive, multilingual ethos and ensuring wide accessibility.

Election Management System

esmssg.goa.gov.in/ng

NIC plays a vital role in streamlining the electoral process during Parliamentary and Assembly elections. By developing secure and scalable web applications, the District Centre enables efficient management of staff deployment, including polling personnel, micro observers, sector magistrates, flying squads, and police teams. This automation ensures transparency, accountability, and operational integrity at every stage of the election cycle.

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NIC North Goa has significantly enhanced local governance through its advanced ICT initiatives, including seamless e-Governance services and modern digital infrastructure. By developing and maintaining efficient online platforms for service delivery, the Centre has strengthened transparency, improved accessibility, and encouraged active citizen participation. These interventions have made government processes more responsive, timely, and citizen-friendly across the district.

Citizen Services

northgoa.gov.in/services

To foster inclusive digital governance, NIC North Goa has made a wide spectrum of citizen services available online. Residents can:

- Apply for and download digital certificates
- Register and track grievances
- Submit forms and applications electronically

These services reduce the need for physical visits and ensure real-time status updates, improving citizen satisfaction and engagement.

IVFRT

Implemented under the guidance of the MHA and MEA, the IVFRT system helps monitor immigration and foreigner registration for national security. NIC North Goa provides vital technical support to this system at checkposts and Foreigners Registration Offices (FROs), managing hardware, data synchronization, and user issues to ensure continuous system uptime and accurate reporting.

NIC North Goa District Centre and North Goa District Collectorate are integral part of Hon'ble PM's vision on reaping the benefits of Digital India to the common citizen. Land Record computerization, Video Conferencing, eMail messaging, Direct Benefits Transfer Schemes, District portal and Election related ICT activities are some of the ICT projects which are being undertaken with active participation and support by NIC. Citizen inclusiveness for participatory governance is possible with the active support of NIC.

Ankit Yadav, IAS
District Collector & District Magistrate
North Goa District

ALIS (Arms License Issuance System)

The ALIS platform supports digital issuance, renewal, and transfer of arms licenses. NIC ensures timely system support, generation of Unique Identification Numbers (UINs), and seamless backend functionality, reducing administrative burden and enhancing transparency in arms regulation.

Births and Deaths Registration
rbd.goa.gov.in

The Department of Planning, Statistics & Evaluation (DPSE) uses NIC-supported platforms to manage the digital registration of births and deaths. Urban Local Bodies use the MAS platform, while InfoGram supports rural panchayats. Citizens can download digitally signed certificates online, streamlining recordkeeping and service access.

Matriz Certificate System
matrizsg.goa.gov.in/matriz

This initiative digitizes historical Portuguese-era Matriz land records—documents of immense legal and cultural significance. NIC developed two applications: one for taluka-level data entry and another for public access, allowing citizens to search and view scanned documents online. The platform blends historical preservation with modern digital access.

Manual Form I & XIV Web Application
sgeservices.goa.gov.in/form

This system digitizes pre-computerization land records using dual portals—one for back-office entry and one for citizen access. It helps streamline the retrieval of legacy property documents and enhances archival integrity for future use.

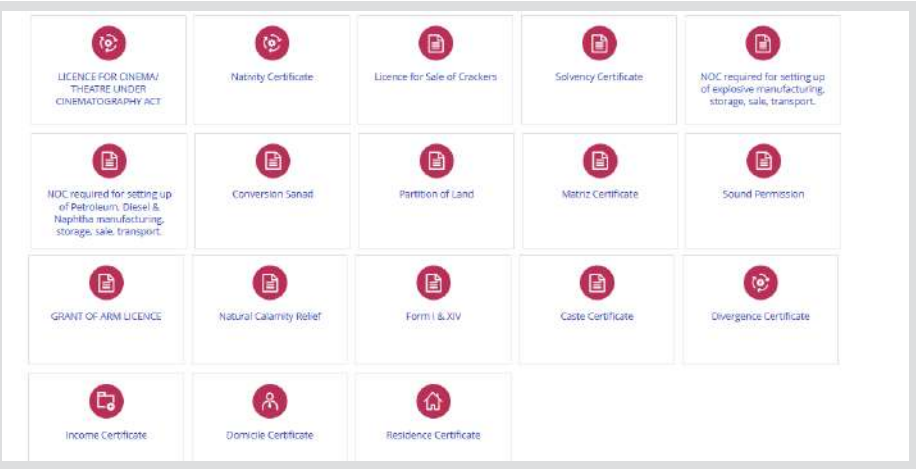
Other Key Initiatives

IMPDS

Under the One Nation, One Ration Card initiative, NIC North Goa supports Aadhaar-based biometric authentication systems that allow NFSA beneficiaries to collect foodgrains from any FPS across India. Over 10,000 interstate migrants use this system monthly, ensuring uninterrupted access to food security entitlements even when away from their home state.

eOffice

NIC has implemented the eOffice suite across district offices, enabling complete digital workflow for files and approvals. This reduces reliance on physical documents, minimizes delays, enhances interdepartmental coordination, and promotes better accountability in decision-making.



▲ Fig 5.2 : Citizen Services provided in District

Land and Property Services

With platforms like Dharani and Bhunaksha, NIC supports services like:

- Land partition and mutation
- Real-time property record access
- Digital cadastral mapping

These services improve transparency in land dealings and reduce disputes through clearly defined records.

Online Revenue Collection Services

NIC has enabled digital payment gateways for house tax, trade licenses, and property rent. These systems allow for secure, anytime payment, decreasing footfall at government counters and enhancing financial transparency.

Video Conferencing Services

NIC North Goa operates a dedicated VC Studio, offering robust technical support for seamless virtual meetings across departments. The service facilitates:

- District-level administrative reviews
- State and Central government coordination
- Emergency and disaster management briefings

Key Events & Contributions

Safer Internet Day 2025

NIC North Goa organized cyber hygiene workshops for district and block officers, promoting safe digital practices and awareness about online threats.

Support for Prime Minister's Events

NIC provided uninterrupted video conferencing infrastructure for various national-level events, ensuring real-time virtual participation by district officials.

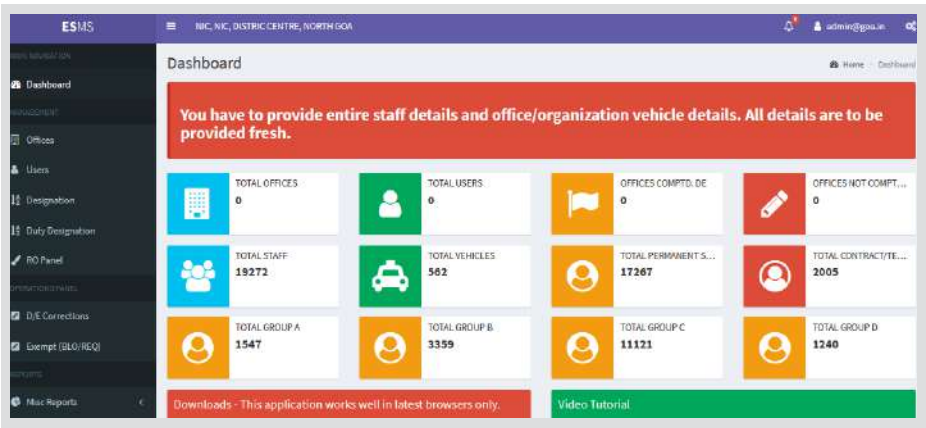
Accolades

The District Collector of North Goa awarded an appreciation certificate to DIO North Goa and the NIC team for their outstanding contribution to the successful conduct of Election 2024.

Way Forward

NIC North Goa continues to drive sustainable, citizen-centric digital governance by implementing scalable ICT solutions tailored to local needs. With a strong focus on transparency, efficiency, and accessibility, it remains committed to empowering citizens and supporting the vision of Digital India in the district.

▼ Fig 5.1 : Election Management Web Application



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Patna, Bihar

Empowering District with ICT Support & Innovative Projects

Edited by **VINOD KUMAR GARG**

In an era where governance is increasingly defined by speed, transparency, and citizen-centric services, NIC Patna stands out as a vital pillar of Bihar's digital transformation. As a district centre of the National Informatics Centre, NIC Patna plays a dual role—providing robust ICT support to the district administration while simultaneously developing and managing innovative, scalable digital solutions for state-wide governance.

What truly distinguishes NIC Patna is its proactive approach to bridging administrative challenges with cutting-edge digital tools. By designing applications that go beyond district boundaries and resonate across the state's governance framework, it has become a trusted technology partner for the Government of Bihar. Its focus on real-time service delivery, transparency, automation, and inclusive access underpins its mission to support the vision of Digital India.

At the core of NIC Patna's success lies its close collaboration with the district administration. This partnership is built on mutual trust, responsiveness, and a shared commitment to governance reform. The centre works directly with district officials to understand on-ground challenges, develop tailored applications, and support end-to-end implementation.

ICT Initiatives in the District

While local governance is a key focus, NIC Patna has also made significant contributions to state-level digital projects that streamline operations

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From seamless file movement using eOffice to efficient grievance redressal through Jila Janta Darbar, NIC Patna ensures that district officials are equipped with digital tools that enhance decision-making, reduce paperwork, and foster accountability. The availability of real-time dashboards and MIS-based reports empowers administrators to act swiftly and track progress with precision.

across multiple departments and districts. Some of the standout initiatives include:

e-Kamaan

https://ekamaan.bihar.gov.in

A landmark solution developed to automate Bihar's Home Guard operations, e-Kamaan replaces outdated manual workflows with a secure and unified digital system. It handles personnel selection, duty assignments, payroll management, and stakeholder coordination. A GPS-based mobile app supports real-time attendance and roster registration, while MIS-driven dashboards enhance transparency and data-driven planning.

HGIMS (Home Guard Information Management System)

Built as a comprehensive platform, HGIMS (Home Guard Information Management System) integrates payroll, pensions, inventory, training, budget planning, and establishment records into a single ecosystem. It ensures seamless synchronization with e-Kamaan, offering a 360-degree view of departmental operations.

Jila Janta Darbar

https://jilajantadarbar.bihar.gov.in

This portal digitizes the weekly public grievance hearings conducted by the District Magistrate. Citizens can now submit complaints online, track progress, and receive updates. Officers are held accountable for resolution timelines, and the DM can monitor compliance through real-time dashboards—reducing manual workload and improving citizen satisfaction.

eSocial Media Response

This mobile-based app enables the district administration to monitor and respond to grievances posted on platforms like Facebook,

With the active support of NIC District Centre Patna, the district administration Patna has been at the forefront of adopting innovative ICT solutions, overcoming challenges, and enhancing daily governance. NIC District Centre Patna has been a pioneer in implementing key projects like e-Office, iRAD/eDAR, Service Plus, ePanchayat, eLabarthi, etransport etc and developing cutting-edge web and mobile applications such as eKamaan, HGIMS, Jila Janta Darbar, eSocial Media Response etc. Their unwavering support in software solutions, e-governance, ICT infrastructure, video conferencing, and technical consultation has been instrumental in achieving administrative excellence. I sincerely appreciate NIC's pioneering efforts and extend my best wishes for their continued success in driving digital transformation.

Dr. Chandrashekhar Singh, IAS
District Magistrate, Patna

Twitter, and WhatsApp. Features include SMS integration, geo-tagging, multilingual support, and offline capabilities. Recognized under the National Awards for e-Governance 2022, the app reflects NIC Patna's commitment to tech-enabled public engagement.

Medhasoft

Aimed at enhancing student welfare schemes, Medhasoft is a centralized data platform for enrolment and benefit management across Classes 1 to 12 in government and government-aided schools. It ensures efficient distribution of schemes like free textbooks, bicycles, scholarships, and sanitary napkins. A mobile app streamlines on-ground verification and approval workflows.

Central Projects in District

Service Plus

NIC Patna's support for the Service Plus platform has enabled Bihar citizens to obtain essential documents such as caste, income, and residential certificates online. The system enhances service delivery, reduces discretion, and ensures uniformity across departments.

e-Labharthi Pension

The e-Labharthi portal simplifies the disbursement of pensions under schemes like Indira Gandhi Old Age Pension, Widow Pension, Disability Pension, and Laxmi Bai Social Security Pension. By enabling Direct Benefit Transfers (DBT), NIC Patna eliminates manual intervention and ensures timely assistance to vulnerable citizens.

e-Transport MMP

NIC Patna supports the automation of transport services, including vehicle registration, driving licenses, tax payments, and NOC issuance. With modules like Vahan 4.0 and Sarathi 4.0, the platform introduces smart card systems, digital signatures, and faceless learning license services—ensuring convenience and efficiency.

ePDS MMP

Through ICT support for the ePDS project, NIC Patna strengthens Bihar's food security network. Modules like Ration Card Management, Aadhaar-enabled PDS (AePDS), and One Nation One Ration Card (ONORC) ensure that subsidized food grains reach eligible beneficiaries without delay or leakage.

Land Record Computerization (DILRMP)

NIC Patna has played a key role in implementing the Digital India Land Records Modernization Programme in Bihar. Services such as Mutation, Jamabandi, LPC, RoR, and Revenue Court Case tracking have been made available online. These systems reduce fraud, improve transparency, and give citizens easy access to critical land records.

Bhu-Samadhan

To address land-related disputes efficiently, NIC Patna developed Bhu-Samadhan—a role-based application for tracking cases from police stations to district officials. With centralized dashboards and audit trails, the platform ensures accountability and supports fair resolution mechanisms.

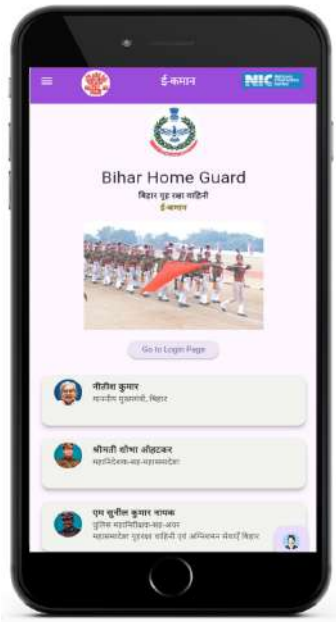
Aapda Sampoorti

Designed to support disaster relief, Aapda Sampoorti allows for the verification of disaster-affected families and the immediate transfer of financial aid through PFMS. Mobile applications for geo-tagging damages to homes and cattle sheds increase accuracy and ensure that relief reaches the right beneficiaries.

iRAD

In partnership with the Ministry of Road Transport and Highways (MoRTH), NIC Patna supports the iRAD initiative for real-time accident data collection. Patna district has achieved 100% live data entry, enabling policymakers to make informed decisions about infrastructure and enforcement for safer roads.

▼ Fig 6.1 : Shri Inder Pal Singh Sethi, Deputy director General, NIC, visiting NIC Patna to review operations



▲ Fig 6.2 : e-Kamaan Mobile Application

eOffice

NIC Patna has implemented eOffice in 45 departments under the Patna Collectorate. By digitizing file movements, approvals, and document storage, it promotes a culture of transparency, efficiency, and accountability. A dedicated team of master trainers ensures smooth adoption and handholding support across departments.

Way Forward

NIC Patna envisions a governance model where digital tools are not an add-on—but the very foundation of public service delivery. By embracing cloud technologies, data analytics, mobile platforms, and real-time dashboards, NIC Patna aims to create a governance ecosystem that is agile, inclusive, and sustainable. Whether it is managing complex workflows, automating routine processes, or empowering citizens with instant access to services, NIC Patna is at the forefront of Bihar's digital transformation. Its commitment to innovation, excellence, and service continues to make it a trusted partner in the journey toward a digitally empowered society. As we move forward, NIC Patna reaffirms its mission—to leverage technology not just for efficiency, but for equity and empowerment. In doing so, it plays a pivotal role in realizing the transformative vision of Digital India—right from the grassroots to the state level.

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IFMS, Rajasthan

Integrated Solutions for Financial Excellence

Edited by **VINOD KUMAR GARG**

The Integrated Financial Management System (IFMS) is a flagship e-Governance initiative by the Government of Rajasthan, aimed at establishing a seamless, transparent, and efficient financial management framework across all departments. Designed as an end-to-end digital platform, IFMS unifies multiple financial functions under one umbrella—transforming how the state plans, executes, monitors, and audits public funds.

