

Powering Bharat 2025

Surge in cyberattacks, but Infrastructure resilient: DG, NIC



NIC is the technology arm of the Government. It has a presence in almost all Government of India departments, as well as in every state and district. We have NIC offices in all districts, where they provide technical support to public offices across the country. In that sense, NIC's role is extensive and far-reaching.

NIC also manages the entire government IT infrastructure—data centres, networks, applications, and cybersecurity. In recent weeks, we witnessed a significant increase in cyberattacks targeting this infrastructure. The NIC teams worked tirelessly, day and night, to ensure that our resilient systems held firm. As a result, we did not experience any security breaches, though it took considerable effort. The volume of attacks had notably increased.

Over the past two weeks, we observed heightened threat activity, likely linked to the ongoing India-Pakistan conflict. In response, we are continuing to strengthen our cybersecurity capabilities. Going forward, the policy is that all sovereign functions and critical infrastructure—particularly those involving cybersecurity or core government functions such as email, eOffice, and video conferencing—will continue to be managed by NIC. This includes the operation of government data centers.

-Excerpt from the address of Shri Abhishek Singh, IAS, Director General, NIC



Network18's Powering Bharat Summit, jointly hosted by Moneycontrol, News18 India and CNBC Awaaz, on 16th May, 2025 brought together some of India's most influential voices for a deep dive into what it would take to make India a developed economy by 2047.

Hon'ble Minister, E & IT has conveyed his thanks to all members of the MeitY team who rose to the occasion and supported the Government's effort in the recent stand-off and confrontation ever since 22nd April, 2025. He further stated that the role played by MeitY including NIC was specifically appreciated in the meeting chaired by Hon'ble PM as well. I thank all of you for additional and special duty. Secretary, MeitY has also communicated the appreciation of NIC team members for ensuring that ICT infrastructure and assets of the nation remained secure. A big thank you from my side as well. Well done!!

-Message from Shri Abhishek Singh, IAS, DG, NIC

Odisha Government Empowers Grassroot Governance with e-Panchayat Sabha Application

A 2-day State Level Conference on 15th-16th May, 2025 was organised by Panchayati Raj and Drinking Water Department, Odisha focused on the sensitization and review of various flagship programmes and schemes, with a focus on the e-Panchayat Sabha web application for Panchayat Samitis.

The conference was attended by Chief Development Officer-cum-Executive Officers of Zilla Parishads and Block Development Officers from all districts, along with senior officers of the Department.

The Hon'ble Chief Minister of Odisha inaugurated the Conference in the presence of the Hon'ble Minister, Panchayati Raj and Drinking Water, Chief Secretary, Commissioner-Cum-Secretary and Directors of the Department.

The detailed presentation on the e-Panchayat Sabha application for Panchayat Samiti by Ms. Mamata Khamari, Scientist-F, NIC, Odisha State Centre, Bhubaneswar on 15th May, 2025, underscored the objectives, key digital components, implementation strategy of the application and its significant role in enhancing governance at the grassroot level through technology-driven transparency and efficiency.



Union Agriculture Minister launched 'Viksit Krishi Sankalp Abhiyan' at OUAT, Bhubaneswar

On 29th May, 2025, Shri Shriraj Singh Chouhan, Hon'ble Union Minister of Agriculture and Farmers' Welfare, launched the nationwide campaign 'Viksit Krishi Sankalp Abhiyan' at the Odisha University of Agriculture and Technology (OUAT), Bhubaneswar. The event was graced by Shri Mohan Charan Majhi, Hon'ble Chief Minister of Odisha, Shri K.V. Singh Deo, Hon'ble Deputy Chief Minister, local MPs, MLAs, senior government officials, and agricultural scientists.

The launching event was virtually connected to 700+ sites across the country, allowing nationwide participation. On this occasion, Shri Narendra Modi, Hon'ble Prime Minister of India addressed the gathering and shared his vision for a developed and self-reliant agricultural sector.

NIC, Bhubaneswar provided crucial technical support to ensure seamless video conferencing connectivity across all sites in India, enabling the successful execution of this large-scale event.





Visit of Odisha Legislative Assembly NeVA Team to Delhi Legislative Assembly

As per the direction of Shri Vijendra Gupta, Hon'ble Speaker of the Delhi Legislative Assembly, a delegation comprising Shri Ashok Rout, Joint Director (IT), NIC and in-charge of the NeVA Cell, Shri Satish Mesra, Joint Secretary, and Shri Keshab Chandra Ray, MCIM, from the Odisha Legislative Assembly, visited the Delhi Legislative Assembly Secretariat from 5th to 9th May, 2025.

