

eAbgari

End-to-End Solution for Comprehensive Transformation of State Excise

eAbgari has been the single most transformational factor in state excise sector and has greatly increased the department's enforcement and regulatory capabilities through ICT driven process reengineering. Seamlessly integrating a wide array of innovative technologies - the web, QR codes, PUSH/PULL SMS, Email, AI driven Supply Chain Management, Chabot, GIS, Mobile Apps, Hand-Held-Terminal (HHT) based Track & Trace - eAbgari has significantly reduced service-delivery times and has greatly enhanced the government's regulatory capabilities.



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State excise is the 2nd highest revenue earning resource component in most of the states in India. It provides around 20 percent of the share of the government's own revenue in most states.

- Changing fiscal environment in Post-GST scenario and the utmost need for compliance with the FRBM Act to ensure sustaining long-run fiscal health through transparency in fiscal operations, the state governments have started to explore the possibilities of augmenting its revenues by mobilizing state own revenue resources through adoption of ICT driven schemes.
- In most of the states in India, ICT enablement in State excise is in basic stage. Presently, the states, with utmost importance, have started to explore suitable e-Governance solutions for adoption in State Excise (i) to arrest revenue leakage points and (ii) to control excise crimes for better revenue realization from state own revenue Source.
- The eAbgari project is a strategic administrative reform initiative State excise sector leveraging state-of-the-art modern technology to provide end-to-end solution in workflow based manner.
- eAbgari project is built on Reduced discretion - Electronic workflow - Electronic service delivery methodology in state excise sector to achieve government's mandate of (a) eradicating the manufacture, distribution, supply and sale of illicitly distilled/ counterfeit/ non-duty paid/ spurious intoxicants (b) clandestine transport of rectified spirit (c) supervision for proper use of alcoholic spirits, including medicinal and industrial spirits, and life-saving narcotic drugs and (d) regulate so as to minimize the social and public health import while safeguarding the revenue collection from excisable articles.
- With eAbgari, it has been possible for (a) Reconciliation of every drop of spirit imported or manufactured (b) Automated Supply Chain Management for excisable goods (c) Tracking duty evasion by generating a 360 degree profile of the Excise Licensees, Issued Permits & Passes for movement of excisable goods (d) Pendency checker for tracking process pendency at all hierarchical levels (e) Ensuring supply of life saving drugs to CCUs within 90% reduced time.
- The eAbgari project covers the core activities of State Excise e.g. (a) Excise Licensing (b) Label Registration of Packaged Liquor (c) Issuance of NOC / Permits / Passes / EVCs with status tracking at all hierarchical levels (d) Supply chain management using QR Code based EAL on Bottles / Cases (e) Inventory Management at all Excise Nodes (f) Excise Revenue Management (g) Daily Preventive Raid Management (h) Excise Shop Inspection &



State Excise is a very important sector in terms of its contribution to the total revenue collection. Since it deals with a sin commodity, a demerit good, the regulatory aspects are also very important keeping the overall health aspects of the general public in mind. With eAbgari, all the processes of state excise are online, right from the production till the last retail stage. This has given the state government a host of data that has enabled them to go in for better monitoring activities as well as this has also made the ease to business as far as licensees are concerned. This computerised programme resulting in eAbgari has really made their life easier, has also resulted in better efficiency of the administration.



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proceedings Management (i) Functions of other Administrative wings.

- All Distilleries, Manufactories, Distributors, Retail Shops and also Hospitals, Educational Institutes & Industrial Units connect eAbgari for Production / Procurement / Sell of alcohol. Seamlessly integrating wide array of ICT technologies – Web, Mobile Apps, SMS & Email based Notifications/Alerts, Chatbots, QR codes, HHT based Track & Trace, GPS mapping, Data Analytics, Blockchain (PoC done) - eAbgari has significantly reduced service-delivery time and has enhanced the government's regulatory capabilities.
- Through successful implementation of eAbgari since last 5 years, West Bengal has earned the distinction of becoming the lead state in the country to implement all activities of State Excise under

an umbrella e-Governance project. It has proved to be a Classic example of cost-effective solution in comprehensive transformation of government processes for empowerment of the Government and for ease of doing business as well.

