UTTARAN

National Informatics Centre West Bengal :: Newsletter
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"It always seems impossible until it's done!" - Nelson Mandela

In News
News & Events

Meeting with Honourable Minister of Electronics & Information Technology, Communication and Railways
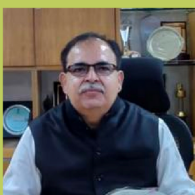
Shri Ashwini Vaishnaw, Hon'ble Minister of Electronics & Information Technology, Communication and Railways visited Kolkata to take part in the inauguration ceremony of 'Garib Kalyan Sammelan' by the Hon'ble Prime Minister of India on 31st May 2022.

Dr Saibal Sarkar, DDG & SIO, NIC West Bengal met the Hon'ble Minister on 30th May 2022 and appraised him with the activities of NICWB.

Hon'ble Minister has expressed his happiness and suggested NIC to continue with the initiatives.

New Director General of NIC

Shri Rajesh Gera has taken charge as the Director General of National Informatics Centre (NIC), Ministry of Electronics & Information Technology (MeitY) on 31st May 2022.

In his association of more than 31 years with NIC, Shri Rajesh Gera has headed several prominent divisions and projects like VC Division, Ministry of Health, NITI Aayog, PMO, Cabinet Secretariat, President Secretariat etc., to name a few.

VC Meeting with State Coordinator

Dr. Shubhag Chand, DDG has interacted with the senior officers of NIC West Bengal along with the NIC district officials recently after assuming charge as State Coordinator for West Bengal.

During the meeting he had given a patient hearing to all the activities and contributions of different NIC centres in the State and also challenges faced during the execution and functioning of projects and other activities pertaining to the State as well as District NIC Centres. He has suggested ways to overcome such hurdles and has assured to take all possible measures at his level to mitigate the issues.

MoU with Eastern Coalfields Ltd (ECL)

A tripartite Memorandum of Understanding (MoU) was signed between Eastern Coalfields Limited (ECL), a subsidiary of Coal India Limited (CIL), NIC

FROM THE DESK OF SIO

Dr Saibal Sarkar, DDG & SIO NIC WB

Today, information is the key concern for every application for Government or citizen services. As the cost of storage devices are drastically reducing every day, accumulation of data through the applications is accelerating. Consequently, modern technologies for data analytics, data science and many other applications are evolving around the data at a rapid pace in order to visualize data and unearth unknown insights for the benefits of the citizen and the society at large.

Unsurprisingly, integrity, quality, appropriate protection and management of data are indispensable to the application. This is congruently important for the Government applications which accumulate humongous volume of data every day whose integrity is almost at the mercy of a pair of credentials. Even the One Time Password (OTP) which is used extensively to make the respective stakeholder(s) accountable cannot even guarantee the source of data. State is therefore, putting all out efforts to validate data to ensure excellence in acquiring good quality data.

Therefore, in order to have good quality data keeping citizen-comfort in focus, avoidance of repetitive entry of personally Identifiable Information (PII), family and financial details, etc. (for availing multiple services) would bring in greater discomfort in the mass.

With this idea, State may think of a State Data Repository (SDR) in the core of comprehensive state-level service delivery system keeping the citizen comfort in focus. The SDR is supposed to link data assets with Departments or Organizations. It implies that it has two dimensions namely, interoperability and service provisioning. Therefore, unique data maintenance, data consistency, accuracy and data security are the precursors of the design of the proposed SDR.

However, we need a robust Data Exchange Platform (DEP) for secure participation of organizations and departments (members) for access to the common data asset.

In News
News & Events

and NICSI on 24th June 2022 at ECL HQ, Sanctoria, Dishergarh for the COALRR PROJECT - 'Consolidation of Accountable Land & Resettlement & Rehabilitation' for Eastern Coalfields Limited.

The ceremonial signing was attended by the CMD, ECL along with the Directors and GMs. NIC was represented by Dr Saibal Sarkar, DDG & SIO West Bengal along with other senior officers of NIC and NICSI.

Among other dignitaries, Dr Shubhag Chand, DDG & State Coordinator, West Bengal, Shri I.P.S. Sethi, DDG & MD, NICSI and Shri R. Sainath, Sr TD from Chennai were also present over VC to grace the occasion.

