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प्रशासनिक सुधार और लोक शिकायत विभाग
DEPARTMENT OF
ADMINISTRATIVE REFORMS
& PUBLIC GRIEVANCES

सत्यमेव जयते

G20 भारत 2023 INDIA

आज़ादी का अमृत महोत्सव

EXCELLENCE IN E-GOVERNANCE

National e-Governance Award Winners of the Year 2022

CONTENT

1. e-Panchayat Mission Mode Project

Sl. No.	Description	Write-up
1.	**Name of State/Ministry**	Ministry of Panchayati Raj, Government of India
2.	**Name of the host/owner organization**	Ministry of Panchayati Raj, Government of India
3.	**Status of the host/owner organization**	Ministry of Panchayati Raj, Government of India
4.	**Name of Project**	e-Panchayat Mission Mode Project (eGramSwaraj & Audit Online)
5.	**Name of the Nodal Contact Person**	Shri. Alok Prem Nagar
6.	**Contact address**	MoPR, 25 KG Marg, Jeevan Prakash Building, 11th Floor, New Delhi – 110001
7.	**Telephone/Fax/E-mail**	9418007426

8. Project Summary:

e-Panchayat Mission Mode Project (MMP), under the ambit of Digital India, is aimed at automating the internal workflow processes of all the 2.78 lakh Rural Local Bodies including Traditional Local Bodies across the country. The main objectives of e-Panchayat MMP are to use Information and Communication Technology for:

- Automation of internal workflow processes of Panchayats and Traditional Local Bodies.
- Improving service delivery to rural citizens.
- Enhancing transparency, accountability, and credibility of Panchayats & Traditional Local Bodies.
- Improving governance of local self-government.

Under e-Panchayat Mission Mode Project; a Single unified application called eGramSwaraj was developed that addressed all the aspects of Panchayat functioning viz. planning, accounting, monitoring, asset management etc. eGramSwaraj works on the principle of Work-based accounting i.e., End to end tracking system capturing entire gamut of activities right from the Panchayat/Local Body planning to monitoring to accounting to online payments. Further enhancing the accountability at grassroots level MoPR has developed an application, called Audit Online, for the purpose of carrying out online audit of Panchayat accounts

9. **Date of launch of the project:** 24 April, 2020
10. **Coverage (Geographical):**
    - Total no. of States covered: 32
    - Total no. of Panchayati Raj Institutions covered: 2,59,320

11. **Beneficiary:** 2.78 lakh Panchayati Raj Institutions including Traditional Local Bodies.

12. **Problem statement or situation before the initiative:**

Earlier under e-Panchayat MMP, individual applications were developed that addressed the Panchayat functioning. These applications were functioning independent of each other and as such there was no interlinking between the applications which meant similar information being entered into different applications leading to duplication of data entry and no flow of data between the applications to maintain uniformity.

Expenditures incurred by the Panchayats were manually entered into the data system with often was observed to be erroneous leading to skewed accounts. Due to absence of work-based accounting, there was no co-relation between the work plans and the works executed as well as the expenditure incurred. Moreover, there was no provision earlier to enable online audits of Panchayat accounts. As such, the availability of audited accounts was always a challenge.

13. **Project Objectives:**

eGramSwaraj aims to bring in better transparency and strengthens the e-Governance in Panchayati Raj Institutions (PRIs) across the country through decentralized planning, progress reporting and work-based accounting. It is single platform for all the planning and accounting needs of the Panchayats. Further, strengthening the transparency and accountability, Audit Online – an application of carrying out online audits was introduced.

14. **Project scope approach and methodology:**

With eGramSwaraj, the concept of Work Based Accounting was introduced that allowed for an end-to-end tracking system capturing the entire gamut of activity right from planning to monitoring to accounting to online payments. This has enhanced transparency by a great extent. The information pertaining to a particular work can be accessed by the respective Panchayat citizen through various reports that are available in the public domain. With the Online Payment Interface introduced, eGramSwaraj – PFMS Interface (eGSPI), payments to the vendors / service providers are real time and the error on account of erroneous entries have also reduced drastically as a result of this interface as the system does not allow to proceed with the payments, unless and until there is a sufficient balance in the corresponding accounts of Panchayats. The accounting module of eGramSwaraj was also interlinked with Audit Online as to provide the auditors with all the relevant Panchayat account statements. Two feedback-workshops were held with all the States / UTs seeking their viewpoints and opinions regarding development of a Single-Sign On application. Since eGramSwaraj amalgamated the erstwhile PES Applications; impact analysis was also carried out to ascertain that there would not be any loss of information / data across the different modules. Impact analysis was also carried out between accounting module and PFMS to ensure that the fund-flow / payments does not get hampered. In order to ensure that AuditOnline catered to audit of Panchayats across States

in accordance with their respective Audit Rules / Acts; information pertaining to the factsheets, actual audit process-flow, audit-team details were sought from the State DLFAs which were incorporated / configured in the application. This ensured that there was no deviation from the existing State Audit Rules and Acts.

15. Result achieved/value delivered to beneficiary of the project and other distinctive features/accomplishments of the project:

The applications eGramSwaraj & AuditOnline are two such applications that provide complete transparency & public disclosure to the citizens of Panchayats. Any citizen of a Panchayat who wish to know of the respective Panchayat development plans proposed and those that are initiated, and the corresponding public expenditure incurred by their Panchayats, and whether Panchayat accounts have been audited and what are key findings during an audit, can access the several reports available in the public domain that give out all the relevant information. Such a level of transparency and public disclosure has led to stronger and effective Digital Governance at grassroots level. As on date, following information are available in the public domain:

- 2,55,324 Panchayat Development Plans for the year 2022-23 across the three tiers of Panchayats.
- 1,66,266 yearbooks, i.e., account books, for FY 2022-23 have been closed across the three tiers of Panchayats.
- 2,51,683 month-books for the FY 2022-23 has been closed across the three tiers of Panchayats.
- 2,36,979 PRIs (i.e., ZPs, BPs, GPs) have done online payments through eGSPI for the year 2022-23.
- 1,33,482 PRIs (i.e., ZPs, BPs, GPs) have done online payments through eGSPI in the current year 2023-24.
- 2,06,007 Audit Reports have been generated across the three tiers of Panchayats for the audit period 2020-21.
- 1,21,876 Audit Reports have been generated across the three tiers of Panchayats for the audit period 2021-22.

16. Future proofing/Longevity of the Project:

- **Thematic Panchayat Development Plans**

  With emphasis being laid on attaining the Sustainable Development Goals (SDGs) by 2030, the Panchayats have embarked on the path to prepare plans that cater to the attainment of the 17 SDGs. These 17 SDGs have been localized into nine different themes viz. Poverty Free & Enhanced Livelihood, Healthy Panchayat, Child Friendly Panchayat, Panchayat with Good Governance etc. The Panchayat Development Plans would now be congruent to these themes called Thematic Development Plans. In order to ensure this is followed, the Panchayats have to mandatory make a Sankalp / Resolution for complete attainment for the themes and accordingly prepare the Sankalp (Resolution) oriented development plans and corresponding activities. Further, to ensure uniformity, the themes are also pre-mapped to the 29 focus areas as laid down in the Eleventh Schedule of the Constitution.

- **Procurement of Goods and Services through GeM portal**
  To enable the Panchayats to procure their goods and services through GeM leveraging the eGS platform, it is the endeavor of MoPR that all the procurement of goods and services by the Panchayats be done through the GeM empaneled vendors. This entails an integration between eGramSwaraj and GeM portal. This eGramSwaraj – GeM Interface was launched by the Hon'ble Prime Minister on 24th April 2023 on the occasion of National Panchayati Raj Day. This will ensure more transparency by keeping a check on arbitrary award of contracts will also ensure price standardization of goods.

- **Enhancements based on States' feedback – eGramSwaraj 2.0**
  During the months of January – February 2023; a series of feedback workshops were held soliciting additional / further inputs on enhancing the current eGramSwaraj Application from the States. Three such workshops were held in Hyderabad, Guwahati, and Shimla. The inputs were sought on all the modules in eGramSwaraj. Based on the suggestions received the developments are currently under progress and would be launched soon.

- **Action Taken Report (ATR) Module in AuditOnline application**
  In order to realize the principle of accountability through Audit, the Ministry is proposing to bring in a more structured culmination to the online audit process by incorporating the Action Taken Report (ATR) Module. The aim is to also expedite the audit process and provide further clarity on the actions taken by the Panchayats against the audit observations. An Action Taken Report (ATR) module on the Audit Observations shall not only strengthen the transparency and accountability at the grassroots level, but also aid in ensuring that the money is being utilized for public use.

- **Holistic audit of all the Panchayat implemented schemes.**
  With the auditors carrying out audits primarily for the Central Finance Commission (CFC) grants, it is not restricted to only CFC grants but all the Central and State schemes that are being implemented by the Panchayats which means eventually the auditors would have to begin carrying out audits for all of the Panchayat implemented schemes to give a holistic view of the Panchayat Finances in the country. Going forward, all the accounts of Panchayats pertaining to all the relevant schemes would be mandatorily updated.

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2. PM SVANidhi Scheme

Sl. No.	Description	Write-up
1.	**Name of the State/ Ministry**	Ministry of Housing and Urban Affairs, Government of India
2.	**Name of the host/ owner organization**	Ministry of Housing and Urban Affairs
3.	**Status of the host/ owner organization**	Ministry of Housing and Urban Affairs
4.	**Name of the Project**	PM SVANidhi Scheme
5.	**Name of the Nodal Contact Person**	Ms. Shalini Pandey, Director (PM SVANidhi)
6.	**Contact address**	Room No. 341 C-wing, Nirman Bhawan, New Delhi, 110011
7.	**Telephone/Fax/e-mail**	01123062798,9416299661, shalini.pandey78@gov.in

8. Project Summary:

Ministry of Housing and Urban Affairs (MoHUA) is implementing PM SVANidhi (PM Street Vendor's AtmaNirbhar Nidhi) scheme since 01st June 2020 to facilitate micro credit to Street Vendors (SVs), to restart their businesses which were adversely impacted during the Covid-19 pandemic. The scheme has also taken various related initiatives to ensure socio-economic upliftment of street vendors' families.

The scheme has been built on the backbone of number of e-governance initiatives such as Online loan application portal, Mobile apps, loans sanction and disbursement in digital mode, e-KYC, Digital payments among SVs and dashboard that enables decision making.

These initiatives have not only helped implement the scheme successfully but also helped bring in efficiency in the implementation.

9. Date of launch of the project: 01 June, 2020

10. Coverage (Geographical): Urban Areas across the Country.

11. Beneficiary of the project: All Street Vendors vending in urban area.

12. Problem Statement or situation before the initiative:

Covid-19 pandemic adversely affected street vendors, resulting them to lose their earnings and their livelihoods. Before PM SVANidhi, most of these street vendors lacked legal recognition, lacked access to credit from formal institutions, faced harassment from local authorities and their families lacked social security.

13. Project Objectives:

PM SVANidhi provides affordable working capital loan upto ₹50,000 to street vendors vending in urban areas and assists them in restarting businesses that were adversely affected by COVID-19 pandemic.

The main objectives of the scheme are:

- Opening the doors of formal credit channels to the street vendors by facilitating provision of collateral free loans.
- Promoting adoption of digital transaction by Street Vendors to create a transaction history which in turn would help them in accessing credit in the future.
- Building socio-economic safety net for street vendors and their family members.

Scheme components:

The Ministry along with the Urban Local Bodies (ULBs), states/UTs has taken the following actions in order to accomplish the above objectives:

- Scheme provides collateral free credit facility of upto ₹50,000 to street vendors vending in urban areas to assist in restarting their businesses that were adversely affected by COVID-19 pandemic.
- To enhance adoption of digital transactions, the scheme mandates Lending Institutions to digitally on-board and train vendors on digital payment platforms at the time of disbursement. It also encourages digital transactions by offering slew of incentives to Street Vendors and banks/Digital Payment Aggregators (DPAs).
- To incentivize street vendors to repay loans on time, an interest subsidy of 7% is provided.
- To encourage inclusivity, the scheme covers vendors from surrounding development/peri-urban/rural areas, vending in the geographical limits of Urban Local Bodies (ULBs).

For creation of a socio-economic safety net for vendors and their families, 'SVANidhi se Samriddhi' component was launched from January 4, 2021 to link beneficiaries with 8 select central government welfare schemes. The program provides a first-of its -kind, unique platform for convergence of 5 Ministries (MoF, MoH&FW, MoL&E, MoW&CD and MoCAFPD) at National, State and City level.

14.Project Scope, approach and methodology:

Utilizing the components mentioned above, the scheme has been implemented with the strong foundation of e-governance initiatives. The following e-governance principles have been implemented in the scheme to make the entire scheme implementation transparent and efficient -

- **Form simplification and field reduction**– Application form is made simple, and made user friendly and only minimum and necessary information is being collected. Where applicant information gets auto filled in form via UIDAI integration, various validations are done to further ease the form filling process.
- **Online applications and tracking** - Online applications and tracking of their status is being provided to all applicants, time to time and applicant can access scheme website to know their application status.

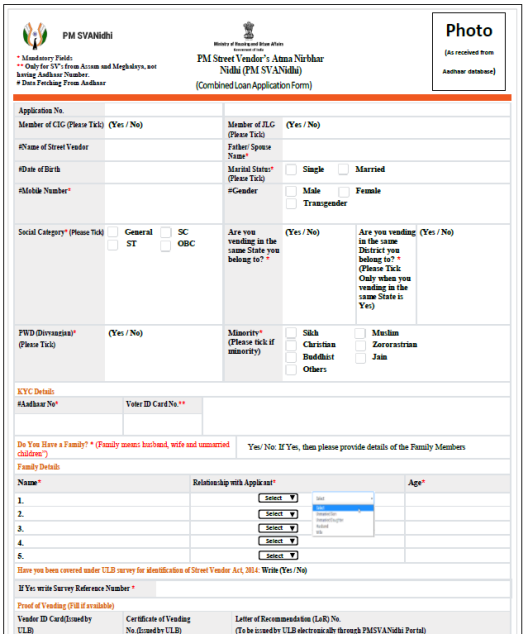
- **Online repositories** - Use of online repositories e.g., vending certificates (PCOV), Letter of Recommendation (LoR) identity documents, SRN etc. has been mandated so that applicants/citizens are not required to submit these documents in physical form again and again.
- **One Platform for all user type –** All State users (ULBs), Lenders (Bankers) & Central monitoring agency were onboarded on single platform to process the application of LoR, SRN and PMS in very short turnaround time with no manual/paper efforts included.
- **Integration of services and platforms**– Integration of services and platform e.g., Aadhaar platform of UIDAI, Credit platforms (CRIF/EQIFEX), UMANG Platform, sharing of data through API and middleware has been done.
- Separate and secure integration has been done with various lending institutes to facilitate integrated and interoperable service delivery to citizens due to which processing time was reduced and visit to lenders/bank branches has been reduced. Tracking of application at lenders end was also done via API for near real time tracking.
- **All databases and information** are only in electronic form. The workflow inside government & state departments and agencies is also automated via one single portal/platform to enable efficient government processes with no paper/manual file processing and to allow visibility of these processes to citizens. Information Technology is being used to automate, respond, and analyse data to identify and resolve persistent problems in quick around time.
- **Machine Learning –** ML is an integral part of modern information societies, and it has been used in scheme at various levels e.g., generate next tranche application automatically, mapping LoR& PMS application, handle Big Data classification for displaying scheme progress in interactive Power BI Dashboard to cater to various user types of schemes.
- **Artificial Intelligence** – For Vendor Identity Board, images of applicant need to be enhanced and we used advance level AI engine to enhance applicant images from low quality to fine quality.
- **Leveraging PFMS for DBT payments to beneficiaries.** The interest subsidy gets directly transferred to the beneficiaries' accounts without any interruption.
- **Use of cloud-based storage** for storing of authentic images of the beneficiary during Socio-economic profiling.
- **Data security** – All data is secured as per industry specific best practices & tools. Limited Administrative access control is provided with VPN in place and only allowed users can access the servers. Industry best techniques like Permissions, Access control, Firewall, Network access control are being used. Load balancing is used to distribute users on peak intervals.

All type of user data is being stored in encryption format and only allowed user can view the data. Full Back up of data is being done regularly and DR Activity is also being carried every six months for website and portal.

15. Results achieved/Value Delivered to the beneficiary of the project and other distinctive features/accomplishments of the project:

Underlying the above-mentioned principles, the following are the key outputs achieved as per the e-governance initiatives under PM SVANidhi:

- **Online application portal:** Beneficiary can apply on PM SVANidhi portal through CSCs and ULBs. The user-friendly end-to-end digital platform works in paperless manner from loan application receiving to loan approval by banks. This eliminates the need for physical visits to banks or government offices.


PM SVANidhi

PM Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi)
(Combined Loan Application Form)

Photo
(As received from Aadhaar database)

* Mandatory Fields
** Only for SV's from Assam and Meghalaya, not having Aadhaar Number.
# Data Fetching From Aadhaar

Application No.			
Member of CIG (Please Tick)	(Yes / No)	Member of JLG (Please Tick)	(Yes / No)
#Name of Street Vendor		Father/ Spouse Name*	
#Date of Birth		Marital Status* (Please Tick)	Single / Married
#Mobile Number*		#Gender	Male / Female / Transgender
Social Category* (Please Tick)	General / SC / ST / OBC	Are you vending in the same State you belong to? *	(Yes / No)
		Are you vending in the same District you belong to? * (Please Tick Only when you vending in the same State is Yes)	(Yes / No)
PWD (Divyangjan)* (Please Tick)	(Yes / No)	Minority* (Please tick if minority)	Sikh / Muslim / Christian / Zororastrian / Buddhist / Jain / Others

KYC Details

#Aadhaar No*	Voter ID Card No.**

Do You Have a Family? * (Family means husband, wife and unmarried children*) — Yes/ No: If Yes, then please provide details of the Family Members

Family Details

Name*	Relationship with Applicant*	Age*
1.	Select	
2.	Select	
3.	Select	
4.	Select	
5.	Select	

Have you been covered under ULB survey for identification of Street Vendor Act, 2014: Write (Yes / No)

If Yes write Survey Reference Number *

Proof of Vending (Fill if available)

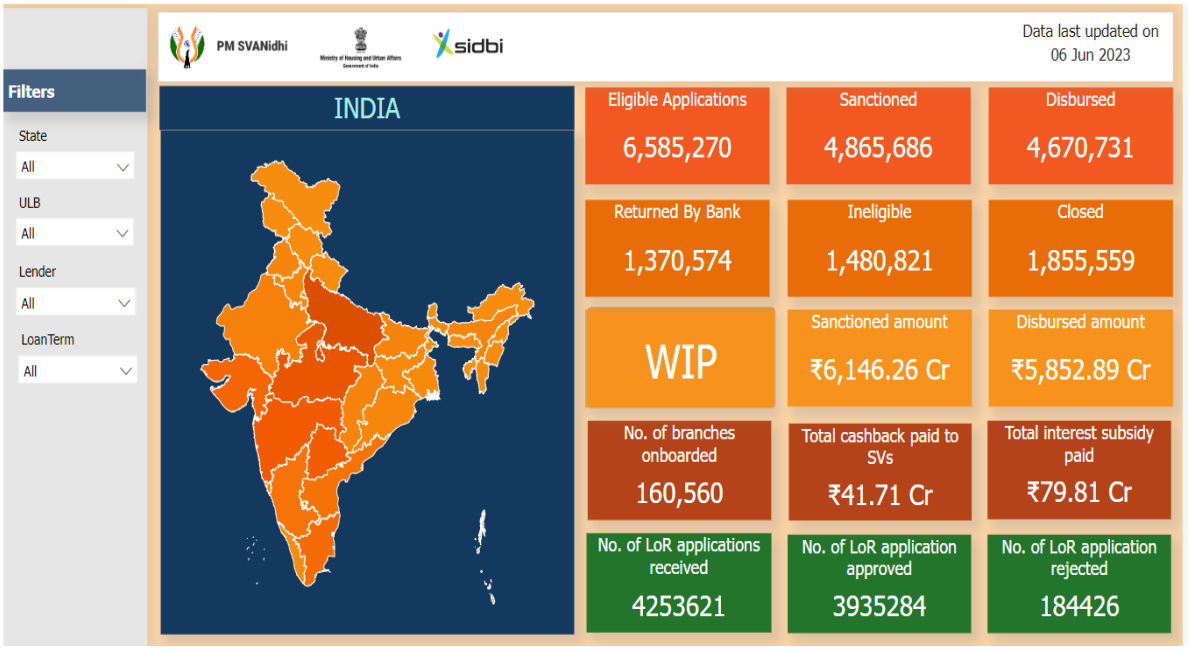
Vendor ID Card(Issued by ULB)	Certificate of Vending No.(Issued by ULB)	Letter of Recommendation (LoR) No. (To be issued by ULB electronically through PMSVANidhi Portal)

- *1 Online Application Form*

- **Digital loan sanction and disbursal:** Loans are sanctioned and disbursed digitally, which ensures transparency and speed in the process. Besides this, street vendors receive SMS and Email alerts of the loan application status and payment schedules, which help in tracking the progress.
- **E-KYC:** Electronic Know Your Customer (e-KYC) has been implemented to verify the identity of street vendors through digital means, eliminating the need for physical documents.
- **Digital Payments:** Digital adoption by Street Vendors is an important component of the scheme. Cashback incentives are provided to banks/ Digital Payment Aggregators (DPAs) and street vendors to promote digital adoption. Information, Education and Communication (IEC) activities such as display of banners/ organizing radio jingles are done to bring awareness among SVs to promote digital payments through platforms such as UPIs. Digital payments provide benefits to street vendors such as avoiding hassles in handling cash for transactions.

2 IEC activities

- **Interactive real-time dashboard** provides a panoramic view to State/ULB, Lending Institution performance. Data can be drilled down to State/ULB/loan-wise.



3 An Interactive dashboard

- **Mobile App:**
  - User friendly and simple mobile app was developed for state and Lender users to further allow users to have easy, functional access to information, services, and processes that they need in real-time and are optimized for hands on interaction.
  - A mobile app for street vendors launched recently to help them apply for loans, LoRs directly from the mobile phones & check their status access information related to cashback and family profiling under 'SVANidhi Se Samriddhi' and register their grievances through voice-based grievance system.

- **SVANidhi Se Samriddhi portal:**

  - Leveraging the technology, a single window system has been created for providing social welfare scheme benefits to street vendors families. The technology platform consists of a centralized database of all loan beneficiaries, provisions for socio-economic profiling and an eligibility engine that instantly checks the eligibility of beneficiaries for various schemes, based on responses to profiling questionnaire. An interactive real time dashboard enables the users to monitor the profiling status and delivery of social sector scheme benefits at central, state and urban local body (ULB) levels.

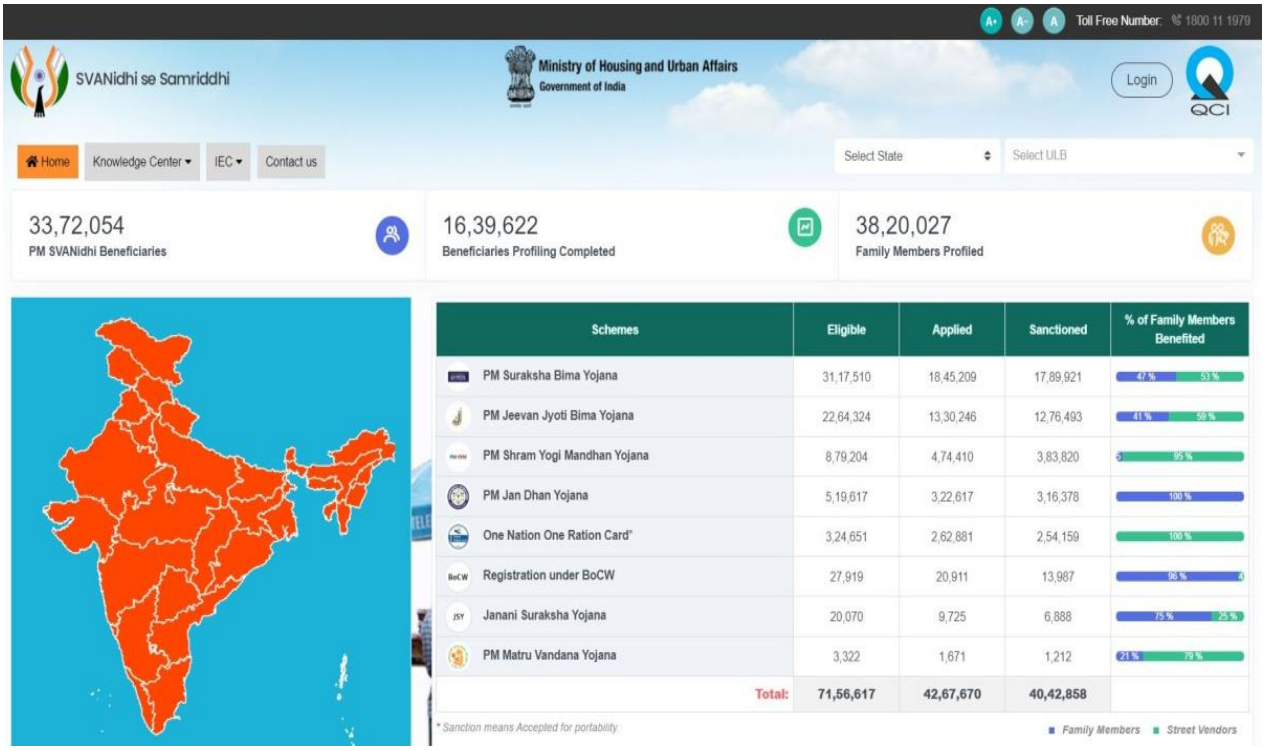


Figure 4 SVANidhi Se Samriddhi portal

- **Udyam Assist Portal:**
    - Udyam Assist Portal has been launched as an extension of providing benefits to Street Vendors beyond PM SVANidhi, by providing them MSME status. Under this portal, provision is made for the Street Vendors to download Udyam Assist Certificate with which they can access loans from lending institutions under Priority Sector Lending.