- Minimum consumption maximum revenue ensured - while consumption of intoxicants in West Bengal have risen by only about 5-6 percent annually since 2014-15, the collection of Excise revenue has gone up from Rs. 3581 Crores during 2014-15 to around Rs. 12,000 Crores during 2019-20 registering a CAGR of over 38 percent.
- Inspired by the success story of West Bengal State Excise, many States have approached in recent time for replication of eAbgari. It is already implemented in Punjab, Odisha, Tripura, Sikkim & Arunachal Pradesh. eAbgari project replication is initiated in Uttarakhand and Madhya Pradesh. Government of Jammu & Kashmir, Puducherry, Goa, Haryana, Chandigarh UT, Jharkhand, Maharashtra are exploring it for its early adoption.
- The project eAbgari is developed abiding Bengal Excise (BE) Act 1909, the oldest Excise Act of India. All other State Excise Acts are framed based on BE Act 1909 with few state specific modifications. eAbgari project is ready for replication in other States after needful customization in shortest possible time.
- eAbgari project has been selected for Productization with a view to include it in e-Gov App Store to make it available as a National Product.

Roadmap followed

- NIC engaged as ICT Consultant to conduct through study of manual system.
- NIC submitted DPR advising following remedial measures:-
 - Technology oriented Government Process Re-engineering
 - Re-use of available ICT Infrastructure and systems
 - Online collection of data from the lowest level in excise value chain
 - Periodic information collection for Criminal and breach cases for stronger control and enforcement
 - Stock inventory of spirit – both in bulk and packaged form
 - Ensuring multiple channels of communication including Online, Pull/Push SMS, Email, Mobile Apps and 24x7 Helpdesk services for timely, simplified and transparent G2B, G2C, G2G services
 - Change Management:-
 - ◊ Formation of IT Cell
 - ◊ Re-Organization of Excise Training Cell
 - ◊ Training Calendar on ICT Awareness & Motivational Programs for all hierarchical levels of State Excise

Major Components

State Excise Licensee Issuance & Tracking System

Workflow based system to Grant of New Excise License as well as Renewal of existing Licenses. New Applicants are authenticated through OTP & Email, whereas existing Licensees are authenticated through eAbgari user credentials. The process flow involves e-Payment of requisite Fees guided by eAbgari, Uploading of relevant KYC documents through system-driven validations, e-Submission of Application to Range Officer, e-Issuance of Acknowledgement to Excise Licensee, e-Acting on Application by Excise Officer either to Hold on or, to Forward the Application to Excise Collector, e-Acting on Forwarded Application by Excise Collector to Seek Clarification or e-Issuance of Excise License.

State Excise Permit/Pass Issuance System

For movement of Liquor within the state or for Import from Other States/Countries, Excise Permits/ Passes are mandatory. The eAbgari automatically determines the type (Under bond, Duty Paid or Duty Bearing) of import/transport/export considering the nature of license of the Consignee & Consignor. The relevant process flow involves e-Requisition for Import/Export/Transport of Molasses/Bulk Spirit/ Packaged Liquor etc., Acting on the Requisition electronically by the Competent Authorities, e-Issuance of Bar-coded Import Permit-cum-Pass for Packaged Foreign Liquor printed on Security Paper, e-Receipts of Imported Consignment & automatic updating of Stock, e-Issuance of Excise Verification Certificate.

State Excise Mapping System

Google Maps are used in eAbgari innovatively for tagging of Excise Licensed premises to analyze scenarios like (a) Existence of liquor shop within restricted area (b) Concentration of average number of liquor shops in a particular locality. Moving forward, the Google Maps service is also extended to crime locations/illicit liquor manufacturing locations to enable better preventive measures and also in acting as a distance calculator between two locations using Haversine formulae.