Mobile App - Kalimpong

A Mobile App developed by NIC West Bengal to promote tourism in Kalimpong district has been inaugurated by Smt. R. Vimala, IAS, District Magistrate, Kalimpong and Dr Saibal Sarkar DDG & SIO (through VC) in the presence of Shri Ashis Mukherjee, STD, Shri NPV Mathai, TD & DIO, NIC & other senior officials of the State.

DM, Kalimpong appreciated the contribution of the State NIC for the development of the well-designed Mobile App and advised the stakeholders viz. the homestay owners, transport operators, restaurant etc. to start using the App and update necessary information.

District Visits by ASIOs

To strengthen the synergy of NIC District Centre with the respective District Administration and to identify the immediate ICT needs of the District, Shri Ranajit Mallik, Sc-'F' & ASIO (Dist) from NIC State Centre has visited the northern districts of West Bengal viz. Alipurduar, CoochBehar and Jalpaiguri on 27th, 28th and 30th June 2022 respectively.

During his visit the ASIO has interacted with the DM Alipurduar, DM Jalpaiguri and the ADMs from the respective districts and discussed many vital issues and the suggestive solutions regarding the ICT initiative in the districts.
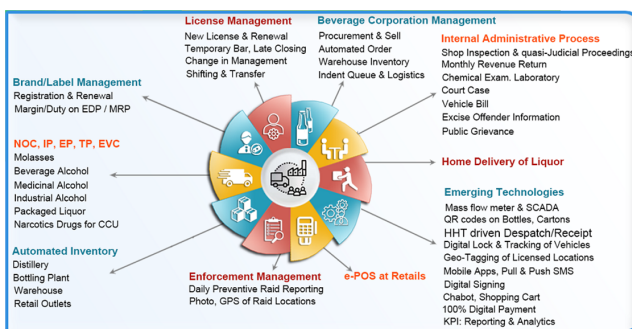
On a separate occasion Smt. Sanhita Bhattacharjee, Scientist-F and ASIO (Dist) has visited Howrah district and discussed various ongoing e-Governance services of NIC with the ADM in presence of the DIO.

In Focus
State Project

e-Abgari
ICT based State Excise using Emerging Technologies

eAbgari project is a strategic administrative reform solution of NIC in the state excise sector leveraging state-of-the-art modern technology to achieve the state government's mandate of (a) eradicating the manufacture, distribution, supply and sale of illicit, counterfeit and spurious intoxicants (b) timely supply of medicinal/ industrial spirits and lifesaving narcotic drugs and (c) social regulation of a sector which has far-reaching social, public health and law & order impacts while arresting revenue leakage points.

Presently, 66 e-Services are being rendered in a workflow-based manner for Grant & Renewal of Licenses, Packaged Liquor Brand Registration, Issuance of NOC/ Permit/ Passes for Import/ Export/ Transport, Real-time management of Spirit/Packaged Liquor Inventory and Excise Revenue, e-Chemical Examination Laboratory and management of Excise Offender Cases, Enforcement Activity. All Distilleries, Manufactories, Distributors, Retail Shops and also Hospitals, Educational Institutes & Industrial Units connect e-Abgari for the Production/ Procurement /Sell of alcohol.

With emerging ICT technologies - the Web, QR code, System driven notifications Management, GPS, Mobile Apps, Chatbot, HHT, Mass Flow Meter to nullify leakage in

spirit accounting, Digital Lock driven tracking of spirit carrying vehicles, the eAbgari portal has significantly reduced service-delivery times through SMS/ Email, Digital Signature, AI-driven Automated Supply Change and has greatly enhanced the government's regulatory capabilities.

The project has been proved to be a robust solution for the empowerment of the Government and EoDB. To date, over 6060 million online services are rendered to a spectrum of stakeholders e.g. Hospitals, Educational Institutions, Medicine Manufacturers and Business Houses.

Minimum Consumption Maximum Revenue ensured - while consumption of intoxicants in West Bengal has risen by only about 5-6 per cent annually since 2014-15, the collection of Excise revenue has gone up over 35 per cent. During the last 4 years, State Beverage Corporation (WBSBCL) has seen a business of over Rs. 53,000 Crores.

eAbgari has bagged the prestigious Digital India Award from the Hon'ble President of India in 2021, the National e-Governance Award from the Ministry of Personnel, Public Grievances and Pensions in 2018, the Technology Sabha award, the CSI award among other awards.