These e-governance initiatives under PM SVANidhi program have helped to make the loan disbursal process more efficient and transparent and have also helped to reach out to more street vendors across the country. In the past three years, the scheme has performed well, providing more than 46.70 lakh loans worth ₹5,852 Cr to 36.36 lakhs beneficiaries. Till date, 19.29 lakh street vendors are digitally active and have recorded 71.46 crore digital transactions amounting to over ₹85,047 crore. ₹41.71 crore has been released to the beneficiaries in lieu of cashback.

Under SVANidhi Se Samriddhi, more than 40 lakh scheme sanctions are extended to 16.5 lakh street vendor families

- **Accolades Received:**

  The scheme has been awarded with National Award for e-Governance 2022 (Silver) for its excellence in Government Process Re-engineering for Digital Transformation

5.Excellence Award

Advantages of using e-Gov under PM SVANidhi:

- **Digital registration:** E-governance initiatives enabled more efficient registration of street vendors and less time-consuming than traditional paper-based registration. So far **65.85 lakh beneficiaries** have applied for loans through the portal.
- **Improved transparency**: E-governance initiatives have helped to improve transparency in the implementation of the scheme by providing real-time data on vendor registration, loan disbursal and other key metrics.
- **Increased efficiency:** E-governance initiatives have helped to increase the efficiency of the scheme by automating many of the processes involved, such as loan disbursal and repayment tracking.
- **Easy monitoring and evaluation:** The digital platform have helped in monitoring and evaluating the scheme's progress, which can help to identify areas for improvement and ensure that the scheme is meeting its objectives.
- **Greater outreach:** E-governance initiatives have helped to increase the reach of the scheme by making it more accessible to vendors in remote areas, who may not have easy access to traditional registration and loan disbursal channels.

Overall, e-governance initiatives are key pillars to the success of the PM SVANidhi scheme as they enable a more efficient, transparent, and effective implementation of the scheme. These initiatives have benefitted the street vendors enabling the scheme implementers to provide a holistic development that includes easy and efficient access to loans and other scheme convergence services through SVANidhi se Samriddhi.

16. Future proofing/ Longevity of the project:

The e-government initiatives under the scheme are scaled across the country. This is because roles and responsibilities are clearly defined across the stakeholders.

Scalability:

The intention is to reach around 50 lakh street vendors across the country. The eligible vendors across the country can access the benefits of the scheme. Continuous expansion of the scheme's reach, inclusion of more vendors, and streamlining of the application and disbursement processes are key factors to scalability.

Interoperability:

The PM SVANidhi scheme aims to improve interoperability by integrating various stakeholders and systems involved in the implementation process. The scheme involves coordination with Lending Institutions, and Urban Local Bodies to ensure smooth functioning in disbursement of loans. By leveraging technology, interoperability has been enhanced, making it easier for beneficiaries to avail the benefits of the scheme.

Platform Independence:

To ensure platform independence, the PM SVANidhi scheme has adopted a multi-channel approach which includes online portals, and mobile applications, allowing street vendors to access the scheme through multiple platforms.

Risk Envisaged and Mitigation Procedures:

Most of these solutions are built on open source and in many cases built on already existing commonly used platforms in the country – this ensures that the solutions developed under the scheme continue to be used and be updated with the technology evolution.

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3. MINE MITRA

Sl. No.	Description	Write-up
1.	**Name of the State/ Ministry**	Uttar Pradesh
2.	**Name of the host/ ownerorganization**	Directorate of Geology & Mining, Government of Uttar Pradesh
3.	**Status of the host/ ownerorganization**	Directorate of Geology & Mining, Government of Uttar Pradesh
4.	**Name of the Project**	MINE MITRA (An integrated portal for end-to-end mineral management)
5.	**Name of the Nodal Contact Person**	Dr. Roshan Jacob, Secretary & Director
6.	**Contact address**	Khanij Bhawan, 27/8, Raja Ram Mohan Rai Marg, Lucknow-226001 (U.P.)
7.	**Telephone/Fax/e-mail**	0522-2205904/ roshanjacob.up@nic.in

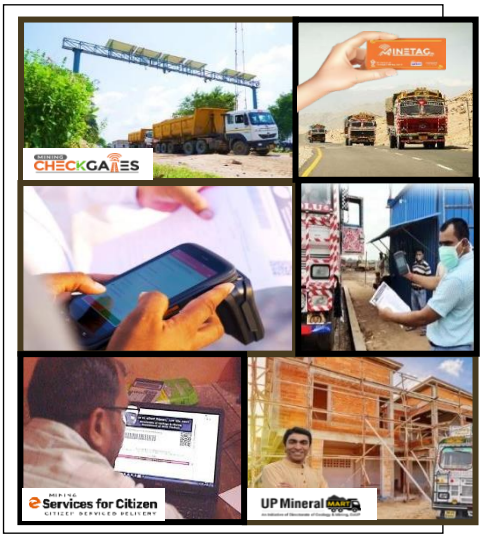
8. Project Summary:

MINE MITRA is an innovative & ambitious initiative of Directorate of Geology & Mining to bring in transparency, curb illegal mining practices and transportation through realtime surveillance system & business process re-engineering.It came into existence after detailed discussions & deliberations with Department, key Stakeholders & GeneralPublic (citizens).

It comprises of four components:

Mining e Services | Online Mineral Management | Smart Enforcement System | UP Mineral MART

MINE MITRA has been successfully deployed in the state of Uttar Pradesh, creating a standardized legal regime applicable uniformly to all concessionaires operating acrossthe state. In fact, MINE MITRA processed 1,12,585 applications online, 2.32 crore EMM11 have been issued by Leaseholders, 1139 sellers have been registered on e- commerce platform, registered 1,50,000 transporters' vehicles and disbursed 63,594 e-Notices and DGM has generated a revenue of 150+ Cr from IMSS (Integrated Mining urveillance System) developed under Mine Mitra.



It has helped the citizens & stakeholders in getting integrated service delivery, as it is integrated with NIVESH MITRA, BHULEKH, VAHAN (MoRTH) & CM dashboard DARPAN. All notified services of the department are integrated with e-District portal to provide all online citizen services via 1.74 Lakh CSCs (Common Service Center)in Uttar Pradesh.

9. Date of launch of the project: 17July, 2020

10. Coverage (Geographical): Across the state of Uttar Pradesh

11. Beneficiary of the Project:

- **Public:** Citizen
- **Business Associates:** Concessionaires, Stockist, Transporters, Inter-state mineral transporters, Vehicleowners, Retailers
- **Government:** Departmental Officers, District Administration, State Government, Neighboring States

12. Problem statement or situation before the initiative:

Bottlenecks that triggered the Directorate to conceptualize new technology driven initiative 'MINE MITRA' are as follows:

- Covert interest groups distorting free play of market forces
- Scattered information database and high resistance to technology adoption
- Opaque user interface and long-winded tedious manual processes
- Anomalies & malpractices- cartels & nexus, unscientific mining, pilferage & overloading
- Arbitrariness in enforcement leading to complaints of randomness in spot inspection
- Time dissipation due to lot of paperwork & long queues
- No standardized legal regime uniformly applicable to all stakeholders.

13. Project Objectives:

It came into existence after detailed discussions and brainstorming sessions with all key stakeholders toachieve below mentioned objectives:

- Create a user-friendly and responsive platform for the average citizen
- Promote ease of doing business & transactions in the mining sector
- Encourage all users to adapt to the digital platform for optimizing outcomes
- Create a standardized legal regime applicable uniformly to every Lessee/Transporter in the state
- Enable price control and parity in the market
- Build in transparency by onboarding of all key stakeholders
- Generate greater revenue for the government
- Facilitate legal mining marking a step forward for a cleaner & greener mining ecosystem.

14. Project scope approach and methodology:

The innovation & requirement-based intervention has been divided into the following segments:

- **Mining e-Services - Citizens**

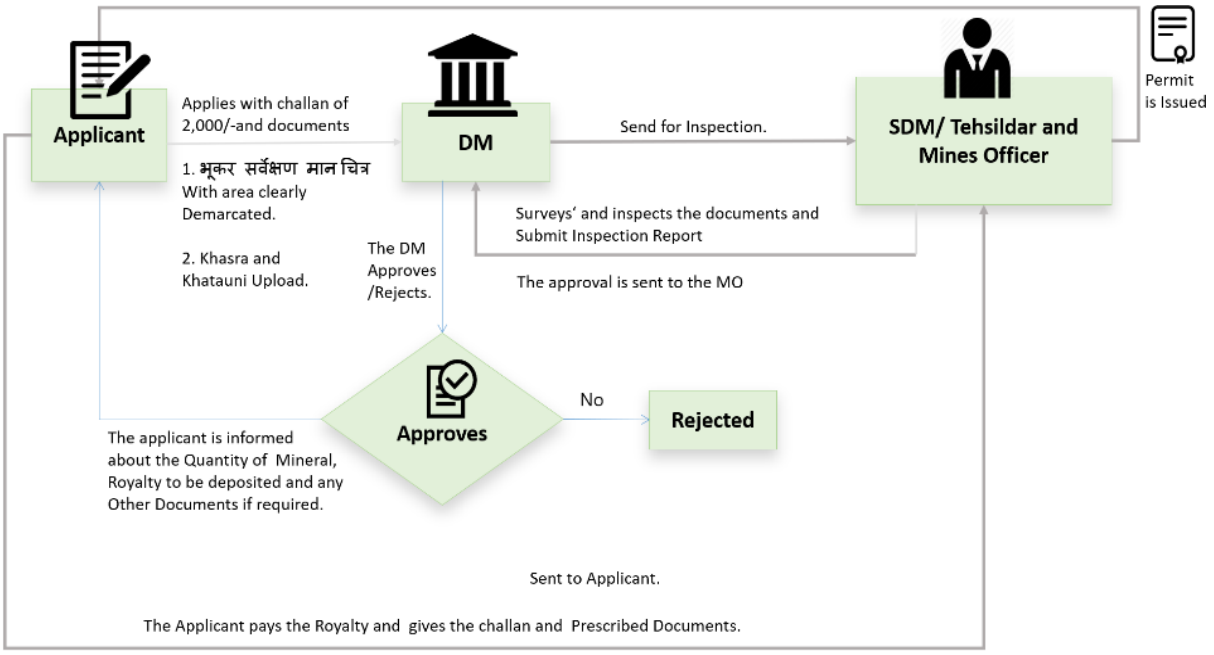
To eliminate physical interface & multiple interactions with different departments and minimize theprocessing time of disbursing an application, all the manual mining services

such as LOI, deed execution,stock license, Krishi Bhoomi, building/ development projects, ordinary earth has been unified into a singleplatform for all stakeholders and making mining services easily accessible remotely on a single click.

e-Services Classification

Online Lease	Online License	Online Permit	Online Permission
Online LOI	Stock License	Private Land Permits	Mineral Retailer Registration
Deed Execution		Excavation of Ordinary Earth	Farmer Registration for extraction of Ordinary Earth (Bhoomidhari)
		Basement & Development Projects	

Process Flow Diagram



- **Mining e-Services – Concessionaires**

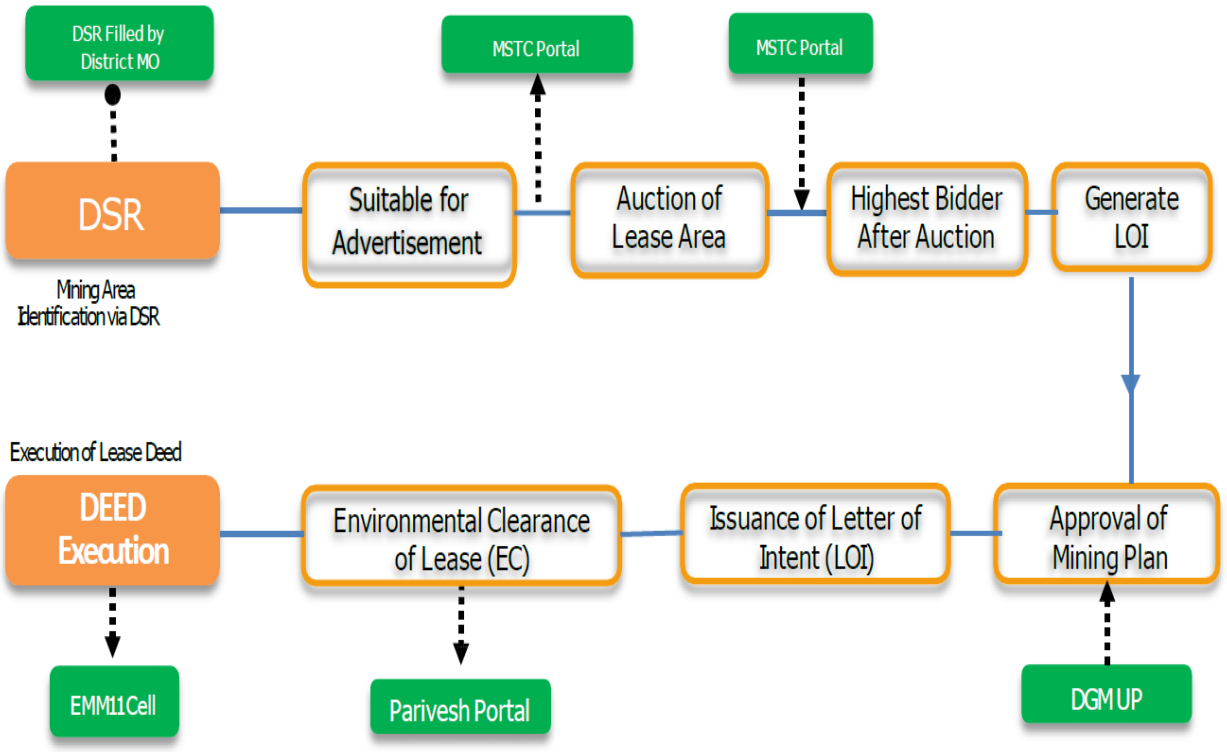
Fully automated business interface

- Online issuance of transit passes i.e., eMM-11, eFormC, ISTP
- Online installment payment facility for lessees, permit holders

- e-Mapping of brick kilns
- Vehicle registration for mineral transporters
- e-verification of transit pass by government construction agencies
- Online approval of mining plan by DGM

▪ Online Mineral Management

All the mining lease services have been digitized as a sustainable circular process by mapping entirelifecycle of a lease from DSR to Deed.



▪ Smart Enforcement System

To reduce manual intervention, curb malpractices, pilferage and loss of revenue to the Government an AI/IoT based Unmanned Checkgates have been installed in various districts to track suspicious vehicles and send real-time alerts & notifications to the nearest MO & mining department via Decision Support System (DSS) at Command Center to monitor and prevent illegal mining & transportation with decision making of penalty amount.

- 24x7 vigil on mining & mineral transportation without manual intervention
- Provision for e-notices and online penalty recovery
- Tracks mineral carrying vehicles without stoppage, hence facilitating hassle-free movement
- Captures data on cloud thereby creating actionable intelligence for the department & districtadministration
- Eliminates aphorism in enforcement

MINING CHECKGATE COMPONENTS

ANPR Camera | Varifocal Camera | RFID UHF Tags | RFID Reader & | IR Illuminator | Solar Panel | Local Processing Unit

Geo-fencing of lease areas

PTZ Cameras & weighbridgesin mines

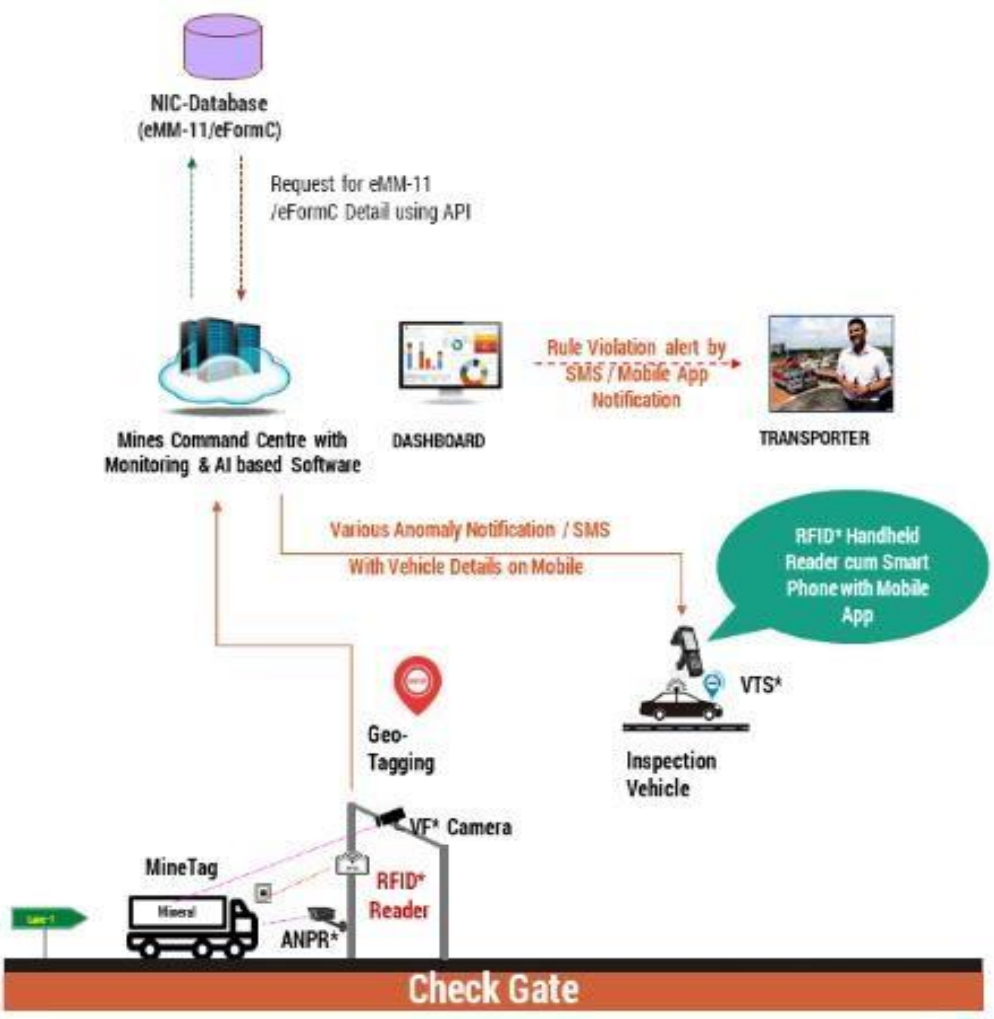
MINETag installed on all mineral carrying vehicles

AI & IoT based unmanned CheckGatesinstalled along all major mining routes

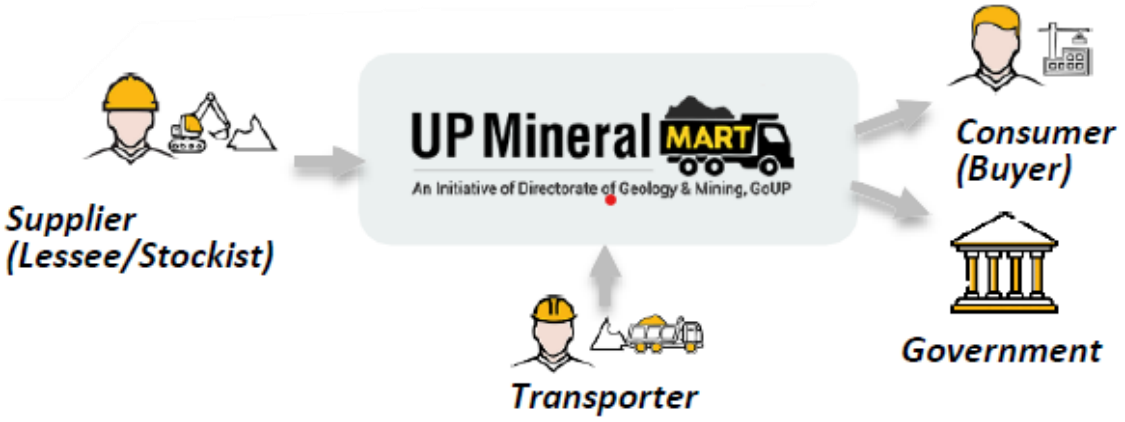
RFID handheld Reader & mCheckapp to all DMOs

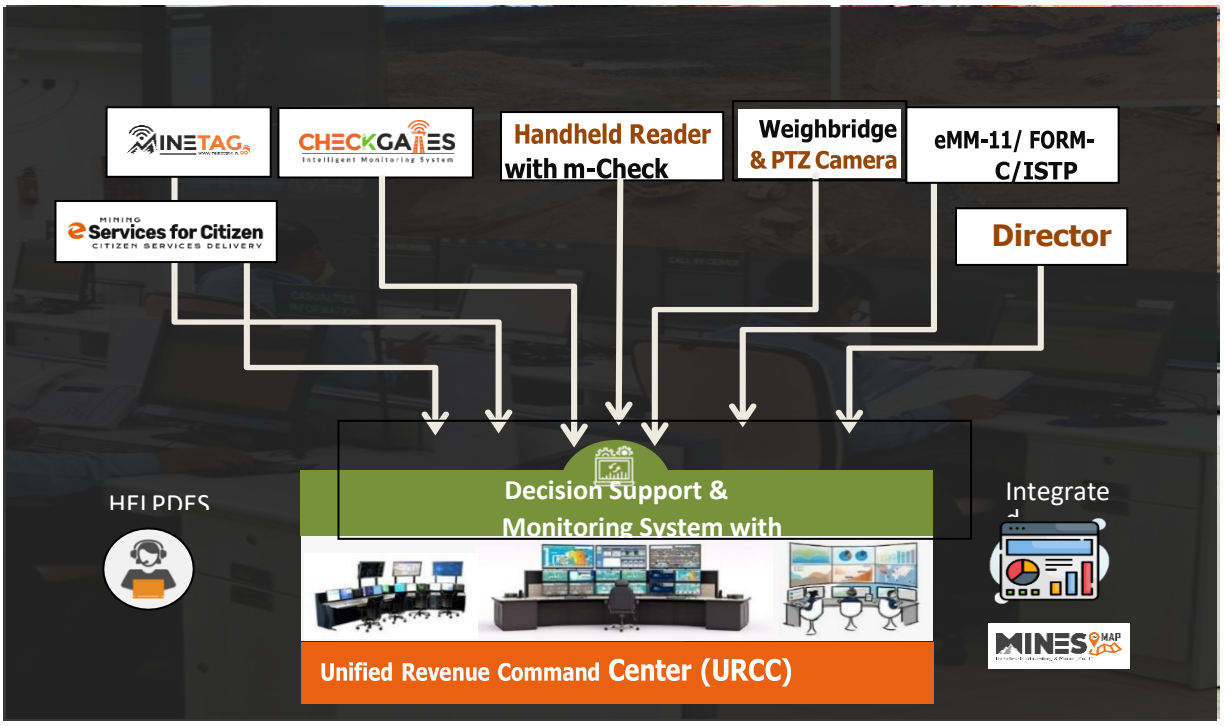
Unified Revenue Command Center with DSS at DGM

Process Flow Diagram



- **Online e-Commerce Platform:**
  - An e-commerce platform for direct buyer seller interface
  - All lessees & stockists of river bed minerals registered
  - Daily updation of mineral stock & price
  - Online payment module





- **Mines on Map – Integrated Dashboard (All Services) for Directorate of Geology & Mining, Uttar Pradesh**
  - Geofenced District Mines Atlas
  - Drill down lease wise data
  - Real-time Mining check gates view & statistics
  - Integration with EMM11 & ISP
  - Mineral block wise Auction/LOI/Deed status
  - Real time data updation
  - Analytical & graphical dashboard

Key Features of MINEMITRA:

- **Unified Web Portal for integrated service delivery** with a single window platform to access all mining services, payments for all stakeholders saving time, fuel, reducing carbon footprints, promoting efficiency,accuracy & transparency.
- **Timely Disbursement of Services** with mobile app
- **Promotion of Business** by encouraging local entrepreneurs, bringing parity, price control, discouraging redtape & monopoly
- **Smart Enforcement** with AI & IoT based Unmanned Check Gates installed at major mining routes reducingpilferage, illegal mining practices & transportation.
- **Appropriate Evidence based Smart Decision Making** with real time monitoring and generation of reports,MIS in Decision Support System (DSS) at Command Center at district level, with Handheld Reader equippedwith m-check app available with all MOs.
- **Robust Grievances Redressal System** with 24 x 7 Helpdesk support & Chatbot.
- **Enhanced G2G digital collaboration** and integrated services, enforcement and delivery with APIintegration.