By integrating core modules such as budgeting, treasury operations, revenue collection, works management, pension processing, and digital payments, IFMS enhances accountability, accelerates service delivery, and reduces manual intervention. It is the backbone of Rajasthan's financial governance ecosystem.

Key Functionalities

Budget Management

- Facilitates the entire lifecycle of government budgeting—including estimation, preparation, allocation, distribution, and printing—through a unified digital platform
- Seamlessly integrates with departmental proposals, schemes, and past expenditure data for informed budgeting decisions
- Provides tools for real-time budget monitoring, variance analysis, and control mechanisms to ensure fiscal discipline and accountability

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The Integrated Financial Management System (IFMS) is a unified digital platform designed to streamline and modernize public financial management for the Government of Rajasthan. It integrates core functions including budgeting, expenditure control, revenue collection, and accounting to enhance transparency, efficiency, and accountability.

Treasury Authorization & Accounting

- Enables automated tracking and real-time authorization of financial transactions within government treasuries
- Ensures centralized control over expenditure, improving transparency, compliance, and financial prudence
- Supports timely, accurate, and error-free disbursal of government payments, grants, and subsidies

Revenue Management

- Offers a fully digitized solution for receipt lifecycle management—from collection and acknowledgement to classification and reconciliation
- Supports multi-channel payment options, including Net Banking, UPI, Credit/Debit Cards, and over-the-counter services
- Provides real-time dashboards for revenue tracking and forecasting, supporting proactive fiscal planning and analysis

Bill Preparation & Processing

- Delivers a digital end-to-end workflow for bill creation, vetting, approval, and submission to Treasury or Pay & Accounts Offices (PAOs)
- Integrated with digital signature systems to ensure secure, verifiable, and legally compliant approvals
- Facilitates streamlined communication and workflow between Drawing & Disbursing Officers (DDOs), sanctioning authorities, and Treasuries

Electronic Payments & Direct Benefit Transfers (DBT)

- Enables secure, real-time, and authenticated fund transfers to individuals, vendors, service providers, and beneficiaries
- Fully integrated with the Reserve Bank of India's e-Kuber platform, ensuring central banking system compatibility
- Supports Aadhaar-enabled payment systems (AEPS), National Payments Corporation of India (NPCI) protocols, and Public Financial Management System (PFMS) validations for scheme-based disbursements

Civil Pension Management

- Automates the complete pension lifecycle, including online application, eligibility verification, sanctioning, calculation, and disbursement
- Guarantees timely pension disbursals with audit-compliant recordkeeping and financial reporting
- Digitally stores service records, pension papers, and entitlement data, ensuring ready access for audit and grievance redressal

Online Reconciliation of Accounts

- Facilitates daily automated reconciliation of financial data between the Treasury system, Reserve Bank of India (RBI), commercial banks, and government departments
- Promotes data integrity and transparency, minimizing discrepancies and enabling accurate reporting
- Supports real-time validation and exception handling for timely corrective actions

Stamps Inventory Management

- Provides a centralized system for monitoring and controlling the inventory of non-judicial stamp papers and court fee stamps
- Tracks issuance, utilization, and replenishment

of stamps across collection centers, sub-registrars, and authorized vendors

- Reduces leakages, ensures availability, and enables transparent audit trails

Works Management

Manages the entire financial and administrative lifecycle of public works and infrastructure projects.

- Administrative & Financial Sanctions (A&FS)
- Technical Sanctions (TS)
- Measurement Book (MB) entries
- Benchmark Schedule of Rates (BSR)
- Contractor bill generation and processing

- Integrated with Public Works Departments (PWDs), Water Resources, and other engineering wings for seamless project execution and tracking
- Ensures transparency, accountability, and timely payments to contractors

E-Accounting & Document Management

- Enables a paperless accounting environment through digitized vouchers, ledgers, and journal entries
- Provides a centralized repository for all financial documents—sanction orders, bills, vouchers—with metadata-based retrieval
- Streamlines internal audits, financial reporting, and strengthens public accountability mechanisms

Single Nodal Account (SNA) Management

- Implements the Government of India's SNA model for fund flow under Centrally Sponsored Schemes (CSS)
- Facilitates centralized fund allocation, release, and expenditure tracking across implementing agencies
- Ensures real-time visibility of fund availability, scheme-wise utilization, and balance positions for efficient scheme execution

SNA-SPARSH Module

- A specialized module within IFMS designed for advanced monitoring and reporting of CSS fund flows under the SNA framework
- Enables beneficiary targeting, scheme-wise allocation, release tracking, and real-time fund utilization monitoring
- Fully compliant with Ministry of Finance and NITI Aayog guidelines, ensuring proper governance and fiscal discipline in central schemes

System Integration & Payment Infrastructure

IFMS integrates seamlessly with key government departments and acts as a statewide payment gateway, enabling transactions via:

- Net Banking, UPI, Debit/Credit Cards
- Integration with RBI's e-Kuber and PFMS for CSS fund flow
- Electronic Data Exchange with departmental applications for bill processing and reconciliation

Innovations & Enhancements

Paperless Workflow

- Bills move digitally from departments to treasuries and onward to the Accountant General (AG), eliminating manual paperwork and delays

Automated Salary Processing

- Complete automation of salary bill preparation, verification, and digital payment—no manual intervention required

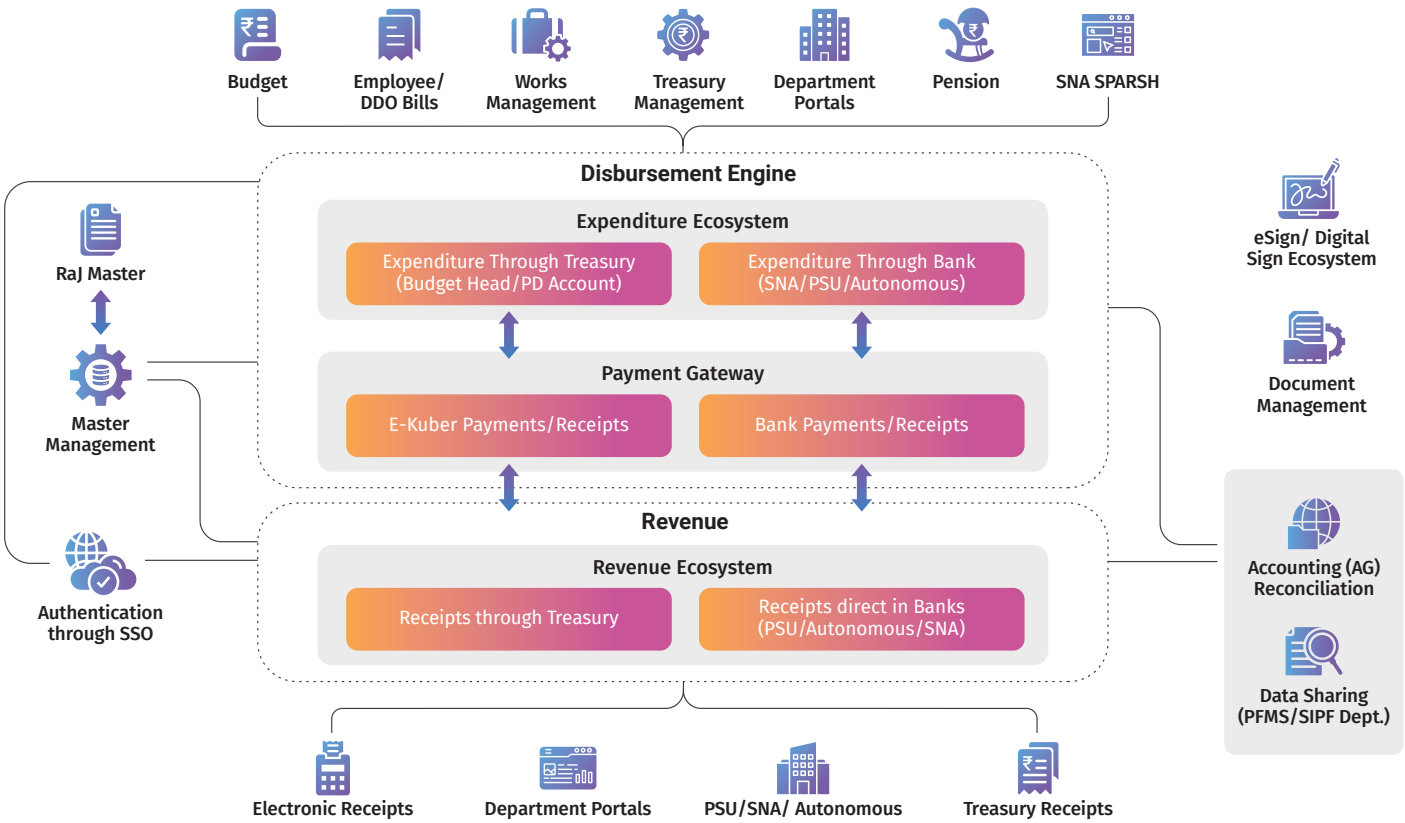
e-Accounting & Digital Submissions

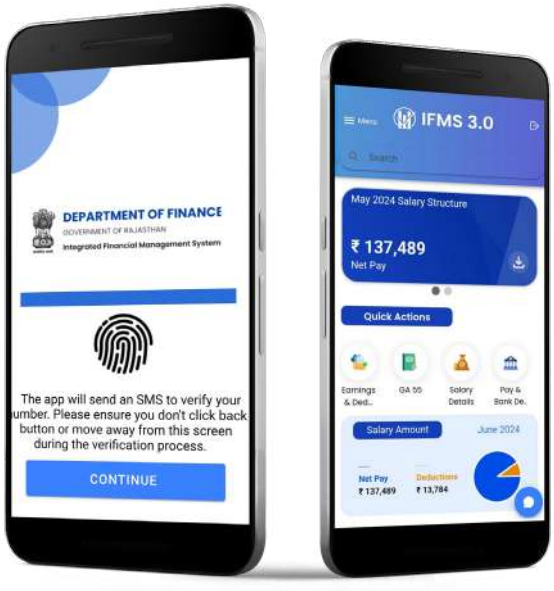
- Real-time submission of digital accounts to the AG Office
- All bills are digitally signed to ensure authenticity and security

Electronic Payments & Reconciliation

- Direct integration with RBI's e-Kuber platform for secure fund transfers and auto-reconciliation

Fig 7.1 **IFMS 3.0**





▲ Fig 7.2 **IFMS 3.0 Mobile App**

- A dedicated State Treasury Payment Gateway enables smooth and transparent financial transactions

Budget Control & Standardization

- Simplified budget proposal formats
- Uniform challan and bill formats implemented statewide
- Automatic Pro Rata calculations for efficient and consistent budget distribution

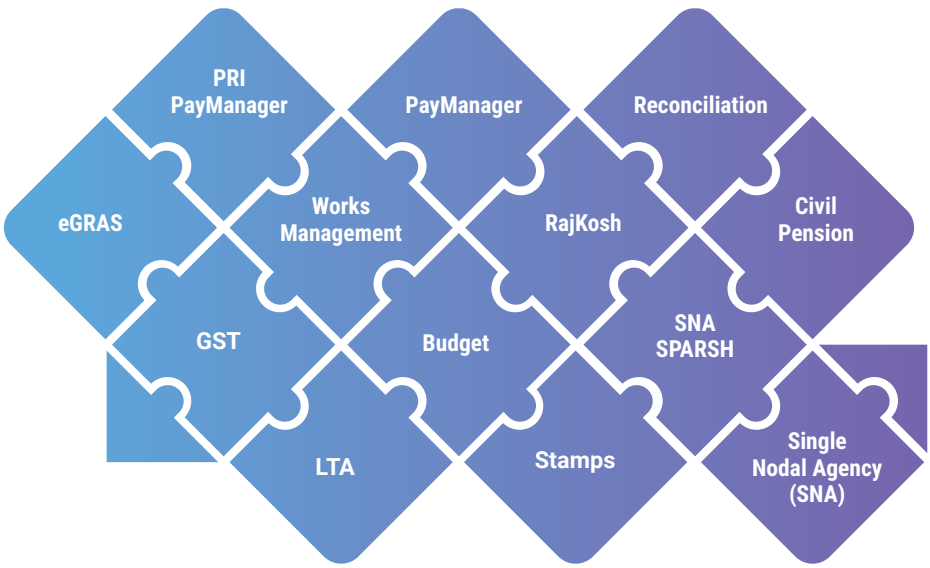
Departmental Integration

- IFMS is deeply integrated with major line departments for seamless data exchange and financial operations: Agriculture, Social Justice, ICDS, Scholarships, PWD/Works, Excise, Commercial Tax, IGRS, SIPF, and Rajkosh
- Enables real-time data synchronization for schemes, beneficiary records, and budget utilization

E-Governance Payment Solutions

- e-GRAS (Government Receipt Accounting System) acts as a centralized platform for all state government receipts
- Supports multiple online payment modes: Net Banking, UPI, Credit/Debit Cards
- Authorized manual Over-The-Counter (OTT) payments available at designated branches (SBI, PNB, CBI)
- 100% mandatory online challan generation improves audit readiness and ensures revenue transparency
- The e-Treasury System governs electronic deposit workflows, reducing physical footfall and improving service timelines

▼ Fig 7.3 **IFMS : Tightly Integrated Suite of Applications**



Citizen Service Integration

- Integrated with platforms like Land Records, IGRS, Rajasthan Public Service Commission (RPSC), Transport, Mines, Excise, and eMitra
- Enables end-users (citizens) to access government services and make financial transactions digitally from anywhere

Operational Efficiency

- Single DDO-Treasury Model simplifies monthly salary and non-salary bill submission and clearance
- Integrated Direct Benefit Transfer (DBT) mechanism ensures real-time, error-free payments directly to beneficiaries' bank accounts
- Enhances fund delivery for welfare schemes and reduces leakages

Digital Accessibility

- Single Sign-On (SSO) integration enables unified and secure access to all IFMS services and modules
- SMS and email alerts notify stakeholders of payment statuses, approvals, rejections, and policy updates
- Mobile-friendly interfaces allow officers to perform approvals and view reports on smartphones, promoting mobile governance

National System Integration

- Integrated with PFMS for centrally sponsored schemes (CSS)
- SNA & SNA-SPARSH modules ensure centralized and trackable fund flow for CSS programs

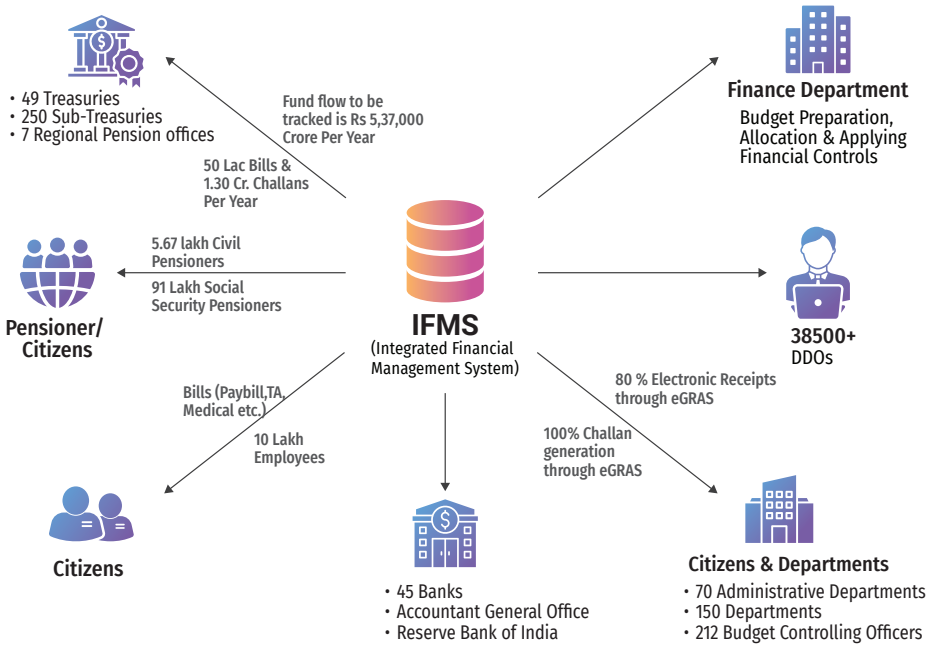
These advancements in IFMS reinforce efficiency, transparency, automation, and accountability in Rajasthan's financial ecosystem, driving a truly paperless and digitally empowered governance model.