Other ten provinces of India have already implemented it. Some more provinces are on the anvil. On the eve of the 75th Year of Independence, eAbgari is selected as one of the impactful projects in India.

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Student Credit Card

West Bengal Student Credit Card Scheme has been developed to act as a digital platform to provide economical support in the form of collateral security-free loan up to ₹10 Lakhs at 4 percent simple annual interest for the students seeking scope to pursue higher studies in the educational field.

It is an end-to-end digital, paperless process of registration and application submission with due diligence on the part of all stakeholders till sanction and disbursement by banks, ensuring user convenience.

Unique features:

a) The application is developed in Open-Source Technology and conforms to open standards maintaining GIGW compliance.

b) Streamline all heterogeneous processes in single digital platform.

c) Enriched dashboard with real time interactive charts and slice and dice of reports.

d) Modular and robust design allows deployment of additional modules with minimum changes.

e) Maintained the e-Governance standard of ICT.

Facts & Figures:
(as on 06-06-22)
Total applicants: 1,28,186
Applicants sanctioned in one year tenure: 27,209
Total sanctioned amount: ₹75,109.98 Lakh

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Spotlight

Port Project
Haldia, Kolkata, Chennai and Ennore Ports

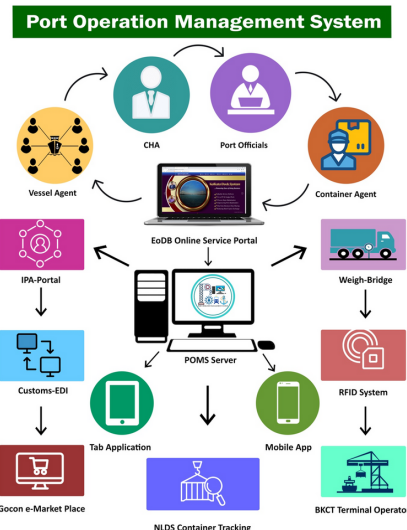**Enterprise Business Applications System (EBAS)** is ERP like application software facilitating both operational & non-operational management of Haldia Dock Complex. Non-operational section encompasses administrative, financial, HR, materials management, and hospital management. The operational modules provides interfaces for operation & management activities like marine, cargo, container, railway, plant/equipment, infrastructure etc. It is a open source, low cost, complete port business solution, in use for more than 19 years at Haldia port.

> Highlights:
> - Handling 27000 Cr. transactional values per annum
> - 2Lac+ bills generated per month
> - 5.5 Lac consignments managed so far

Port Operations Management System (POMS) is a proven core port business solution, catering to riverine and sea port operations with equal efficiency. It is

Port Operation Management System

CHA — Port Officials
Vessel Agent — Container Agent
IPA-Portal — EoDB Online Service Portal — Weigh-Bridge
Customs-EDI — POMS Server — RFID System
Gocon e-Market Place — Tab Application — Mobile App — BKCT Terminal Operator
NLDS Container Tracking

providing services for Kolkata, Chennai & Ennore ports, for over a decade. The modules cover Vessel, Barge, Cargo, Container operations, Service Billing (As per TAMP scale of rate), Revenue and Accounting, MIS & BI Analysis Management and so on. It comes with real time data sharing through email bulletin & website and on-field data capture

through mobile application.

> Highlights:
> - 26000 Cr.+ transactional values managed
> - 2Lac+ bills generated and managed
> - 557MMT Cargo handled
> - 6.1M Container handled

Ease of Doing Business Portal (EoDB): The National Port Project team of NIC put concerted efforts to launch the EoDB Portal on top of port business solution for Kolkata & Haldia port, to cater paperless and contactless service delivery for port users. Real time business information sharing helps just-in-time decision making by port users. Opportunities and possibilities are highlighted and featured through the EoDB portal, special attention for neighboring land-lock country like Nepal & Bhutan.