Implementation Methodology:

- Strategic process re-engineering and consequent amendments in the state mining acts & rules
- Decentralized development architecture
- Independent modules structured in strict adherence to the SDLC framework
- AGILE Methodology - constant stakeholder collaboration & concurrent development & testing
- Integration- breaking silos

15. Result achieved/value delivered to the beneficiary of the project and other distinctive features/accomplishments of the project:

- Digitization of all mining services
- Integration with the state e-District portal providing all online citizen services via the 1.74 lac Common Service Center network
- Ease of doing business- effective reduction in application processing time from an average of 30 days to 24hours
- API Integration with MoRTH (VAHAN), other departments of the state government like Industries (Nivesh-Mitra), Revenue (Bhulekh) and CM Dashboard (DARPAN) as well as mineral transit pass portals of bordering states leading to better inter-agency networking and coordination
- Enhancing government revenue through efficient auction monitoring, improved citizen services module & better enforcement
- A robust departmental MIS and Director Dashboard for real-time monitoring of services & surveillance

Quantifiable improvement through implementation

S. No.	Services	Data as on 01-Oct-2019 (Before GPR)	Data as on26-Feb-2021	Data as on 05-May-2023 (After GPR)
	Online Mineral Management			
1	**eMM11**	**Nil**	**97,26,474**	**2,32,48,414**
2	**Revenue Generated by eMM11 (In Crore)**	**Nil**	**₹2,853 Cr**	**₹5,939 Cr**
3	**eFormC**	**Nil**	**3,20,310**	**14,38,635**
4	**ISTP**	**Nil**	**15,94,579**	**45,93,048**
5	**Revenue Generated by ISTP (In Crore)**	**Nil**	**₹164 Cr**	**₹494 Cr**
6	**Online Leases**	**Nil**	**487**	**822**
7	**Brick Earth Kilns Registered Online**	**Nil**	**86**	**6500**

	Smart Enforcement System			
8	**MINETag Installed**	**Nil**	**24,703**	**1,50,000**
9	**Weighbridges Integrated**	**Nil**	**260**	**810**
10	**Lease area Geo-fenced**	**Nil**	**260**	**812**
11	**Mineral Carrying Vehicle Inspected**	**Nil**	**Nil**	**22 lac**
12	**Total e-Notices**	**Nil**	**Nil**	**63,594**
13	**Total Penalty Amount Generated (In Crore)**	**Nil**	**Nil**	**₹250 Cr**
14	**Total Penalty Amount Recovered (In Crore)**	**Nil**	**Nil**	**₹150 Cr**
	Mining e-Services			
15	**Private Land Permit**	**42**	**580**	**2981**
16	**Basement & development projects Permits Issued**	**36**	**339**	**1805**
17	**Excavation of Ordinary Earth Permits Issued**	**115**	**3,056**	**17263**
18	**Mineral Retailer Registered**	**Nil**	**1,328**	**15710**
19	**Farmer for Extraction of Ordinary Earth(Bhoomidhari) Registered**	**Nil**	**483**	**70022**
20	**Stock License Issued**	**Nil**	**200**	**1961**
21	**Mining Plan Approved**	**28**	**71**	**1612**
22	**Online LOI & Deed Executed**	**Nil**	**80**	**1953**
23	**Total Applications Received & Disposed**	**Nil**	**20,358**	**1,12,585**

16. Future proofing/Longevity of the Project:

MINEMITRA implemented a transparent and user-friendly interface which helped in educating the stakeholders to use digital platforms for all mining services and adapt to emerging technologies. Mineral Mart provided easyaccess of quality minerals to citizens. The Directorate achieved it objective of curbing on pilferages, overloading of minerals and reduction of nexus by enforcement & surveillance through real time data monitoring and sending alerts & notifications to the concerned authority through Check Gates, MINETag RFID Handheld Readerwith m Check App installed within.

MINEMITRA modules are developed in accordance to norms & guidelines of GIGW, NGT & Sustainable Sand Mining Framework of MoEFCC. Along with expansion of Checkgates network across all major mining routes of the state, dovetailing of MINEMITRA with NHAI FASTag and GST Interstate checkpoints is in pipeline. Mining states like Madhya Pradesh, Chhattisgarh, Jammu & Kashmir, Rajasthan, Uttarakhand, Maharashtra & Bihar can also benefit with MINEMITRA solution wherever Smart Enforcement System is required.

Apart from the above mentioned, we have taken the following steps for expansion of the project:

- Creating a public window to report the mineral availability across the state
- Drone based survey to quantify the minerals and curbing illegal mining
- Survey and surveillance to be an integral part of the process
- Development of PRE DSR & DSR Integration with MSTC.
- On spot audit of lease areas and generation of real time audit reports via web application.

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4. Kutumba – An Entitlement Management System

Sl. No.	Description	Write-up
1.	**Name of the State/ Ministry**	Government of Karnataka
2.	**Name of the host/ owner organization**	Centre for e-Governance under Department of Personnel and Administrative Reforms (e-Governance)
3.	**Status of the host/ owner organization**	Society established under Karnataka Societies Registration Act, 1960.
4.	**Name of the Project**	Kutumba – An Entitlement Management System
5.	**Name of the Nodal Contact Person**	Annapurna K, Programme Director, Kutumba Project.
6.	**Contact address**	Room No 141, MS Building, 2nd Gate, Ambedkar Veedhi, Bengaluru - 01
7.	**Telephone/Fax/e-mail**	080-22371090 pd-fdb@karnataka.gov.in

8. Project Summary:

"Kutumba" is a centralized data repository of families in Karnataka consisting of the individual and family attributes. The Public Distribution System (PDS) data has been used as base and other department databases have been integrated with it. As on date, more than 30 IT systems of the Government are electronically integrated with Kutumba. Kutumba system has been designed to ensure that data is always up to date and in sync with the source system. This has been achieved through the process of reverse integration. Kutumba system is also an Entitlement Management System which ensures responsive and dynamic inclusion and exclusion. The changes in a resident's socio-economic attributes are captured in Kutumba digitally. This enables auto eligibility determination for inclusion into schemes and programmes and also to weed out deceased and ineligible beneficiaries from cornering benefits. Kutumba is a digital and an integrated information system which enables flow and management of information between development sectors like health, education, social security etc. It enables Government to identify the needy and deliver targeted benefits and services. It empowers Government to bring in Smart Governance by adopting a data driven approach through evidence-based planning and monitoring of the programmes.

9. Date of launch of the project: 15 August, 2020

10. Coverage (Geographical): Entire State of Karnataka

11. Beneficiary of the project:

- Kutumba is both a G2G and G2C project.
- G2G – All departments – both State and Central Government.
- G2C – Citizens of Karnataka

12. Problem statement or situation before the initiative:

An analysis of the systems/applications running in various departments of GoK highlighted the lack of availability of reliable, authenticated, single source of truth about a resident and her/his family. It was also observed that the departments were operating in siloes and there was no exchange of data between the IT systems, as IT systems were developed to meet the specific requirements of the department and information sharing to other departments was not a key requirement. These two constraints resulted in citizens having to submit proof of eligibility each time s/he applied for a scheme. It also led to the requirement of verification of eligibility by the Government officials through a manual process which is time consuming. All these issues resulted into cumbersome procedures, requiring multiple follow ups by citizens, inordinate delays in delivery of schemes leading to high access cost for citizens. Government recognized the importance of having a reliable, authenticated database and interoperability/data sharing between the IT systems and conceptualized Kutumba – a family database. Government realized that the twin questions of "Why should a citizen submit her details each time she applies for a benefit/service and Why should a citizen apply for a benefit when Government can identify the eligible citizens using the data available with it" will also be addressed by Kutumba. Kutumba was therefore designed as a dynamic, self-updating database with a central data repository having the capability to suo-moto identify eligible citizens for welfare benefits of GoK.

13.Project Objective:

Kutumba project was announced in 2018-19 with the goal/aim of providing different family-oriented facilities to citizens under various programmes or subsidies automatically without submission of application.

The key objectives of the project are:

- Business Process Re-engineering and Implement principle of "Ask Only Once" from residents; remove the requirement of submission of proof of documents by citizens', simplify process and reduce levels of decision making.
- Bring in Entitlement Management System in Karnataka - Suo-moto inclusion of eligible residents for welfare benefits without resident having to apply.
- To enable departments to weed out ineligible beneficiaries and help Govt to prevent leakage of revenue.
- Enable Evidence based Planning – Provide data to Govt in its planning, budgeting and implementation activities
- To support Government in disaster management activities.

14. Project scope approach and methodology:

I. Baseline study

Government decided to move away from the system of seeking applications and documents from the citizen towards a data driven system. This change required a comprehensive database of citizens, with family concept built in it. As no such database was available, it was decided to develop a family database for Karnataka. Two approaches (i) A manual survey of households similar to that of SECC and (ii) Interconnecting existing databases were considered. Baseline studies were carried out, in addition to visits to other states having Family database, to determine the approach and process to be adopted for development of Kutumba.

1. Visit to Rajasthan, Madhya Pradesh and Andhra Pradesh to understand the processes adopted by those states for creating the family database.
2. Field survey of 10 villages across 5 districts using SECC data as base to determine the feasibility of adopting survey as a methodology for creating a family data base.
3. Proof of Concepts of various Master Data Management Tools to assess the feasibility of adopting tool-based approach for connecting databases.
4. A pilot study by interconnecting PDS database with caste and income, pension and housing for one taluka (Srirangapatna taluka of Mandya district) was carried out followed by field verification of the connected data of one village.

II. Problems identified

Government identified several problems in achieving the objectives of welfare state. The development of family database was considered to address the key issues like

1. Inefficiency in Govt. benefits distribution or delivery.
2. Eligibility determination or targeting the beneficiaries - family income is a very weak parameter to measure and use.
3. Errors of exclusion and errors of inclusion.
4. High access costs for poor beneficiaries
5. Corruption in delivering benefits.

The methodology to be adopted for development of family database was assessed through baseline studies. The Ssurvey Based approach was found to be time consuming and reliability and authenticity of data given by citizens cannot be validated. Further ensuring all households are covered by the surveyor cannot be determined. Off the shelf MDM tools were found to be limited in functionality necessary for connecting databases and processing the same. Therefore, the approach of interconnecting databases by developing an in-house tool was adopted as the strategy.

III. Roll out/Implementation

- Identification and finalization of personal attributes/data fields.
- Identification of data sources and finalization of data owners for each attribute/data fields.
- Interconnecting the databases with Kutumba through reverse integration for near real time update of data.
- Gradual implementation from one village to one Taluka and then one district and later rolled out to entire state.
- Establishing a three tier Data Governance structure with Steering Committee at the apex monitoring the activities of Kutumba.
- Gradual on-boarding of departments through Government Orders to integrate with Kutumba – both forward and reverse.
- Development of IT applications by Kutumba for those departments which did not have its own IT applications.
- Development of Kutumba applications and APIs to enable data exchange.
- The data available in Kutumba shared with other Govt departments relevant to it by adopting a rule based, seamless data sharing protocol. This has enabled an objective and data driven approach for selection of beneficiaries.

IV. Capacity Building and Awareness & Communication Approach:

- Kutumba adopted a personalized, one to one approach to create awareness and build capacity in the departments which were identified to integrate with Kutumba. Requisite documents in terms of API documents, process notes were prepared by Kutumba team in consultation with concerned departments. The requirements of the department and their concerns were considered and clarified. Demonstration of the process flow with the new process were carried out and suggestions to improve were given. Further, Kutumba team carried out training of the field officials on the modified process flow and clarify the doubts. E-Governance consultants at district level were trained on Kutumba system and were made to extend field support to the user department officials.
- Regular meetings with officials handling IT systems to create awareness on data quality and data standardization and methods to improve the same.
- Presentation on Kutumba to Secretaries and Heads of Departments to create awareness on Kutumba and its benefits.
- Issue of Government Orders, circulars on the processes to be adopted for seeding Kutumba ID.

Setting of Project Management Unit for Kutumba consisting of Process Consultants and Technical Consultants who were assigned to departments to extend all necessary support.

15. Result achievement/ value delivered to beneficiary of the project and other distinctive features/ accomplishment of the project:

Development and implementation of Kutumba has resulted in positive impacts in various aspects of delivery of welfare benefits. The key areas are as below:

- **Scheme formulation**: Kutumba is providing primary data for scheme formulation and has enabled objective decision making with respect to eligibility criteria finalization and assessment of financial implication of the schemes.
- **Scheme Implementation**: Kutumba has enabled a data driven approach for scheme implementation – (i) the need for submission of proof of eligibility has been removed or made minimal; (ii) data driven eligibility assessment has removed the need for field verification; (iii) rule-based decision making has reduced the subjective selection of beneficiaries and (iv) enabled suo-moto delivery of welfare benefits. CM's Raitha Vidyanidhi Scheme – a scholarship scheme for children of farmers was delivered suo-moto and 7.4 lakh children were paid scholarship without having to apply.
- 30+ IT systems in Karnataka are integrated with Kutumba and fetch data related to citizens and auto fill the forms. Platforms like Seva Sindhu, Nadakacheri, Suvidha which deliver services to citizens have adopted the Ask Only Once Principle and have reduced the burden of citizen having to submit documentary proofs.
- Departments are empowered to weed out ineligible/deceased beneficiaries of their recurring schemes. Kutumba has enabled Public Distribution System to remove ineligible Priority Household (PHH) Card holders using data on exclusion criteria of income, land holding, vehicle ownership, Government Job holders, Income Tax, Professional Tax and GSTIN holders. 2.76 lakh ineligible PHH card holders have been removed. Kutumba broadcasts data of deceased beneficiaries using the data shared by e-Janma, birth and death registry of GoK. Directorate of Social Security Pensions has removed 1.75 lakhs of its beneficiaries using this data.

16. Future proofing/ Longevity of the Project:

- Kutumba is now the Single Source of Truth. Department Application connect with Kutumba to determine eligibility and select beneficiaries.
- Kutumba data is the basis for Evidence based planning. Kutumba is now moved from being a Scheme Implementation Tool to Scheme Formulation & Implementation Tool
- Kutumba is enabling building Decision Support System for Income Bracketing. It is now enabling adoption of a Data Driven Approach for Assessment of Income

Kutumba is one of the three foundational systems/pillars for building a Smart Governance Framework for the state.

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5. Judgment and Orders Search Portal

Sl.No.	Description	Write-up
1.	Name of the State/ Ministry	E-Committee, Supreme Court of India & Department of Justice (DoJ)
2.	Name of the host/ owner organization	E-Committee, Supreme Court of India
3.	Status of the host/ ownerorganization	E-Committee, Supreme Court of India
4.	Name of the Project	Judgment and Orders Search Portal
5.	Name of the Nodal Contact Person	R. Arulmozhiselvi, Member (HR)
6.	Contact address	801, 8th floor, e-Committee, Supreme Court of India
7.	Telephone/Fax/e-mail	011-23115626

8. Project Summary:

The e-Committee of the Supreme Court of India and Department of Justice was awarded the prestigious National Gold Award for Excellence in Providing Citizen-Centric Delivery with a cash prize of Rs. 5 Lakh, a trophy and a certificate for Judgement & Orders Search Portal by the Department of Administrative Reforms and Public Grievances. The award was presented by Dr Jitendra Singh, Union Minister of the State of the Ministry of Science and Technology at the 25th National Conference on e-Governance (NCeG) held in Jammu on 26.11.2022.

The Judgement Search Portal provides free PDF downloads of more than 1 crore HC judgments, the litigant/public/user can get the authenticated copies of judgements within minutes from this centralized depository of the High Court judgements portal, and the judgments are digitally accessible for PwD. One can access the judgement search portal by visiting the web link: https://judgments.ecourts.gov.in/pdfsearch/index.php

9. Date of launch of project: 9 April, 2021

10. Coverage (Geographical): All High Courts

11. Beneficiary of the Project:

Judgment Search portal provides Judgments of all the High Courts, nearly 75 Lakh judgments free of cost at a click of mouse 24*7 to Citizens, Litigants, Advocates, Law students, Advocate clerks, district and Subordinate Courts, High Courts, Supreme Court of India Government Departments and Judges.

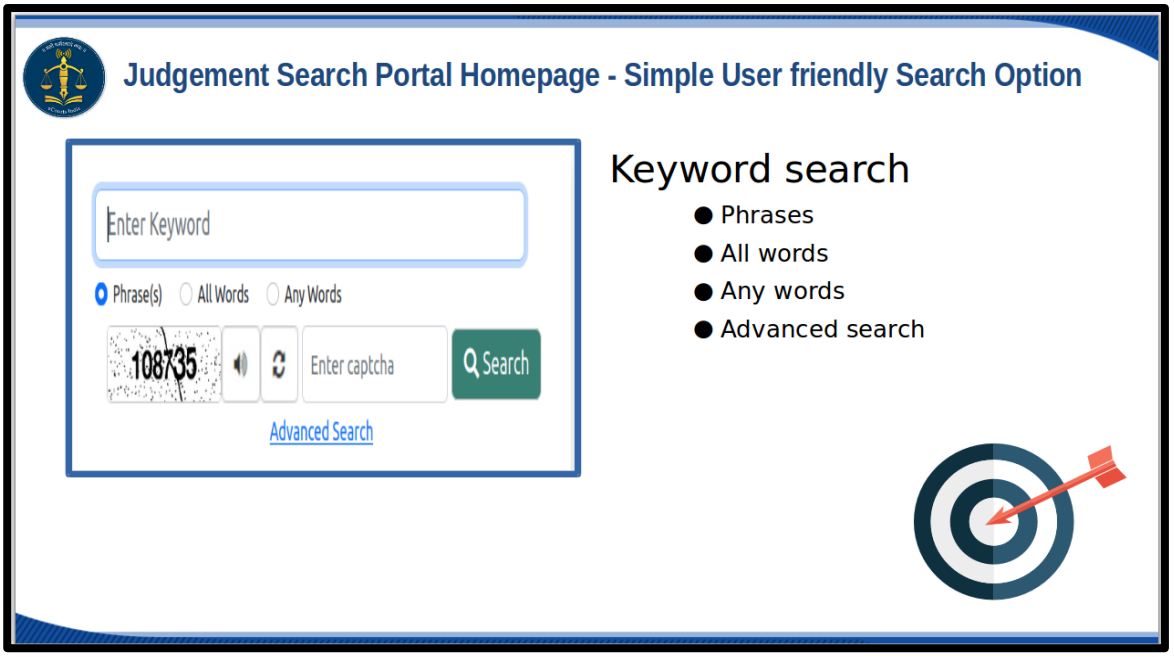
12. Problem statement or situation before the initiative:

Before the initiative of the Judgement search portal, accessing legal judgments and rulings was a cumbersome and time-consuming process. Lawyers, researchers, and individuals seeking legal information faced significant challenges in finding and accessing relevant case law. The traditional method of searching for judgments involved visiting physical law libraries, browsing through printed law reports, and manually searching for specific cases.

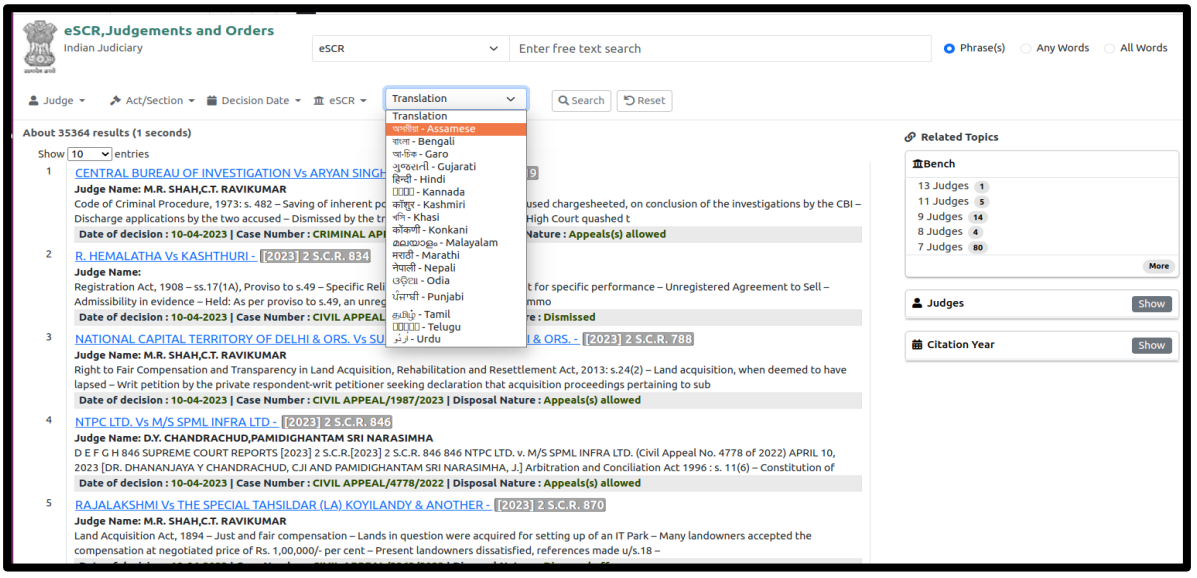
13. Project Objectives:

Simple user-friendly search parameters are available in the Judgement search portal. “Keyword Search” option is available for search within search.

• Phrases search option	• Judge search option
• All words search option	• Act/Section search option
• Any words search option	• Decision date search option
• Court search option	



Judgements And Orders Search Portal in The Regional Language



Steps taken to make all Judgements and orders in the regional language available through the portal using an AI tool developed by the eCommittee, Supreme Court of India for translation. An online citizen-centric page is provided by the eCommittee website to ensure the easy accessibility of the e-courts services. The said e-committee portal is made available in 14 languages to cater to people with different regional languages.

14. Project scope approach and methodology:

The Judgement Search Portal was established with the aim of providing easy and quick access to judicial decisions, thereby facilitating efficient legal research and ensuring transparency in the Indian judicial system. The portal encompasses a vast repository of judgments from various courts across the country, covering diverse legal domains and jurisdictions.

15. Result achievement/ value delivered to beneficiary of the project and other distinctive features/ accomplishment of the project:

Free download of Judgements:

The portal offers the citizens the free downloadable option of any Judgements from the user-friendly portal & provides 24*7 citizen-centric service.

Accessibility compliance:

The portal is accessibility compliant, and the judgments are Digitally accessible for PwD.

Authenticated unified one-stop portal: The Judgement search portal serves as a one-stop authenticated, unified portal for all Judgments and orders.

Save the cost of the stakeholders:

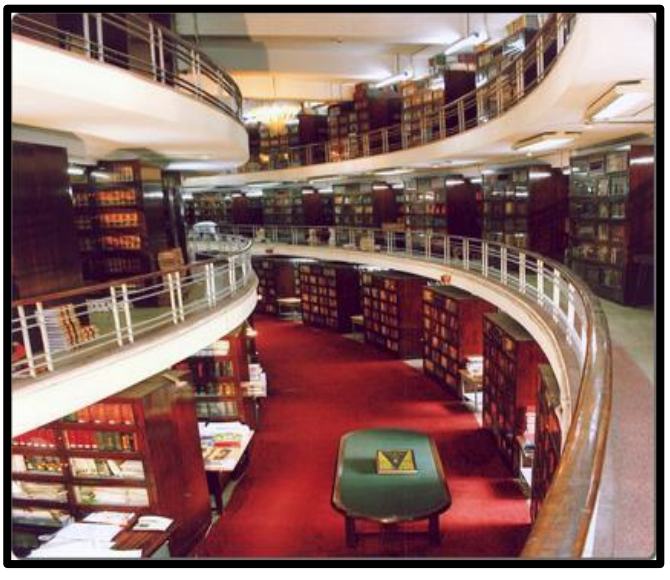
By providing this judgement search portal with the free downloadable option, the cost spent by the stakeholders like litigants, advocates, Judges and others on the paid software has been saved.

Easy Access through Mobile and Web:

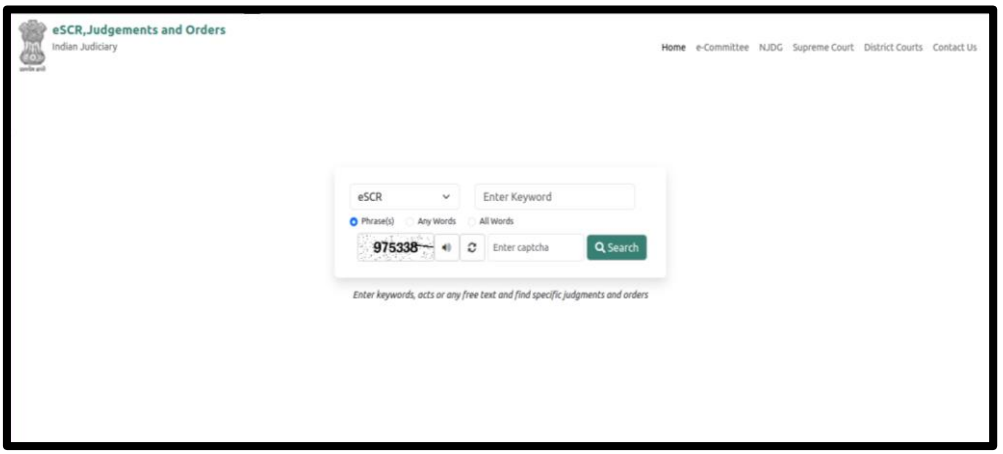
The Judgement search portal offers a seamless and intuitive interface, making it easily accessible through mobile and web applications.

Access to Justice:

The judgment search portal is based on the constitutional mandate of the Right to Access Justice guaranteed under Article 21 of the Constitution, which encompasses the right to access judgment/orders.



16. Future proofing/Longevity of the Project:



Comprehensive Database:

The portal hosts an extensive collection of judgments from different courts, including the Supreme Court, High Courts, and various lower courts. The database covers a wide range of legal domains and enables users to retrieve relevant judgments efficiently, facilitating better legal analysis and decision-making.

Timely Updates:

The Judgement Search Portal ensures that the database remains up to date by regularly adding new judgments and maintaining an archive of older ones. This feature allows users to access the latest legal precedents and judgments, staying abreast of developments in the legal landscape.

Enhanced Research Capabilities:

The portal's advanced search capabilities empower users to perform detailed research and analysis. The inclusion of features like case citation, case history, and cross-referencing helps legal professionals build strong arguments and enhance the quality of their legal representations.

Promoting Transparency and Accountability:

By making judgments readily accessible to the public, the Judgement Search Portal promotes transparency and accountability in the judicial system. It enables citizens to have a better understanding of legal decisions and fosters a more informed and participatory society.

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6. BHARATSKILLS

Sl. No.	Description	Write-up
1.	**Name of the State/ Ministry**	Ministry of Skill Development and Entrepreneurship
2.	**Name of the host/ owner organization**	Directorate General of Training (DGT)
3.	**Status of the host/ owner organization**	Attached Office
4.	**Name of the Project**	Bharatskills (https://bharatskills.gov.in)
5.	**Name of the Nodal Contact Person**	Sh. C.S. Murthy
6.	**Contact address**	Directorate General of Training, Ministry of Skill Development and Entrepreneurship, Kaushal Bhawan, B-2,Pusa Road, Near Karol Bagh Metro Station, Pillar No.95 New Delhi, Delhi-110005
7.	**Telephone/Fax/e-mail**	011-25804771/ chegondi.murthy@dgt.gov.in

8. Project Summary:

Directorate General of Training (DGT) under the Ministry of Skill Development and Entrepreneurship (MSDE) is the apex organization for development and co-ordination of the vocational training across the country under various schemes through the network of 14927 Government and Private Industrial Training Institutes (ITIs), 33 National Skill Training Institutes (NSTIs), and more than 18000 Establishments. DGT-ITI skill ecosystem is preparing the blue-collar workforce at the age of 17/18 years with an average ~18 lakh / year craftsmen for the market. DGT is one of the traditional (since 1950s), Structured (Institutional based), skill oriented and largest blue collar (craftsmen) workforce producer for our country and abroad.