Excise Brand Management System

Database of Packaged Liquor Brands establishes a linkage between licensee and the brands registered by him/her. The database contains all particulars of registered brands including Unique Product Registration Number, Registration Type (Fresh/Renewal), Liquor Category, Kind, Type, Brand Name, Special Attribute of Container, Bottler Name, Country/State, Address, Brand Owner Name, Country/State, Address, Liquor Strength, Measure & M.R.P., Margins of Manufacturer, Wholesaler & Retailer, Registrant Name & Address, Global Trade Item Number (GTIN) of the Brand, Picture file of Labels & Container, Registration Fee Payment Details etc.

State Excise Stock Inventory Management System

This enables to manage real time stock inventory of licensed premises as follows:-
 Factory: e-Receipts of Spirit through Import or Transport, e-Stock Inventory of Strong Spirit (SST) VAT, e-Issuance of Spirit to Blending & Reduction (BRT) VAT for production of a Brand of Specified Batch, e-Issuance of QR Code based Adhesive Labels for pasting on Packaged Liquor, e-Recording of Produced Packaged Foreign Liquor – Measure, Total Cases/Bottles, e-Transfer of Produced Bottles to the Stock of Adjunct Bond. Warehouse: e-Receipts from Factory OR e-Receipts through Import from Other States, e-Issuance of Bottles to Trades through De-bonding (Transport Pass) through collection of applicable excise duties, e-Stock Inventory of Packaged Liquors

Trade

e-Receipts from Factory OR e-Receipts through Import from Other States, e-Issuance of Bottles to Trades/Retails through Transport Pass, e-Stock Inventory of Packaged Liquors. Retail: e-Receipts from Trades OR e-Receipts through Import from Other States, e-Issuance of Bottles to end consumers.

State Excise Supply Chain Management System

This is end-to-end solution comprising of Registration of business associates, Automated Supply Order to Suppliers, regulate and monitor movement of packaged spirits upon receipt at warehouse and up to shipment to Retail Outlets, Release of payment to supplier on receipt of sale information from re-

▼ Functional Architecture of eAbgari



tailer based on indentation, Invoice management, Tracking, reconciliation of bottles/cases with alerts & exception reporting, Reporting and analytics of key operational & financial parameters, Management of supplies and inventories of packaged liquors, Integration with banking payment gateways etc. The system enables Track & Trace of Packaged Liquor through adoption of Case & Bottle level QR Coded Labels & Hand Held Terminal (HHT) for ease in Dispatch, Receipts & Sales and thereby the Stock Inventory.

Home Delivery of Packaged Liquor

e-Retail system is there under eAbgari to enable online ordering by Buyers (CoD, Online Payment) followed by home delivery of Packaged Liquor with Order Tracking facility & Mobile App.

MAJOR INITIATIVES COVERED

eAbgari is developed as a rule-based technology enabled system to undertake end to end operations enabling robust monitoring and control for:

- Information collection on criminal & breach cases for better enforcement measures
- Detect inefficiency & corruption
- Monitor performance
- Inculcate a sense of accountability in functioning of dealing officials at each level of excise
- Intelligent decision support & audit to arrest revenue leakages
- Reconciliation of every drop of spirit manufactured or imported
- 360 degree profile of Licenses, Permits & Passes.

eAbgari implements Automation & Right of Service Act through (a) technology driven business process re-engineering (b) single-point simpler excise tax collection system, digital collection & archiving of documents (d) empowering excise headquarters, field units & stakeholders to know exact status of process (e) services at stakeholder's doorsteps (f) Grievance Redressal System.

Application suit of 62 e-Services

- Grant of New Excise License.
- Renewal of Excise License.
- Change in Excise Establishment Management.
- Grant of Temporary Bar License.
- NOC for Grant of License/Late Closing from Police Commissionerate.
- Shifting and Transfer of Excise License(s).
- Permission for Late Serving in Retail Outlets.
- Registration of Brand & Labels of Packaged Liquor.
- Daily Preventive Raid Reporting system.
- e-POS: Daily Sales Reporting & detailed Inventory of Retail outlets.
- Monthly Revenue Return from Excise Licensees.
- Monthly Revenue & Intoxicant Consumption Re-

port from SEs.