Upon their arrival, Shri Vijendra Gupta, the Hon'ble Speaker and Shri Vineet Kumar, Secretary, Delhi Legislative Assembly, warmly welcomed the team. During their visit, the team conducted meetings with the technical staff of the Delhi Legislative Assembly, surveyed key areas such as the Assembly Hall, the proposed NeVA Cell, and the House Control Room. They facilitated knowledge transfer sessions covering the selection of hardware, network equipment, internet connectivity, and other essential infrastructure requirements.

The team also held discussions with the NIC, Delhi team, to address various technical aspects and ensure timely execution of the project within 100-days deadline set by the Hon'ble Speaker.



Hon'ble Minister of Excise, Works & Law inaugurated Auto Approval of Indent & Treasury Integration with OSBCL Online App.

On 9th May, 2025, Shri Prithviraj Harichandan, Hon'ble Minister of Excise, Works & Law, inaugurated the Auto Approval of Indent and Integration of the Odisha Government Treasury Portal with the Odisha State Beverages Corporation Limited (OSBCL) online application at the OSBCL Head Office, Bhubaneswar. The event was graced by Mrs. Guha Poonam Tapas Kumar, IAS, Commissioner-cum-Secretary to Government, Excise Department, Dr. Pabitananda Patnaik, ASIO, NIC and other senior officers.

The application aims to ensure end-to-end tracking of liquor—from distillery to warehouse to retailers—enhancing transparency and operational efficiency. Key features include real-time tracking of inventory and sales, online indenting, permit issuance, excise duty collection, invoice and gate pass generation, and NOC issuance for liquor exports.

The Auto Indenting System optimizes depot space, improves handling, and eliminates manual approval delays, ensuring better stock management. Additionally, integration with the Odisha Treasury Portal allows suppliers to directly deposit advance excise duty, eliminating manual wallet top-ups and reducing lead time, thereby increasing system transparency and efficiency. Dr. Ashis Kumar Mahapatra, Scientist-F and Shri Tapan Kumar Behera, Scientist-D coordinated the programme.



National workshop-cum-review on Waqf Act implementation

A one-day workshop-cum-review meeting on the implementation of various provisions of the Waqf (Amendment) Act, 2025 and GIS mapping of Waqf properties, was organized by the Ministry of Minority Affairs, Government of India. The event took place on 8th May, 2025 at the SCOPE Complex, CGO Complex, New Delhi, under the chairmanship of Dr. Chandra Shekhar Kumar, IAS, Secretary, Ministry of Minority Affairs.

The workshop was attended by representatives from State and Union Territory Governments (Departments of Minority Affairs and Revenue), Chief Executive Officers of State Waqf Boards, representatives from the National Informatics Centre (NIC), and IIT, Delhi.

Sri Akshya Mishra, Scientist-E and Director (IT), participated in the event as the representative of NIC, Odisha. The sessions covered a broad range of topics, including the process of entering Waqf property data by the Mutawalli (maker), verification at the district level, and subsequent approval at the state level by the CEO or Director of the Waqf Board.



Real-Time Accident Reporting via WhatsApp Chatbot: Empowering First Responders in the Golden Hour

A WhatsApp-based ChatBot, developed by the Transport Department & NIC Odisha, enables users to report accidents by sending critical information—such as location, severity, and visual evidence (e.g., photographs)—directly through WhatsApp. Upon receiving this data, the chatbot automatically processes it and notifies the nearest available Rakshak cadets, ensuring timely intervention during the crucial “Golden Hour”.

On 19th May, 2025, a demonstration of the WhatsApp-based chatbot, developed by NIC, Odisha, was conducted for the Junior Rakshak (NCC) cadets of KISS, Bhubaneswar. The session was led by Shri Aditya Raghav, Scientific Officer/Engineer-SB under the supervision of Shree Prasanta Kumar Nayak, Scientist-F.

This demonstration showcased the role that youth-led initiatives can play in public welfare. By leveraging existing digital infrastructure, the Rakshak cadets will help to bridge the gap between incident occurrence and emergency response. The initiative also emphasized public awareness—educating passersby and commuters on how to respond to accidents, avoid crowding the scene, and use the chatbot for faster intervention in helping the Victim in Golden Hour.