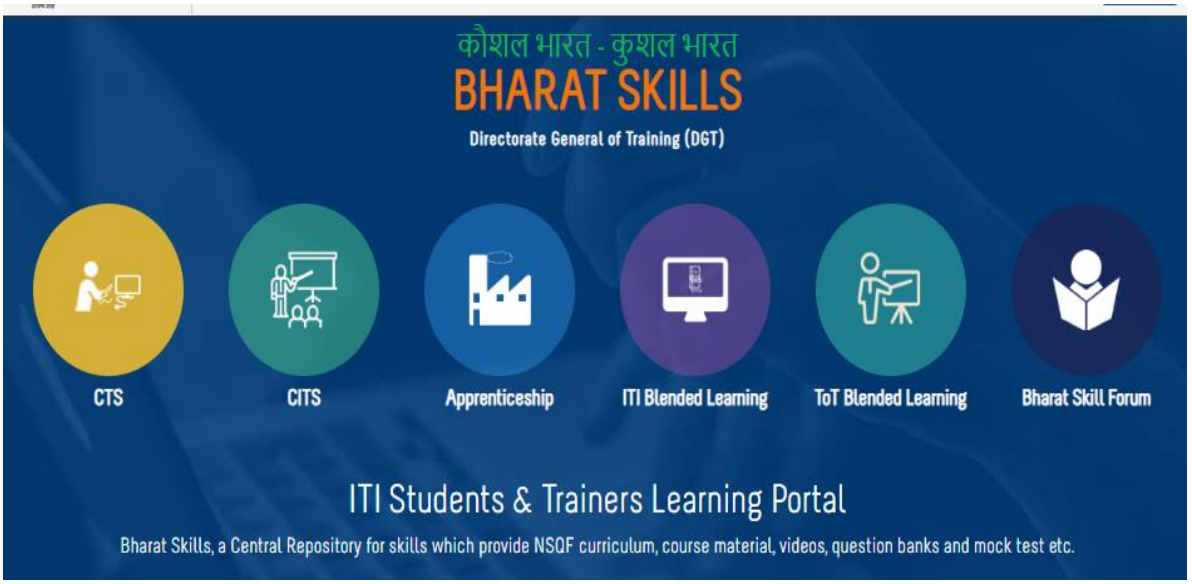
BharatSkills (https://bharatskills.gov.in), is a Central Digital Repository for skills which provides NSQF curriculum, course material, videos, question banks, mock tests, learning content from industry etc., for students and trainers which enables trainers and trainees to learn easily their topics outside class. It was initiated with the idea to support backward, deprived trainees in skilling & upskilling which will help them in their employability.

Launched in October 2019, the web portal was developed & is maintained in-house (no third party), has no separate budget, works on 2G network, no login required, simple user interface (3 click

solution), bi-lingual, mobile responsive, anytime-anywhere. It is made on Dot Net platform, and the data base is being maintained in MS-SQL on the latest version and hosted on NIC Cloud.

Bharatskills provides:

- e-books for various trades in 06 languages Hindi, Gujarati, Odiya, Tamil, Marathi, English
- NSQF complaint curriculum for various courses under Craftsmen Training Scheme (CTS),
- Craftsmen Instructor Training Scheme (CITS) and Apprenticeship Training Scheme (ATS).
- E learning Videos and various Practical videos
- Question Banks which are used for preparing examination.
- Blended form of training for 6 popular trades, the course is split into a smaller module depending upon the method of its delivery to the students- Digital classroom, Face to face teaching, Workshop/Laboratory and Online classes.
- **Bharatskills Forum**, platform that allows sharing of books, notes, videos, question bank, etc., and other relevant skill-related content for learners. Bharatskills Forum is for the Skill Community and at the same time, by the Skill Community
- **Industry Connect**: Links to various programs for Employability skills, advanced new age skills by industry partners- IBM, CISCO, Quest Alliance, Microsoft, NASSCOM, Adobe are being provided on the Bharatskills portal to make the trainees industry ready. About 17 lakhs trainees have been benefitted with above tech trainings.
- **Reachability:** The users of the Bharatskills are not even limited to this country, it has also been accessed by the users from other countries. The dashboard (https://bharatskills.gov.in/dashboard) using google analytics, created for the website to capture its users' locations shows its accessibility to all the corners of the country. Bharatskills has also become community driven, since a lot of Youtubers are making videos of how to use the features of Bharatskills.



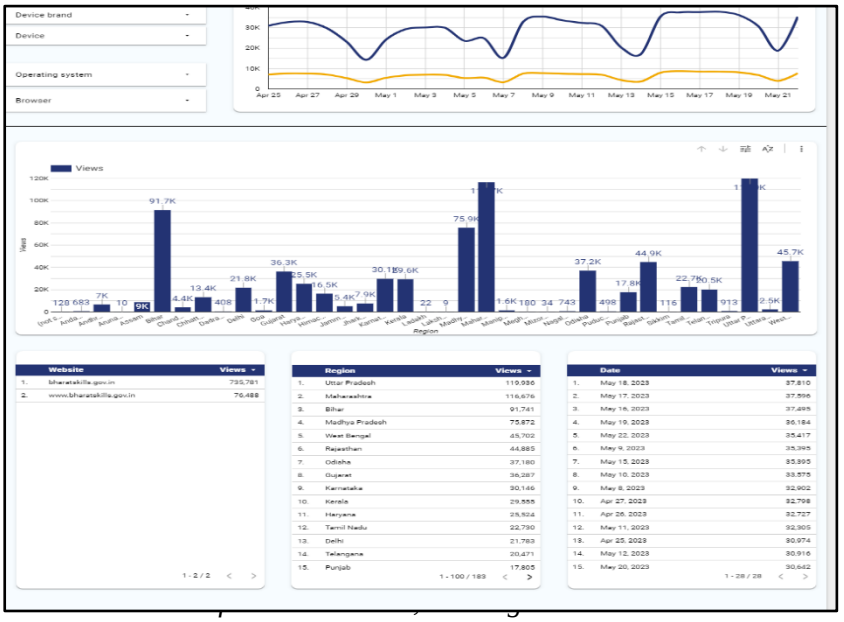
- Since Inception the popularity of the Bharatskills among the skill ecosystem has increased many folds. As on date, it has about 51 lakhs unique users and has about 2.23 crores hits. During Covid, Bharatskills has been very instrumental to the ITI candidates to successfully complete their course. Bharatskills portal has been rated as No.1 e-learning portal out of top 10 e-learning portal during the covid-19 as per National Skill Network online magazine.

9. Date of launch of the project: October, 2019

10. Coverage (Geographical):

a) Total Number of States and UTs: 36
b) No. of State(s) covered out of total States and UTs: 36
c) Percentage of States covered out of total: 100%
d) State Level: Total number of Districts: 773
e) No. of District(s) covered out of total Districts: 773
f) Percentage of Districts covered out of total: 100%

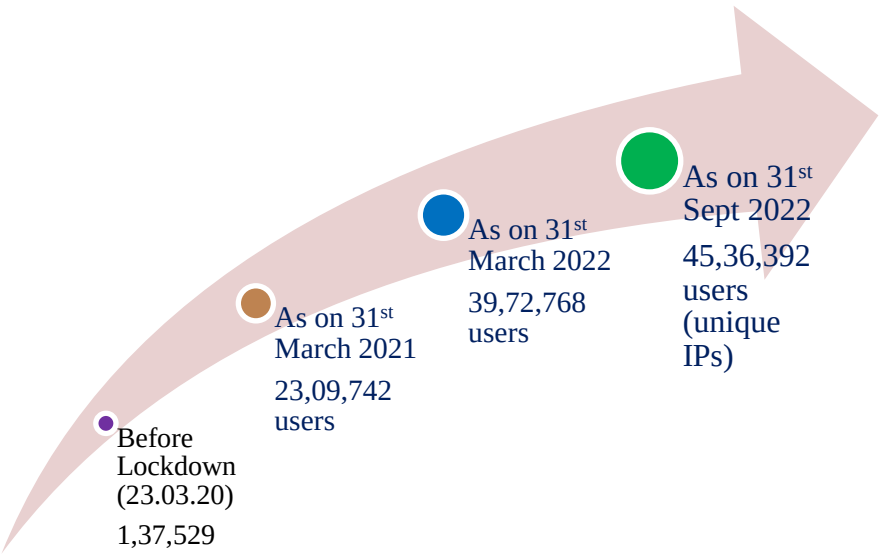
The dashboard (https://bharatskills.gov.in/dashboard) using google analytics, created for the website to capture its users' locations shows its accessibility to all the corners of the country. Bharatskills has also become community driven, since a lot of Youtubers are making videos of how to use the features of Bharatskills.



11. Beneficiary of the Project:

BharatSkills primarily focus on the trainees of all the Government and Private Industrial Training Institutes (ITIs) (14927 across country) and 33 National Skills Training Institutes (NSTIs). Approximately 26 lakh Trainees and 60,000 instructors gets benefited from the use of the Bharat Skills portal on average every year. In the current session, there are 21,95,216 trainees enrolled under CTS who are making use of this portal.

Apart from the trainees of ITIs, this web portal is open for general public country wise and even outside country who wants to learn. There is no login or restriction for any citizen from accessing this web portal. This initiative has hits from outside country.



Growth of users since inception

12. Problem statement or situation before the initiative:

The ITI Ecosystem covers the network of 14927 Government and Private Industrial Training Institutes (ITIs), 33 National Skill Training Institutes (NSTIs) across the country. Trainees under vocational training are from remote and poor background, does not have good financial and infra support at ground to complete the training. Many trainees fail in the system due to lack of books, study material, good training material. Also, at many locations the training infrastructure is not at par with developed states, thus trainees lack behind in many areas. There was no uniformity in training delivery across the country.

13. Project Objective:

The preliminary objective of this initiative was to support backward, deprived trainees with books, study material, course material, videos, question banks and mock test etc. so that they can also excel in the society. It was intended to create a central repository of skills for trainees and trainers of Industrial Training Institutes (ITIS) to enable them to learn easily their topics outside class.

Digital India push in the country has supported to outreach the internet connection in almost every part of country. Thus, the concept of providing books, study material, course material, videos, question banks and mock test etc. in digital form was initiated.

Bharatskills provides trade-relevant study materials, video tutorials, question banks, mock tests, e-Learning content, etc.

The web portal needs to be made light weight, mobile friendly, works on 2G networks also, simple interface in which user to reach its desired location in 3 clicks, no login (data privacy) - anyone can access from anywhere and download the study materials in various languages, Question banks, e-learning videos etc., Access to online addon training on New age technologies, employability skills from Tech partners like IBM, Microsoft, CISCO, Quest Alliance etc., All these contents/ opportunities to be available to trainees on Bharat Skills free of cost.

14. Project scope approach and methodology:

A Digital Repository of skills for ITIs- NSQF curriculum, course material, videos, question banks and mock test etc. in various regional languages for students and trainers are arranged in such a manner that it is easily available to the user within few clicks. The user interface of the website is friendly to different screen sizes of mobiles, tablets etc. so that content is available to user without any limitation of device.

The interface is easy to use and user can reach to his requirement in minimum number of clicks. Steps has been taken to fit all the useful information available on the home screen and to reduce long scrolling of screen etc. The home page of the website has been made light so that it can be accessible in even 2G speed network of our rural areas across the country.

Soft copy of e-books, question banks are uploaded on the website as soon as the new book is published by National Instructional Media Institute (NIMI), in order to make them available to the citizens.

Technology Scope: Bharatskills webpage has been developed in DotNet platform and the data base is being maintained in MS-SQL on the latest version. The website is hosted on NIC Server which is being maintained and secured by NIC under Ministry of Electronics and Information Technology (MeitY). At server level, the database is indexed in a robust way so that it cannot be hacked and the anonymous content cannot be uploaded by the hacker. The search bar is given at the top of each web page to search for the information in a very lucid and concise manner. The portal is separated into various schemes and then into respective trade categories and the content is also categorized into separate tabs to make the browsing of the content easier.

The Bharatskills is hosted on 3 Web Servers behind Load Balancer to handle high volume of concurrent users.
The website has cleared the security audit from CertIn empanelled agencies and has been certified as safe and secure to host.
The portal does not have any login facility and does not request any personal data of the users visiting the site.
The dashboard created to check the number of users visiting the website uses the IPs of the machines hitting the Bharatskills (https://bharatskills.gov.in/dashboard) The study was taken across the various institutes like ITIs/NSTIs and thevarious establishments where apprenticeship programs are being carried out. Various trainers imparting vocational training were being consulted and its intended beneficiaries were also identified.

15. Result achieved/value delivered to beneficiary of the project and otherdistinctive features/accomplishments of the project:

After the launch of the Bharat Skills, it has now become a one-stop solution for the trainees to access all the content for their training needs in one place without searching for the content in the market elsewhere. Conforming with the 'Digital India' initiative of the Government of India, most of the content books were digitized in more than six Indian languages and uploaded on the portal. The portal is designed in such a simple user-friendly manner that even a new user can access the portal without prior knowledge of how to access it. The web pages are indexed well so that the pages load instantly even in a 2G connection.

Links to various other programs for Employability skills, and advanced new age skills by industry partners-IBM, CISCO, Quest Alliance, Microsoft, NASSCOM, and Adobe on the **Bharatskills portal have benefitted nearly 17 lakh trainees in making them industry ready.**

The pass percentage of ITI trainees **has improved to 80-90% from 50-60% before this initiative.**

Since Inception the popularity of the Bharatskills among the skill ecosystem has increased many folds. As on date, it has **about 51 lakhs unique users and has about 2.23 crores hits**. During Covid, Bharatskills has been very instrumental to the ITI candidates to successfully complete their course.

Bharatskills portal has been **rated as No.1 e-learning portal out of top 10 e-learning portal during the covid-19 as per National Skill Network online magazine.** The YouTube link of NSN is: https://youtu.be/cx3N-ikxKnc

S.No.	Industry Partner	Trainees Trained
1	IBM	11,34,684
2	CISCO	11,666
3	QUEST ALLIANCE	4,88,035
4	Microsoft	39,222
5	SAP	1,110
6	Adobe	24.360
Total		**16,99,077**

16. Future proofing/Longevity of the Project:

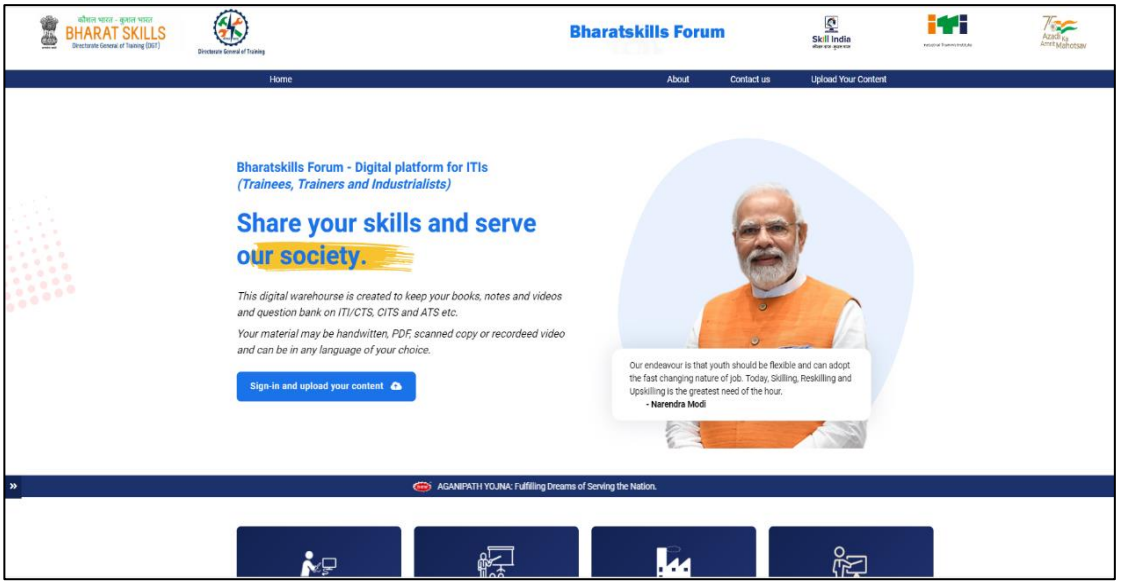
BharatSkills (https://bharatskills.gov.in), is a Central Digital Repository for skills which is growing with time. Every month new content and links to courses under industrial partnerships are being added to provide trainee with extra opportunities apart from their regular curriculum. The project is a self-sustaining in nature.

With Bharatskills Forum (https://bskillforum.bharatskills.gov.in/) this initiative has been made community driven. BharatSkills Forum that allows sharing of books, notes, videos, question bank, etc., and other relevant skill-related content for learners. This facility shall act as a digital warehouse for the skilling community by allowing sharing of contents in various forms like handwritten trainers' or

trainees' notes, PDFs, scanned copies, or recorded videos in any language. Bharatskills Forum is for the Skill Community and at the same time, by the Skill Community

This platform also presents unique access to a centralized, scalable, and thriving support ecosystem through its industrial partners for the students and teachers who can now learn the new age (Industrial Revolution 4.0) skills to meet the demands of the industry.

As India progresses upon 'Digital India' programme, BharatSkills portal also goes hand in hand by providing digital content regarding vocational education to the trainees.



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7. eRegistration (Self Help Portal)

Sl.No.	Description	Write-up
1.	**Name of State/Ministry**	Government of Maharashtra
2.	**Name of the host/owner organization**	Department of Registration and Stamps, Maharashtra
3.	**Status of the host/owner organization**	Department
4.	**Name of Project**	eRegistration (Self Help Portal) for document registration
5.	**Name of the Nodal Contact Person**	Abhishek Deshmukh, Deputy IGR
6.	**Contact address**	Office of IGR, Ground Floor, New Administrative Building, Opp. Council Hall, Bund Garden Road, Pune
7.	**Telephone/Fax/E-mail**	7719955599 do3.igro@igrmaharashtra.gov.in

8. Summary:

Department of Registration & Stamps, Maharashtra started computerization of Registration in 2002 by introducing SARITA (Stamp and Registration Information Technology Application). Then in 2012, Department introduced iSARITA which was an integrated approach to do Registration. It included integration of facilities like online slot booking, online search, online payment etc. which benefited both the citizens and the Department. It led to faster and transparent registration process. After centralized Registration, reform towards online registration was required to eliminate queues in office. Centralized registration created a perfect platform for the Department to further evolve the Registration system into avatar of eRegistration which is Registration from anywhere, anytime.

Legal Reform for eRegistration:

For registration of documents, physical presence of party in office is mandatory as per the Registration Act. Therefore, to implement online Registration in true sense, Department got the state amendment done in The Registration Act which made the visit to SRO non-mandatory for the eRegistration. Vide “The Registration (Maharashtra Amendment) Act 2010”, The Registration Act in its application to the state of Maharashtra has been amended. Vide this amendment, sections 32, 34 and 35 has been amended, providing that when the document is presented by electronic means the personal appearance of the party shall not be required and in such case the Sub Registrar shall do the enquiry and other process in the manner prescribed in this behalf. Simultaneously section 69 has been amended, to assign the powers of regulating the procedure of online Registration to Inspector General of Registration, Maharashtra State.

The above amendments came into force from 1st April 2013. Using the powers conferred by section 69, The IGR, Maharashtra framed “The Maharashtra eRegistration Rules, 2013”.

eRegistration process (Self Help Portal):

1. The new eRegistration application allows the Developer to create register himself, register his project and scheme, prepare template of agreement, data entry form, etc. Also, it allows Joint District Registrars to verify and approve the projects and schemes online.
2. Builder side does data entry and creates the agreement template on this portal and gets approval from Joint District Registrar (JDR) through the system. In this system, every builder has different template for different project which is verified and approved by the respective JDR.
3. The final registered document is prepared from template approved by JDR.
4. Both, builder and purchaser, execute the document and complete the admission through eKYC (biometric) at the Builder’s office
5. Sub-Registrars can verify the document, payment, identity of parties to document, and register the document.

To avail the facility of eRegistration, following type of Infrastructure is required.

1. Exclusive PC/Laptop with updated Antivirus
2. 10 Mbps internet connectivity
3. Web Camera
4. Bio-Metric Device for eKYC and capturing thumb
5. Aadhar number of executing parties
6. Digital Sign Pad

The detail Workflow of new eRegistration Application is as below:

1. Creation of Login by user in Self Help portal and registration of project
2. Using JDR module, verification and approval of project is done by JDR
3. Preparation of template of registering document &data entry form
4. Using JDR module, verification & approval of agreement template, valuation, rate of Stamp Duty & data entry form by JDR
5. Online preparation of document by capturing Information like Property details, Party Details, Consideration Amount, and payment Details. Submission of draft document to eRegistration module.
6. Login by Builder in eRegistration module & calculate Valuation of property & Stamp Duty applicable
7. Capture details of e-Payment of Stamp Duty & Registration Fee
8. Preview of draft document,
9. Execution using Bio-metric device & digital signature (optional in some type)
10. Identification using UID
11. Online Submission of document
12. Using Sub Registrar module, Verification & Registration is done by Sub Registrar. Sub Registrar raises query in document if required.

13. Display of status of document. Document, Index-II and Receipt available for download to the party in submission module.
14. Simultaneously Index II and registered document is also made available in e-Search application.

Following are the types of documents for which eRegistration has been made available:

i. (First) Agreement of Sale between Builder and Purchaser
ii. MHADA Allotment Letter
iii. MIDC Lease agreement
iv. BSUP Agreements of Local bodies
v. CIDCO Lease Agreement
vi. Leave and License

The application is accessible through the URL: https://isarita.igrmaharashtra.gov.in/ISARITA2_EREG/

9. Date of launch of project: 06 January, 2021

10. Coverage (Geographical): Across Maharashtra

11.Beneficiary of the Project: Real Estate Developers, Purchasers, Department of Registration & Stamps, Maharashtra

12. Problem statement or situation before the initiative:

The existing eRegistration (template based) application allowed developers to use the preloaded template of agreement provided by Developers to the department. Since every developer/builder has different template of agreement, it was leading to delay in digitization/creation of agreement template due to insufficient manpower with department to handle the load. Implementation of any changes in draft template could further delay the process and eventually the developers were losing interest in eRegistration of documents. The template-based agreement gives surety to all the stakeholders - citizen, developer and the department, so department conceptualized a solution called 'Form Builder'. Form Builder (Self Help Portal) would allow the user to register himself for eRegistration facility, prepare draft agreement template dynamically and get it approved online from authority.

13.Project Objectives:

To allow a person to do the complete document registration process online without having to visit the Offices under IGR.

14. Project scope, approach and methodology:

1. The project was conceptualized, implemented and adopted purely based on hurdles/problems identified in roll out of earlier eRegistration (template based) application.
2. The scope of the project is to provide the eRegistration users with the facility of form builder and document generator using their own templates.

3. Department has onboarded an external agency through open tender for development of this application and further enhancement has been done by the technology partner, NIC Pune.
4. Agile methodology was adopted during development of this project. Department had setup daily and weekly review meetings (sprints) with the stakeholders to ensure the development is done as per the business requirements within the specified timelines.
5. The development team followed best practices to ensure the application is free from any vulnerabilities.
6. Further, rigorous functional testing was conducted by the team to ensure the application meets the functionalities defined by the department.

15. Result achieved/value delivered to beneficiary of the project and other distinctive features/accomplishments of the project:

Some of the key benefits after implementation of eRegistration (Self Help Portal):

1. Autonomy and freedom for user to register the project and prepare the draft template (dynamically) directly into the eRegistration system at his convenience.
2. The process saved time and energy of all the stakeholders - citizen, developer and Authorities and eventually reduced carbon footprints.
3. More efficient and transparent process, as Citizen directly deals with Government.
4. Helped reduce crowd in Departmental offices, thus giving more time to officers to deliver other services in a better way.
5. The number of monthly transactions (eRegistration) increased from 54000 to 74000.
6. Similarly, the number of monthly complaints related to eRegistration has been reduced and positive feedback has increased

16.Future proofing/Longevity of the Project:

The application has been developed using Open-Source Technologies like PHP, bootstrap and PostgreSQL, to ensure there is no dependency of proprietary licenses and they are upgraded from time to time by the technology partner. Further, the application is audited periodically for vulnerabilities.

The solution has been already implemented for other State Government agencies utilizing the document registration services.

The eRegistration service will be extended for other documents like Lease, Mortgage deeds, Sale deed of flats and NA plots, in near future.

Additionally following initiatives haven been taken by the department towards Capacity building and Awareness amongst stakeholders:

1. To facilitate eRegistration, Dept. with the help of NIC provides training an conducts workshop for the staff of Developer/Builder.
2. Department has also developed FAQs, Help File and User Manual on eRegistration to resolve queries of general nature.

3. Department has call centre which gives information about new initiatives like eRegistration to the citizens and on call support (8888007777) to the citizens
4. Official website of IGR Department has also been revamped to provide information about eRegistration in a very simple and lucid manner. ERegistration User manual is also available through the link of Form Builder & eRegistration application
5. Master trainers were appointed for promotion and training new trainers on eRegistration.

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8. Chikitsa Setu App

Sl. No.	Description	Write-up
1.	**Name of State/Ministry**	Government of Uttar Pradesh
2.	**Name of the host/owner organization**	Medical Education Department
3.	**Status of the host/owner organization**	Department
4.	**Name of Project**	Chikitsa Setu App
5.	**Name of the Nodal Contact Person**	Prashant Sharma
6.	**Contact address**	Room No. 309, Bapu Bhawan, Secretariat, Lucknow, U.P. 226001
7.	**Telephone/Fax/E-mail**	8004988000

8. Project Summary:

Chikitsa Setu is a revolutionary government app that provides training to various stakeholders about COVID-19 and Corona Virus through short, simple, and easy-to-understand videos made by experts on the basis of the latest ICMR guidelines. The app's citizen-centricity and relevance, user convenience, cost-effectiveness, sustainability, and localization of best practices have made it a distinctive and innovative project. It has enhanced efficiency and e-inclusion, providing easy access to up-to-date information and training materials for medical and paramedic staff, as well as individuals in far-flung or rural areas with low connectivity. The app's development and implementation without any additional budget have saved a significant amount of funds that would have been needed for in-person training.