Technology Stack

- Frontend: Angular
- Backend: Java, Helidon
- Database: Oracle

Impact

- Automation of salary workflows has drastically reduced processing time through paperless, end-to-end digital submission—eliminating manual handling
- Digital submission of accounts and bills has significantly reduced paper usage and physical file movement
- Adoption of electronic payment systems has



▲ Fig 7.4 **IFMS : The Financial Manager of Government**

led to substantial savings in time, paper, and administrative effort

- Employees can now access pay slips, and submit medical and travel allowance (TA) bills online, reducing dependency on physical offices
- Automation of bill preparation and integration with departmental systems has decreased the need for manual processing and staff involvement
- Payments made via the RBI's e-Kuber platform result in estimated annual savings of ₹100 crore for the state
- System-driven reconciliation ensures higher accuracy and less time spent on verifying financial records
- Use of standardized forms and workflows across departments has improved service delivery and reduced procedural complexity
- Automated budget mechanisms enhance allocation accuracy and ensure disciplined fiscal management
- Instant access to revenue and expenditure data supports more informed planning and decision-making at all levels
- All stakeholders—including employees, vendors, and Drawing and Disbursing Officers (DDOs)—can track payment and bill status online, ensuring openness in public fund disbursement
- Automation has minimized transfer entries by reducing errors in head-of-account classifications during transactions

Way Forward

IFMS stands as a vital pillar in the state's journey toward digital governance, transforming public financial management through transparency, precision, and real-time data access. As it continues to evolve, the future vision of IFMS focuses on deeper integration, advanced automation, intelligent data utilization, and citizen-centric scalability—fully aligned with the aspirations of Digital India and the principles of Good Governance.

Looking ahead, IFMS is set to transcend its role as a financial tool to become a powerful enabler of governance transformation. By seamlessly combining technology with transparency, and automation with accountability, IFMS is shaping the path toward a smarter, more inclusive, and resilient financial ecosystem for Rajasthan.

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Post Matric Scholarship Portal

Digital Transformation of Post-Matric Scholarship Distribution in Chhattisgarh

Edited by **SUSHMA MISHRA**

The Post-Matric Scholarship Portal, developed by the Government of Chhattisgarh, is a comprehensive digital platform designed to streamline and simplify the distribution of scholarships to students from Scheduled Tribes (ST), Scheduled Castes (SC), and Other Backward Classes (OBC) pursuing higher education.

Launched on October 23, 2021, the portal serves as a one-stop solution for managing state-funded scholarships for diploma, undergraduate, postgraduate, and other higher-level courses. It ensures transparency and efficiency by automating the entire process—from application submission and document verification to final disbursement.

At the heart of the system is its integration with the Direct Benefit Transfer (DBT) mechanism, which securely credits scholarship funds directly into students' Aadhaar-linked bank accounts. This not only speeds up disbursal but also minimizes errors, eliminates intermediaries, and reduces the risk of misuse.

The digital transformation of the scholarship scheme, led by the ST, SC, OBC, and Minority Development Department of Chhattisgarh, represents a major leap toward transparent, efficient, and accessible educational welfare governance. The portal incorporates several key system integrations: UIDAI for Aadhaar-based student authentication, NPCI for verifying bank account linkage, AISHE for validating educational institutions, and PFMS and NSP for handling state and central fund disbursements.

To further enhance accountability and security, the system includes features such as geo-tagging of institutions, Aadhaar-based eKYC for officials, and integration with the One-Time Registration (OTR) system to avoid duplication and maintain accurate student records.

This initiative stands as a successful example of leveraging digital governance to ensure inclusive, equitable, and student-centric service delivery—setting a strong foundation for future innovations in welfare programs.

The Post-Matric Scholarship Portal of Chhattisgarh is undergoing further enhancement to improve transparency, efficiency, and user experience. Upcoming features include a dedicated grievance redressal portal for timely complaint resolution, DigiLocker integration for secure and paperless document handling, and an advanced analytics dashboard to support data-driven decision-making and improve the overall effectiveness of the scholarship system.

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Objectives

- **Automation of Workflow:** Streamline the entire application and approval process
- **Timely Disbursal:** Ensure fast and secure DBT of scholarships into verified Aadhaar-linked bank accounts
- **Centralized Data Management:** Maintain a unified database of students, institutions, and academic records
- **Transparency & Efficiency:** Minimize delays and human intervention through digital verification and real-time updates

Key Features

- UIDAI Integration for Student Authentication: Uses real-time Aadhaar-based demographic verification to confirm student identities and prevent fraudulent applications
- NPCI Integration for Bank Account Validation: Ensures secure and accurate Direct Benefit Transfer (DBT) by validating the linkage between a student's Aadhaar and bank account through the National Payments Corporation of India (NPCI)
- Institution Verification via AISHE Code: Verifies the legitimacy of educational institutions using their AISHE (All India Survey on Higher Education) code, ensuring only recognized institutes participate in the system
- PFMS Integration for State Share Disbursement: Utilizes the Public Financial Management System (PFMS) to transparently disburse the State Government's share of scholarships through DBT
- Geo-Tagging and Aadhaar-based eKYC of Officials: Geo-tags institutions to confirm their physical existence, while key personnel—such as Institute Nodal Officers (INOs), Heads of Institutions (HOIs), and District Nodal Officers (DNOs)—are verified through Aadhaar-based eKYC to ensure secure access and accountability
- Integration with NSP One-Time Registration (OTR): Syncs with the National Scholarship Portal's One-Time Registration system to eliminate duplicate entries and maintain centralized, accurate student data

Technology Stack

Frontend:

- HTML, CSS, JavaScript

- jQuery, AJAX, JSON, XML
- RDLC Reports (for dynamic report generation)

Backend:

- ASP.NET (C#)
- SQL Server
- IIS Web Server

Process Workflow

The scholarship process follows a fully digital, step-by-step workflow to ensure transparency, accuracy, and timely disbursement of funds:

Application Submission

- Students submit their scholarship applications through the online portal

e-KYC and Document Verification

The system verifies the applicant's identity and documents in real time using:

- Aadhaar Server (for identity verification)
- NPCI Server (for Aadhaar-bank account linkage)
- e-District Portal (for verifying documents like caste, income, and domicile certificates)

Institutional Review

- The submitted application is reviewed by the concerned Government or Private Institute
- If discrepancies are found, the application is returned to the student for correction
- Once verified, it is forwarded to the District Office

District Office Verification

- The District Office reviews the application for accuracy and completeness
- If any issues are found, it is returned to the student for necessary updates
- Verified applications proceed to the State level

State-Level Processing

- The State Office reviews all district-approved applications and initiates the fund disbursement process

Bank Account Verification and Payment

- The Public Financial Management System (PFMS) verifies the student's Aadhaar-seeded bank account
- Upon successful validation, the scholarship amount is released through Direct Benefit Transfer (DBT)

Error Handling and Reprocessing

- If the bank account verification fails, the student is notified to correct the issue
- After the correction is made, the application is reprocessed for payment

Benefits and Impact

- Fully Automated and Transparent Process: The portal digitizes the entire scholarship workflow—from application to approval—reducing manual work, minimizing errors, and ensuring transparency at every stage
- Real-Time Document Verification: Important documents like Income, Caste, and Domicile Certificates are verified instantly through the e-District portal, improving accuracy and speeding up processing
- Secure Direct Benefit Transfer (DBT): Scholarship funds are directly credited to students' Aadhaar-linked bank accounts, eliminating intermediaries and ensuring fast, secure, and timely payments
- Aadhaar-Based Student Verification: Students are authenticated using Aadhaar in real time, reducing delays and strengthening the reliability of the system

▼ Fig 8.1 : Post Matric Scholarship web portal Chhattisgarh

> The Post Matric Scholarship Portal, developed by NIC stands as a landmark achievement in digital governance. This initiative exemplifies our commitment to fostering inclusive, equitable, and student-centric educational opportunities. By streamlining scholarship processes through innovative technology, it ensures transparency, efficiency, and timely support to deserving students. We believe this portal will pave the way for further advancements in welfare delivery, empowering the youth and strengthening the future of our nation.

Sonmoni Borah, IAS
Principal Secretary, ST, SC, OBC and Minority Development Department, Chhattisgarh

Targets Ahead

To further enhance the efficiency and accessibility of the Post-Matric Scholarship Portal, several key advancements are planned. A dedicated grievance redressal portal will be introduced, allowing students to file complaints or report issues related to their applications. This transparent and user-friendly system will help ensure timely resolution of concerns, thereby fostering greater trust and accountability. Additionally, the portal will be integrated with DigiLocker, enabling students to securely upload, access, and share their documents in digital format. This integration will significantly reduce dependence on physical paperwork, streamline the verification process, and facilitate faster, paperless scholarship processing. To support better decision-making, an advanced analytics and reporting dashboard will also be developed. This feature will help stakeholders track application trends, assess fund disbursement efficiency, and identify operational challenges—ultimately strengthening the impact and responsiveness of the scholarship program.

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In Focus

MP APMC Digital Ecosystem

The Digital Revolution of APMCs in Madhya Pradesh

Edited by **SUSHMA MISHRA**

In the heartland of India's agricultural economy, a silent revolution is reshaping the way farmers, traders, and APMC officials interact. Madhya Pradesh is leading the way in reimagining the traditional mandi system—once defined by handwritten ledgers, verbal negotiations, and long queues—into a modern, transparent, and efficient digital ecosystem. What was once slow and opaque is now fast, accountable, and accessible through mobile apps and web-based platforms.

This transformation is backed by the Department of Farmers Welfare and Agriculture Development, Government of Madhya Pradesh, in alignment with the national vision of the Ministry of Agriculture & Farmers Welfare (MoAFW), Government of India. At the core of the state's APMC reforms lies the phased rollout of three integrated digital platforms:

- eMANDI App – Streamlines APMC yard operations, including arrival, weighing, auctioning, and settlement of payments.
- M.P. Farm Gate App – Facilitates direct, doorstep trade for farmers, reducing their need to travel and expanding access to buyers.
- eANUGYA System – Manages digital No Objection Certificates (NOCs), gate passes, dispatch permissions, and fee reconciliation with complete audit trails.

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Madhya Pradesh is transforming its traditional mandi (market) system into a modern, digital ecosystem. Supported by the state's Department of Farmers Welfare and aligned with the national vision, the reform introduces three key digital platforms: eMANDI App for automating yard operations, M.P. Farm Gate App for direct farmer trade, and eANUGYA for managing digital permits and compliance. This shift from manual to digital processes ensures transparency, speed, and traceability across the entire agricultural value chain.

Together, these platforms form a comprehensive, end-to-end digital ecosystem that ensures:

- Traceability – Every lot, from first sale to final dispatch, is digitally recorded and trackable.
- Accountability – Secure, tamper-proof e-documents and automated processes minimize fraud and manual intervention.
- Efficiency – Reduced paperwork, real-time dashboards, and mobile accessibility save time and resources for all stakeholders.

This integrated system has not only improved the ease of doing business in agricultural markets but has also built greater trust among farmers, traders, and regulatory authorities. It represents a model for other states to emulate in driving digital agriculture and rural empowerment.

The Foundation

Agricultural Produce Market Committees (APMCs) in Madhya Pradesh are governed by the Krishi Upaj Mandi Adhiniyam, 1972, which regulates the first sale of notified crops. These committees are mandated to protect farmers from exploitation, ensure fair price discovery, and collect market fees while overseeing infrastructure like auction yards, weighbridges, and storage units.

However, for decades, mandi operations relied heavily on manual processes—resulting in delays, limited pricing transparency, paper-based disputes, and high administrative burden. Recognizing these challenges, the state initiated a phased digital transformation to

I extend my heartfelt congratulations to NIC MPSC and Officials of MPSAMB for the successful implementation of eMANDI, now operational across 259 APMCs in the state. This digital transformation has significantly benefited farmers and traders, streamlining processes and ensuring greater transparency. I look forward to continued collaboration with NIC to develop even more robust and innovative solutions that further strengthen the agricultural marketing ecosystem in Madhya Pradesh. Wishing the NIC M.P and M.P Mandi Board team continued success!

Kumar Purushottam, IAS
Commissioner & Managing Director
Mandi Board, Bhopal

modernize mandi governance and empower all stakeholders, especially farmers.

Phased Rollout Timeline

- **Phase I (2019):** Digitalization of billing and NOC (Anugya) workflows
- **Phase II (2022):** Launch of M.P. Farm Gate App for direct farmer-to-trader trade
- **Phase III (2024):** Statewide implementation of eMANDI App for full yard-level digitization

eMANDI App

The eMANDI App digitizes every aspect of agri-trade conducted within the APMC yard. From gate entry to final payment, the platform enables secure, real-time, and legally compliant transactions. Built on a role-based architecture, the app caters to secretaries, auctioneers, traders, licensed weighmen, and farmers.

Workflow Overview

- **User Setup:** Secretaries assign operational roles within the mandi
- **Farmer Entry:** OTP-based registration; 72-hour digital gate pass issued
- **Auction (Nilami):** Digitally conducted; auto-generates Anubandha Patrak
- **Weighing (Taul):** Carried out by licensed Tulaiyyas; results in Taul Patrak
- **Payment:** Trader initiates entry; farmer confirms via OTP; SMS alert issued

Controls and Legal Compliance

- Data edits for gate entry, auction, or weighing are permitted within 72 hours, with audit trails and approvals from designated officers
- Farmers can cancel trades before weighing, subject to approval
- Fully aligned with the Krishi Upaj Mandi Adhiniyam, 1972, including:
  - Clause 17(15) – Gate Entry
  - Clause 36 – Weighing and Anubandha Patrak
  - Clause 37(2) – Bhugtan documentation

The result is a legally sound, transparent, and tamper-proof transaction trail—laying the groundwork for trust and efficiency.

M.P. Farm Gate App

To expand market access for small and marginal farmers, Madhya Pradesh launched the M.P. Farm Gate App in October 2022. The app enables farmers to sell produce directly from their fields, reducing the need to physically travel to the mandi while maintaining full trade transparency and regulatory oversight.

Farm-Centric Workflow

- **Secure Onboarding:**
  - Farmers register via OTP
  - Traders enrolled under the Lok Sewa Guarantee Act

▲ Fig 9.1 eMandi App

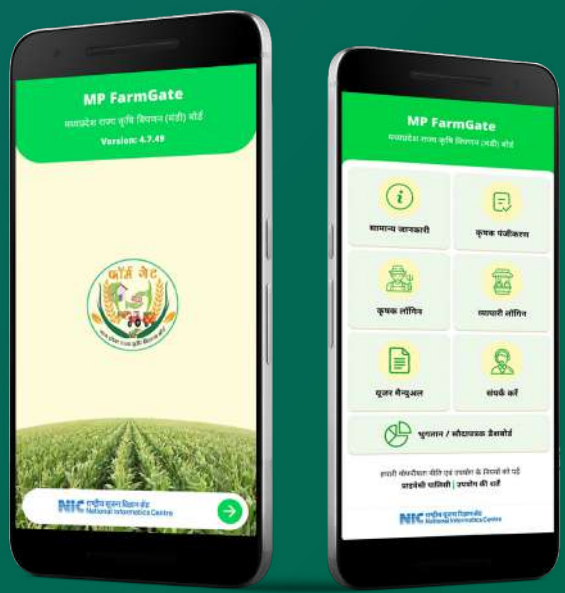
- **Crop Listing:**
  - Farmers enter crop type, quantity, and expected price
  - Listings are geo-linked to local APMCs
- **Digital Bidding & Deal Finalization:**
  - Verified traders place bids
  - Selected bid generates Sauda Patrak accepted by both parties
- **Payment and Compliance:**
  - Trader must upload Bhugtan Patrak within 24 hours
  - Verified by APMC Secretary and automatically linked with eANUGYA

Benefits for Farmers

- Reduced transport cost and time
- Faster, transparent payments
- Minimized middlemen dependency
- Inclusion of digitally underserved farming segments

The Farm Gate App closes the distance between the producer and the market—bringing the mandi to the village.