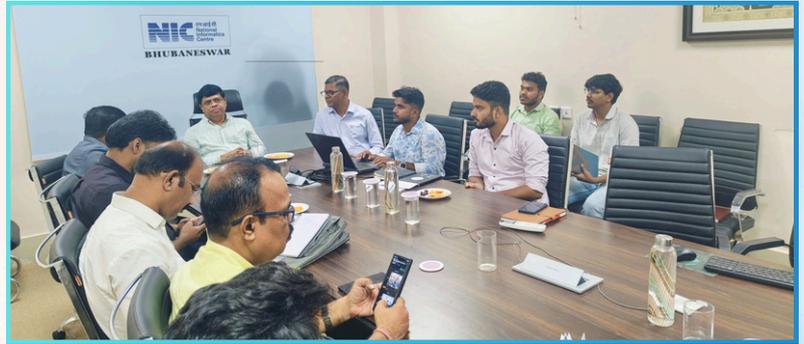
Odisha's Digital Leap Summit: Bridging the Core and Edge

On 30th May, 2025, The Indian Express Group hosted a pivotal summit in Bhubaneswar titled "Bridging the Core and Edge: Infrastructure for Odisha's Digital Leap." The event brought together key stakeholders to explore evolving digital infrastructure of the state.

Dr. Pabitananda Patnaik, Scientist – F & ASIO, NIC, Odisha, participated in a thought-provoking panel discussion on "Emerging Use Cases for Edge and Beyond." The session featured leading government IT officials and domain experts, offering valuable insights into how Edge Computing and related technologies are reshaping digital ecosystems. The summit underscored commitment of Odisha for building a digitally empowered and future-ready state.



An interactive meeting and internal review was held at Raj Bhavan, Odisha, on 10th May, 2025 under the esteemed chairmanship of **Dr. Hari Babu Kambhampati, Hon'ble Governor of Odisha**. During the session, Shri Malay Pattanayak, Sr. Director (IT), briefed to the Hon'ble Governor on the role of NIC in supporting various e-governance applications at Raj Bhavan.



Sri Surender Mohan, IAS, Transport Commissioner of Telangana, along with other senior officials visited NIC, Odisha to gain insights into the e-Transport initiatives implemented in the state.

7th Meeting of the State Level Empowered Committee (SLEC) on the Citizenship Amendment Act, 2019 (CAA-2019)

The 7th meeting of the SLEC on the CAA-2019 was convened on 14th May 2025 at the Directorate of Census Operations, Odisha, Bhubaneswar. The meeting was chaired by Shri Udaya Narayan Das, IAS, Director of Census Operations and Head of SLEC, Odisha.



नगर राजभाषा कार्यान्वयन समिति की 75वीं बैठक

दिनांक 26 मई, 2025 को जयदेव भवन में आयोजित नगर राजभाषा कार्यान्वयन समिति की 75वीं बैठक में उप महानिदेशक एवं एस आई ओ अपनी टीम सहित मौजूद रहे। उक्त बैठक में छःमाही प्रगति रिपोर्ट पर विस्तार से चर्चा हुई तथा प्रगति रिपोर्ट न भेजने वाले कार्यालयों से भी समय पर इसे भेजने की अपील की गई। न रा का स की पत्रिका "एकाम्र" के प्रकाशन तथा सदस्य कार्यालयों से रचनाओं की मांग को लेकर विचार विमर्श किया गया। हिन्दी कार्यशाला पर सुझाव दिया गया कि छोटे छोटे कार्यालय संयुक्त रूप से कार्यशाला का आयोजन कर सकते हैं। एक वैबसाइट बनाने पर भी विचार किया गया जिसमें सभी सदस्य कार्यालय अपनी अपनी राजभाषा गतिविधियां साझा कर सकते हैं। बैठक के अंत में एस आई ओ ने न रा का स अध्यक्ष श्री डी साहू, प्रधान महालेखाकार को एन आई सी की वार्षिक हिन्दी पत्रिका 'जागृति' भेंट की।



Hearty Welcome to newly joined Scientific Officer/Engineer-SB to NIC Odisha State Centre



Our sincere tribute and honour to
 • **Shri Purna Chandra Sahoo, Scientist-F (Senior Director-IT) and**
 • **Shri Malay Pattanayak, Scientist-F (Senior Director-IT)**
 on the eve of their attaining superannuation for the years of dedicated & exemplary service at NIC, Odisha.



Post-Quantum Cryptography: Securing the Future of Digital Communication

As quantum computing advances, traditional cryptographic systems face a significant threat. Algorithms like RSA, ECC, and Diffie-Hellman, which secure much of today's internet traffic, rely on mathematical problems that quantum computers can solve efficiently using Shor's algorithm. This has led to the development of Post-Quantum Cryptography (PQC)—a new class of algorithms designed to withstand quantum attacks.