Chikitsa Setu has more than 50 training videos uploaded, categorized under different heads, providing users with a firm grip and better understanding of the answers to their frequently asked questions related to COVID-19. The app is being widened in scope, with other modules being added, such as health and nutrition, prenatal, ante-natal, and post-natal health, geriatric care, and disaster management. All these modules combined push the number of services provided to more than 150, on a single platform that is easy to use, simple to understand, and always available at the fingertips of various categories of users. Chikitsa Setu has become the one-stop solution for all medical, health, nutrition, and basic needs during emergencies for all 22 crore citizens of the state.

9. Date of launch of project: 19 May, 2020

10. Coverage (Geographical):

Uttar Pradesh (Conceptualized, developed, and launched) and adoption by Uttarakhand, Jammu & Kashmir, Chhattisgarh, and Jharkhand

11. Beneficiary of the Project:

Citizens, Front-line workers, and Doctors in the mentioned geography.

11. Problem statement or situation before the initiative:

The COVID-19 pandemic presented a complicated problem of dealing with a highly infectious disease, while reducing human contact to ensure safety. Moreover, because it was a new virus, protocols of handling, transmission, and treatment were constantly evolving as new information emerged. As a result, training and repeated retraining of medical and paramedic staff became difficult, leading to lapses in training and information dissemination. This resulted in COVID warriors getting infected, highlighting the need for a new method of training and spreading information.

12. Project Objectives:

The Chikitsa Setu project was created with the objective of addressing the unique challenges posed by the COVID-19 pandemic. It was designed to be a comprehensive training tool and reference guide for all COVID-related queries, accessible at any time and from any location. The project aimed to provide easy access to up-to-date information and training materials for medical and paramedic staff, as well as individuals in far-flung or rural areas with low connectivity. The project's objective was to ensure that everyone, from doctors to safaikarmis, could easily access and understand the information provided by Chikitsa Setu.

13. Project scope approach and methodology:

To achieve the desired results, the Department conducted a survey to identify areas where information needed to be urgently imparted. They then involved the National Institute of Smart Government, Hyderabad (NISG) to develop an app with videos produced by the premier King George Medical University, Lucknow, to ensure the best possible quality of instruction and authenticity. Leveraging technology to deliver the latest, up-to-date information and training in real-time became possible through the app format, which had low data requirements for widespread rural penetration. The app was developed for both Android and iOS, with videos kept simple and short to cater to users' low attention span. The UI was designed to be intuitive, based on the UI of popular apps like YouTube and Netflix, to make the learning curve easy for new users. Topics for videos were selected through Jan Bhagidari, with comprehensive field surveys of Corona Warriors in all 75 districts of U.P. The app also included videos and webinars with the top specialists in the country, including Dr. Randeep Guleria and Dr. Naresh Trehan.

From conceptualization to implementation, the app took less than one month to create, without any additional budget. However, based on feedback from users and specialists, it was continuously refined and corrected. It was designed to be quickly and frequently updated with the latest protocols and was updated many times. The app was then launched by the Hon'ble CM of UP, ensuring wide visibility on 19 May 2020. The Department issued a letter to all districts in UP to use the app. After the successful launch and use in UP, it was launched in Uttarakhand by Hon. CM, in J&K by Hon. Lt. Governor, in Chhattisgarh and Jharkhand by Hon. Health Ministers. The Indian Medical Association endorsed it, as did the Private Nursing Home Association, and practicing doctors used it widely. The MOHFW, GoI also endorsed the app, tweeted about it, made a page on their NHP website, and sent a letter to all states recommending it.

14. Project scope, approach and methodology:

Chikitsa Setu has delivered significant value to its beneficiaries, with widespread and permanent impact. The app was initially created to address the urgent need for COVID-19 training, but its potential for long-term use and sustainability was recognized immediately. It has become a government project to revolutionize medical training and its delivery, with plans to expand its scope to deal with infectious diseases, geriatrics, trauma care, and capacity building for ASHA and Anganwadi workers. The app's citizen-centricity and relevance, user convenience, cost-effectiveness, sustainability, and localization of best practices have made it a distinctive and innovative project. It has enhanced efficiency and e-inclusion, providing easy access to up-to-date information and training materials for medical and paramedic staff, as well as individuals in far-flung or rural areas with low connectivity.

The app's development and implementation without any additional budget have saved a significant amount of funds that would have been needed for in-person training. Chikitsa Setu has more than 50 training videos uploaded, categorized under different heads, providing users with a firm grip and better understanding of the answers to their frequently asked questions related to COVID-19. The app is being widened in scope, with other modules being added, such as health and nutrition, prenatal, ante-natal, and post-natal health, geriatric care, and disaster management. All these modules combined push the number of services provided to more than 150,

on a single platform that is easy to use, simple to understand, and always available at the fingertips of various categories of users. Chikitsa Setu has become the one-stop solution for all medical, health, nutrition, and basic needs during emergencies for all 22 crore citizens of the state.

15. Result achieved/value delivered to beneficiary of the project and otherdistinctive features/accomplishments of the project:

Chikitsa Setu has been designed to be a lean, low-data consuming, always available repository of informative and training videos to be used by various types of stakeholders for obtaining the answers to their medical and health-related FAQs. The app's use of open-source technologies ensures scalability, interoperability, and platform independence, making it easy to expand and integrate with other systems. The app's Netflix-like user interface ensures automation of tasks and videos, with smooth operation and quick user acceptance.

The app's future outlook is promising, with plans to expand its scope to deal with infectious diseases, geriatrics, trauma care, and capacity building for ASHA and Anganwadi workers. The app's mechanism for users to submit their questions and requests for new videos ensures that it remains relevant and up-to-date with the latest medical guidelines and protocols. The app's data privacy measures ensure that users' private data is not collected, providing a secure and safe environment for users.

However, there are risks associated with the app's future longevity, such as changes in medical guidelines and protocols, changes in technology, and changes in user behavior. To mitigate these risks, the app's developers will continue to monitor and update the app's content and technology to ensure that it remains relevant and up-to-date. The app's use of open-source technologies ensures that it can be easily updated and integrated with other systems, providing a flexible and adaptable solution for the future. Overall, Chikitsa Setu is a promising project with a bright future ahead.

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9. Parvarish (A step Towards Kuposhan Mukta Bharat)

Sl. No.	Description	Write-up
1.	**Name of State/Ministry**	Government of Assam
2.	**Name of the host/owner organization**	Deputy Commisioner ,Cachar
3.	**Status of the host/owner organization**	Government
4.	**Name of Project**	Parvarish- Kuposhan Mukt Bharat
5.	**Name of the Nodal Contact Person**	Smt. Keerthi Jalli, IAS Deputy Commissioner, Cachar, Assam
6.	**Contact address**	Office of the Deputy Commissioner Cachar Dak Banglow Road, Tarapur,Silchar,Assam-788001
7.	**Telephone/Fax/E-mail**	03842-245056

8. Project Summary:

Aligned with the global Goals of 'Zero hunger' and 'Good Health & Well Being' project **Parvarish** aims at taking sustainable steps towards eradication of malnutrition in children from the marginalized sections of the society. A community-based approach (later shifting to family centric) to providing better nourishment through healthy dietary practices and care, Parvarish envisages nurturing children and their childhood for a better and brighter tomorrow.

9. Date of Launch of Project: 27 September, 2020

10. Coverage (Geographical): Cachar district, Assam

11. Beneficiary of the Project: Children aged 6 months to 5 years

12. Problem statement or situation before the initiative:

Malnutrition in children under 5 years of age which medically categorizes them as SAM (Severely Acute Malnourished) and MAM (Moderately Acute Malnourished) leading to stunted growth and troubled childhood, mostly prevalent in the underprivileged section of the society, led to undertaking of the initiative

13. Project Objectives:

The major objective of the project is to take steps for awareness and treat malnutrition in identified children through a community-based and inter-departmental approach which shall involve mobilizing community donation and ownership. The project seeks to motivate people to care through donation in kind by providing nutritious food for a fixed period of time to the parents of SAM/MAM children.

14. Project scope approach and methodology:

Approach:

One of the major challenges that had to be overcome was the Village level awareness on malnutrition in children which was addressed by

- Formation of Poshan Parivar involving AWCs, ANMs, NGOs, families of SAM children, Volunteers, Gram panchayat members etc.
- Informal group discussion and also inclusion of this vital topic in Gram Sabhas so as to generate awareness on the same.
- Shift from community based to Family Centric approach asserting that “Care begins from home”
- Mobilization through Matri Sabha where mothers speak their minds on challenges faced on rearing their children with limited available resources and home remedies, Rallies and Nukad Natak in the form of mini street plays that would emote the importance of sound health in children.

Methodology:

A systematic procedure was adopted to ensure early detection of malnutrition that would include

- Regular Growth monitoring of all children aged 6 months to 5 years of age via the already established health facilities.
- Detection of Malnourishment and its categorization to SAM or MAM in order to refer for specific treatment.
- Detection of SAM child and counselling of the child and family members to open up to the treatment.
- Referral to the nearest BPHC(Block Primary Health Centre) and later to NRC(Nutritional Rehabilitation Centre) which would provide a minimun of 6 month course of rehabilitation to the child until recovery.
- The major game changer here is the voluntary adoption of SAM children by individuals, NGOs who would adopt a child to not only provide healthy dietary products but also be mentors in inculcating a healthy lifestyle.
- Community Ownership is of supreme importance as onus lies on every individual to contribute their part for building a malnourishment free society.

Execution through:

- Capacity building via formation of core groups, awareness generation teams to find out prospective donors and adopters.

- Strengthening of the existing institutional mechanism of Social Welfare and Health Departments ensuring that all infrastructure and man power gaps are addressed on time.
- Integration of technology and E-Sevas for taking the message from the heart of the villages to prospective caregivers and ensuring a responsive, transparent and efficient public delivery system.
- Food Security by networking donations in the form of food packets and materials.
- Service delivery by means of dedicated donation points,
- Grievance redressal to address the issues of the patients and their families.

15. Result achieved/value delivered to beneficiary of the project and otherdistinctive features/accomplishments of the project:

Ensuring the last mile delivery, social and health department officials along with the district machinery took far reaching steps to bring about awareness for health seeking behaviour especially in the rural areas.

As many as **957** numbers of SAM children from across the district were adopted by various quarters of the society out of which **935**nos. of such children successfully recovered from the SAM stage with zero relapse.

This was possible not only because of the Misson mode approach but also due to the awareness on "Poshtic Ghar ka Khana" with leafy vegetables and fruits readily available in rural kitchen gardens and voluntary donations of public in the form of food packets, other eatables and baby food for a definite time. Further initiatives of Sishu Mangal Divas, Poshan Mela under Poshan Abhiyaan, voluntary construction of AWCs are some of the positive offshoots of the mission.

16. Future proofing/Longevity of the Project:

The journey to treating malnutrition in children does not stop with the recovery of an identified SAM or MAM child. Rather it is a holistic approach of ensuring that no child is bereft of proper care in terms of healthy food, hygiene and left untreated in order to be able to explore enhanced growth opportunities and avenues for greater life expectancy. In its greater goal of eradicating malnutrition and parallelly fighting against a high IMR rate, mission PARVARISH, in its whole, is a mother ensuring that her child is healthy, sound and most importantly happy, for in this lies the asset of a stronger future generation and contributors of the country.

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10. Infrastructure Snapshot Kokrajhar

Sl. No.	Description	Write-up
1.	**Name of State/Ministry**	Assam
2.	**Name of the host/owner organization**	Office of the Deputy Commissioner, Kokrajhar
3.	**Status of the host/owner organization**	District Administration, Kokrajhar
4.	**Name of Project**	Infrastructure Snapshot Kokrajhar
5.	**Name of the Nodal Contact Person**	Smt. Varnali Deka, IAS, DC Kokrajhar
6.	**Contact address**	Kokrajhar Civil Lines, P.O. & District – Kokrajhar, Ward No 10, Assam – 783370
7.	**Telephone/Fax/E-mail**	dc-kokrajhar@nic.in

8. Project Summary:

Access by citizens to raise concerns and grievances on Govt service delivery is considered to be the prerequisite of good governance. Owing to the formidability of terrain & topography, District administration Kokrajhar faces issues of access and reach. To enable transparent and real time Grievance management, District Administration developed Infrastructure Snapshot Kokrajhar, a configurable easy-to-use mobile based application for effective grievance redressal and monitoring of all public services, Govt institutions etc. Any Public User can submit photo, location, details etc. of the aggravated site or incident online, monitor the processing and provide status of grievance redressal. The facility of mandatory geo-tagging along with photograph eliminates spurious complaints. The App is very versatile – serving also as a monitoring & supervision tool of Govt schemes, Departments and officials by any user who has downloaded the App – Administration, Government officials, Third Party monitors, Civil Society Organizations and the public. It is a tool for safety & empowerment as one can flag an alert during any disaster, cases of violence, domestic violence, moral policing etc. This reaches the District Control Centre immediately. The App takes Grievance Redressal into the realm of participatory governance and citizen centric service delivery giving voice to the citizen by allowing the user to provide suggestions to fix the irregularities/anomalies found with tailored admin features which aim to provide a seamless, easy,

transparent investigation and troubleshooting tool, grievance reporting and redressal mechanism ultimately envisaged to bring complete transparency and public audit.

9. Date of launch of project: 31 August, 2021

10. Coverage (Geographical): District Kokrajhar

11. Beneficiary of the Project: Administration, Government officials, Third Party monitors, Civil Society Organizations and the public.

12. Problem statement or situation before the initiative:

In the context of grievance redressal, monitoring & supervision regime in the district the following problems were prevalent which made it necessary that the initiative is introduced.

a. Lack of a rigorous inspection regime that needed that lacked efficacious and regular monitoring of public institutions, government departments, sites, schemes.
b. Need for a tedious grievance lodging system, tracking and review mechanism thereof was much felt.
c. Need for an efficacious check against pilferage of government funds
d. Lack of any authentic, updated data on Infrastructure and Services of the District
e. Lack of an authentic feedback on the functioning of Schemes and Departments
f. Lack of an instant mechanism accessible to public to alert the administration in the event of natural calamities, cases of violence, moral policing, domestic violence etc.: Lack of adequate mechanisms to enable Good Governance/Participatory Governance

The inception of the Infrastructure Snapshot Kokrajhar is dated back to the mid of 2021 when the present Deputy Commissioner joined in the district. Often in her field trips, she found officials playing truant and a number of issues faced by the public. Besides, people came with various complaints and grievances regarding Government schemes, programmes, non-attendance of doctors/teachers/officials, non-receipt of Mid-Day Meal, mis allotment of PMAY houses, non-functional Jal Jeevan Mission connections etc. Front line workers posted in such remote areas would not report for duties. Pilferages ate heavily into benefits for the public. There was no efficacious means of inspection/monitoring/supervision or handy means for the public to report such instances and other grievances. There was a felt need to involve the population in the monitoring of Governmental schemes and Infrastructure and to provide an easily accessible grievance redressal tool, systematic method to garner feedback and build up a database for Govt schemes, programmes and Departments which could help further in policy making, resource allocation and tactical level execution. The difficult topography comprising forests, bad roads etc. makes supervision very challenging and often resulted in lackadaisical and corrupt behavior of functionaries.

It was also understood that the women are not very keen to share their issues with men, but the SHGs are the platform where they share their personal issues such as domestic violence, witch hunting, etc. Difficult terrain and topography create formidable issues of access and reach for the population especially for women. Thus, it was doubly essential to ensure that women were brought into the fold of a mechanism where they can approach the administration at their fingertips.

13. Project Objectives:

Kokrajhar is the 8th largest district of Assam and 19th in terms of population. The total area of Kokrajhar district is 3,169.22 Sq. KM and total population is 8.87 lakhs. Kokrajhar has substantial issues of access and reach due to the difficult topography and terrain comprising of forests, hilly landscape and braided Brahmaputra tributaries. It has one of the most heterogenous population mixes of the country varied in terms of ethnicity, language, religion, culture and way of life making a "one size fits all" approach impossible.

Prior to the launch of this App, people had to come physically to the District Headquarters to lodge their complaints in respective Government Offices entailing a burden of time and resources. To lodge a complaint or grievance, the complainant had to lose at least a day's wages and bear the transportation costs amounting from Rs 50-200 (a significant amount for the rural population). Often, they would have to spend many unproductive hours to figure out the concerned Department, branch or official to be approached for the redressal of their grievance. Moreover, if the official concerned was not available due to his prior engagements, meetings, tours, leave etc., they would have to come another day incurring further burden in terms of time and money. Even after the complaint was made, there was no way for them to track it again without physically visiting the office. The follow up action was slow and there was no means to expedite.

Thus, there was a felt need for intervention in the area of grievance redressal-an intervention that made both lodging grievances as well as tracking the redressal process easier. Accordingly, the App Infrastructure Snapshot Kokrajhar was developed. An **Easy User Interface Mobile App** made it easy to make use of facilities of the Cell Phone including the camera, geographical location etc. which is relatively more cumbersome in a browser based (website) or computer-based model. By tagging the DEOC Machinery with the App ensured close monitoring of grievances and by flagging off the complaints with the right authority ensured 100 percent resolution of the grievances

14. Project scope approach and methodology:

The methodology of implementation of the project is as under.

- **Capacity Building:** The District Administration had introduced a series of capacity building exercise for the departmental officials as well as representatives of CLFs on two phases.
    - Orientation around "Significance of participatory citizen centric governance"
    - Training on "Usage of Infrastructure Snapshot Application" as tool for efficient grievance redressal and service delivery of the government.

Image 1: District Administration had organized meeting with the CLFs around usage of Infrastructure Snapshot as a means for efficient public service delivery

Image 2: District Administration had organized meeting with the CLFs around usage of Infrastructure Snapshot as a means for efficient public service delivery

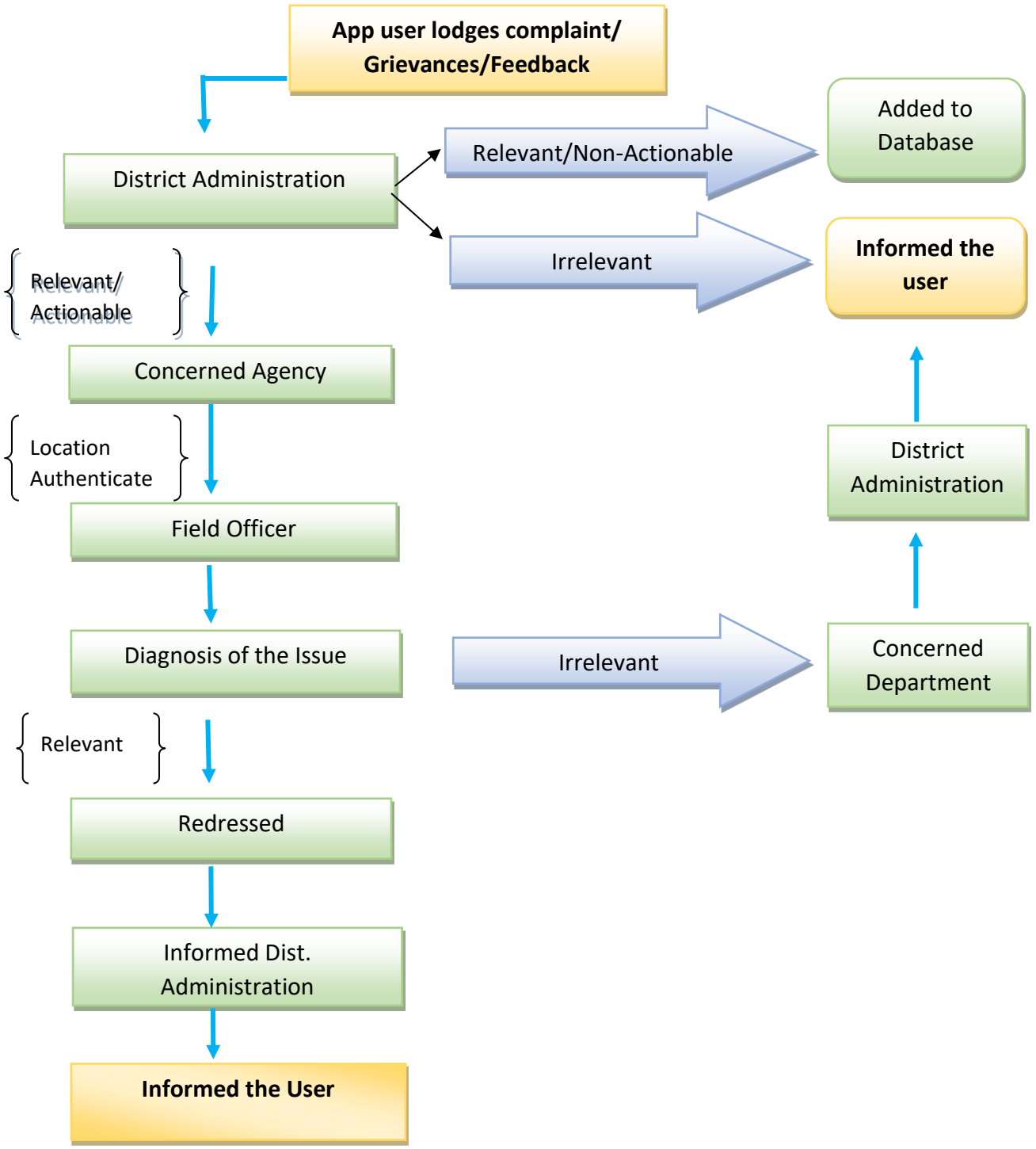
Tapping network of Grass Root Functionaries and local administration:

The District Administration has involved the grassroots functionaries including 735 BLOs, 1372 ASHA workers, 1687 Anganwadi workers, 367 Community Cadres (148 Community Resource Persons, 65 Krishi Sakhis, 62 Pashu Sakhis, 50 Bank Mitras, 15 Community Resource Persons - Enterprise, 16 Master Book Keepers, 11 Bima Sakhis) under ASRLMS for the success of this app.

Image: Meeting of the District Administration with a gaon budha from Gossaigaon

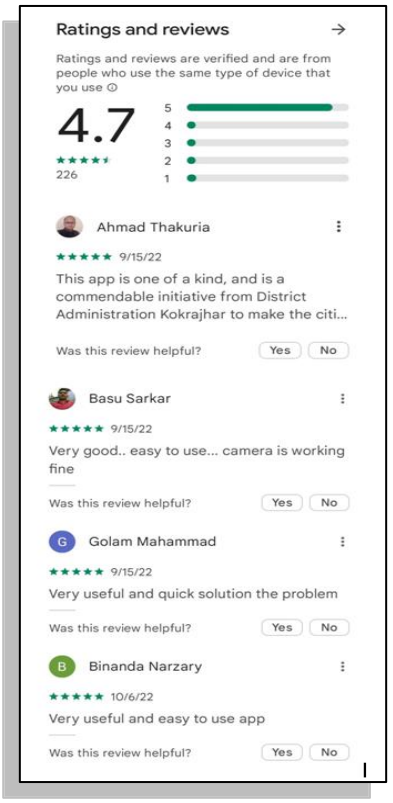
- **Monitoring and Follow**-up: 100% follow-up on all grievances/feedback established the credibility and legitimacy of the App.
    - **Close Monitoring:** Dedicated Core Cell; 100% processing of complaints received.
    - **Linked with District Emergency Operation Control Machinery** for round the clock monitoring of urgent alerts.

Diagram 1: Flow of communication through Infrastructure Snapshot App



15. Result achieved/ Value delivered to beneficiary of the project and other distinctive Features/accomplishments of the project:

Infrastructure Snapshot Kokrajhar App has achieved the desired level of success in a very short span of time due to its easy user interface, quick and effective service delivery catering to the last mile user. It has brought significant quantifiable improvements in the lives of the people of the district.



- **Increased community involvement in uplifting of Services/Infrastructure – "Jan Bhagidari":** App has resulted in quantum leap in quality, speed & efficacy of Grievance Redressal. The App has enabled all sections of people to lodge complaints free of cost and instantly by clicking photos and submitting location, details etc. of the aggravated site or incident and also monitor the processing and track status on grievance redressal progress on their mobile phones. Prior to the App, to lodge a complaint, people had to visit the office, incurring transportation costs amounting from Rs 50-200, in addition to loss of the day's wage. App has thus resulted in **100% reduction in cost of grievance redressal.**

- **Authentic & Continuous Feedback on functioning of Schemes/Depts; sectoral database:** Earlier feedback was sporadic and need driven. App enables easy e-feedback for the performances of all Govt Departments, schemes and human resources. This has enforced the officials of Government Departments to complete the e-services in the stipulated time, else the aggrieved citizen can make complaint over IS Kokrajhar App.

- **Quick Action on Emergency Cases:** App also serves as instant alert mechanism for disaster, cases of violence, moral policing, domestic violence, witch hunting etc and thus helps provide immediate succour to the victims. App also enables concerned neighbours, good Samaritans to use the App to report such cases. Earlier, whistle blowers did not have any avenue to report on instances of abuse etc unless they went to the Police station etc. which most did not prefer for fear of harassment or having to appear as witnesses multiple number of times at the Thana. Use of Photographs and geo-tagging eliminates spurious complaints and feedback increasing the veracity of the App. 100% of inputs on the App are geo-tagged with photographs. The App proved to immensely effective in disaster management. The District Administration had linked up of the App to critical events especially those related to public participation is a step by District Administration which not only increases the acceptance, credibility and efficacy of use of the App but also provides critical inputs to the Administration.