- e-Chemical Examination Laboratory for handling samples and also aiding prosecution cases in Trial Courts.
- Import of Molasses from other States.
- Import of Bulk Spirit from other States.
- Import of SDS, Methanol.
- Import of Spirit for Medicinal purpose.
- Import of Packaged Foreign Liquor (PFL).
- Export of Molasses to other States.
- Export of Bulk Spirit to other States.
- Export of Packaged Foreign Liquor (PFL) to other States.
- Export of Packaged Country Spirit (CS) to other States.
- Transport of Bulk Spirit within the State.
- Transport of Packaged Foreign Liquor (PFL) within the State.
- Transport of CSD FL within the State.
- Transport FL from Custom Bonded Warehouse.
- Transport of Packaged Country Spirit within the State.
- Supply Chain Management of QR Coded Holograms till its affixing on Packaged Liquor through Applicators.
- Packaged Liquor Case level QR Code Generation & HHT based Supply Chain.
- e-Retail: Home Delivery of Packaged Liquor.
- Country Spirit Salesman Registration Module.
- Court Case Monitoring System.
- Retailer Shop Inspection & Misc. Case Monitoring System.
- Excise Criminal Information System.
- Public Grievance Monitoring System.
- Excise Vehicle Bill Submission, Processing & Management System.
- eBevco: Supply chain management of packaged liquor from manufacturing to wholesale warehouses of West Bengal State Beverage Corporation Ltd. (WBSBCL) to retail including payment of procurement costs by retailers and remittance of landed costs to suppliers using integrated payment gateways. The major components of eBevco are:- Registration of Suppliers (through Import & Transport), Automated Order for Supply based on Business Analytics, Indents for Supply by Retailers, Proforma Invoice by Suppliers & Warehouses, Online Payment Gateway for Payments by Retailers & WBSBCL.

Reach of the project

Though eAbgari is primarily targeted at businesses engaged in manufacture, distribution and trade in liquor, as also the health care sector so far as

procurement and distribution of life saving narcotic medicine is concerned, the benefits accrue to the entire population. Citizen access eAbgari online/mobile devices while applying for license or intending to lodge grievance or to check authenticity of packaged liquor through scanning of QR coded holograms or texting the serial no. of hologram to fetch product details as PULL SMS. Web services are made available in eAbgari to facilitate

other administrative departments e.g. Commercial Tax, Police, Commerce & Industries for exchange of data. Besides, the Excise Departments & Licensees of other states & union territories of India intending to import from West Bengal or doing export to this state are also covered by eAbgari project. Nepal, Bhutan, Bangladesh and other foreign countries are also covered in eAbgari Supply Chain Management.

Stakeholders

eAbgari covers all stakeholders in Excise Value Chain located all states & abroad falling within ambit of BE Act 2012. Primary Stakeholders of the project are:

- ~ 5,000 Excise Officials administering regulatory measures and engaged with enforcement activities to prevent loss of health & life
- ~ 7000 Excise Licensees for doing business
- ~ 4,000 Medical Hospitals/Nursing homes to procure/distribute medicinal alcohol/life-saving drugs for CCUs
- ~ 100 Educational Institutions to procure spirits for research purpose
- ~9 crore Citizen of WB applying for license or intending to lodge grievance or for QR code based authenticity of packaged liquor.

Secondary Stakeholders (a) Excise Nodes of Other States Importing/Exporting with WB (b) All Banks through GRIPS portal for online deposition of excise duties/fees (c) Other Administrative departments for exchange of data (d) Citizens of other States – to check authenticity of packaged liquor produced in WB. Till date, 548 crore e-Services are rendered.