> Highlights:
> - Real time information sharing
> - Simplified EXIM process for, faster & easy service access
> - Paperless & Contactless service delivery

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TechSpace

Data Lake

Current Scenario

There are only two operations in data processing – Transactional and Analytical. Daily operations such as Online Transactional Processing (OLTP) mostly work with CRUD – Create, Replicate, Update, Delete operations of the data for daily routines. Data will be structured and stored in SQL databases. In the big data era, not only structured data but also semi-structured and unstructured data will be stored in NoSQL databases. Nonetheless, data in these databases will also be selected, cleaned, integrated, summarized, and transformed according to the structure of the data warehouse schema for the analytical purpose. Currently, data warehouses are the dominant approach for providing analytical data. Only transformed data will be stored in the data warehouse. The incumbent SQL databases with ACID characteristics are challenged by NoSQL databases with BASE characteristics. Now, the Data Lake concept is trying to challenge the reliable, traditional data warehouses for storing heterogeneous complex data.
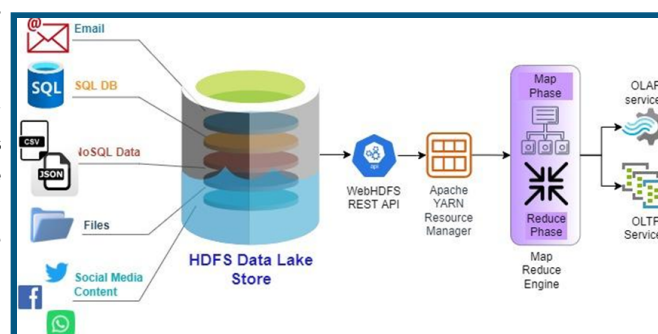
Definition

Data Lake is a large centralized repository for storing vast amounts of raw data in its original format for future use. A wide range of structured, semi-structured, and unstructured data can be stored in its native form for processing and in-depth analysis. Data Lakes provide unlimited storage space without any restrictions on file size, or data

access (including programming, SQL-like queries, and REST calls). It supports metadata extraction, indexing, formatting and conversion, segregation, augmentation, aggregation, and cross-linking.

All the transactional data from databases (Extract – E) will be stored (Load – L) into the data lake without changing their format. When data is required (query time), data in the lake will be transformed (Transform – T) according to the parts of the enterprise system.

Implementations

Many implementations of Data Lake are originally based on Apache Hadoop. Variety of data from heterogeneous data stores will be extracted to be stored in the Hadoop Cluster. Hadoop has two main components – HDFS (Hadoop Distributed File System) and MapReduce engine. HDFS File System handles the single point of failure and scalability by replicating multiple copies of data blocks in different nodes of the cluster. Data will be retrieved as a list of key-value

pairs i.e. Map phase. The same keys of data will be shuffled, sorted and listed into groups to perform necessary operations i.e. Reduce phase. All data produced by an enterprise will be dumped into the Data Lake Hadoop Cluster. Current data lake implementations are using columnar data storage structures like Parquet and Avro formats which support nested tables.

Improvements

For the real-time load, later data lakes are using stream processing frameworks such as Apache Spark, Apache Flink. The required data will be transformed according to the needs of the analytics systems on the fly in the query time.

Data Lake Security includes: Authentication, Authorization, Network isolation, Data protection, Auditing.

Data Lakes try to solve two problems – data silos and challenges imposed by big data initiatives.

Data lakes are also increasing in popularity because of IoTs.

Email — SQL DB — NoSQL Data — Files — Social Media Content — HDFS Data Lake Store — WebHDFS REST API — Apache YARN Resource Manager — Map Phase / Reduce Phase / Map Reduce Engine — OLAP services / OLTP Services

Analytical and Transactions are separated in the current data landscape. The noble mission of data lake is to combine these transactions and analytics into one mechanism.

Presented by:
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SIO's Desk

The DEP can be managed centrally to interconnect government information systems and databases by allowing stakeholders for sending and receiving data over the Internet within the limits of their prescribed authority. Each participating member including the authorized private agencies can have a security server installed in the DEP enabled with identity mechanism, encryption-decryption method, defined rights and privileges, data logging etc. in order to facilitate realization of secure data exchange in a decentralized manner. Here no API is necessary. Such proposal calls for refurbishing State applications along with incorporation of newer technologies followed by migration of existing data.