- **Citizens Empowerment; Citizen-Centric Service Delivery; Participatory Governance:** A major highlight of the App is its easy user interface and its tailored admin features that allows user to provide suggestions to fix irregularities/anomalies found**.** This has an empowering effect on citizens by making them partners in the development process. Further, by simplifying the process of lodging grievances, bringing about drastic reduction in resolution time of grievances and by enabling real time complaints tracking WhatsApp/Call/Email, the App has ensured **citizen-centric public delivery thereby bringing good & participatory governance at the doorstep.** Furthermore, prior to implementation of the App, a number of awareness and hands on training camps were organised throughout the district, thereby promoting the cause of **Digital Literacy.**

- **Women Empowerment**: The District Administration has endeavoured to popularize the app amongst the women-based community-based organisations that are the Cluster Level federations, village organizations and the SHGs. The mobile based application with the help of Bima sakhi and Jeevika Sakhis have helped thousands of women to gain access to the mechanism of the quick greivance lodging system.

- **Inter-Departmental Coordination:** The intervention has enhanced better coordination and cooperation amongst the different government departments where involvement of more than one department is required to ensure efficient service delivery.

- **Bridging the gap between District Administration and the people**: One of the greatest impacts of the App has been in terms of citizen experience. Prior to the implementation of the App, the average complaints made to the District Administration was only around 20-30 per month. The average has now multiplied manifold. This shows the trust of people in this App to resolve their grievances and also increase credibility of the District Administration amongst the people besides showcasing the relative easing of the grievance reporting regime

The project, as it is based on an app-based model, which can be accessed by any smart phone users and does not carry any additional operationalization cost to sustain the project. With an increasing rate of digitization and usage of internet and smartphones, the project can smoothly be carried forward.

16. Future proofing/Longevity of the Project:

The longevity of the project lies in coordination amongst the departments. Thus, the project is sustainable in nature and it can be further strengthened by enhancing the involvement of multi-stakeholders at grassroot and departmental level.

Further, the Jan Bhagidari approach in implementation of the App further ensure the efficacy and sustainability of the App.

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11. GAASH

Sl. No.	Description	Write-up
1.	**Name of State/Ministry**	District Administration Srinagar
2.	**Name of the host/owner organization**	District Administration Srinagar
3.	**Status of the host/owner organization**	Department of Revenue
4.	**Name of Project**	GAASH
5.	**Name of the Nodal Contact Person**	Mujtaba Ahmad Banday
6.	**Contact address**	Amar Niwas Complex, DC Office Tankipora Srinagar
7.	**Telephone/Fax/E-mail**	Dcsgr-jk@nic.in

8. Project Summary:

Project GAASH is an e-Learning initiative with special emphasis on gamified learning in the age group 12-18. With the introduction of the project in some schools, students as well as teachers showed enhanced interest in the project and overall academic performance. Students are able to understand basic concepts in Science and Mathematics very easily in comparison to normal class room transactions.

National Achievement Survey of previous years showed poor performance in various subjects at elementary level. On an average in all subjects, 31% students have secured 75% and above while as NAS of Class 8th shows that mere 10% students have secured 75% and above.

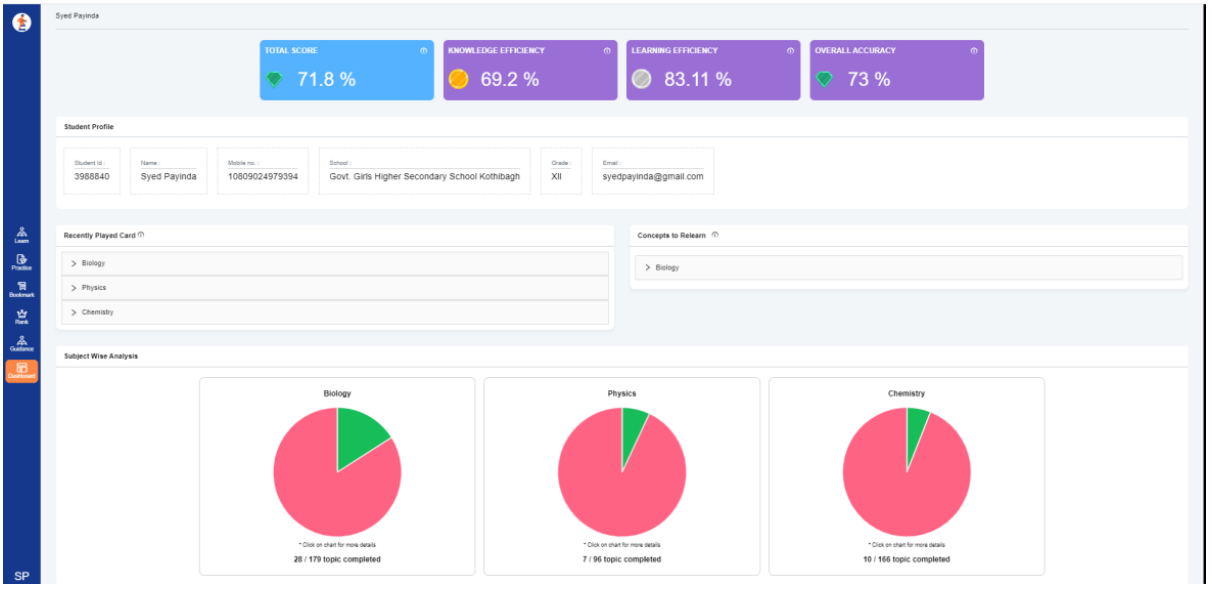
Closure of schools due to COVID and other reasons, the education sector was worst hit. This severely impacted the overall performance of students. Over the last 2 years during pandemic e-learning was the only solution to reach out to children and to keep them connected with the studies. The experience gained over the years and in order to mitigate the loss due to reasons above, it was found that:

- Digital Educational Solutions directly target the psychology of the students which help students to understand and grab the information from a different perspective.
- The digital solutions make them understand the concepts by giving them challenging tasks, puzzles, and educational games.
- The audio-Visual form of education is being liked by most of the students.

- This newness in the universe of learning makes them excited and eager to learn.
- It allows parent-student-teacher communication.

Keeping in view the above a new gamified e-learning project GAASH was introduced in High & Higher Secondary schools of district Srinagar. The project was initially introduced in Higher Secondary Schools of the District and subsequently rolled out to elementary and High Schools.

A district level team comprising of District Officers conducted a series of online sessions to understand the concept and use of the software, who introduced the App/Software to Zonal Level teams. Zonal level teams subsequently trained school level functionaries. Who in turn implemented the project at school level.



Feedback regarding implementation and outcome of the project was collected at various levels from the field functionaries by Zonal Level teams and analyzed at District Level for necessary tweaks or changes and to assess the efficacy of the implemented project.

9. Date of launch of project: 10 July, 2021

10. Coverage Geographical: District Srinagar

11. Beneficiary of the Project: Students of District Srinagar

12. Problem statement or situation before the initiative:

Closure of schools over last 2 and half years due to COVID and other reasons, the education sector was worst hit. Which severely impacted the over performance of students. Over the last 2 years e-learning was the only solution to reach out to children and to keep them connected with the studies. The experience gained over the years and In order to mitigate the loss due to reasons above, need for a digital solution to reach out to children in addition to normal schooling was felt. Which consequently led to the implementation of Gaash – An e-learning initiative for schools of district Srinagar.

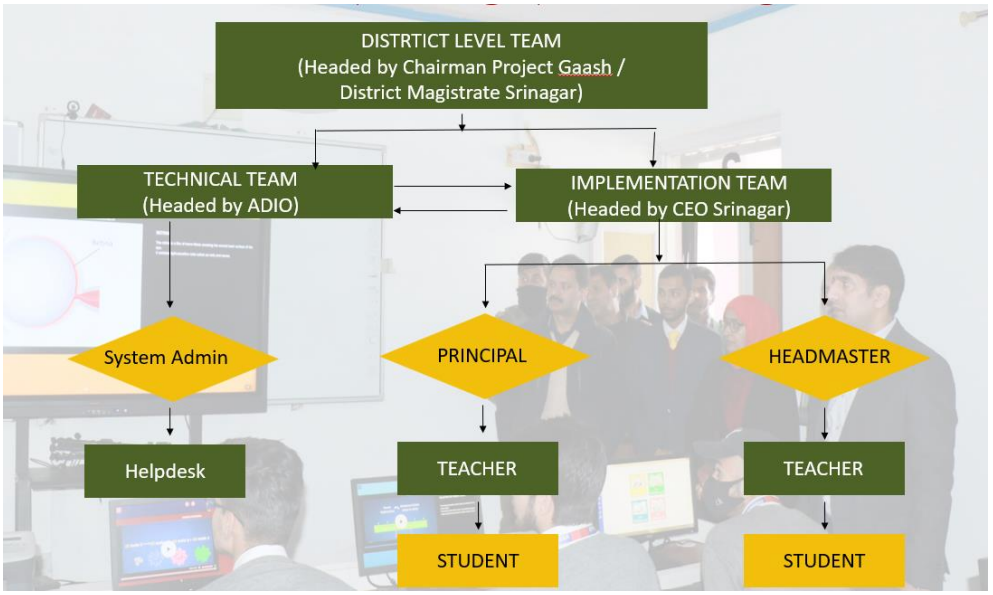
13. Project Objectives:

Making Education more effective while being enjoyable through gamification of conceptual content. Comprehensive understanding of learning outcomes for all stakeholders in education – schools, parents and students. Empowering students with cutting-edge edu-technology to help them reach their full potential.

14. Project scope approach and methodology:

The initiative directly targets the psychology of the students which help the students to understand and grab the fundamental concepts in a creative manner.

- The initiative during CoVID-19 has proved helpful for the students. The GAASH initiative has been a virtual teacher for the students during CoVID19 pandemic.
- The GAASH initiative has made educational content available online as an e-Service for students of class 6th to 12th standard, which the students are able to access anytime, anywhere.
- The students who were not able to attend physical classes due to various reasons were targeted & connected to the learning process, thereby minimizing the loss of studies.
- The initiative has made learning accessible to students beyond brick-and-mortar classes.
- As data tracking is possible, it gives teachers and parents a significant idea about child's progress. School Management can easily track the performance of each child.
- The App provides readymade input to the parents / Teachers to assess aptitude of students for various subjects like biological sciences, math, Physics, Chemistry etc. This helps in deciding the right future course of subject to be chosen by the students.
- Each student has an individual Dashboard which leads to personalized attention to each student.



15. Result achieved/value delivered to beneficiary of the project and otherdistinctive features/accomplishments of the project:

The implementation of GAASH initiative has helped in overall improvement of the median score of students ranging from 5% to 10% on an average (subject wise).

- Decline in dropout ratio
- Increase in enrolment: 37209 to 42529 (14.03% Increase)
- Feedback mechanism involves Parent-Student-Teacher's interface

16. Future proofing/Longevity of the Project:

The project has been launched in the High & Higher Secondary Schools of District Srinagar. It will be rolled out for other Schools in the District.

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12. e-Suvidha

Sl. No.	Description	Write-up
1.	**Name of State/Ministry**	Deputy Commissioner Ramban
2.	**Name of the host/owner organization**	Mussrat Islam
3.	**Status of the host/owner organization**	Deputy Commissioner, Ramban
4.	**Name of Project**	Ramban e-Suvidha
5.	**Name of the Nodal Contact Person**	Mussrat Islam
6.	**Contact address**	Deputy Commissioner, Ramban
7.	**Telephone/Fax/E-mail**	01998-266789 silvassamunicipalcouncil@gmail.com

8. Project Summary:

District Administration Ramban has launched Ramban e-Suvidha mobile app to facilitate the people of the district in accessing public services through digital platforms. The initiative has been taken after directions were received from the Lieutenant Governor's Secretariat to design and develop digital platforms which shall launch many public services to facilitate the people in online mode. The mobile application is available on Google play-store and all the important services are data-loaded on the application, which shall be updated and populated on a regular basis. Ramban e-Suvidha will provide access to people to avail basic services like plumbing, electric works, mobile and laptop troubleshooting, masonry and skilled jobs on a digital platform on their smartphones. The application shall also link many important departments like Health, Common Service Centres, Food & Civil Supplies, Banks and other financial institutions. Efforts are being made by the District Administration to integrate the e-Suvidha with 229 services of the Government which are being provided in online mode.

9. Date of launch of project: 26 March, 2021

10. Coverage (Geographical): Ramban District, J&K UT

11. Beneficiary of the Project: General public & skilled manpower

12. Problem statement or situation before the initiative: Being a rural district, there is a disconnect between public and skilled workforce available. The e-Suvidha app endeavors to bridge the gap.

13.Project Objectives:

Reaching out to the general public digitally and providing employment opportunities to the skilled workforce.

14. Project scope approach and methodology:

Data collection of various stakeholder departments and obtaining consent of the skilled workforce voluntarily agreeing to be part of the digital platform.

15. Result achieved/value delivered to beneficiary of the project and other distinctive:

Encouraging. While the general public have been provided a platform to avail services though online mode, the skilled manpower has been provided opportunities to avail gainful employment.

16. Future proofing/Longevity of the Project:

The app has been further customized to reach out to greater audience. We need to integrate the app in various social media circles so that more and more people come to know about its salient features.

The app shall be further worked on to remove bottlenecks and add more features.

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13. Gang Canal Regulation Computerization System Sri Ganganagar

Sl. No.	Description	Write-up
1.	**Name of the State/Ministry**	District Administration Sri Ganganagar
2.	**Name of the host/owner organization**	District Administration Sri Ganganagar
3.	**Status of the host/owner organization**	District Administration Sri Ganganagar
4.	**Name of the Project**	Gang Canal Regulation Computerization System Sri Ganganagar
5.	**Name of the Nodal Contact Person**	Sourabh Swami
6.	**Contact address**	District Collector Sri Ganganagar
7.	**Telephone/Fax/e-mail**	dm-gan-rj@nic.in

8. Project Summary:

Gang Canal Regulation Computerization System project is conceptualized for providing farmers with up-to-date information of canal regulation system through a web portal, which will be updated by irrigation department every 3 hours daily.

Gang Canal is fed from the Ravi-Beas River near Firozpur, Punjab. Water resource department regulated water supply manually, which was non efficient due to information delay.

This website provides online updation of gauge value every three hours, which shows the water level on each head of canal and schedule of opening and closing of canals.

In manual system, 40% complaints received at district level ware about water distribution and regulation system, proposed computerized system aims to reduce information lag especially for tail-end farmers and make whole system transparent and efficient.

9. Date of launch of project: 14 October, 2019

10. Coverage (Geographical):

Total Number of Blocks: 9

No. of Blocks covered out of total Blocks: 7

Percentage of Blocks covered out of total: 77.77%

11. Beneficiary of the Project:

Gang Canal Regulation Computerization System Project has been deployed to facilitate farmers from every nook and corner Ganganagar district to access real time information about the status of the entire network of canals of the Gang Canal Irrigation System. The project is designed and developed in order to connect every farmer of the irrigated land area of 3.14 lakh hectares that is spread across 1222 villages (which fall under 1222 chaks) of 7 blocks of district Ganganagar. As per 2011 census, the total population of the district is 19,69,168 with a substantial majority of the population dependent on agriculture. Eleven lakh farmers of the district reside in the irrigated area of Gang Canal 30% of whom are small and marginal farmers and 50% farmers are those with medium land holdings.

12. Problem statement or situation before the initiative:

Prior to the launch of this initiative, Department for Water Resources regulated the water-supply in canals manually. This process of providing information regarding water regulation led to inefficiencies, errors, delayed information and dissatisfaction on the part of the farmers. The information about the regulation chart and gauge value could only be accessed after 24 hours of the preparation of the chart through the medium of newspapers. In some remote areas, newspapers could not be delivered in time due to poor connectivity leading to wide information gap. In addition, water supply was based on favoritism for the benefit of some selected beneficiaries. The existing mechanism worked through nine administrative points, which are called canal heads of regulation. The officials of irrigation department planned a regulation chart for water distribution through feeder at every head. The schedule of regulation was generated based on value of gauge at each head of canal recorded manually by gauge reader (Jal-Mitra) who shared information with district officials, who then prepared a ledger/cumulative chart and shared with irrigation department. Officials telephonically verified information with their engineering staff on the head. In this manual process, regulation chart of water supply prepared by irrigation department was shared through newspapers through a time lag of 24 hours. Most times, water levels would change depending on inflow from Punjab and regulation chart would not be followed which led to misunderstandings, law and order situations, dissatisfaction with administration and very high rate of grievances from the tail end farmers. Gang Canal is the lifeline of agriculture in the district hence It had been a major demand of farmers of the district over many years to make the regulation process of canal water more transparent. The manual system led to many law and order situations where farmers would sit on dharna for days together demanding a fair and transparent system of irrigation regulation.

13. Project Objectives:

Ganganagar’s prosperity is primarily through canal irrigation and Gang Canal is the lifeline of the district. It’s a network of 23 canals, covering 1222 villages and benefitting 1.5 lakh farmers of this district. Rajasthan's share of water in the Gang canal is fixed by BBMB (Bhakra Beas Management Board), which was established by GoI in 1966. Prior to the launch of this project, Water Resources department regulated this share of water and allotted water-supply in canals of all the blocks manually. Farmers’ participation in water distribution through water user associations were marred by misinformation, favoritism, delays, and individual discretion, which led to numerous grievances. In reality, even though the water to be released is supposed to be pre-decided, but inflow of water varies every day, thus making fair regulation of water to farmers a major challenge and resulted in

various grievances. The farmers at the tail end were major sufferers because the uncertainty about amount of water received, allotted and distributed, made it very difficult for farmers to plan watering schedule of their crops. The objective of this e-governance initiative was to strengthen accuracy of regulation system of water supply and ensure effective delivery of information by using ICT to address problem of delayed information. This was accomplished through the launch of a web-portal, http://ganganagar.raj.nic.in/gangcanal/ (presently https://sinchaimitra.raj.nic.in/sinchai-mitra) which is regularly updated by the Department of Irrigation on the basis of information of the gauge value received through the SCADA system. The automatic system made computerized regulation chart and ensured the amount of inflow of water in the district is available for everyone to see on Realtime basis. This web-portal is an extremely convenient platform to update gauge value of canals and heads every three hours by displaying the water level of the canal on each head along with the schedule of opening and closing of the canals. To facilitate easy access to this information, a Mobile App namely “Gang Canal'' has also been developed, which is available for free use. The inflow of water, decision of WUAs, regulation of amount of water in all major and minor canals of the district, time of opening and closing of canal, weather forecast, mandi rates, details of important government schemes are available to all farmers of the district on a click of a finger on their mobile phones. At present there are 35K active farmer users on the app. The technology enables them to plan their crop irrigation schedule well in time and has reduced the discretion of WUA and the department in water allocation. The database of farmers was used to send messages through free GoI application Sandesh to popularize agriculture schemes. The efforts to popularize government schemes by sending details of schemes to farmers via SMS increased beneficiaries in PMFBY, PM Kisan Samman Nidhi, soil health cards, and promoted modern practices like drip irrigation, green houses and farm ponds. The messages prompted lot of interest and queries from farmers regarding various schemes and this enhanced engagement was capitalized to increase the outreach and saturation of almost all agriculture related schemes. So, the initiative not just empowered the farmer with real time information which resulted in a mammoth drop in public grievances related to irrigation but also served as a medium for better outreach of government schemes resulting in greater saturation.

14. Project scope approach and methodology:

A close analysis of the problems regarding the irrigation water in the district faced by the farmers of the Gang Canal command area and the officials of the Department of Irrigation set the stage to track the weaknesses of the existing system. Through discussions with the officials of the Department of Irrigation, interaction with the local farmers in camps was organized under the campaign “Prashasan Gaon ke Sang”. After meetings with the Water Utility Association, the district administration felt the need to work on some new alternatives to strengthen the existing manual Regulation system. The mechanism of regulation of water supply works through the nine administrative points which are called Canal-Heads for regulation. Officials of the Department of irrigation plan a regulating chart to supply water to its respective link canals to its successive feeder at every head. The schedule for regulation is generated on the basis of the value of the gauge recorded by the gauge reader (Jal-Mitra) who shares information on three hourly bases with District Information Officer. A ledger/a cumulative chart for the same is prepared and shared with irrigation (Gang-Canal) department. The department officials collect the information and verify with engineering staff at the heads.

15. Result achieved/value delivered to beneficiary of the project and otherdistinctive features/accomplishments of the project

The project has replaced the traditional cumbersome manual preparation of regulation chart of water supply and snail-slow communication of the same to farmers with prompt and accurate computerized system for information deliverance through web portal and Mobile App integrated with Sandesh App for sharing information through SMS about water level on each head of the canal along with opening and closing of the canals. Installation of a web-enabled automated Supervisory Control and Data Acquisition system has added to the accuracy and promptness in updating real-time information on the portal by the Department of Irrigation. Farmers are exhilarated owing to saving of their time and resources, now the information is handy in their mobiles and instantly and accurately available to them. The process has been made user friendly with a proper feedback mechanism. The application has become a source of connect between the administration and 35K active farmers on the portal. The administration uses this e-governance tool to make public delivery systems more responsive, transparent and efficient. Regular messages are sent regarding various government schemes on daily basis which has resulted in manifold increase in beneficiaries of various government schemes like PM KISAN, PMFBY, Soil health card, national horticulture mission and other state government agriculture schemes. The grievances of people have come down drastically due to enhanced transparency, hence the project has been appreciated by Irrigation minister of Rajasthan, major farmer unions of the district, and Divisional Commissioner of Bikaner who is also serving as Commissioner, Command Area Development of Rajasthan. The application is easily replicable in inter-district irrigation projects like IGNP and Bhakra. Interest for replication of the project has been received from district Hanumangarh in Rajasthan and other states like Punjab where farmers depend upon canal irrigation as one of the main forms of irrigation.

16. Future proofing/Longevity of the Project:

The web-portal and the mobile apps (android and iOS) are developed in generic mode so that they can be accessed by any other district to utilize these functionalities for maintaining the transparency in the system. It can be easily implemented in intra-district irrigation projects like IGNP and Bhakra.

The project envisages the future enhancements in the form of chat bot to make the portal more interactive, implementation of Barabandi Calculations in the rotational method for equitable distribution of the available water and display of the same on the portal is under development.

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14. RMC OTP based Citizen Grievance Redressal System

Sl. No.	Description	Write-up
1.	**Name of the State/ Ministry**	Rajkot Municipal Corporation
2.	**Name of the host/ owner organization**	Rajkot Municipal Corporation
3.	**Status of the host/ owner organization**	Municipal Corporation (Urban Local Body)
4.	**Name of the Project**	RMC OTP based Citizen Grievance Redressal System
5.	**Name of the Nodal Contact Person**	Mr. Sanjay Gohil
6.	**Contact address**	Director – IT, EDP Department, 2nd Floor, Dr. Ambedkar Bhavan, Rajkot Municipal Corporation Central Zone Office, Dhebar Road, Rajkot – 360001
7.	**Telephone/Fax/e-mail**	Telephone – 9624718686 E-mail – smgohil@rmc.gov.in

8. Project Summary:

Rajkot Municipal Corporation conceptualized advanced Citizen Grievance Redressal System to provide enhanced support to citizens of Rajkot & address their concerns satisfactorily. The public grievance redressal system project has created a major impact on the way citizens interact with RMC authorities in responding / addressing to their concerns. After successful implementation of this project, the trust and satisfaction of citizens in services provided by Rajkot Municipal Corporation (RMC) has increased drastically.

The pre-eminent characteristics of the system such as citizen friendly multiple options for complaint registration, auto-escalation of complaints, requirement of PIN from complainer to close complaints, feedback mechanism, option for reopening the complaints, random monitoring of processes makes it distinctive.

9. Date of launch of project: 18 August, 2021

10. Coverage (Geographical): Entire Rajkot city - 260 square kilometers of area of RMC

11. Beneficiary of the Project: Citizens of Rajkot & RMC officials

12. Problem statement or situation before the initiative:

The citizens of Rajkot were facing an issue of connecting with Rajkot Municipal Corporation (RMC) authorities for resolution of the concerns that they faced in the city or may be in the locality they lived in. Citizens did not have options to register their complaints through advance digital media, unlike at present. There were instances of the complaints of the citizens not being addressed or closed without any resolution. The citizens did not have the liberty to reopen the complaints in case of dissatisfaction in the resolution provided or no resolution provided by the officials of RMC. Also, there were no means to track one's complaint and estimate time of resolution once the complaint is registered.

With reference to all the reasons cited above, a huge lack of trust was created on the services of Rajkot Municipal Corporation amongst the citizens of Rajkot.

13. Project Objectives:

Rajkot Municipal Corporation (RMC) is one of the pioneers in providing enhanced citizen centric services to the citizens of Rajkot. RMC has been registering citizen grievances through their 24*7 call centre and through mobile application since long. However, concrete redressal system and assignment of the complaint to the concerned RMC official was required to be aligned in order to provide enhanced and timely services to the citizens of Rajkot. This view was envisaged considering the citizen satisfaction rate in prime focus. Considering the same, RMC intended to introduce enhanced citizen redressal system with major interventions such as auto-escalation of complaints, requirement of PIN from complainer to close complaints, feedback mechanism, option for reopening the complaints, random monitoring of processes, under it.

14. Project scope approach and methodology:

Given the problems faced by the citizens, assessment of their concerns, solution of seamless complaint booking system through Public Grievance Redressal System was envisaged by the RMC authorities. Re-routing of complaint was inevitable and need of the hour, given the fact that some of the complaints were not reaching to the concerned RMC staff for resolution.

There were instances of the complaints of the citizens not being addressed or closed without any resolution. The citizens did not have the liberty to reopen the complaints in case of dissatisfaction in the resolution provided or no resolution provided by the officials of RMC. Also, there were no means to track one's complaint and estimate time of resolution once the complaint is registered.

All the concerns in the previous Grievance Redressal Methodology of RMC were challenged and rectified in the new RMC Public Grievance Redressal System. RMC as an organization took care of the difficulties faced by Citizens as well as RMC Officials while designing this new system to make it a great success both for citizens as well as RMC Officials, with following interventions.