▼ Fig 9.2 M.P. Farm Gate App



▼ Fig 9.3 : eANUGYA at glance

41,315
Licensed Traders
Registered with APMC Committees across Madhya Pradesh

42,620
Self-Registered Traders
Using the eANUGYA platform independently

1,694
Bhugtan Patraks Generated Today
Registered with APMC Committees across Madhya Pradesh

7.97+ Crore
Total Bhugtan Patraks Issued

eANUGYA

Completing the trade-to-dispatch cycle, eANUGYA ensures that movement of goods is legal, trackable, and transparent. It digitizes the issuance of dispatch permissions (Form-9), consignment entries (Form-10), and calculation of all fees due to the mandi board.

Key Functionalities

- **Bhugtan Upload:** Trader submits digital payment receipt
- **Auto Fee Calculation:** Calculates APMC and Nirashrit Kalyan Fees
- **Stock Update:** Inventory and accounts auto-updated for both seller and mandi
- **Dispatch Authorization:**
  - Trader fills Form-10
  - Form-9 (eANUGYA) auto-generated
  - Destination APMC verifies receipt

Awards

The Madhya Pradesh APMC digital ecosystem—comprising the eMANDI App, Farm Gate App, and eANUGYA—received the CSI SIG eGovernance Award of Appreciation 2022 for its innovation, scalability, and impact on farmer-centric trade reforms.

▲ Fig 9.4 : eAnugya Homepage

From Manual to Digital: What's Changed

Before	After (eANUGYA)
Dispatch allowed only 10–12 AM	24x7 digital access
Paper-based Form-9 and Form-10	Secure, retrievable e-documents
Manual fee calculation and delays	Automated, transparent fee reconciliation
No real-time inventory visibility	Live dashboards and audit logs
High dependency on APMC staff	Trader-managed, system-verified workflows

eANUGYA ensures accountability, reduces fraud, and supports end-to-end compliance—a critical step in building trust among stakeholders.

Conclusion

With the combined implementation of eMANDI, Farm Gate App, and eANUGYA, Madhya Pradesh has transformed its APMC ecosystem into a digitally unified, legally compliant, and farmer-first network. The transformation has resulted in:

- Faster payments and reduced costs
- Transparent bidding and pricing
- Real-time policy-ready data
- Improved compliance and revenue assurance

More than a technological upgrade, this initiative represents a paradigm shift in agricultural governance—placing farmers at the center of a digital economy and enabling a model that's scalable across India.

As the nation moves toward Digital India @2047, the Madhya Pradesh model offers a ready blueprint for building inclusive, smart, and sustainable agri-markets—proving that meaningful reform can begin with a single app, and grow into a statewide movement.

▼ Fig 9.5 : The trio of eMANDI App, Farm Gate App, and eANUGYA - was recognized with the CSI SIG eGovernance Award for its innovation, scalability, and impact

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Technology Update

Cyber Hygiene at Scale

Securing Government LAN and Endpoints using MOGLES & CAAR

Edited by **MOHAN DAS VISWAM**

Government Cyber Space is an extremely challenging environment targeted persistently by the best in the world with limitless resources at their disposal (read nation-state advanced persistent threat attackers (APTA)). Government infrastructure is a collection of various autonomous systems each with its own policies and controls. So, traditional cyber security models do not fit government's cyber security needs. Hence, there was a need to develop a custom model for securing government Local Area Network (LAN) and Endpoints (EP). NIC developed Model of Government LAN & EP Security (MOGLES) after experimenting with various tools and techniques and finalizing the one that works the best. MOGLES has been successfully implemented in critical ministries/departments and working fine for more than two years. It is a time-tested and proven model. It is built with basic measures but with strict implementation. This model can be implemented at all other ministries/departments/organisations/states in phased manner with necessary resources.

To address the complex cybersecurity needs of government infrastructure, a custom framework—Model of Government LAN & Endpoint Security (MOGLES)—has been formulated and successfully implemented across critical ministries. Complemented by the Continuous and Automated Assessment and Remediation (CAAR) approach, it ensures structured endpoint security, continuous system hardening, and policy compliance. This scalable, privacy-centric model leverages existing technologies to enable robust, cost-effective, and sustainable protection of government networks and digital assets.

Building Blocks of MOGLES

Time, Patience & Consistency

We need to understand & accept that securing an infrastructure is like building a fort, one wall at a time, one moat at a time, one bastion at a time; there are no magic tricks or wands. It is hard work which needs persistent efforts and time along with necessary resources. So, we need to set reasonable & achievable targets and work dedicatedly towards it without shifting goalposts frequently. Typically, a LAN with 500 endpoints may take around 2-3 months without major disruption. It can be achieved within 2 months at war footing.

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Authority & Ownership

The NIC Head of Department (NIC-HOD) or Nodal Officer (NO) must be entrusted with full authority and responsibility for implementing MOGLES. Their success depends on strong coordination with stakeholders and users within the ministry or department. Commitment and trust are essential from both NIC and the department. Additional L1 support engineers and necessary resources must be provided to the NIC-HOD/NO to handle operational tasks effectively.

Establishment of ITHD

Each ministry/department must set up an IT Help Desk responsible for provisioning all endpoints. Regardless of how the endpoint was procured, it must pass through the ITHD for formatting and secure configuration before being handed to users. This also applies during personnel transfers or role changes. The ITHD should operate from a dedicated lab space, equipped with tools to handle multiple endpoints simultaneously and a stock of spare devices for replacements. It will function under the NIC-HOD/NO, with a Single Point of Contact (SPOC) nominated from Admin/Purchase/Store sections to manage logistics and coordination.

Formatting of all old endpoints

All legacy endpoints must be formatted before secure configuration. If an endpoint is already compromised or malfunctioning, other measures will be ineffective, and the endpoint will remain untrusted. Any old device not processed through the ITHD must be formatted, and any device showing abnormal behavior should be reformatted promptly.

Deployment of EPS Tools

Multiple endpoint security tools are needed for various functions. An ideal environment must have all of them. But we can start with a few necessary ones and augment the others in due course. A typical set of tools is listed below. The systems maintenance and management of these tools will be the responsibility of NIC Endpoint Security (EPS) Team. EPS team will provide technical support needed for deployment of the agents and troubleshooting issues. The policy to be implemented on endpoints will be provided by EPS team. The deployment, functioning of agents on endpoints and endpoint support will be the responsibility of NIC-HOD/NO and its team. Another important responsibility of NIC-HOD/RO is to ensure that all endpoint that are powered on must report to all the central consoles. It an endpoint is not reporting on any central console it will be considered non-compliant. The compliance of the endpoints using the provided tools, policies, guidelines and procedures will be the responsibility of NIC-HOD/NO. In case of any issue or new requirement, HOD-NIC/NO should reach out to EPS team for resolution/solution.

Mandatory Tools:

Network Access Control (NAC)

It acts like a sentry for network access. No endpoint is allowed to access the LAN until the user is authenticated and device posture evaluated for compliance. It will ensure that all endpoints in the LAN are authenticated (to a user) and compliant to the government policy. Any non-compliant device can be moved to a quarantined segment until the compliance is achieved. It can be used to detect and automatically deploy UEM/EDR, if not found installed on endpoint during posture evaluation. DHCP is mandatorily needed for NAC to function correctly. Hence it is also integrated with NIC LDAP and IPAM to automatically update the IP details of each authenticated user in IPAM. The IP inventory will always be updated automatically and correctly.

Unified Endpoint Management (UEM)

It is the primary tool for managing the endpoint w.r.t. OS deployment & patching, software deployment & patching, policy configuration, compliance and auditing. All other tools can be deployment using it. It is the first and most important tool to be deployed on each endpoint. All the endpoint configuration, policy enforcement and hardening are being deployed using UEM. It will primarily be used for endpoint management without going to user desks and eating up users' working time. All the tasks will be carried out from UEM console silently in the background without interfering with users. UEM will be used instead of Domain Controllers (DC) as it provides all the functionalities needed by government infrastructure without the security risks associated with DC. For example, in a Windows environment, GPO, SecPol etc. will not be configured.

Endpoint Detection & Response (EDR)

It is the primary security tool for protecting the endpoints from malware and other attacks. If an endpoint is connected to the government network or holds government data without a functional and online NIC approved EDR agent, government data and the entire network and is at risk. EDR is a behaviour-based anomaly detection security tool that applies AI/ML models on large amount of endpoint logs and telemetry to detect new and unknown threats. It is not dependent upon signatures. EDR is used for managing the host firewall of the endpoints to prevent network attacks and lateral movements. It is also used to control and manage external USB storage media connecting to endpoints. It is also used for threat hunting and incident response in case of compromise.

Offline Data Backup (ODB)

In today's cyber world, no system is hack-proof or perfectly safe. Even after trying the level best and putting best of the security controls available, there are small chances that the endpoint may get compromised and data corrupted/encrypted/lost/wiped. In such cases, Offline Data Backup (ODB) comes to the rescue. ODB is based on the philosophy of hope for the best but plan for the worst where data recovery from offline backup is a measure of last resort. It is to be understood that online backup in cloud storages and drives maybe better than no backup but cannot act as a substitute for periodic offline backup. Online or connected backups are fraught with similar risks as data on endpoints. Considering the sensitivity of govt. data, it is recommended to keep periodic backups of user data created on endpoints on individual storage media like portable hard disks.

Optional Tools:

Operating System Log (OSL) Collection

Although EDR telemetry collects most of the relevant logs from the endpoint but not all of it. APTA are well aware and versed with the EDR telemetry of popular products. They continuously hunt, develop and use techniques which escape EDR telemetry data making threat hunting difficult. So, it is important to also capture detailed Operating System Log (OSL) to detect such sneaky and advanced attack vectors. For example, Windows Event Logs and Sysmon logs collect a wealth of data from Windows endpoints including task scheduling events, PowerShell execution events, USB connection events etc. This data becomes critical in case of compromise by APTA for detection and forensics. The problem with OSL is that it has limited capacity and is then overwritten by newer logs quickly resulting in loss of logs. So, they have to be collected on a central data lake to ensure extended periods of retention and analysis. OSL are not forwarded automatically by OS, so some agent has to be installed and configured to ship logs to the central data lake.

Digital Rights Management (DRM)

DRM focuses on data security. It doesn't concern with the security of endpoints or any other device. Its sole focus is to protect user data, whether at rest or in motion. It provides granular ri ghts for data sharing and access with detailed logging and continuous auditing. It provides persistent protection which ensures that data is safeguarded or protected wherever it resides, including in copies. It supports dynamic policy control which allows data owners to modify the permissions for their protected data at any point in time even if the file has already been shared. DRM has a feature of automatic expiration of files which allows administrators to set expiration dates for access that has been granted beyond which the access rights are automatically revoked. DRM also imposes replication restrictions which ensures that illegal or unauthorized copying of protected data is prohibited.

Data Loss Prevention (DLP)

DLP is also a data security solution which keeps track of sensitive data on endpoints and prevents leaks via various media like external USB storage, web/email upload, network share, print and copy etc. It is different from DRM as it works automatically in the background without user interaction implementing organisational data security policies. It can work on classification of data by users or automated keyword-based protection. It can be deployed in monitoring or protection mode. Monitoring mode will generate alerts for the administrators and protection mode will prevent movement of files against the defined policies. DLP can also be used to encrypt sensitive files automatically while being copied/shared to external media. These encrypted files will open only on internal endpoints with DLP agent running and remain encrypted on all other endpoints. This prevents inadvertent leakage of files/data.

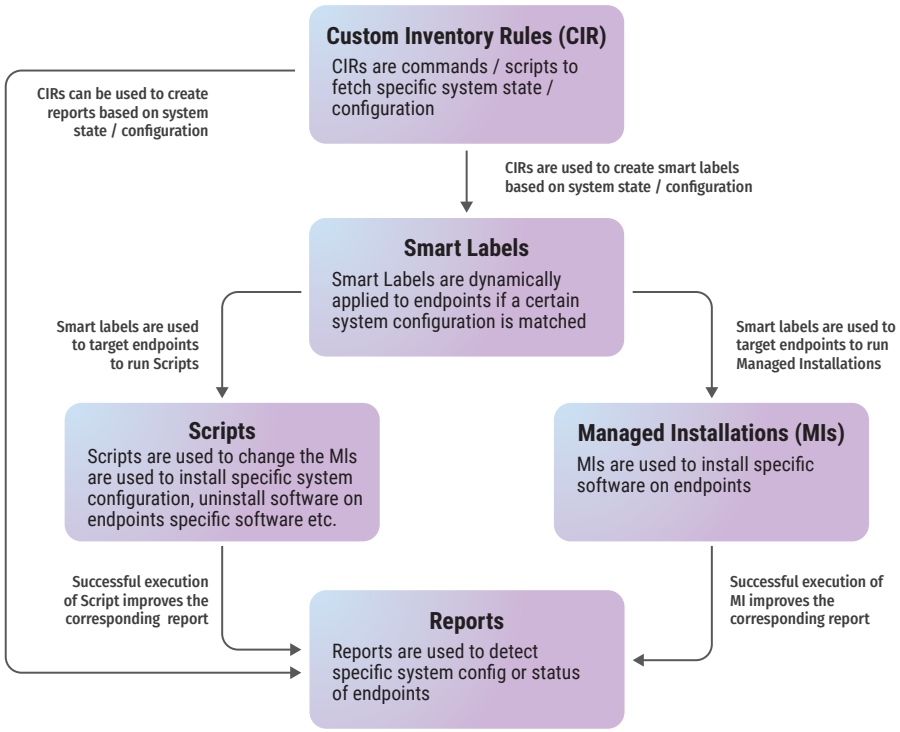
Proactive Monitoring

Log monitoring at centralized facilities is a standard practise today. It is necessary for monitoring core infrastructure. But it is not so effective for monitoring LAN and EPs due to lack of contextual information. Hence, ministry/department specific contextual monitoring of endpoint and firewall logs is essential. It is proposed to have 1 or 2 dedicated young NIC officers (depending upon load and critically) continuously monitoring each ministry/department all through the day. They will work closely with NIC-HOD/NO & L1 support engineers to ensure that any threat or incident is duly taken care of. Also, carry out threat hunting by monitoring abnormalities. It is to be noted that they should not be assigned to work on LAN and EP operations, nor supervise operations engineers. They should be allowed to focus on highlighting gaps in compliance, monitoring of logs and threat hunting in their respective ministry/department.

Continuous & Automated Assessment and Remediation (CAAR)

Cyber security is less about identifying threats and catching malware and more about maintaining posture and compliance of infrastructure. It is less about high flying measure and more about doing the basic cyber hygiene right. An important step towards this aim is system hardening. System hardening is a crucial cybersecurity practice that involves taking specific measures to reduce vulnerabilities and potential attack surfaces in a computer system or network. It's a proactive approach to security, aiming to make systems more resilient against cyberattacks. It is important as it helps in reducing attack surface, enhancing resilience, improving posture and maintaining compliance. Typical system hardening entails the following,

- **Vulnerability Assessment:** Regularly identifying and assessing potential security flaws in hardware, firmware, software, and configurations.
- **Patching and Updates:** Applying security patches and updates to address known vulnerabilities.
- **Configuration Management:** Ensuring proper security settings and configurations, including disabling unnecessary services, closing unused



▲ Fig 10.1 **CSIR Lifecycle**

ports, and adjusting default settings.

- **Removal of Unnecessary Software:** Eliminating programs and services that are not essential for the system's functionality to reduce the attack surface.
- **Access Control:** Limiting user permissions and access to system resources based on the principle of least privilege.
- **Monitoring and Auditing:** Continuously monitoring system activity for suspicious behaviour and auditing security configurations.

The most popular and common technique to implement system hardening is script-based. All the relevant parameters are configured on the endpoint using a PowerShell or batch script in a single execution. The hardening script can be executed on the endpoints either manually on each endpoint or through some delivery system like UEM. The compliance of these hardening parameters are evaluated periodically through audits. The issues with this approach, first, is that if some hardening parameters are modified either by user or APTA utilizing a vulnerability, they can be fixed only after the next audit. The endpoint will remain at risk or compromised till the next audit. Considering the sensitivity and criticality of government data and motivation of APTA, this window of invisibility causes serious risks. Second, if any hardening configuration impacts business function of users, it is cumbersome to troubleshoot, identify and roll-back specific configuration. The quickest possible solution in such cases is formatting of the endpoint which disrupts user functions are causes friction.