Key functional areas

- 360 degree profile of Licenses, Registered Packaged Liquor Brands for better Excise License Management
- Automation in the issue of Licenses, Label Registration and NOC / Permits / Passes / EVCs for import / export / transport – both under-bond & duty-paid and Tracking thereof
- Monitoring of execution & non-execution of issued NOC / Permits / Passes including revalidation & cancellation
- Dashboard, Pendency Checker at all hierarchical levels
- Real time Stock Inventory of Spirit in Bulk, Packaged Liquor for Reconciliation of every drop of spirit imported or manufactured
- Supply Chain Management of QR Coded Holograms till its affixing on Packaged Liquor Bottles



▲ Hon'ble Union Cabinet Minister, Shri Narendra Singh Tomar conferring award for eAbgari project

through Applicators on Production Line

- Packaged Liquor Case level QR Code Generation & Hand Held Terminal (HHT) based Supply Chain from Bottling Plants till dispatch to Retail Outlets
- System driven intelligence reports for enforcement and managerial control and inventory management
- Monitoring of Enforcement activities, Court Case Monitoring, e-Chemical Examination Laboratory, Grievance Redressal
- Mobile App based solution to capture Real-time Sales at Retail Outlets (both Asynchronous & Synchronous modes) through scanning of QR Code/ GTIN
- e-Receipt of Excise Duties/ Fees in integrated manner with Treasury Portal/ Bank and Pay Wallet System
- GPS mapping of State Excise Licensed Establishments
- eAbgari Mobile App for:
 - Sale by Retail Outlets through scanning QR Code/ GTIN
 - Checking Authenticity by Consumers through scanning QR Code/ GTIN
 - GPS Mapping of Excise Establishments

▼ Receiving Digital India Award 2020



- Daily Preventive Raid Reporting by Excise Officials
- Reporting of excise related crimes by Citizens (along with Photographs)
- e-Retail for Home Delivery of Packaged Liquor for usage by Buyers, Delivery Persons
- MIS on Revenue Collection, DPR etc. for Excise Authorities
- QR Code Based Authentication of Packaged Liquor.
- eAbgari Chatbot
- Reporting and analytics of key operational & financial parameters of State Excise.
- Traceable Workflow with Status Information
- GPS mapping of Excise Licensed Premises across the State.

Emerging technology

- Successful POC on eAbgari with CoE, Bengaluru on Intel's Hyperledger Sawtooth for Blockchain using QR Code based Packaged Liquor Supply Chain of eAbgari during movement of Packaged Liquor from Manufacturers to Distributors and Distributors to Retailers
- Sensor driven Mass flow meter based system integrated with SCADA to monitor day to day operation in all plants in WB
- HHT & QR Code based Shipment & Receipt of Packaged Liquor Cases
- Data mining on historical data for showing trend and future prediction & prescription in State Excise Supply Chain to (a) Anticipate Purchase Orders From Retailers (b) Supply Chain Planning forecasting (c) Automated OFS for Demand-Supply Management in Warehouses through overcoming supply flaws (overstocking or under stocking) (d) Creating Supply Chain visibility and gaining supply risk insights (e) Analytics driven purchasing recommendations to Retailers
- Chatbots for operational interactions with Suppliers & Retailers (Purchasers).



Awards & Recognitions

- Digital India Award, 2020
- National e-Governance Award, 2018
- Skoch e-Governance Award (Platinum), 2015
- CSI-Nihilent e-Governance Award, 2016
- Technology Sabha (Indian Express Group) Award, 2017, 2018

Road ahead

- AI driven Supply Chain Logistic Management by tracking the real-time movement of shipments to calculate their estimated time of arrival, factoring the impact of weather conditions and natural disasters through Satellite data collection & its analyzing
- AI driven purchasing recommendations to Retailers based on Image Recognitions of Liquor Containers & Labels
- Adequate overview of Supply Chain network (in case of Import / Export) using Blockchain among the eAbgari implementing States
- Government of West Bengal has recently approved the proposal of setting up a Centre of Excellence on eAbgari (a joint initiative with NIC) in Kolkata powered by Artificial Intelligence, Big Data Analytics & Blockchain technology. The proposed CDA&C will work as a Development-cum-Support Centre of eAbgari & eBevco projects. It will identify, mentor, augment capabilities and promote in cutting edge analytics solutions for the eAbgari & eBevco projects.

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