- Registration of complaints via Toll free number 18001231973 or RMC mobile application or RMC web portal or WhatsApp chatbot or ICCC.
- Assignment of complaint to the concerned official for the quick resolution of the complaint (Auto trigged SMS and notification in mobile application).
- SLAs are defined for each complaint type and if the resolution time exceeds the specified SLA, it will automatically be redirected to the superior authority
- Intimation of closure of complaint through SMS to complainant.

- Complainant is empowered with a facility to reopen their grievance, if he/she is dissatisfied with the resolution provided. This can be accomplished right from their mobile phone.
- Facility to share feedback against the closed complaints and further thorough analysis is carried out to ensure better citizen satisfaction
- Predictive Analysis based on number of complaints under various categories.
- Zone-wise, Ward-wise analysis to develop healthy competition amongst RMC officials and provide enhanced experience to the citizens.

At present, RMC is strengthening its decision-making processes by performing various analysis on the complaints received through this system, at regular time intervals. Analysis of complaints such as sources of complaints, type of complaints, location mapping of complaints, performance of different departments in resolving these complaints, analysis of feedbacks etc. provides different insights to RMC for delivering better services each day.

15. Result achieved/value delivered to beneficiary of the project and otherdistinctive features/accomplishments of the project:

Under the RMC Citizen Grievance Redressal System, Citizen can register complain of 29+ departments of RMC under 126+ defined categories.

The major impacts created under this project are as follows:

- The time taken to resolve the complaints within the SLA timeframe has reduced
- Resolution of on an average 88.55% of complaints received positive feedback from the citizens post the closure of the complaints. RMC is in efforts to boost this number with its quality services to citizens each day.
- Positive feedback rate is increased from 80% to slightly more than 89% in past one year.
- Resolution of on an average 11.18% of complaints received negative feedback from the citizens post the closure of the complaints. RMC is in efforts to reduce this number with its quality services to citizens each day.
- Negative feedback rating has reduced from 19.4% to slightly more than 10.76% in past one year.
- Complaint reopening rate has been reduced in past one year of this initiative. Only 10.93% of complaints are reopened in past one year.
- Number of complaints getting escalated into the hierarchy of RMC has reduced.
- Citizen footfall at respective zone offices / citizen civic centre has also reduced.
- RMC has started analytical framework whereby every week a detailed analysis is undertaken with respect to which ward is having highest number of complaints or which function or which department is having highest number of complaints. This analysis is reviewed in employee meetings and necessary instructions are passed to ensure corrective measures.

16. Future proofing/Longevity of the Project:

RMC is intending to integrate the RMC Grievance Redressal System with its Enterprise GIS Solution for better analysis and decision making. Also, RMC desires to undertake in-depth analysis of the complaints based on its type, category, location, department type, time of the year etc. to get clear picture of the root cause of the problems and find permanent solutions for the same. Basis the same, RMC also desires to find the problem prone areas in the city and take actions accordingly. And most importantly, RMC is looking into Predictive Analysis out of this initiative.

The trust and satisfaction of the citizens of Rajkot in Rajkot Municipal Corporation is the most significant long-term impact of this initiative. The permanent resolution of some chronic issues identified through this platform, overall reduction in complaints registered, reduction in turnaround time of satisfactorily closing the complaints and increase in positive feedbacks from the citizens are the desired long-term significance of this initiative of RMC.

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15. Video Analytics for Safety, Security and Compliance Applications

Sl. No.	Description	Write-up
1.	Name of the State/Ministry	Department of Administrative Reforms and Public Grievances
2.	Name of the host/owner organization	Indian Institute of Technology Bombay, Mumbai, India
3.	Status of the host/owner organization	Academic/Research Institution
4.	Name of the Project	Video Analytics for Safety, Security and Compliance Applications
5.	Name of the Nodal Contact Person	Prof. Ganesh Ramakrishnan, Institute Chair Professor
6.	Contact address	KReSIT, Department of Computer Science and Engineering, Indian Institute of Technology Bombay, Mumbai, 400076
7.	Telephone/Fax/e-mail	+91-22-25767901, +91-9619847728

8. Project Summary:

In today's age we see unprecedented increase in use of cameras for surveillance applications. However, for them to be really effective, they need an additional layer of intelligence. Further, monitoring cameras is a monotonous job and prone to human attention span error. Recent advances in Artificial Intelligence through Deep Learning have made this intelligence possible. However, they suffer from huge costs of training machine learning models and deployment. We have developed technology for efficient training of machine learning models and video summarization. Pivoting on that research we have developed video analytics solutions for security applications including real-time analysis such as intrusion detection, loitering detection, tracking (codenamed SurakshaVyuha, now being productized by our industry partner Ms. Srivisif AI Technologies Pvt Ltd as 3rdAI) and for post-facto analysis - text based video search (Jigyasa), summarization (VideoSummy and VISIOCITY). The National Centre of Excellence in Technology for Internal Security (NCETIS) https://rnd.iitb.ac.in/node/101506 has been strongly facilitating as well as promoting our work to the Indian Navy, Indian Army and Several state police forces. We have also developed video analytics for compliance and quality monitoring (named Dristi), a work with the Ministry of Rural Development, Government of India.

9. Date of Launch of the Project: 02 Febuary,2020

10. Coverage (Geographical): Pan-India

11. Beneficiary of the Project:

- Commercial orders from Navy for Suraksha Vyuha deployment (see https://www.cse.iitb.ac.in/~vidsurv)
- NCETIS (~ 1 Cr received) for SurakshaVyuha and Jigyasa (see https://www.cse.iitb.ac.in/~vidsurv)
- Paid deployment of Drishti at Ministry of Rural development (see https://www.cse.iitb.ac.in/~vidsurv)
- UP Police, Muzaffar Nagar Dist Police, etc. SPG, Delhi.

12. Problem statement or situation before the initiative:

The existing video analytics solutions were not effective because of use of AI/ML approaches that had extensive dependence on large amounts of labeled data and inability to operate in resource constrained (both compute and human) settings. As we explain later, we address these issues through our Data Efficient Learning (https://decile.org/) platform. Further, existing platforms lacked unified treatment of different flavors of video summarization like generic video summarization and query driven video summarization, and through our work VISIOCITY (https://visiocity.github.io/), we attempted to make video summarization more realistic.

13. Project Objectives:

One of the prominent uses of technology in today's world is deployment of smart cameras at various public places or within organizations with an intent to monitor safety, security and/or compliance. However, most solutions do not offer satisfactory results in terms of real-time analysis or in facilitating post-hoc analysis. For example, in the unfortunate event of a crime, the authorized personnel today have to manually go through hours and hours of footage to be able to get some clues. This is error-prone and becomes practically infeasible beyond a point. Through state of the art research, we have developed video analytics solutions that address some of these issues. Our Video Analytics softwares for security applications includes real-time analysis such as intrusion, loitering, tracking (codenamed SurakshaVyuha, now being productized by SrivisifAI https://www.srivisifai.in/ as 3rdAI) and post-mortem analysis - video search (Jigyasa), summarization (VideoSummy and VISIOCITY). The National Centre of Excellence in Technology for Internal Security (NCETIS) https://rnd.iitb.ac.in/node/101506 has been strongly facilitating as well as promoting our work to the Indian Navy, Indian Army and Several state police forces. We have also developed video analytics for compliance and quality monitoring (Drishti), a work with the Ministry of Rural Development, Government of India. Our solutions are powered by Deep Learning and Artificial Intelligence techniques. State of the art AI and Deep Learning approaches to Video Analytics are data hungry. These approaches incur significant resource cost (multiple expensive GPUs and cloud costs), training times, and bottlenecks of human labeling costs and time. Because of this, effective video analytics solutions were still not a reality. However, our novel subset selection approaches based on submodular optimization and their implementation in the SUBMODLIB library (https://github.com/decile-team/submodlib) allow for efficient training of machine learning models, helping overcome some main challenges in developing video analytics solutions.

SUBMODLIB also forms part of a larger data efficient machine learning platform https://decile.org/ that we have developed. Video summarization is another related technology which enables one to consume hours of video in minutes. It forms an essential component of a video analytics solution but is challenging to address in real-world settings. Through our benchmark VISIOCITY (https://visiocity.github.io/), we have attempted to make video summarization realistic yet objective. Pivoting on the above research and technology we have developed solutions for Video Analytics for Safety, Security and Compliance Applications that include real-time analysis (generating alerts) as well as post-hoc analysis (search in videos, video summarization) of surveillance videos (https://www.cse.iitb.ac.in/~vidsurv) along with compliance and quality monitoring in classroom videos.
Our USPs: Scalable architecture to support 1000+ Cameras | Modular architecture to accommodate hardware upgrades | On-Cloud, On-Premise and Hybrid deployment models | Continuous improvements in AI algorithms | Integration with existing solutions | Customer-specific use-case based workflows | Real-time Dashboards. Work in progress: Thermal Imaging | Coastal/Drone Surveillance | Person ReID | under Water Video Analytics | IoT

14. Project scope approach and methodology:

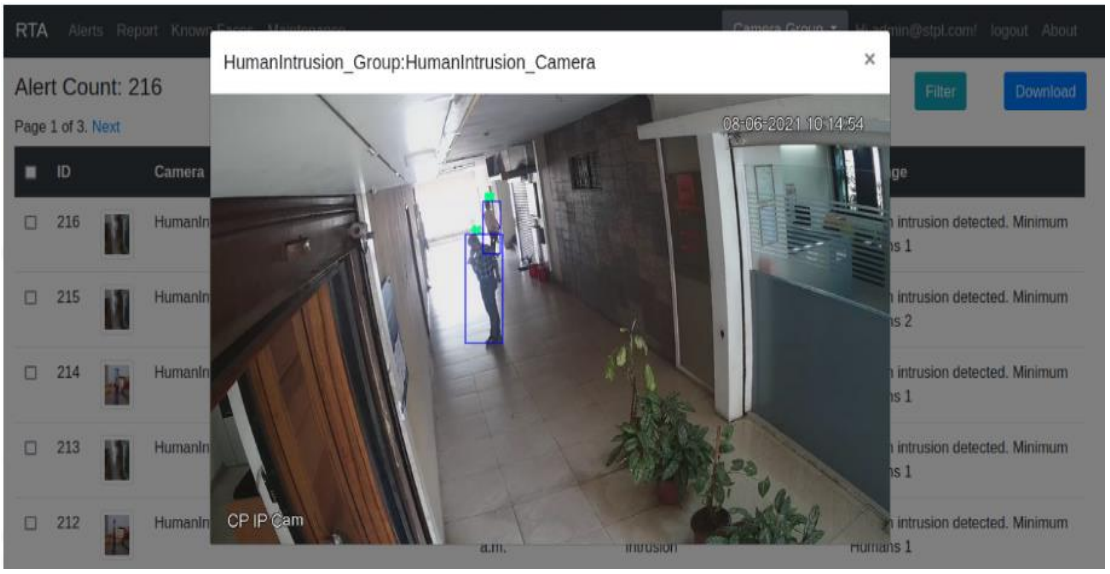
One of the prominent uses of technology in today's world is deployment of smart cameras at various public places or within organizations with an intent to monitor safety, security and/or compliance. However, most solutions do not offer satisfactory results in terms of real-time analysis or in facilitating post-hoc analysis. For example, in the unfortunate event of a crime, the authorized personnel today have to manually go through hours and hours of footage to be able to get some clues. This is error-prone and becomes practically infeasible beyond a point. Through state of the art research we have developed video analytics solutions that address some of these issues. Specifically, we have developed technology for efficient training of machine learning models and video summarization and used them for developing software solutions for real-time analytics (generating alerts) and post-hoc analysis (video search, summarization and compliance analysis) of surveillance videos (https://www.cse.iitb.ac.in/~vidsurv).

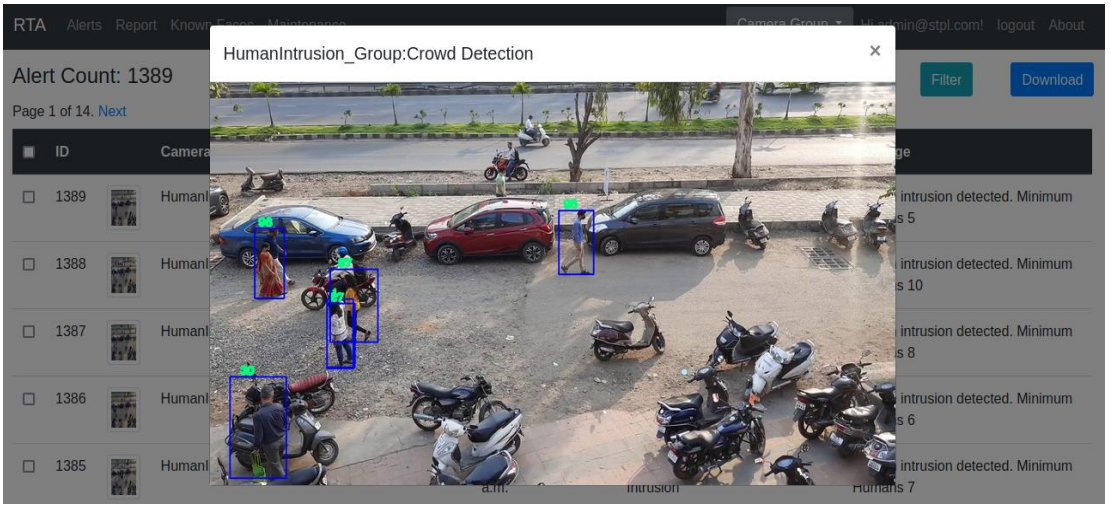
i) Efficient Machine Learning: State of the art AI and Deep Learning needed by Video Analytics are data hungry. This comes at significant cost including costly resources (multiple expensive GPUs and cloud costs), training times, and human labeling costs and time. Because of this, effective video analytics solutions were still not a reality. We have created a framework called Decile (https://decile.org/) which attempts to address this problem. Our novel subset selection methods based on submodular optimization (implemented in an open-source library called SUBMODLIB - https://github.com/decile-team/submodlib developed by us) allow for efficient training of machine learning models which is typically seen as one of the main challenges in developing video analytics solutions.

ii) Video Summarization: Video summarization enables one to consume hours of video in minutes. This serves as an essential component of a video analytics solution. However, video summarization technology today faces certain challenges making it difficult to apply it in real-world settings. Through our work VISIOCITY (https://visiocity.github.io/), we attempt to make video summarization more realistic. The VideoSummy software available for download from http://bit.ly/video-summy applies subset selection through submodular optimization to summarize videos.

Using the above research and technology, we have developed solutions for real-time analysis of videos (SurakshaVyuha), search in videos (Jigyasa) and compliance and quality monitoring in classroom videos (Drishti).

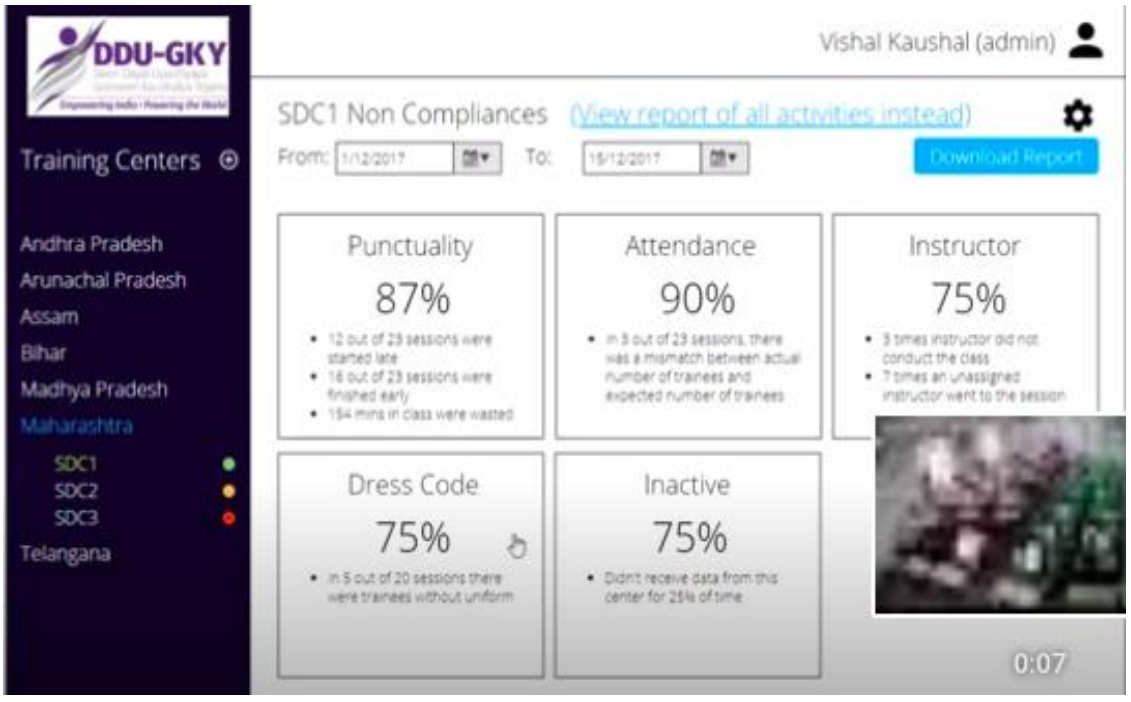
SurakshaVyuha: Surveillance cameras have emerged as a very effective and important aspect of security and monitoring. Unfortunately, however, their effectiveness in preventing a mishap is limited by the alertness levels of humans who are expected to monitor a grid of live feeds from many cameras 24X7. Since humans are not known for large attention spans, more often than not the mishap misses the eyes of the on-duty guards and the purpose is defeated. The recorded CCTV footage then at best serves to understand what happened, as a post-mortem analysis. We have developed SurakshaVyuha which would take-in live video streams coming directly from the cameras, analyze them for events like asset tampering or intrusion or loitering etc. and generate real-time alerts in form of emails or mobile notifications or visual flash on screen or audio. Details about installation, user manual etc. can be found at https://www.cse.iitb.ac.in/~vidsurv. This is an ongoing project, initiated by us in 2016, which got incorporated in 2017 as part of National Centre for Excellence in Technology for Internal Security and now being productized and promoted by our industrial partner Srivisifai Technologies Pvt. Ltd., a startup based out of Pune.





Drishti: Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), a scheme by the Ministry of Rural Development (MoRD), has set up a Compliance and Quality Monitoring System (CQMS) for monitoring and performance evaluation of various skill development centers across the country. We have developed Drishti solution to help CQMS by automated analysis of videos from the surveillance cameras installed at these skill development centers by leveraging state-of-the-art machine learning and computer vision techniques for video analytics. In particular, Drishti supports the following features to help achieve automated compliance check:

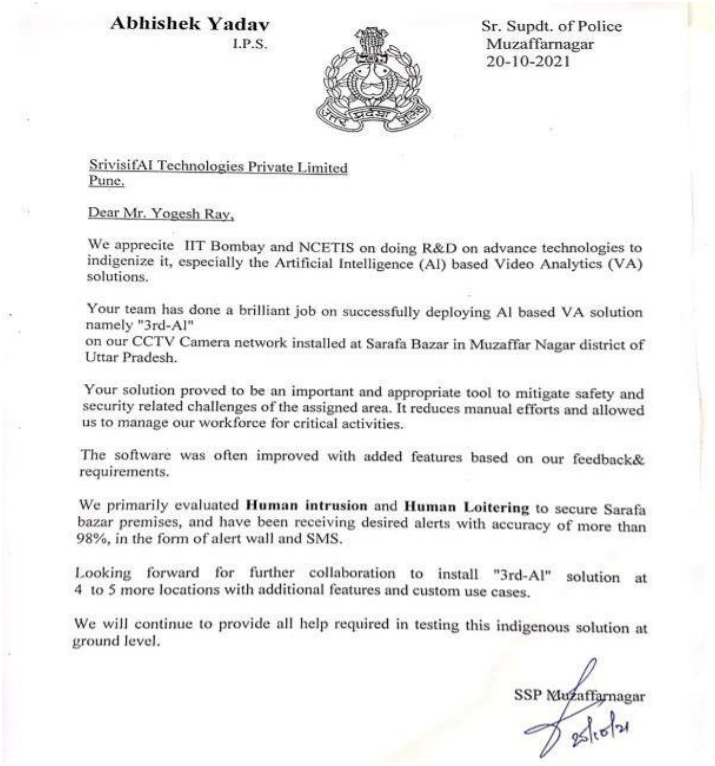
- Number of students in the class
- Number of students wearing DDU-GKY uniform (boys/girls) and not wearing uniform
- Instructor face recognition
- Video summarization to summarize a class video
- Detect how late a class started or how early it was dismissed



Jigyasa: As a first step towards security most organisations today deploy security cameras. The typical use involves pulling up stored videos and going through them in the light of a crime or an incidence. Unfortunately, the time and energy required to manually go through these past videos is proportional to the length of the video and is a cumbersome and error prone task. We have developed "Jigyasa" to address this problem. Jigyasa allows you to automatically analyse tens and hundreds of hours of stored videos and on-demand produce information that matters. For example, one can search for a person wearing a yellow shirt or occurrence of a particular person given his face image(s). A demo deployment can be accessed at https://www.cse.iitb.ac.in/~vidsurv.

15. Result achieved/value delivered to the beneficiary of the project and other distinctive features/accomplishments of the project:

a) Suraksha Vyuha for real-time video analysis: The product is built with the ability to ensure safety and security of citizens by facilitating real-time monitoring through alerts instead of having to go through tons of CCTV footage post-incidence. Besides its use in the IIT Bombay campus for surveillance, Covid recovery behavior compliance it has found use at Naval Dockyards, and is being piloted at various army and police establishments. The Video Summarization feature is characterized by the ability to summarize hours of videos into minutes. Ordinarily, finding an event between tons of videos is like finding a needle in a haystack. For example, if we know through eye-witnesses that a person wearing a yellow shirt was involved in the crime, our novel video search technology allows for searching for "person wearing yellow shirt" in hours of videos. Our technology also supports summarizing the videos even without any specific query by eliminating redundant information and retaining only what matters. This leads to efficient consumption of videos. Beside surveillance, another use case for summarization is to analyze the teacher behavior in classrooms by watching the summary of the classroom videos, *etc*. For more details, visit the benchmark VISIOCITY. (https://visiocity.github.io/). An example appreciation letter for this work from the Appreciation letter from Muzafar Nagar police can be found below.



Abhishek Yadav
I.P.S.

Sr. Supdt. of Police
Muzaffarnagar
20-10-2021

SrivisifAI Technologies Private Limited
Pune.

Dear Mr. Yogesh Ray,

We apprecite IIT Bombay and NCETIS on doing R&D on advance technologies to indigenize it, especially the Artificial Intelligence (AI) based Video Analytics (VA) solutions.

Your team has done a brilliant job on successfully deploying AI based VA solution namely "3rd-AI"
on our CCTV Camera network installed at Sarafa Bazar in Muzaffar Nagar district of Uttar Pradesh.

Your solution proved to be an important and appropriate tool to mitigate safety and security related challenges of the assigned area. It reduces manual efforts and allowed us to manage our workforce for critical activities.

The software was often improved with added features based on our feedback& requirements.

We primarily evaluated **Human intrusion** and **Human Loitering** to secure Sarafa bazar premises, and have been receiving desired alerts with accuracy of more than 98%, in the form of alert wall and SMS.

Looking forward for further collaboration to install "3rd-AI" solution at 4 to 5 more locations with additional features and custom use cases.

We will continue to provide all help required in testing this indigenous solution at ground level.

SSP Muzaffarnagar
20/10/21

b) Drishti for compliance and quality monitoring: Our unique dashboard built on top of the video analytics solution can provide a 360-degree view of the compliance status of various remote centers. For example, in a skilling programme like DDU-GKY, the Government wants to ensure that the training is being imparted by the third partner implementing agencies in compliance with the laid down SOPs. This technology is being piloted at the various skill development centers of the DDU-GKY scheme under the Ministry of Rural Development.

Our solutions have benefitted citizens in the following ways:

- enhanced safety and security of citizens - police and other law enforcement agencies now have a tool to get alerted of untoward incidents in real-time
- better monitoring of adherence to covid norms
- better resolution of citizen queries in the event of a crime/mishap - through the summarization-based video search technology
- One of the solutions is instrumental in taking the Ministry of Rural Development's DDU-GKY skilling programme to greater heights by providing an automated compliance and quality monitoring solution. This in turn has accelerated unemployed youth from rural areas to get skilled and become employable.
- enable safety of humans by analyzing proximity to hazardous equipment and thus avoiding accidents in real-time
- Video analytics reduces significant manpower deployment for the road traffic management agencies, such solutions not only help security agencies but also helps every individual to follow rules which in turn reduces threat to human lives.

16. Future proofing/Longevity of the Project:

In terms of continued engagements, we have had the following impact of the project:

- The demo of our compliance and quality monitoring solution to MoRD led to a commercial engagement between MoRD and IIT Bombay.
- The beta deployment at Naval Dockyard was successful leading to a commercial contract.
- In the words of Director, IIT Bombay, "The solution has also been effectively used on the IIT Bombay campus during the COVID-19 Pandemic for contact-tracing, physical distancing, etc. We believe that 'Surakshavyuh' will play a catalytic role towards the 'Make-in-India' initiatives.
- The solution has got encouraging feedback from other places where POC/alpha deployment was carried out including an Indian Army Brigade in Poonch Sector, Assam Rifles and Mumbai Port Trust (MPT)
- Appreciation letter from Muzafar Nagar police to our industry partner SrivisifAI Technologies after using our solution.