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Editorial Board

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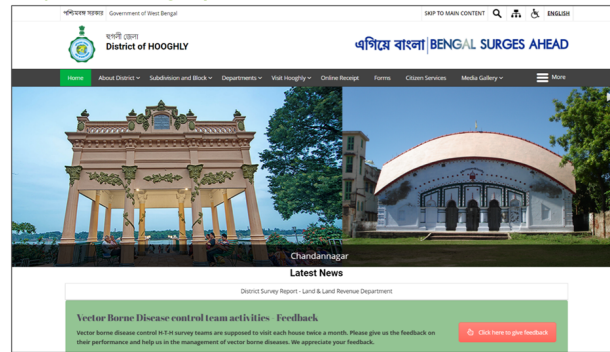District Editor: Sanjib Kumar Dey, Scientist-D & DIO

Design: Rupa Kar

District at a Glance
Hooghly

https://hooghly.nic.in/

The Hooghly district, with its Headquarters in 'Chinsurah' town, is within the Burdwan Division of West Bengal. The name 'Hooghly' is likely been derived from the 'Hogla', a tall reed, which grows in abundance on the riverbanks. At the dawn of history, this part of the country was probably included in the territory held by the 'Suhmas', a tribe mentioned in the Mahabharata.

Administrative Setup

The district of 'Burdwan', was divided into 'Burdwan' and 'Hooghly' in 1795 and Hooghly became a separate Collectorate in the year 1822. It has four subdivisions, Sadar, Chandannagar, Serampore and Arambag, 18 blocks, 12 municipalities and 1 municipal corporation.

ICT Initiatives

NIC Hooghly since its inception has been immensely contributing through various ICT initiatives, support and services and thereby enabling better e-Governance to District Administration.

National and State Level Projects

The district has implemented many key national e-Governance projects like e-Office, e-Procurement, GeM (Government eMarket place), eCourt and eProsecution under ICJS (Interoperable Criminal Justice System), NDAL (National Database for Armed License) & ALIS (Armed License Information System), PMAY-G Portal, National Citizenship portal, email Services, Video Conferencing Services. A Project like iRAD (Integrated Road Accident Database) is under implementation.

Key state-level projects like 'Duare-Sarkar', 'Lakshmir Bhandar', 'Jai Bangla', 'Kanyashree', 'Rupashree', OSCAR, CoRD, 'Bhumi and Bhuchitra' etc. have been implemented at the district level.

NIC District Centre

The Bilingual District portal **https://hooghly.nic.in/** has been moved to S3WaaS platform in compliance with the GIGW. The District portal is a single point of information source about the district related to government programmes, orders, tenders, notices, etc. It also provides a link to the social media interface of the District Administration on Twitter, etc.

E-Circular Portal has been implemented to help the District Administration in managing the circulars/ orders/ memorandums, etc. for better dissemination to the district/ subdivision/ block/ municipality officials. Online e-Receipts Module has been developed and launched for getting feedback/issues from the citizen for better service delivery. Two services related to Coal allotment and Raising Industry have been launched using

"UTTARAN", the quarterly newsletter, published by NIC West Bengal is a great initiative towards highlighting the ICT activities in the State and Districts. It's heartening to note that the profile of Hooghly District will be taken up in the forthcoming edition of the newsletter.

e-Governance helps in providing transparent and quick services to the citizen by the District Administration. Being one of the large districts in West Bengal, the District Administration is engaged in providing the best and cost-effective services to the people at their nearby locations to enable quick access, using various ICT technologies.

NIC District Centre, Hooghly, plays a significant role in this regard. NIC Hooghly is providing all kinds of active support in this regard by extending their services through capacity building, promoting and implementing software solutions, ICT infrastructure, video conferencing and consultation to the Hooghly District Administration. I sincerely appreciate the efforts put in by the NIC District Centre officials.

I congratulate and wish success to the entire NIC team in their new initiative and future endeavours.

Dr. P. DEEPAP PRIYA, IAS
District Magistrate & District Collector
Hooghly District

the Service Plus framework.

Highlights

- A comprehensive **COVID Information Management Portal** with Analytics (visual and tabular) was developed for better planning and coordination during COVID-19 pandemic.
- Polling system Information System and Complaint Management System was developed and used successfully on P-1 and P day during the **West Bengal General Assembly Election 2021** elections.
- A document repository for all the MROs (Municipal Returning Officers) and administration was managed through a portal during the **Municipal Elections-2022**.

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