▼ **Fig 10.2 : A sample hardening parameter under CAAR framework for configuring NIC DNS server is tabled below for reference**

NIC DNS		
CIR	CIR – Network : DNS Windows	Lists configured primary and secondary DNS Servers (space separated) for network adapters of Windows endpoints
Label	@nodns	Device label dynamically applied to windows endpoints where the DNS Server is not NIC DNS Server (1.10.10.10 and 36.50.50.50)
Script	Custom – Configure NIC DNS Server	Configures NIC DNS Server on endpoints with label '@nodns'
Report	Custom – Endpoints without NIC DNS	Report to list Windows endpoints without NIC DNS Server

We are proposing a new framework of hardening endpoints, which takes care of the problems of script-based approach, called Continuous and Automated Assessment and Remediation (CAAR). In this approach, the hardening parameters are handled individually or in coherent groups of configuration. Each individual/group parameter is checked on each inventory by UEM through Custom Inventory Report (CIR). If there is a gap then these endpoints are labelled using Smart Labels. Relevant scripts or software installations or uninstallations are triggered based on these labels and remediation initiated. All of these steps are automatic and regular. Ministry / department can get the compliance status on a daily basis through reports. This creates an ecosystem of continuous and automated assessment and remediation of system hardening parameters. It reduces the windows of risk and gives granular visibility of hardening parameters. The advantages of CAAR framework include continuous monitoring, automated remediation, no disturbance for users, roll-back of specific parameter in case hardening affects business functions, regular internal audits, improved posture and compliance, reduced attack surface and overall secure environment. The ownership of the system hardening policy will remain with EPS team and the policy defined by EPS team has to be followed NIC-HOD/NO and their teams. It is important to note that CAAR framework will automatically remediate gaps in hardening parameters in endpoints. However, if some endpoints still remain non-compliant then the issue is mostly with the endpoint itself. NIC-HOD/NO along with the L1 support engineers must get it resolved by visiting the endpoints and running troubleshooting guides.

Government LAN and EP security is unique in terms of resources, requirement and threat perception. Traditional models are not effective in securing them effectively. Hence, there was a need to create a new model and framework which was indigenous and would suit the govt. LAN and EP security requirements better. MOGLES and CAAR were conceived, designed, implemented and successfully tested in various critical ministries and departments of central govt. over a period of two years. They were born in the field and have survived the grind of nation-state APTA in the field. These involve using traditional available technologies and configuring them to suit govt. ecosystem in a novel way. The model is privacy-centric, low cost, autonomous, granular control and provides complete control to ministry/department for their LAN and EP. It is simple and horizontally scalable. It can be easily implemented across various govt. office spread across central, state, district and public-sector.

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Technology Update

Beyond the Audit

ISO 27001 as the Backbone of Trusted Digital Infrastructure

Edited by **MOHAN DAS VISWAM**

As India's digital governance accelerates, so do the risks of managing sensitive citizen data, vast IT infrastructure, and outsourced development. While most government apps undergo basic security audits, these often focus narrowly on code flaws—overlooking compliance gaps, weak controls, and unmonitored infrastructure.

This is where certifications like ISO/IEC 27001 matter. Unlike routine audits, ISO 27001 offers a holistic framework—covering cybersecurity, infrastructure, HR protocols, documentation, and legal compliance—within a unified Information Security Management System (ISMS). It's about designing secure, accountable, and resilient systems from the ground up.

This article explains why surface-level audits are no longer enough—and why ISO 27001 is now crucial for the credibility, sustainability, and public trust of e-governance platforms.

Case Study: DST Infrastructure Audit

In 2024, under the direction of MeitY, NIC initiated a large-scale cyber security infrastructure audit across several ministries and government departments at Central, State and District levels. Centre for Development of Advanced Computing (CDAC) had been entrusted to conduct Cyber Security Audit of Department of Science and Technology (DST) network in Technology Bhawan,

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India's expanding digital governance needs more than routine audits, which often miss infrastructure gaps, weak access controls, and policy lapses. ISO/IEC 27001 offers a robust, enforceable framework with defined controls, ongoing audits, and role-based accountability. Drawing from real-world audits and case studies, it highlights how certification ensures legal compliance, operational resilience, and public trust. For government bodies handling sensitive data, ISO 27001 isn't optional—it's essential.

The audit aimed to assess the overall cybersecurity posture of DST's IT ecosystem—beyond just application-level vulnerabilities.

Scope of Audit

- Asset Identification and Discovery
- Network Architecture Review
- Endpoint Security and Configuration Review
- Internal and External VAPT (Vulnerability Assessment & Penetration Testing)
- System and Device Log Review
- Review of Cybersecurity Policies and Standard Operating Procedures (SOPs)
- Network Traffic Analysis
- Review of Network and Security Device Logs
- Risk Management Assessment
- Adherence to Best Practices and Auditor Recommendations

During the audit, teams from CDAC and NIC Cyber Security conducted a pre-audit assessment to understand the existing IT infrastructure as per Meity issued guidelines and, while the NIC team at DST shared details such as asset lists, network diagrams, configurations, security measures, whitelisted applications, logs, and incident history.

CDAC team collected and reviewed existing asset list, architecture diagram, and device configurations. Interacted with concern IT Team to understand current network infrastructure, network connectivity, followed practices, procedures, and configurations. The audit was conducted based on this information and further validated through onsite visits and system reviews.

CDAC submitted its audit report in April'25, highlighting vulnerabilities categorized as critical, high, medium, and low, which DST is expected to address. This was the initial step towards strengthening cyber security and will require follow-up after compliance actions are taken.

Findings

The exercise achieved most defined objectives and, for the first time, resulted in complete documentation of DST network, identifying key security gaps. This serves as a foundation for comprehensive gap analysis and implementation of the Cyber Crisis Management Plan.

The result? A clear, actionable roadmap to:

- Well documented assets and network details
- Streamline security processes
- Align with MeitY and CERT-In guidelines
- Support crisis management planning

Though the IT Infrastructure Audit is done, this audit cannot be considered as Information Security Audit as it has not covered other IT applications and portals used for implementation of its schemes and projects.

Mixed Response Across Departments

Some departments acted on the audit find-

ings; others treated it as a mere formality. Without mandatory certification, follow-through was weak—especially under the assumption that government cloud hosting made formal certification unnecessary. The audit revealed a hard truth: infrastructure vulnerabilities are real, often undocumented, and remain unaddressed without systematic certification.

The Limitations of Application

Application security audits have long been a standard requirement for government portals and e-governance platforms to be hosted in National Data Centers. These audits typically review code vulnerabilities, test for common cyber threats as per OWAPS guidelines and provide a certificate that clears the application for deployment—often seen as the final green signal.

However, these audits are not sufficient to ensure real-world security, compliance, or long-term sustainability. Here's why.

Common Gaps Observed

Despite years of mandated application security audits across ministries, several critical vulnerabilities and policy violations continue to go unchecked. These gaps highlight the limitations of conventional audits and the urgent need for structured certification frameworks like ISO 27001.

Limited Scope of Application Security Audit

Most application audits focus on code-level issues as per OWAPS guidelines —like SQL injection, XSS vulnerabilities, or insecure APIs—but rarely evaluate the application:

- Whether it follows government-approved security guidelines (like NISPG or eSAFE)
- Does meet data privacy laws such as the Digital Personal Data Protection (DPDP) Act, 2023
- If the system is designed for required performance and availability
- Do the system follow standard Change Management Policy?
- If disclaimers or user consent mechanisms exist before collecting personal data
- Whether change management or SOPs are documented and followed
- Whether the hosting system is hardened
- Any performance monitoring or reporting mechanism implemented

Insecure Authentication, Weak Identity and Access Management

Many applications continue to operate with:

- Poor Identity and password management
- Basic username-password logins (often without CAPTCHA),
- No multi-factor authentication (MFA),
- Default admin credentials or shared logins.
- Non enforcement of periodical password change.

Poor Design and Broken Workflows

Even when code is audited, functional flaws go unnoticed, leading to poor service delivery. For instance:

- Auto-logout mechanisms don't work
- Role-based approvals are bypassed
- Logging mechanisms are incomplete.
- No standard support and redressal mechanism.

Non-Compliance with Accessibility Laws

Despite completing STQC certification, many portals:

- Do not meet WCAG 2.1 guidelines,
- Do not comply to DBIM guidelines
- Violating of Web Accessibility Guidelines had forced the Supreme Court ruling to implement WCAG 2.1 on priority. Violation may lead to monthly penalty.

Absence of Confidentiality Safeguards

- Non maintenance of Non-Disclosure by implementing agencies and outsourced employees.
- No documentation exists for human resource onboarding, offboarding, or data access boundaries.

Lack of User Consent and Data Sharing Disclaimers

Applications routinely collect sensitive user data but:

- Do not display Terms of Use or data-sharing consent notices
- Do not have policies for cross-system data exchange, putting departments at risk under the DPDP Act

Poor Readiness for Legal Compliance

More than 80% of audited applications are not equipped to demonstrate:

- Data retention and deletion policies,
- Log monitoring or breach detection systems,
- Compliance with the DPDP Act or IT Act 2000.

ISO 27001: What It Covers

In a digital ecosystem where data is the lifeblood of governance, security must extend beyond code-level audits and isolated technical fixes—it demands an integrated, holistic approach. True resilience demands a structured, organization-wide commitment to protecting information at every stage of its lifecycle. That's where ISO/IEC 27001 steps in—not merely as a standard, but as a strategic framework for managing information security in a measurable, repeatable, and certifiable way.

Globally recognized and widely adopted across public and private sectors, ISO 27001 offers a blueprint for establishing a comprehensive Information Security Management System (ISMS). Unlike routine audits that often provide a narrow technical assessment, ISO 27001 looks at the entire organization—its people, policies, infrastructure, and technology—to ensure end-to-end accountability and risk management.

The ISO 27001 Certification Lifecycle

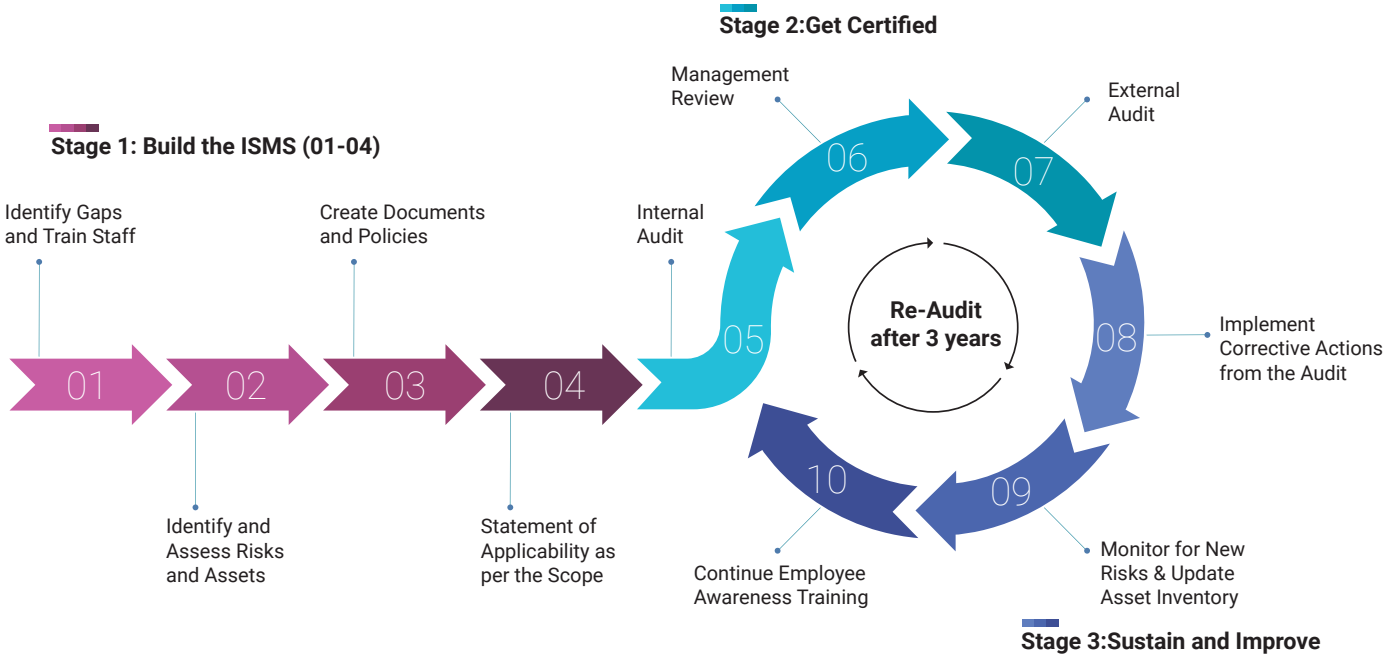
ISO 27001 certification is not a single event but a continuous lifecycle of building, validating, and improving an organization's Information Security Management System (ISMS). It integrates internal discipline with third-party oversight and evolves as your organization grows, changes, and faces new risks.

The Four Pillars of ISO 27001

The 2022 revision of ISO/IEC 27001 organizes 10 clauses, with 93 security controls into four well-defined domains, each covering a critical area of information security. This structured approach ensures that all dimensions of an organization—people, processes, infrastructure, and technology—are systematically secured. Clause 1 to 3 pertaining to Scope and References, Clause 4 Context of organization. See fig. 11.1 for breakdown of the domains and their focus areas:

▼ Fig : 11.1 **ISO27001:2022 Domains and Controls**

Domain	Clauses	Controls	Area
Organizational	5	37	Policies, Role &Responsibilities, Risk & Asset management, Access control and identity management, Supplier relationship security, Incident response, Business continuity, Compliance with legal and regulatory requirements
People	6	8	Pertaining to HR screening & qualifications before employment, T&C of Employment, ISMS Awareness, Training, Disciplinary Process, Responsibilities After Termination or Change of Employment, Confidentiality or Non-Disclosure, Remote Working, Information Security Event Reporting
Physical	7	14	Physical security perimeters like entry/ exit controls, physical security of the location, security monitoring, security of assets on-off premise, cabling security, equipment maintenance, secure disposal or reuse etc
Technological	8	34	Access Control, Securing sensitive data, both in transit and at rest, Endpoint Protection, Logging and Monitoring, Backup and Recovery, Secure Development, Configuration Management, Data Deletion and Masking, Web Filtering and Secure Coding etc



▲ Fig 11.2 **ISO 27001 Certification LifeCycle**

Clause 9 is related to Performance evaluation and Clause 10 for improvement.

The lifecycle can be broken down into three key stages:

Stage 1: Build the ISMS

This is the foundation phase where the organization prepares itself for certification:

A. Identify Gaps and Train Staff: Begin with a gap analysis and launch awareness training to build a security-first culture.

B. Identify and Assess Risks and Assets: Map critical assets and evaluate threats, vulnerabilities, and impacts through a detailed risk assessment.

C. Create Documents and Policies: Draft and finalize the necessary security policies, SOPs, access control guidelines, and risk treatment plans required for your ISMS.

D. Statement of Applicability (SoA) Making Controls Traceable: SoA is a key document that outlines which of the information security controls listed in Annexure A of the standard, the organization has chosen to implement—and which ones it hasn't, along with the reasons why. Organizations are required to provide clear documentation, demonstrate tested implementation, and justify why any control has been excluded or deferred.

Here's what the SoA typically includes:

- A list of all Annex A controls
- Whether each control is applicable or not
- Justification for inclusion or exclusion
- The current implementation status of each applicable control
- References to how each control is implemented (e.g., policies, procedures, tools)

Stage 2: Pass Your External Audit

E. Internal Audit and Management Review: Usually internal auditing is conducted by certified Lead Auditor or auditing agency. The team prepare the Audit Checklist as per the SoA and Implementation guidelines given in ISO27002. Identify non-conformities, address them, and review the Statement of Applicability (SoA).