PQC algorithms are based on mathematical problems believed to be difficult for both classical and quantum computers. Key types include:

- Lattice-based cryptography (e.g., Kyber, Dilithium)
- Code-based cryptography (e.g., Classic McEliece)
- Hash-based schemes (e.g., SPHINCS+)

In 2022, NIST announced its first set of standardized PQC algorithms:

- Kyber for key encapsulation (encryption)
- Dilithium and Falcon for digital signatures
- SPHINCS+ for hash-based signatures

These algorithms were selected after rigorous evaluation to ensure they provide strong security against quantum threats while maintaining practicality for real-world applications.

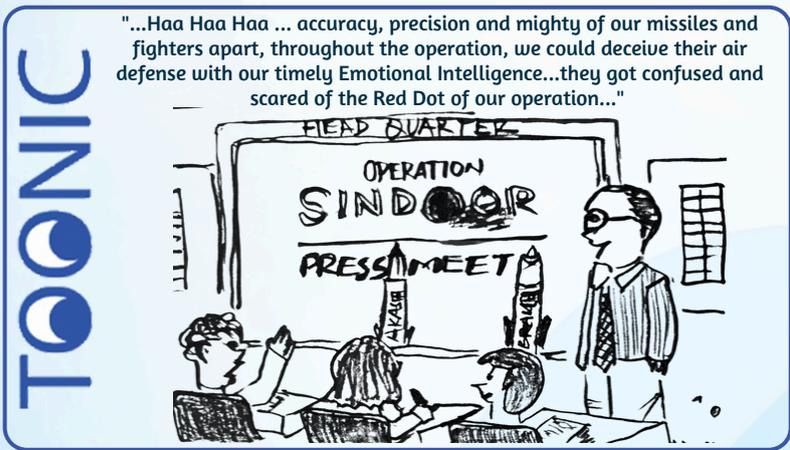
Challenges of Adopting Post-Quantum Cryptography (PQC)

PQC adoption is challenging due to larger key and signature sizes, which can slow down performance and require more storage. Upgrading existing systems is also complex, needing changes to protocols and infrastructure, making the process demanding and costly.

Hybrid Schemes and Future Readiness

To ease the shift, hybrid schemes combining classical and PQC algorithms are being used. These ensure compatibility and stronger security. While quantum computers aren't mainstream yet, data must remain secure for years. So, organizations should start testing PQC tools like liboqs or OpenSSL to prepare for the quantum transition.

Contributed by: : Shri Dipak Kumar Sharma, STA-B



Blood Donation Camp Organized at NIC, Odisha State Centre

On the occasion of the birth anniversary of Padma Bhushan Dr. N. Seshagiri, the NIC Employees' Association for Recreation & Sports (NEARS), Odisha, in collaboration with the Red Cross, Bhubaneswar, organized a Blood Donation Camp at the NIC, Odisha State Centre on 15th May, 2025. As a prelude to the main event, an Awareness Program on Blood Donation was conducted on 14th May, 2025 at the Seshagiri Memorial Hall, aiming to educate and motivate participants about the importance of voluntary blood donation.

The event received a positive response, with several volunteers stepping forward to donate blood and 65 units of blood were collected. To recognize and appreciate the generous contributions of the donors, certificates and prizes were distributed. The program successfully reflected the collective spirit of service and compassion within the NIC community.



Is Neuro-Symbolic Natural Language Processing (NLP) the Future of Language Understanding?

As AI systems strive to move beyond surface-level fluency, the demand for deeper reasoning, factual consistency, and transparency has never been greater. Neuro-Symbolic NLP is an evolving paradigm that fuses the statistical power of neural networks with the formal reasoning of symbolic AI. This hybrid approach enhances natural language understanding by combining data-driven learning with structured knowledge representations such as ontologies, logic rules, and knowledge graphs. It aims to improve interpretability, compositionality, and factual consistency in NLP tasks, enabling advanced capabilities in real-world applications.

Myth:

Neural networks alone are sufficient for achieving human-level language understanding, with end-to-end deep learning models providing optimal results across all NLP tasks.

Truth:

While neural models excel in pattern recognition, they often struggle with logical reasoning, data efficiency, and interpretability. Neuro-Symbolic NLP addresses these gaps by incorporating symbolic structures that enable step-wise inference, grounding, and generalization from limited data. This integration supports better factual consistency and enables machines to process complex queries with structured reasoning, making it valuable for domains requiring transparency and robust linguistic understanding.

Contributed by: Subhendu Sekhar Sahoo, STA-A