The auditor coordinates with all the stakeholders and prepare as internal assessment report as per SoA. Typical Internal Assessment reports includes

- Clause and Sub-clause number as per the ISO27001 framework
- Standard Verbatim. Clause's exact description
- Audit point: The point to verify.
- Status: Whether the organisation is meeting this compliance. NC means Nonconformity, C means Conformity, Under process and Not Applicable.
- Stage: 1st time and consecutive post review.
- Department: Which department/ division is responsible for implementation.
- Supporting documents: Like MOA, MOU, SOP, Configuration, other relevant certificate etc.
- Document type: Internal External Issues document

During Internal Auditing following documents are prepared for submission to the ISO27001 Certifying bodies.

- Introduction: Purpose and scope as per Clauses 1–3.
- General Information: Overview of the organization, its business, and stakeholders.
- Internal Audit Report: Control verification status for Clauses 4–8.
- Supporting Documents: SOPs, ToRs, WOs, NDAs, and other relevant records.
- Clause-wise Conformance List: Control-wise status under Clauses 4–10, categorized by Organization, People, Physical, and Technology.
- Nonconformity List: Controls deemed non-applicable or accepted as risk by the organization.
- Corrective Actions: Measures planned for addressing nonconformities.

F. ISO 27001 External Audit: Undergo an external certification audit by an accredited body. This involves document checks, interviews, site inspections, and testing of your ISMS in practice. Passing this phase results in official certification. In India there are around 11 ISO27001 certifying bodies including STQC.

Stage 3: Sustain and Improve

Certification is only the beginning. Maintaining it requires active involvement:

- Implement corrective actions by addressing audit findings and refining security controls accordingly.
- Continuously monitor for new risks and update the risk register and asset inventory to reflect changes.
- Provide ongoing employee training on security protocols, phishing threats, and role-based responsibilities.
- Conduct regular internal audits with experts to test control effectiveness and identify emerging risks.

- Undergo annual surveillance audits and tri-annual re-certification to keep the ISMS aligned with evolving standards.

ISO 27002: Turning Policy into Practice

While ISO 27001 defines what needs to be done, its companion standard, ISO/IEC 27002, explains how to do it. This implementation guideline provides detailed instructions for implementation of ISO27001 Controls.

Think of ISO 27001 as the "security constitution" and ISO 27002 as the "operations manual." Together, they enable not just compliance—but security maturity.

Benefits of Certification Over Routine Audits

Routine audits are like snapshots—brief glimpses into a system's surface vulnerabilities. In contrast, certifications like ISO 27001 offer a full diagnostic scan, addressing the organization's security posture across people, processes, policies, and infrastructure.

Here's how certification goes beyond compliance and becomes a strategic enabler of secure governance:

Strengthened IT Governance

ISO 27001 requires departments to document, implement, and routinely review their policies and procedures. This improves:

- Accountability at every level,
- Role clarity for stakeholders,
- Alignment between business objectives and IT operations.
- Building trust and assurance

Enhanced Security Coverage

While routine audits test application-level code, ISO certification ensures:

- Infrastructure hardening (servers, VMs, firewalls)
- Log monitoring and retention,
- Secure access management across systems
- Physical and human safeguards are enforced.

It closes the loop on vulnerabilities that arise not from code—but from configuration, behavior, or oversight.

Legal and Regulatory Compliance

Certification helps departments proactively comply with:

- The Digital Personal Data Protection (DPDP) Act, 2023
- CERT-In and NISPG guidelines
- International standards like GDPR, WCAG 2.1, and ISO 27002.

These aren't just checklists—they're auditable commitments, enforceable during breach investigations or RTI responses.

Improved Operational Efficiency

Certifications mandate:

- Defined Standard Operating Procedures (SOPs)
- Change control, backup, and incident handling protocols
- Structured communication between development, deployment, and audit teams.

This reduces rework, improves service uptime, and helps systems evolve with fewer disruptions.

Better Risk Management

Every control under ISO 27001 maps to a risk treatment objective. This forces departments to:

- Acknowledge known risks
- Apply mitigation or accept them formally with justification
- Maintain a live risk register linked to measurable actions.

ISO does not eliminate all risks. It ensures risks are visible, owned, and managed.

End-to-End Data Integrity and Confidentiality

Certification includes hardening of:

- Hosting environments (e.g., patching and VM isolation)
- Admin-level access (with logs and justifications)
- Encryption standards and retention policies.

It ensures that even if application code is secure, the environment and operations remain secure too.

Recommendations for Government Agencies

To truly secure India's digital infrastructure and citizen-facing services, government departments must move from reactive audits to proactive certifications. Here are few Policy and Practice Recommendations:

- Mandate ISO 27001 for all major G2C and G2B platforms: Especially those handling financial transactions, personal data, or integration with external APIs.
- Include certification requirements in RFPs and vendor contracts: Third-party developers and data handlers must hold valid ISO 27001 / CMMI / WCAG certifications.
- Train internal teams in certification-readiness: Appoint internal ISO leads or auditors who can conduct pre-certification assessments and maintain compliance.
- Establish a central repository of SoAs and audit results: Enable transparency and knowledge-sharing across ministries.
- Integrate SOPs and ISO controls into Agile workflows: Encourage secure-by-design thinking rather than last-minute audits.
- Tie funding and renewals to certification compliance: Make ISO compliance a condition for continued budget allocation and hosting approvals.

Conclusion

In today's digital era, trust is as critical as technology. Citizens expect not only faster services but also secure, accountable systems that respect their data and rights. Routine audits may tick a box, but only certifications like ISO 27001 can guarantee that an organization has done the hard work—building security into its infrastructure, its people, its processes, and its mindset.

For India's digital governance to mature, security cannot remain an afterthought. It must be embedded, enforced, and externally validated. Certification is not just a stamp—it's a statement. A declaration that the government values privacy, accountability, and excellence in public service delivery.

▼ Fig : 11.3 : Audit vs. Certification: A Comparative Snapshot

Aspect	Routine Security Audit	ISO 27001 Certification
Scope	Code-level, application-specific	Organization-wide: people, process, tech
Depth of Evaluation	Surface-level testing	In-depth, control-by-control verification
Documentation Required	Minimal (audit report)	SoA, SOPs, risk register, internal audits
Validity	One-time pre-launch	Ongoing (annual reviews + recertification)
Enforceability	Advisory in nature	Legally recognized and auditable
Risk Management	Not always addressed	Central to certification process

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Technology Update

GetOTP

A Smart Companion for Reliable OTP Delivery

Edited by **MOHAN DAS VISWAM**

In the digital age, One-Time Passwords (OTPs) serve as the backbone of secure transactions, identity verifications, and countless login procedures. From banking and e-governance to e-commerce and app security, OTPs are indispensable. But ironically, the very system trusted to deliver them - SMS - is showing signs of strain.

With poor mobile networks, Do Not Disturb (DND) filters, and the increased regulation brought on by TRAI's Distributed Ledger Technology (DLT) requirements, SMS delivery has become not just expensive but fragile and unreliable. Countless users experience failed logins or transaction breakdowns due to delayed or undelivered OTPs.

Enter GetOTP — a lightweight Android application that bypasses all the traditional hurdles of SMS-based OTP delivery. It offers a robust, secure, and cost-free method of delivering OTPs via the internet. No SMS, no delays, no registration, and best of all — no cost per message.

The design philosophy behind GetOTP is rooted in a simple observation: if SMS can fail, why not switch the channel altogether?

Unlike conventional SMS OTP systems that rely on mobile networks, GetOTP employs a pull-based internet model where the user retrieves their OTP from a secure backend using a silent, device-recognition approach. No mobile number needs to be typed, no OTP needs to be copied, and no account needs to be created.

Key Objectives of GetOTP

- **Plug-and-play utility:** Seamless integration with any host application without altering back-end logic
- **SMS-free delivery:** 100% internet-based
- **Zero login:** No user account or SMS verification needed
- **High security:** No access to host app credentials or private user data
- **High delivery success:** Operates efficiently in low-network or DND-filtered zones
- **Zero message cost:** Scalable without worrying about rising costs

GetOTP is built for organizations and developers who need large-scale, dependable OTP delivery — without incurring the costs or failures tied to SMS gateways.

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GetOTP is a smart Android app that delivers OTPs via the internet, bypassing unreliable SMS channels. It ensures fast, secure, cost-free delivery using device recognition—no login, no SMS needed. Designed for developers and organizations, GetOTP offers plug-and-play integration, high delivery success, zero message cost, and strong privacy. It's the future-ready solution for seamless, scalable OTP authentication.

Technology Stack

GetOTP's strength lies in its minimalist, efficient tech stack that's specifically tailored for reliability, privacy, and scalability.

- **Android SDK (Java):** Provides native support across all Android devices, ensuring wide compatibility
- **PHP:** Powers the API layer for handling OTP generation, fetch requests, and device validations
- **MySQLi:** Manages server-side storage of OTPs, device identifiers, and expiry timestamps
- **SQLite:** Secures on-device data without requiring cloud-based or third-party syncing

By consciously avoiding Firebase or any push-notification dependency, GetOTP ensures consistent performance even on low-end devices or in poor internet conditions. It also eliminates any variable costs or third-party limitations.

Innovation

GetOTP redefines OTP delivery through its pull-based architecture, which removes dependency on mobile network infrastructure altogether. It offers both greater reliability and better control over OTP access.

Key Innovations

- **User-Initiated OTP Fetch:** Puts the power in the user's hands, minimizing failed deliveries
- **No Credential Sharing:** Keeps host systems isolated and secure — there's no need for app login or SMS interception
- **Silent Trust Model:** Recognizes devices securely using Android ID and mobile number, without asking the user to type either
- **Minimal Permissions:** The app does not request access to SMS, contacts, storage, or even location

Software Architecture

The core architecture follows a lightweight 3-tier structure:

- **Android App –** Simple UI with device recognition and OTP display
- **PHP API Layer –** Interprets fetch requests and communicates with the backend
- **MySQL Server –** Stores and validates OTPs with expiry timestamps and device ID mapping

This design ensures the app is portable across platforms like iOS, KaiOS, or even Linux-based kiosks — enabling wide-scale adoption in both public and enterprise environments.

Step-by-Step Flow

The GetOTP system operates with minimum

friction and maximum security. Here's how it works:

Mobile Number Detection

When the app is first installed, it automatically attempts to detect the user's mobile number (if permissioned). Alternatively, it can be securely provided via the host authenticator app and locked to the device to prevent spoofing.

OTP Generation (Host-Side)

The host system continues to generate OTPs based on its usual logic — time-based, random string, or user-triggered.

Device Recognition

The app identifies the user's device using the Android ID and the associated mobile number. This replaces the need for login or SMS verification.

User Requests OTP

When the user opens the app, it makes a secure call to the backend to fetch the current OTP.

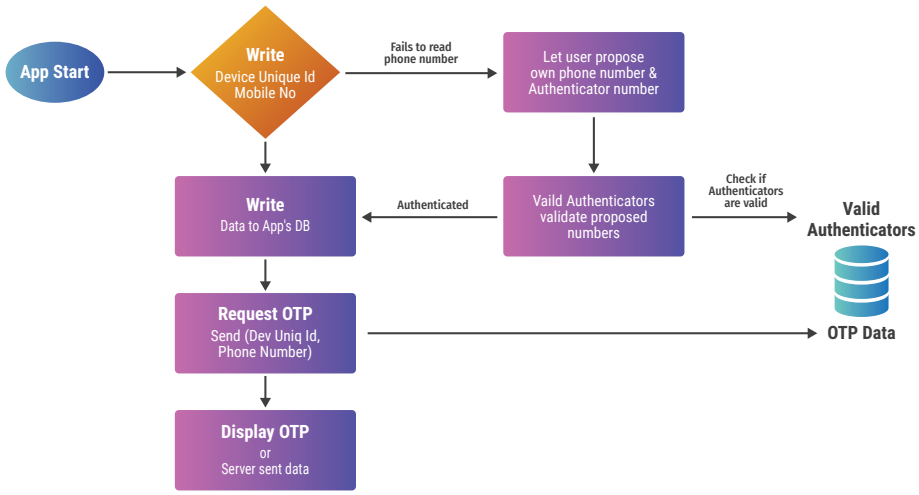
Server Validation

The backend checks whether the OTP is still valid, verifies the device ID against the expected mapping, and ensures no tampering has occurred.

OTP Display

Once validated, the OTP is displayed on-screen, never shared with the clipboard or other apps. The OTP disappears after a set duration or when used.

This flow ensures that users always receive their OTP on time — no SMS delays, no spoofing, and no access hurdles.



▲ Fig 12.1 GetOTP Architecture

Benefits

- **Bypasses SMS Weaknesses:** No more waiting for SMS to arrive. No more fights with the mobile network operator. GetOTP delivers consistently over any internet connection
- **No Onboarding Required:** Users don't need to sign up, log in, or share personal information. Device recognition is fully silent and secure
- **Easy Integration:** Organizations don't need to overhaul their backend systems. GetOTP is compatible with existing OTP generation logic
- **Flat Cost Model:** Unlike SMS gateways that charge per OTP, GetOTP runs on your server's bandwidth — lakhs of OTPs with zero messaging cost.
- **Stronger Privacy & Security:** The app doesn't read SMS, doesn't store OTPs on-device, and doesn't sync with cloud services. It's phishing-resistant and data-minimal.
- **Fewer Complaints, Higher Conversions:** Apps and services that use GetOTP see fewer user complaints, fewer failed authentications, and smoother user journeys.

The Future of GetOTP

The current version of GetOTP already solves one of the most persistent problems in digital ecosystems. But the team is committed to pushing its utility further with upcoming features that will make it even more flexible, secure, and auditable.

Roadmap

- **QR-Based Device Linking:** Allow OTP fetch via secure, time-limited QR sessions — great for desktop-web interactions
- **Tamper-Proof Audit Trails:** OTP access logs hashed and chained to prevent tampering
- **Biometric OTP Protection:** Allow OTPs to be visible only after fingerprint or face scan
- **Admin-Gated Visibility:** Enable OTPs to be shown only during specific time windows or admin-controlled sessions
- **Shared Device Mode:** Special profiles for Common Service Centres (CSCs), ATMs, or kiosk systems
- **Offline Cache (Optional):** OTPs can be temporarily cached (encrypted) to enable offline retrieval in remote areas

With these additions, GetOTP aims to become the digital backbone of secure, low-cost, and frictionless OTP delivery for both private and public digital infrastructure.

Conclusion

As digital trust becomes the currency of modern platforms, the humble OTP continues to play a starring role in user authentication. Yet, with SMS proving to be a fragile channel, we must ask — why rely on it?

GetOTP offers a bold, practical answer. It replaces outdated infrastructure with a simple, secure, and scalable model that just works — no matter where you are or how many OTPs you send.

In a world where users abandon carts, sessions expire, & networks drop signals - GetOTP delivers.

▼ Table 12.1 : Comparison between SMS Gateway, Firebase Push and GetOTP

Feature	SMS Gateway	Firebase Push	GetOTP
Works without mobile network	✗	✗	✓
Avoids DND filters	✗	✓	✓
Zero message cost	✗	✓	✓
Works on shared devices	✗	✗	✓ (configurable)
Requires registration	✓	✓	✗
Privacy-safe	✗ (reads SMS)	✓	✓ (minimal access)

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Appscape

Mobile technology has emerged as a primary tool for governments to serve their citizens. It has bypassed the need of traditional physical networks for communications and collaborations. It is also much more affordable and accessible, thus strengthening the nation through better citizen-government interaction. To further nourish this interactivity, NIC has created a repository of more than 730 mobile apps available through both the Android and iOS platforms. This issue of Appscape covers some of the more popular mobile apps launched recently. These apps belong to different sectors such as Administration, Development, Finance, Public Distribution, Health and Education.

eSummon

The eSummon app, developed by the National Informatics Centre (NIC), is a breakthrough in India's journey toward digitizing its criminal justice system. Launched as part of the Inter-operable Criminal Justice System (ICJS), the app enables courts to issue summons and warrants electronically, eliminating delays and inefficiencies in manual delivery.

One of the core features of the app is real-time digital service. Summons and warrants are instantly transmitted to police stations or designated officers, ensuring no time is lost in physical dispatch. Officers can then use the app to acknowledge receipt, mark service status, and even capture digital signatures from recipients—providing courts with verifiable proof of delivery.

The app integrates seamlessly with court systems and police databases, forming a unified platform that improves coordination and transparency. With features like delivery status tracking, officer authentication, and geo-tagging, eSummon enhances accountability at every step.

Beyond convenience, eSummon brings a crucial benefit—speedy justice. By ensuring summons reach the right person at the right time, the app reduces trial delays and improves the efficiency of India's judicial process. As part of the broader reforms under the new criminal laws, eSummon stands out as a powerful tool for transforming justice delivery in a digital era.

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Crop Doctor

Crop Doctor is an all-comprehensive app designed to help farmers and agricultural professionals diagnose and manage crop diseases quickly and accurately. The app provides users with a database of diseases that can affect different crops and provides detailed information on how to identify and treat them. Its database has information on all major crops of paddy, vegetables, pulses and oil seeds.

The app provides users with a platform to interact with agricultural experts, who can provide personalised advice and guidance on managing crop diseases. Users can ask questions and seek guidance from experts, who can provide quick and accurate solutions to any problems faced by farmers. It also provides a calendar "eKrishi Panchang", where users can get crop specific advisory on the basis of crop cultivation cycle.

The app is unicode-supported and available in both Hindi and English, making it accessible to farmers and agricultural professionals across the state.

The app also provides users with information on best agricultural practices, agricultural machinery, agriculture-related news, and various government schemes making it a comprehensive tool for managing crop production.

Tej Narayan Singh (sio-cg@nic.in)

Janbhagidari

Janbhagidari (or C.G. Khadya) is a comprehensive mobile application developed by NIC Chhattisgarh for the Department of Food, Civil Supplies, and Consumer Protection, Government of Chhattisgarh. Designed for all citizens of the state, this Android-based app brings vital information and services related to the PDS directly to users' fingertips.

Key Features:

- View details of your ration card anytime
- Find nearby ration shops and Dal Bhat centers using Google Maps
- Check item receipts at FPS and distribution details to beneficiaries
- Get a snapshot of your ration transactions.
- Stay informed about entitlements under PDS.
- Access data on MSP (Minimum Support Price) for paddy and maize
- Quick surveys to enhance service delivery

The app brings transparency by offering clear visibility into food supply operations. It empowers citizens by keeping them informed about their rights and entitlements. With easy access to services, users can conveniently track their benefits without needing to visit PDS offices physically. This improves efficiency and saves time. By encouraging Janbhagidari and ensuring accountability, the app strengthens trust in Chhattisgarh's food distribution system.

Tej Narayan Singh (sio-cg@nic.in)

SAMBAL

SAMBAL is a citizen-focused mobile app designed to bring transparency and efficiency to the NSAP. Available for Android devices, it is tailored for both rural and urban users seeking pension assistance. With SAMBAL, citizens can register and check their eligibility for pensions under various NSAP components, including old-age, widow, and disability pensions. The app enables users to view comprehensive pensioner lists, offering visibility on beneficiaries up to the gram panchayat level.

Key Features:

A standout feature is the DBT (Direct Benefit Transfer) summary, which summarizes pension disbursements and payment statuses, ensuring users can easily verify receipt. Moreover, the app supports finding nearby bank and post office locations, making it easier for pension collection and administrative coordination. SAMBAL is lightweight and user-friendly, compatible with older Android versions (from 4.4 upwards), and caters to diverse linguistic needs, offering over 22 languages including Hindi and English. Regular updates, bug fixes, and a clean interface enhance usability.

By providing real-time pension eligibility checks, fund transfer tracking, and location support, SAMBAL strengthens financial inclusion, fosters trust in government welfare processes, and empowers vulnerable citizens with accessible social security information.

Sanjay Kumar Pandey (hog-mord@nic.in)

E-Work

The E-Work app is a powerful mobile tool developed by the National Informatics Centre (NIC), Rajasthan, to streamline rural development project monitoring across the state. Its primary purpose is to empower field-level officials and MLAs with real-time, geo-tagged evidence of work progress under various government schemes.

- Allows users to upload photographs at key stages- 'Before Start', 'During Work', and 'Completion'- complete with precise GPS coordinates. it ensures transparent, verifiable tracking of on-ground activities.
- From digital cost estimation to administrative, technical, and financial sanctions, and through to issuance of completion certificates, it offers a platform to manage the full lifecycle of development works
- Authorities can monitor project progress via dashboards, receive SMS alerts, and identify delays promptly. Integration with a Single Nodal Account (SNA) ensures funds are released efficiently
- MLAs can directly propose projects tailored to their constituencies, further enabling inclusive, participatory governance
- By enhancing transparency, efficiency, and accountability, E-Work is transforming rural governance in Rajasthan—making project tracking swift, verifiable, and citizen-centered

Jitendra Kumar Verma (sioraj@nic.in)

Goa Transport

Goa Transport app, developed by NIC Goa, empowers vehicle owners and transporters across the state to manage transport-related financial transactions with ease. Users can pay essential taxes—such as road tax, passenger tax, counter-signature tax, cess, and checkpost tax—directly through the app, thanks to its secure e-challan gateway linked with the state treasury. Additionally, the app provides real-time access to permit details for any registered vehicle.

Its intuitive login system offers both OTP and password-based access, in sync with the official transport portal (goatransport.gov.in). Post-payment, users can track their transaction history and download PDF receipts for record-keeping.

Highlights:

- One-stop tax payments for all vehicle and passenger-related fees
- Permit status checks via vehicle-specific lookup

Secure, integrated payment flow with state financial systems

- Payment history and receipt downloads for transparency

Since its launch, the app aim to expedite applications—including learner licenses, registrations, insurance, and PUC reminders-for wider convenience.

Sameer P. Datar (sio-goa@nic.in)

ATHIDHI Kerala

ATHIDHI Kerala is a multilingual Android application designed to streamline the registration and welfare of migrant workers in Kerala. Launched in April 2023 alongside a web portal, the app facilitates seamless onboarding of workers, employers, and contractors under the state's labour department initiatives.

Key Features:

- Migrant workers, contractors, and employers can self-register using OTP-based authentication, uploading essential information such as personal, educational, skill, and employment details
- Each registered migrant worker receives a unique ID to access various state welfare programs, including health insurance and social security schemes
- Workers receive timely alerts and updates related to welfare entitlements via the app's notification module

ATHIDHI Kerala streamlines welfare delivery by centralizing migrant worker data, reducing duplication, and improving access to government schemes. Unique IDs and official registration enhance safety and accountability. The app also simplifies administration, helping contractors and officials track and manage registrations efficiently.

Dr. Suchitra Pyarelal (sio-ker@nic.in)

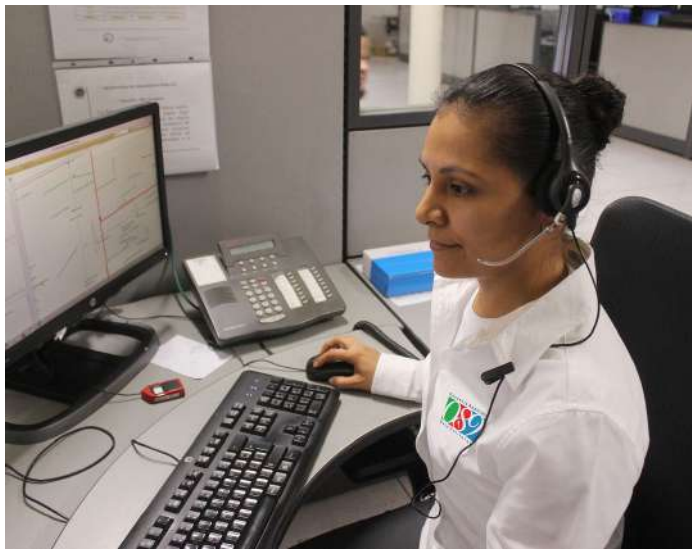
United States Begin Using AI to Review 911 Calls

Across the United States, county governments are increasingly turning to artificial intelligence to review 911 calls and dispatch communications, part of a growing effort to modernize emergency response systems and ensure fair, efficient public safety services.

In places like Crawford County, Pennsylvania, officials have approved the adoption of AI-driven platforms to help monitor and assess the quality of emergency calls and radio traffic. The new systems are designed to identify strengths and weaknesses in dispatcher performance, generate detailed statistical reports, and flag potential issues in how calls are handled — without adding to the workload of already stretched public safety staff.

"We're looking at how to get the most out of our people while maintaining the highest standards of service," said Greg Beveridge, Crawford County's Director of Public Safety. "With AI, we can review a much higher percentage of calls and gain insights that previously would have taken weeks to collect manually."

Crawford County is using a platform called CommsCoach, which offers real-time call monitoring and feedback tools. The AI reviews are not intended to replace human judgment, officials say, but rather to support it — offering a second set of eyes that can operate at scale, 24/7. The system also helps track patterns that may point to unconscious bias, service delays, or inconsistent responses.



Similar systems are being tested in Johnson County, Kansas, Grand Island, Nebraska, and Jefferson County, Colorado. These jurisdictions are using AI to assist in dispatcher training, improve real-time translation during calls, and triage non-emergency situations more effectively.

Proponents say the technology can reduce disparities in emergency response and ensure consistent treatment across communities. Civil rights advocates, while supportive of transparency efforts, have urged caution. They emphasize that AI tools must be carefully designed and continuously monitored to prevent reinforcing existing biases or introducing new ones.

Source- https://www.govtech.com/

US Lawmakers Move to Ban Chinese AI in Federal Agencies

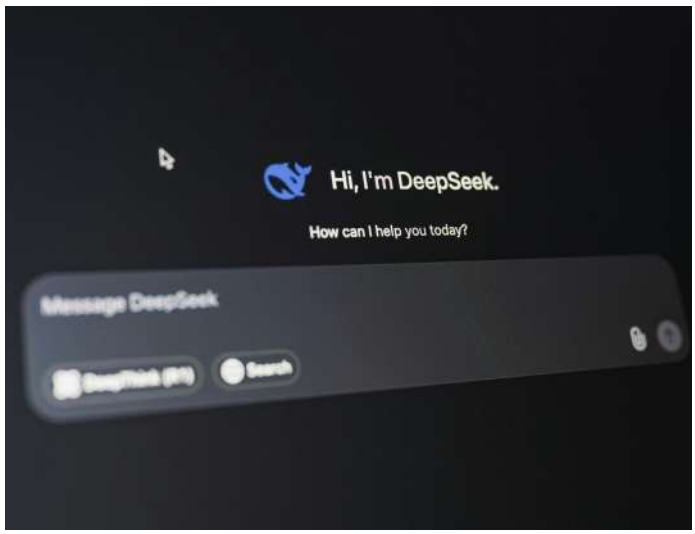
A bipartisan group of U.S. lawmakers has introduced the No Adversarial AI Act, seeking to ban the use of artificial intelligence systems from China, Russia, Iran, and North Korea in federal agencies.

The bill, led by Rep. John Moolenaar (R–MI) and Rep. Raja Krishnamoorthi (D–IL), cites national security concerns over foreign-developed AI, especially Chinese firms like DeepSeek, which are reportedly linked to Beijing's military and intelligence networks.

Under the legislation, a dynamic list of restricted AI vendors would be maintained by the Federal Acquisition Security Council. Federal agencies would be barred from deploying tools from these entities unless granted specific exemptions for research or counterterrorism.

"This is about building a firewall against authoritarian influence in our most sensitive systems," said Moolenaar, calling AI the defining battleground of future global power.

If passed, the bill would mark one of the strongest U.S. efforts yet to secure government systems from foreign AI intrusion.



Source- https://apnews.com

Smart AI Traps: A New Weapon in the War Against Mosquito-Borne Diseases

In a leap forward for global health surveillance, scientists are now turning to artificial intelligence to combat one of humanity's oldest enemies: the mosquito.

At the University of South Florida, researchers have developed AI-powered mosquito traps capable of identifying disease-carrying species in real time. These smart traps can automatically detect and classify mosquitoes such as Aedes aegypti—vectors of dengue, Zika, and yellow fever—as well as Anopheles mosquitoes that spread malaria. The system's real-time processing enables authorities to launch swift, targeted interventions before outbreaks spiral out of control. Early trials have shown promising potential in improving public health response times, particularly in high-risk tropical zones.

Meanwhile, at Johns Hopkins University, a team of biomedical engineers has introduced VectorCAM, a portable, AI-enhanced microscope that can identify mosquito species with approximately 95% accuracy. The device is especially impactful in regions with limited access to trained entomologists. In field trials across Uganda, health workers used VectorCAM to quickly assess mosquito populations and adjust vector control strategies on the ground. Its compact design and robust AI vision capabilities make it ideal for remote deployments.

These innovations come at a crucial time, as climate change expands mosquito habitats and resurges in mosquito-borne diseases threaten new regions. Both projects reflect a broader trend in public health: integrating machine learning, computer vision, and edge computing to create smarter, faster, and more scalable disease monitoring systems.

As mosquito-borne illnesses continue to pose serious threats globally, AI-enhanced surveillance tools may just offer the edge we need.

Source- *https://www.reuters.com/*

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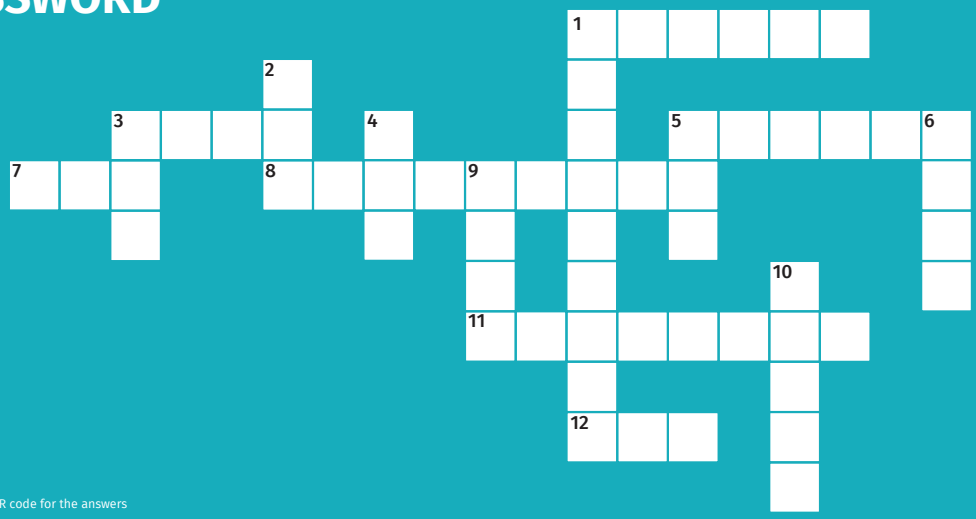


Scan QR code for the answers

Across

1. Device that connects multiple network segments
3. Cyber attack that floods a server with traffic
5. Network device that forwards data based on MAC addresses
7. A small network covering a limited area, like a home or office
8. A unique address assigned to a device on a network
11. A set of rules for data transmission
12. A central device in a star topology

Down

1. Short-range wireless technology
2. Model with 7 layers describing network protocols
3. Converts domain names to IP addresses
4. A network that spans large geographical areas
5. A secure way to access a remote computer
6. Protocol used to transfer web pages
9. Protocol that assigns IP addresses automatically
10. Converts digital signals to analog for transmission over phone lines

The President of India, Smt. Droupadi Murmu launching the Senior Citizen Welfare portal in an event 'Ageing with Dignity' - initiatives for the welfare of senior citizens at Rashtrapati Bhavan Cultural Centre on May 2, 2025

Inauguration of "Ageing with Dignity" Portal by Hon'ble President of India

The Hon'ble President of India, Smt. Droupadi Murmu, inaugurated the Senior Citizens Welfare Portal (https://scw.dosje.gov.in) and virtually inaugurated five Senior Citizen Homes at Anakapalli (Andhra Pradesh), Tawang (Arunachal Pradesh), Wokha (Nagaland), Vellor (Tamil Nadu), Nanital (Uttarakhand) on 02nd May 2025 at the Rashtrapati Bhavan Cultural Centre. In her address, the Hon'ble President emphasized the portal's features and its role in empowering the elderly by facilitating easy access to essential welfare schemes and support services.

The portal has been designed and developed by the National Informatics Centre (NIC) team of Department of Social Justice and Empowerment, serves as a single-window platform to streamline services for senior citizens across India. This initiative marks a significant step toward enhancing the quality of life for India's senior citizens, ensuring they receive timely assistance and care.

The inauguration ceremony was graced by several distinguished guests, including Dr. Virendra Kumar (Union Minister for Social Justice and Empowerment), Shri Ramdas Athawale, Shri B. L. Verma (Ministers of Social Justice and Empowerment), and Shri Amit Yadav (Secretary, DoSJE) and senior officials of the department. Also in attendance were Brahma Kumari Shivani Verma and Brahma Kumari Asha.

During the event, Union Minister Dr. Virendra Kumar emphasized the portal's role in enhancing the well-being of senior citizens by providing them with streamlined access to vital services and welfare schemes, thereby enabling a life of dignity, security, and fulfilment.

Notable NIC officials were present at the event including Shri Prashant Kumar Mittal, DDG, Shri Alok Srivastava, Senior Director (IT), and Shri Anand Verma, Joint Director (IT). Special thanks to NIC Video Conferencing Division, NIC Rashtrapati Bhawan team and respective state team for providing the support for the event.

– Archana Sharma, NIC HQ

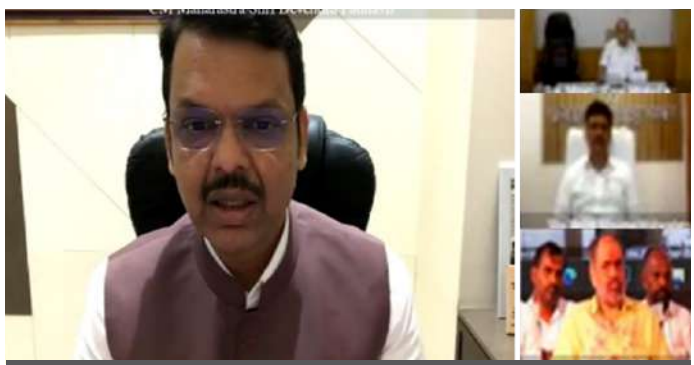
Inauguration of 'Dakshin Kedarnya' Conservation Initiative on World Environment Day

To commemorate World Environment Day, the 'Dakshin Kedarnya' conservation initiative for Shri Kshetra Jyotirlinga Dongar, Kolhapur, Maharashtra, was inaugurated on 5th June 2025 by Hon'ble Chief Minister of Maharashtra, Shri Devendra Fadnavis, through video conferencing. The event also featured a symbolic tree plantation drive, underscoring the commitment to environmental preservation.

The programme was presided over virtually by Union Minister Shri Nitin Gadkari, with active participation from Shri Prakash Abitkar, Minister of Public Health & Family Welfare, and Shri Hasan Mushrif, Minister of Medical Education, Government of Maharashtra.

NIC Kolhapur District Centre extended technical support for the successful conduct of the event at the local level. The Video Conferencing team of NIC Mumbai, under the guidance of State Informatics Officer, Maharashtra, coordinated the event in collaboration with the NIC HQ VC Division, ensuring seamless execution across all locations.

- Sunita Ramkrishna Navare, Maharashtra



Inauguration of 'Dakshin Kedarnya' Conservation Initiative by Hon'ble Chief Minister of Maharashtra, Shri Devendra Fadnavis, through video conferencing

NIC Showcases Digital Empowerment at Vision Karnataka 2025 Exhibition in Belagavi

The three-day Vision Karnataka 2025 exhibition, held from 11–13 July at KLE Centenary Convention Centre, Belagavi, showcased the state's development journey and digital future. Inaugurated by Hon'ble MP and Former CM Shri Jagadish Shettar, the event brought together leaders, citizens, and innovators under one roof.

At the heart of the exhibition was NIC Karnataka, presenting cutting-edge digital solutions powering governance across the state. From students to senior officials, visitors engaged with NIC's platforms transforming citizen services.

Shri Shettar, during his visit to the NIC stall, lauded its role in delivering efficient, inclusive, and tech-driven governance.

A highlight was a technical session by Mr. Giriachar V, Senior Director (IT), Bagalkot, who detailed NIC's pivotal ICT initiatives—spanning digital health, agriculture, cloud infra, and real-time service delivery.

Key Solutions Showcased:

- **eOffice –** Paperless workflows for government departments
- **eHospital –** Digital access to appointments and health records
- **FRUITS –** Unified platform for farmer registration and agri-benefits
- **ServicePlus & Mobile Apps –** Simplifying public service access
- **Grievance Redressal Systems –** Strengthening transparency and accountability
- **Each solution reflected NIC's core values:** inclusivity, innovation, and impact

Hon'ble MP Shri Jagadish Shettar visited the NIC stall at Vision Karnataka 2025 and appreciated NIC efforts for providing digital services

NIC's presence reaffirmed its role as the digital backbone of Karnataka, driving transformation from Belagavi to every corner of the state. As Karnataka moves toward a tech-powered future, NIC stands firm—enabling governance that is smart, swift, and citizen-first.

- Hemendra Kumar Saini, NIC-HQ

Hon'ble Administrator UT Chandigarh Launched 'Cashless Campus' initiative through SMIS

Hon'ble Governor of Punjab and Administrator, UT Chandigarh, Shri Gulab Chand Kataria, launched the 'Cashless Campus' initiative under the School Management Information System (SMIS) on 11 June 2025. The Governor described the initiative as a transformative step towards digital governance in education, promoting transparency, safety, and simplicity in financial transactions within schools.

Developed by NIC UT Chandigarh, the 'Cashless Campus' initiative was led by Shri Nitin, Scientist-F, under the guidance of Shri Ramesh Kumar Gupta, DDG & SIO, UT Chandigarh. The platform aims to strengthen digital literacy among students while contributing to the national vision of Developed India @2047.

Key dignitaries present at the launch included Shri Rajeev Verma, Chief Secretary, UT Chandigarh; Smt. Prerna Puri, Secretary Education; Shri Harsuhinder Pal Singh Brar, Director School Education; Shri Ramesh Kumar Gupta, DDG & SIO, NIC UT Chandigarh; and Shri Nitin, Scientist-F, NIC UT Chandigarh.

The School Management Information System (SMIS) is a comprehensive digital platform designed to streamline the administrative, academic, and financial operations of educational institutions in UT Chandigarh.

Key Features of SMIS:

- Single Point Entry Portal with role-based access
- API integration with UDISE+ for auto-population of student, teacher, and school data
- Digital attendance marking by class teachers and schools
- Automated SMS alerts to parents of absentee students

Hon'ble Governor of Punjab and Administrator, UT Chandigarh, Shri Gulab Chand Kataria, launching the 'Cashless Campus'

- Online report cards accessible via student login
- Online fee payment system, integrated with PFMS and linked to respective DDO and PAO accounts
- Staff registration and sanctioned post management for teaching and non-teaching staff

This initiative reflects NIC's commitment to digital transformation in education, ensuring efficient governance, real-time data access, and citizen-centric services across UT Chandigarh's school ecosystem.

- Pratibha Singh, Chandigarh

Chhattisgarh CM Launches HMS MIS Portal and Flags Off DBT for Tribal Hostels

In a major step towards digital transformation and inclusive governance, Hon'ble Chief Minister Shri Vishnu Deo Sai of the Government of Chhattisgarh officially launched the Hostel Management System (HMS) MIS Portal and initiated the Direct Benefit Transfer (DBT) mechanism for hostels and ashrams serving tribal students on 10th June 2025. The event was held in the esteemed presence of Shri Ramvichar Netam, Hon'ble Minister, and Shri Sonmoni Borah, Principal Secretary, ST & SC Development, OBC & Minority Development Department, Government of Chhattisgarh.

Designed and developed by NIC, Chhattisgarh, the HMS MIS Portal is a comprehensive digital platform for managing hostels and ashrams across all districts of the state. It aims to enhance transparency, efficiency, and accessibility in the delivery of student welfare services.

A key feature of the portal is the integration of Direct Benefit Transfer (DBT) to ensure timely and accountable fund disbursal directly to hostels and ashrams accommodating tribal students. By eliminating manual bottlenecks and enabling real-time monitoring, the system empowers administrators with better oversight and supports improved service delivery.

With this dual launch, the Chhattisgarh government reinforces its commitment to leveraging technology for the welfare of tribal communities and ensuring last-mile delivery of benefits in a transparent and efficient manner.

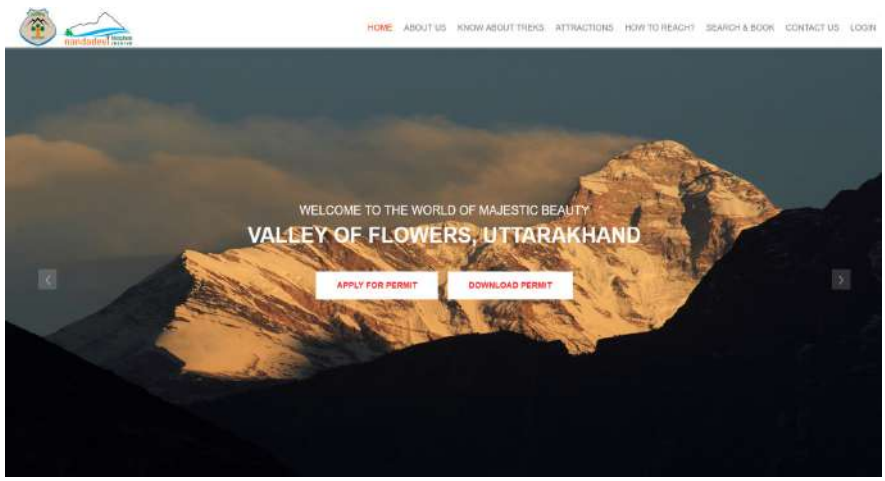
For more details, visit: https://hmstribal.cg.nic.in

- Satyesh Kumar Sharma, Chhattisgarh

Launch of Nanda Devi Biosphere Reserve Online Permit Portal

In a major step towards enhancing sustainable ecotourism and digital facilitation, the online permit booking system for the Valley of Flowers, a UNESCO World Heritage Site located within the Nanda Devi Biosphere Reserve (NDBR), has been successfully developed and launched by the National Informatics Centre (NIC), Uttarakhand.

The system was conceptualized and developed by NIC Uttarakhand under the guidance of Shri Sanjay Gupta, State Informatics Officer & Senior Technical Director. The core team comprised Shri Arun Sharma, Director (IT) & Project Coordinator, and Shri Shakti Prasad Raturi, Joint Director (IT), who collectively ensured a secure, scalable, and user-centric solution.



Key Features:

- **Fully Configurable Framework –** Adaptable to various biosphere reserves and trekking permit systems
- **Self-Service Dashboards –** Real-time analytics for administrators and users
- **User-Centric Design –** Enhanced UI/UX for intuitive navigation
- **Integrated Information Hub –** Centralized access to biodiversity data, visitor guidelines, and trekking details
- **Simplified Booking Flow –** Streamlined four-step process for ease of use

The system has been developed with replicability in focus, making it a scalable model for other Biosphere Reserves and Eco-Tourism Destinations aiming to digitize their permit and visitor management processes. This initiative marks a significant milestone in promoting eco-conscious tourism through technology-driven governance.

- Chanchal Goyal, Uttarakhand

Assam Sets National Record in SMART PDS Distribution

In a defining moment for India's public distribution reforms, Assam has achieved a major milestone by recording over 35 lakh PDS transactions in a single day—the highest ever documented under any pan-India PDS initiative. This historic feat was accomplished during the state's mega pre-monsoon distribution drive in June 2025.

At the heart of this success lies the SMART Public Distribution System (SMART PDS), developed and deployed by the National Informatics Centre (NIC). The system demonstrated exceptional resilience and scalability by managing three times the average system load, ensuring seamless service delivery across all districts of Assam.

Key Highlights:

Robust Load Management: The SMART PDS infrastructure efficiently handled a threefold surge in digital transactions without any service disruption, reaffirming Assam's preparedness for high-volume public service operations.

Comprehensive Statewide Rollout: The ration distribution drive extended across all 35 districts, covering both rural and urban populations and ensuring uninterrupted food security ahead of the monsoon season.

Technology-Driven Delivery: More than 15,000 Fair Price Shops across the state operated through Electronic Point of Sale (ePOS) devices, enabling real-time biometric authentication and significantly reducing pilferage.

One Nation One Ration Card (ONORC) Enabled: The ONORC scheme was fully functional across Assam, allowing beneficiaries—including migrant workers and urban poor—to access their entitlements from any location within the state.

This achievement marks a paradigm shift in the administration of welfare schemes, blending technology, infrastructure, and responsive governance. The Department of Food, Civil Supplies and Consumer Affairs, Assam, termed it a "decisive leap forward in ensuring food security through digital empowerment."

PDS Beneficiaries at Khurkhuri

Officials from NIC noted that Assam's accomplishment underscores the transformative potential of SMART PDS, stating:

"This milestone is a testament to what is possible when scalable technology solutions align with administrative vision. Assam has set a new benchmark for the nation."

With this achievement, Assam has not only met the immediate challenge of pre-monsoon food distribution but has also emerged as a national model for tech-enabled, transparent, and citizen-centric public service delivery.

- Maitreyee Sarma, Assam

NIC Patna Launches eCard System for Eco-Friendly Governance and Real-Time Communication

On June 2, 2025, Dr. Chandrashekhar Singh, IAS, then District Magistrate of Patna, launched the eCard application, developed by NIC Patna. This digital platform enables government departments to send paperless invitations and official messages via email and SMS, promoting eco-friendly and efficient communication.

Welcomed by Shri Ram Bhagawan Singh, DIO, NIC Patna, Dr. Singh praised the initiative for aligning with the 'Clean India, Green India' mission, reducing reliance on printed materials.

Key Features:

- **Pre-designed templates:** for official invites
- **Recipient classification:** VVIP, VIP, General
- **Role-based access:**
  - Operator Login – Configures templates and recipient lists
  - Nodal Officer Login – Reviews and approves messages

The eCard system streamlines communication, cuts delays, and sets a replicable model for digital governance across districts, reinforcing NIC's role in delivering smart, sustainable solutions.


Dr. Chandrashekhar Singh, DM Patna, launching the eCard System for government offices in Patna

- Syed Mumtaz Husain, Bihar

Celebrating the 11th International Yoga Day: A Day of Unity and Wellness

On June 21, 2025, the National Informatics Centre (NIC), in collaboration with the Ministry of Ayush, celebrated the 11th International Day of Yoga, reaffirming its deep-rooted commitment to holistic health, mindfulness, and overall well-being. This year's theme, "One Earth, One Yoga for Health," underscores the interconnectedness of all life and emphasizes our shared responsibility for global wellness.

The main event was organized at NIC Headquarters in New Delhi, and conducted simultaneously across NIC State Centres nationwide, uniting employees and communities in a collective celebration of Yoga. These efforts reflected a powerful and unified step toward embracing wellness as a national ethos.

The day began at 7:30 AM with a revitalizing Yoga session at NIC HQ, led by an expert instructor from the Morarji Desai National Institute of Yoga, under the Ministry of Ayush. Participants engaged in a thoughtfully curated sequence of asanas, pranayama, and meditation, promoting not only physical flexibility but also mental clarity, stress relief, and spiritual balance. The session encouraged mindfulness and unity, serving as a reminder of the transformative power of Yoga in daily life.

Across the country, NIC State Centres echoed this celebration with equal enthusiasm. Local sessions were customized to meet the needs of their participants and led by experienced Yoga instructors. These sessions placed special emphasis on the therapeutic, emotional, and spiritual dimensions of Yoga, highlighting its role in enhancing mental health and resilience.

To extend the reach of the celebration, NIC actively promoted the event on social media, raising awareness about the Ministry of Ayush's Y-Break mobile app and encouraging individuals to incorporate brief, daily Yoga routines into their schedules. These online engagements received a strong and positive public response, further enhancing community participation and reinforcing NIC's commitment to fostering a healthier, more mindful society.

Through this nationwide initiative, NIC not only honored a global movement but also strengthened its own internal culture of wellness and collective harmony—truly embodying the spirit of "One Earth, One Yoga for Health."