Other longer drawn engagements for social good with internal security forces include:

- Missing person detection: The aim is to help reunite the lost and found people with their families, identify rescued people & match them with the database of missing person by using technologies such as Face Recognition, Biometric, Speech Recognition, Speaker verification, matching unique marks on the body to aid the process of identifying missing person
- Natural Language processing (Text Analytics) to correlate & match description against the appearance of the rescued person

- Mobile application to collect details of the rescued person and develop AI backend system to match & validate the identity
- AI modules to anticipate & augment changes in the face / biometric / speech periodically
- Recommend Next Best Action (NBA) to the officials

The ability to automatically analyze videos either for safety, security or compliance has far reaching consequences. We see this happening along different dimensions:

- Evolution of technology for more advanced core capabilities: today we are able to analyze videos for people and objects. Going forward, it will also be useful to analyze actions and eventually context. Such rich insights from videos can be instrumental to not only delivering the above-mentioned services better but in also enabling newer use cases which can change the way people do their day-to-day activities
- Applications in different sectors - There is a great potential use of video analytics technology as developed in improving operations in the manufacturing sector (for example, monitoring the efficiency of people working on machines), health care sector (for example, monitoring patient care), banks (for example, security in ATMs) etc.
- Integration of video analytics systems with other smart agents and IoT devices to enable end-to-end workflows which were not possible until now
- Videos can be seen as data. However, data in itself is not useful until we can get useful information out of it. That has been the focus of our efforts so far - to extract useful information from videos. However, going forwards, it will help the Government and citizens even more if we are able to further extract “knowledge” from information and eventually “wisdom” which essentially is actionable insights. Ability to draw actionable insights from videos will be the next big enabler for many things going forwards.

With the help of our industry partner SrivisifAI Technologies Pvt. Ltd. we are working on improving the product by adding more functionalities and making it more scalable. To increase the scope of impact of our solutions we are also in the process of discussions with

- Uttar Pradesh Police - conducted two online workshops for two hours each (July 2020 and August 2020) with ADG Mr. Asim Arun and a group of IPS Officers. One district is using it for 2 years and our industry partner is going to participate in the tender for Integrated command control center during 2023.
- CISF - A technology demonstrator version developed by IITB was shared initially. A half-day workshop was conducted in August, 2019, at their facility. The first version of the RTA solution was provided in July’ 21. They have recommended our solution for Delhi Metro to DMRC and a field trial is going on.
- SPG at PMO and IB (MHA) - Engagement started after Police Exposition in July, 2019, at Delhi. A technology demonstrator version developed by IITB was shared initially. The first version of the SurakshaVyuh solution was provided in April’ 22. Updates are being shared periodically. They have been running and testing all the analytics with a major focus on Face recognition.

Video link relevant to the project:
https://drive.google.com/drive/folders/1Ucuy0WTqh6khgYZKqwiPLxSKy0rdrQxl?usp=sharing (drive containing several videos relevant to the project)

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16. Intelligent Grievance Management System (IGMS)

Sl. No.	Description	Write-up
1.	Name of the State/Ministry	Department of Administrative Reforms and Public Grievances (DARPG)
2.	Name of the host/owner organization	IIT Kanpur
3.	Status of the host/owner organization	Autonomous higher education and research institute
4.	Name of the Project	Intelligent Grievance Management System (IGMS)
5.	Name of the Nodal Contact Person	Nisheeth Srivastava
6.	Contact address	Dept of Computer Science, IIT Kanpur
7.	Telephone/Fax/e-mail	7518832384/nsrivast@iitk.ac.in

8. Project Summary

The IGMS leverages semantic search technology to enable users to automatically detect themes and topics in the set of grievances being received by any nodal agency, in any geography, during any period. This facility permits further downstream capabilities, such as automated root cause analysis, filtering of spurious grievances, classification of grievances by severity or urgency, development of emergency warning and dispatch systems, etc.

9. Date of launch of project: 15 February 2021

10. Coverage (Geographical): India

11. Beneficiary of the Project: All Indian citizens

12. Problem statement or situation before the initiative:

Public grievances are potentially a gold mine of information for governance. Citizens' view of governance services is frequently at odds with the view that even the most well-meaning administrators have of their systems. Common sources of delays, typical opportunities for graft and superfluous requirements bedevil several such systems, and public grievances frequently contain pieces of information that pinpoint such suboptimal structures within individual governance units.

Grievance management for Central Government schemes has been successfully migrated online by the Department of Administrative Reforms and Public Grievances (DARPG) through their CPGRAMS

system, resulting in significantly greater access to the public grievances system for citizens, and inevitably, a steep increase in the volume of grievances being received via CPGRAMS.

While grievance management has moved online, each grievance still only constitutes a single individuated record, with summary information across grievances only accessible to administrators with insuperable manual effort. Therefore, digitization has not led to any significant improvement in holistic or summary insights being generated from public grievances.

Advances in machine learning has made it possible to algorithmically identify the gist of documents, compare the similarity of the contents of two different documents across differences in phrasing of the content, and identifying important entities specified in a document and their relationship with each other automatically. DARPG recently partnered with our team at IIT Kanpur and DARPG to develop a cutting-edge grievance analysis system that leverages these new machine learning technologies in service of acquiring better insights from public grievances relevant for all Central Government departments.

13. Project Objectives:

A problem was posed to the IIT Kanpur team by DARPG in very broad terms asking “can we use artificial intelligence to improve the quality of information available from public grievances”. Over a series of meetings, our team was able to convert this general expectation into a concrete problem: retrieving grievances by matching their semantic gist with the retriever's intent, as expressed via natural language queries. Once this basic research outcome had been validated by our team internally, we proceeded to build a web-based application that would enable meaningful root cause analysis by administrators of the primary drivers of public grievances for specific nodal offices and schemes of the department. This application is currently deployed and being used within all GoI Departments on an NIC cloud node. Additionally, we used supervised learning to automatically mark spam and repetitive grievances in the live stream of grievances received from the CPGRAMS database, as well as identify bulk email campaigns. Further, we used multi-label learning methods to automatically route map grievances to appropriate government offices based on their content and multi-class learning to learn department-specific priorities for emails to escalate for human oversight or follow up.

The main objectives in the project were:

- Filtering out spam and repetitive grievances automatically from the stream of grievances received by all Departments of GoI.
- Automatically routing grievances to the appropriate nodal agency based on the content of the grievance
- Automatically identifying high priority grievances from the stream of grievances being routed automatically for manual oversight and follow-up
- Developing interfaces for performing root cause analysis of the sources of grievances within a department

- Doing all these things with multilingual support for Indian languages
- Developing a working system to be deployed for all GoI departments

14. Project scope approach and methodology:

Regarding the planning and steps followed for implementation of the project, the team deployed the following capabilities in the solution we delivered to the Ministry.

- We developed algorithms to group grievances into themes and identified spatio-temporal patterns within these themes. To this end, we used topic modeling techniques that are popular for analyzing large text collections. Topic modeling techniques model each piece of text in the collection as a mixture of themes/topics. Loosely speaking, a “topic” is a group of similar words that tend to co-occur often. Topic modeling techniques discover these topics using statistical methods.

  In our context, this naturally helps in automatically assigning grievances (a piece of text) into (possibly multiple) groups/topics without requiring human intervention. This also helps in assessing which types of grievances are more prominent and yields a numeric feature representation of each grievance (a set of numbers representing how much each topic is manifested in a grievance).

- Given such a topic-based representation of grievances, we also developed supervised learning statistical models to predict the seriousness or urgency of grievances. This model is trained using analyst inputs, and continually improves over time.
- We developed variants of our topic models to identify trends in grievances over time.
- We developed supervised learning models for predicting spam and frivolous grievances based on operator annotations.

All these models were deployed using a web-based application modelled as a combination of the Gmail inbox and Google’s search page, permitting operators to ignore spam and frivolous grievances, expedite the processing of urgent grievances, and search for grievances using natural language queries.

15. Result achieved/value delivered to beneficiary of the project and otherdistinctive features/accomplishments of the project:

In the new system, analysis of grievances takes the form of formulating natural language queries in a search engine, e.g., 'PMJAY problems', which automatically retrieves all grievances reporting problems with PMJAY, across variations in keywords, languages used, and details of complaints. Further specialized queries can be used to drill down further into the root causes of problems, e.g., 'PMJAY delay in reimbursement', 'PMJAY illegal use', etc. Such queries retrieve grievances that reflect the semantic intent of the query, whether the individual keywords match text in them or not. Additionally, these queries can be filtered by space and time, permitting officials to ask questions of the form "open corruption related grievances in Chhapra in the past three months", or "need for medical oxygen in North Delhi in the past 24 hours" etc. Thus, the system can function both as a post

facto analytic device as well as a real-time warning system. This technology enables a revolutionary re-envisioning of how information can and should flow in a modern bureaucracy.

As per the qualitative feedback from the beneficiaries, Grievance redressal times have dropped at the Department of Defense, and multiple actionable insights have been discovered for policy-level and implementation-level changes. Considering these encouraging results, this system was accelerated for adoption in the PM's office at the behest of the PM's Principal Secretary, as well as for speedy adoption across all Government departments via the central public grievances department, DARPG. It is expected that all government departments will be using this system in some form by the end of 2023.

Using the AI-enabled public grievance analysis and management system, for example, Ministry of Defence officials have acquired a completely new capability within e-governance; the ability to perform root cause analysis. For example, Ministry officials searching for recruitment related problems found that a very large fraction of such grievances appeared to involve delays in sending appointment letters after selection to selected candidates. A more refined search for such delays further enabled them to identify the source of the problem to recruitment in the Military Engineering Services (MES) in early 2021. Follow-up with the relevant Directorate identified the actual reasons for the problem, resulting in early resolution. Similar process reengineering exercises are currently underway in 9 other Ministries, using the IGMS tool as the basis for generating root causes analyses hypotheses.

16. Future proofing/Longevity of the Project:

IIT Kanpur and DARPG are currently discussing ways of extending the scope and term of our engagement, considering the rapid pace of developments in large language models emerging in the past few months. Since the IGMS system uses transformer-based embeddings as the basis for its semantic comparison capabilities, newer and more advanced architectures of this nature are expected to further improve its capabilities, and therefore, IGMS is expected to receive significant upgrades over the next few years. Additionally, while IGMS offers a technological paradigm shift in terms of the visibility of information within the governmental bureaucracy, organizational transformation of processes within the bureaucracy are also needed to benefit from the new affordances that the technology has enabled. DARPG and IITK are identifying possible methods for scaling up adoption of the system across departments and use cases by a combination of UI/UX changes to have the system conform to user expectations, and improving users' understanding of the system's capabilities via training. In view of the Prime Minister's strong advocacy for the use of artificial intelligent in the management of public grievances, we expect this exercise to continue until IGMS is mainlined into the processes of GoI departments.

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17. Trinetra: Integrated Command and Control Center (i3C)

Sl. No.	Description	Write-up
1.	**Name of the State/Ministry**	Gujarat Police
2.	**Name of the host/owner organization**	Office of DG & IG of Police,1st Floor, Secrot-18, Gandhinagar, Gujarat
3.	**Status of the host/owner organization**	Gujarat Police
4.	**Name of the Project**	Trinetra: Integrated Command and Control Center (i3C)
5.	**Name of the Nodal Contact Person**	Mr. Narasimha Komar, IPS Chairman Task Force on VISWAS & Addl. DG of Police (Law & Order)
6.	**Contact address**	Office of DG & IGP, Gujarat State, Police Bhavan, 1st Floor, Sector-18, Gandhinagar
7.	**Telephone/Fax/e-mail**	Telephone: 079-23254252 Fax: 079-23246329 Email: taskforce.sasguj@gmail.com

8. Project Summary:

Trinetra - Integrated Command and Control Centre has been envisaged to be the brain for state operations, exception handling, and disaster management. Trinetra has been set up under VISWAS Project in Police Bhavan campus, Sector-18, Gandhinagar which has CCC infrastructure and other amenities such as Video Wall Room, Conference Hall, Data Analysis Centre spread across 3 Floors. The building has been set up in approx. 280 Square Meters of ground area with approx. 1050 Square Meters of total build up area.

Trinetra is the 'Integrated Command and Control Centre' (i3C) for 7000+ CCTV Cameras, 10,000 Body Worn Cameras and 15 Drone Cameras in the State. The cameras from poles, cameras worn on the uniform of Police Officers and Drone Cameras from the Sky serve as ‘Third Eye’ of Police giving Force Multiplier Effect.

Trinetra with extensive camera network spread across the state, video analytical tools and a team of trained engineers has increased the capabilities of police to keep surveillance over criminal activities, post incident investigation, traffic management and enforcement.

It is the first of its kind initiative where a unified platform has been created through its different layers and components that access the feeds from Drones, Body Worn Cameras (BWC) & Edge Location CCTV collated the data for 360 Degree analysis & pro-active decision making.

It has made streets safer for women, children, and senior citizens and improved Road Safety in Urban Centers. The project has made a major impact on Public Safety & Security in Gujarat State.

9. Date of launch of project: 01 April,2021 (The date of launch of reward and recognition program)

10. Coverage (Geographical): The project has its coverage in all 34 District Headquarters along with 6 tourist/pilgrimage places and Statue of Unity, Kevadiya of Gujarat State.

11. Beneficiary of the Project:

- **Citizens:** Sense of Safe & Secure environment, Reduction in crime, Improved traffic conditions, Act as a deterrent to criminals, better traffic management at the time of hosting of important events (Political rallies, National / International events, etc.), Improved citizen behavior in public places, Protection to public / private properties, Improved citizen handling by Police forces, Improved Business conditions due to secured environment.
- **Police Department**: Improved Traffic Management & Control (Efficient detection of traffic law violations), Deterring and detecting crime, Proactive Monitoring, Identify & apprehend offenders, Providing evidence for criminal and civil action in the courts, Efficient & effective Policing, Better crowd management & control during big rallies & events, Identification of miscreants during any aggressive demonstration /riot situations, etc.
- **Policy makers**: Centralized viewing & monitoring, Disaster management in case of any natural /manmade catastrophe, Proper planning & deployment of resources (Human, Road Infrastructure, etc.)
- Improved decision making, better management of important events (Political rallies, National / International events, etc.), Better implementation of punitive measures

12. Problem statement or situation before the initiative:

- **Collaboration challenges across the ecosystem**
  - Multiple silos of various video-based surveillance and e-Governance Projects.
  - Inadequate use of the full capabilities of the technological infrastructure where initiatives are delivered in isolation & minimal evidence of continual improvement
- **CCTV operations focused on reactive processes and manual interventions**
  - The most public safety CCTV operations remain focused on reactive processes. CCTV cameras now boast many advanced features, and the video footage they capture is usually recorded and archived – but is only subjected to analysis if warranted by reports of an incident, after the event.
- **Limited ability to share data across functions or other organizations**
  - The major challenge for today's public safety CCTV systems is that their ability to share data across functions or other organizations is very limited.

- The ability to transfer video evidence seamlessly between different public safety agencies is difficult because of legacy systems non-standard installations, interoperability, ownership etc.

13. Project Objectives:

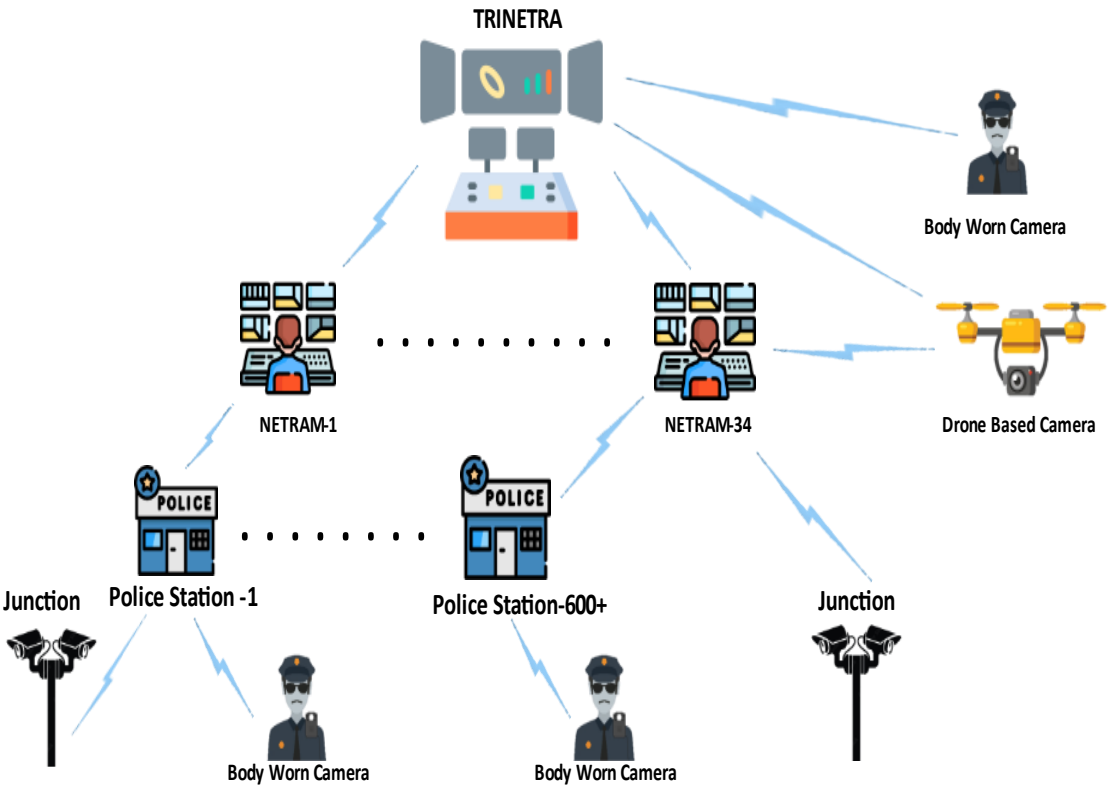
- Increasing the situational awareness by providing insights using data from district level command control centers (Netrams) across the State,
- Standardizing response protocol at city level through institutionalization of standard processes for recurring events, issues and exigency scenarios.
- Enhancing collaboration across multiple departments within and outside urban local bodies and government bodies.
- Institutionalizing data driven decision making for regular operations and during crisis across the state – right from operators to city/state administrators.
- Engaging with on field support staff to address civic issues and citizen grievances.
- Supervisory & Advisory for implementing proactive approach of Urban Mobility & Homeland Security
- Centre of Excellence for Multi-Technology co-ordination like Body-worn cameras, Drone, Anti-Drones, Video Synopsis & Video Analytics, e-Challan, ITMS etc.

14. Project scope approach and methodology:

- Trinetra- Integrated Command and Control Centre is the centralized monitoring station of Gujarat State. Current running multiple projects in state needs to be integrated with each other on the unified platform. Therefore, M/s. Gujarat Informatics Ltd. was appointed as Technical Consultant and Task Force on VISWAS having representatives from Gujarat Police, Home Department, Govt. of Gujarat; S&T Department, Govt. of Gujarat and GSPHCL, other stake holders were constituted for smooth implementation at the field level.
- A joint effort was made for carrying out survey, project architecture, preparation of Notice Inviting Tender including specification and Scope of Work, scrutiny of tender documents, drafting of contracts, service level agreements etc.
- We had Integrated various video-based projects like Drones, Body Worn Cameras, and Edge location cameras on a unified platform created at the Integrated Command & Control Center-Trinetra; Further we have been reached out to different agencies working for different projects & different organizations (DsT /GIL/ SDC/ Home Dept.) to encourage them to agree to share their video and other data on the platform by opening up opportunities to expand the available information and the benefits delivered over time
- We had deployed Integrated Traffic Management System (ITMS) with ANPR, RLVD, SVD cameras across the traffic junctions for Photo-based e-challan generation which leads to less face-to-face interaction between police & citizen encouraging remote law enforcement. This system results in more transparency and reduced corruption in Law enforcement. Hence this can Boost digitization in law enforcement.

- Further, we had developed a web-based E-Challan Portal & Mobile application working on both android & iOS platforms for online payment through internet banking, debit card, or credit card through a payment portal linked to Cyber Treasury. In addition, there is an option of Over the counter (OTC) payment at the 66+ police stations designated by the districts.
- We have identified how CCTV video data can be integrated, stored, and analyzed in combination with the various technological intervention like CCTV Camera with edge location infrastructure, Body Worn Cameras, Drone Cameras & Advance Analytics.
- We had designed a scalable data platform to support collaboration and information sharing, initially emphasizing high-impact use cases that will deliver benefits to public safety, and building support, buy-in and momentum both across the police department and among the public.

- **Network Architecture of Trinetra**:



Methodology:

- The agile project management methodology over traditional waterfall project management methodology Adopted in this project, as traditional approach has no flexibility to cope up with frequently changes. We have specifically used Kanaban boards in our Trinetra project to reduce waste and increase transparency while quickly addressing stakeholder's ever-changing needs.
- In the Trinetra Implementation we had followed the hybrid agile project management; This signifies the ability to move something forward in a quick way that allows easy changes of

direction. So, in our project, the five attributes of agility that form the building blocks of our Agile process are:

- Transparency
- User acceptance
- Adaptability
- Sense of Ownership (Effective Leadership)
- Continuous Improvement

- Further, we had used the tools like a kanban board, which is used to visualize all the work that's being done. A kanban board is structured into columns and lanes that deliverables pass through on their way to completion. Deliverables in the To Do column until the WIP limit allows for the next task to be worked on. That's really help us to maintaining our backlog, it helps teams to achieve our long-term goals by continually adding and removing items based on the team's long-term capacity and Continuous Improvement.
- We have adopted IT Project Management Practices to ensure timely delivery, installations, testing and operationalization of systems. A number of activities such as training of police officers, developments of standard operating procedures (SOP), securing clearances from various agencies etc. were taken up parallelly to avoid delay.
- A project consultant was appointed for various activities such as Contract Management, standard operating procedures (SOP) & Training.

15. Result achieved/value delivered to beneficiary of the project and otherdistinctive features/accomplishments of the project:

- **Traffic Management & Enforcement:** Gujarat State is the 3rd highest urbanized state in the country with extensive road network. It poses a major challenge for ensuring mobility and road safety in urban centers. We were relying on Traffic Police for Traffic Management and Enforcement and were often facing criticism for inefficiency of the system. However, the introduction of Trinetra has helped in State wide Traffic Management & Law Enforcement using Sate of the art integrated platform which combines Intelligent Traffic Management System, Body Worn Cameras and Drone based camera system Introduction of body worn camera bring more transparency which resulting in reduction in corruption and police highhandedness.

- **Increase in Public Safety:** The Trio of Video based surveillance system left no stone untorn in efforts of Gujarat Police towards Public Safety. The limitation of edge based CCTV Cameras can be overcome by Body Worn cameras and it further expand the horizon and capabilities with the help of the Drone Camera System. Trinetra provides complete surveillance and monitoring station covering all the Gujarat State. If a suspicious person or item is detected during surveillance, the proper authorities can stop any crime from being committed using inter-departmental co-ordination. In addition, the area can be cleared of any people as a precautionary measure.

- **For Prevention, Detection, and Investigation:** Crime happens when four things come together: a law, an offender, a victim or target, and a place. Environmental criminologists examine the fourth element -- place (and the time when the crime happened). Trinetra helping to endorsing 'Situational Crime Prevention' (SCP) theory. The SCP is the name given by criminologists to crime

prevention strategies that are aimed at reducing the criminal opportunities which arise from the routines of everyday life. Such strategies include 'hardening' of potential targets, we are improving surveillance of areas by Trio (CCTV, BWC & Drone) and deflecting potential offenders from settings in which crimes might occur. Trinetra is capable with advanced Video Analytics, which helps in detection and post incident investigation of Crime

- **Better Evidence:** The Trinetra is capable to fetch video feed that captures a crime can be used as evidence against the accused during court proceedings. Without the footage, there may be little to no evidence to go on and the offender could go free. In many cases, the footage helps prove the innocence of a person who is accused of a crime but did not commit it.
- With the deployment of ITMS and e-Challan System, Total 17,74,849 e-Challan issued worth Rs. 63,91,39,200 as on 17/05/2023, out of that approx. 52.75% e-challan amount is already recovered. E-challan Payment became more transparent and easier by using online Payment portal & Mobile app.
- 2500+ person arrested
- 17 Cr+ stolen property recovered
- 1700+ criminal cases solved
- 5600+ cases like hit and run/accident, kidnapping/ missing, post incident investigation, theft/robbery/chain snatching have been investigated by using Trinetra as on 17/05/2023.
- The use of Technologies has resulted in 10.1% increase in the detection rate of robbery/raid, an increase of approximately 8.27% in the detection rate of all theft cases and an approximately 1.52% increase in the arrest of accused of riots/riots cases in the state in 2022 w.r.t 2018.
- As a result of CCTV Camera based Traffic Management System installed under VISWAS project and other effective road safety measures, the number of road accidents in the state has decreased by approximately 16.07% in 2022 as compared to 2018. During this period, injuries due to road accidents decreased by approximately 13.60% and deaths by approximately 4.72%.
- During Post Incident Investigation, Video Footage is presented as forensic evidence before the competent court.
- Having CCTV cameras in public places is helpful in creating deterrence against criminals and creating a sense of safety and security among the public.
- People got aware about road safety and road usage behavior of people is also improved.
- Observed impact of BWC Systems are many few of them listed below:
    - Capturing of truth: Body worn camera helps in capturing the incident as it happened in the specific place.
    - Manage evidence efficiently: The evidence captured with the help of Body Worn Camera has all the logs.
    - GPS Location: The evidence captured with Body worn Camera has GPS tagging.

- Speedy justice: Evidence recorded by Body worn camera can be submitted in the court of law.
- Transparency in operations: Due to clear audio and video recording it is having complete transparency.
- Officer safety: It helps the officer to capture the audio and video evidence from a safe distance.

- The Drone Camera system gives a bird eye view & holistic picture to take a wise decision based on evidence & data, that's helps the Gujarat Police in effective & efficient management of the operations like:
  - Crowd Management, Law & Order Management
  - Vital Installation Security
  - Border & Coastal Security
  - Disaster Management
  - Search Operations
  - Traffic Management
  - VVIP Security
- **Accomplishments of the project:**
  - VISWAS Project has been awarded SKOCH GOLD Award 2019 for governance in the category of Public Safety & Security.
  - VISWAS Project has been awarded Governance Now Award 2020 in the state category of Digital Transformation.
  - VISWAS Project has been awarded Smart Cities India Awards 2021 in the category of Safe city.
  - VISWAS Project has been awarded Runner-up award Project of the Year 2021 in the category of Contributing to the community
  - Trinetra has been awarded SKOCH GOLD Award 2022 under the category of Police & Safety.
  - Trinetra has been awarded National e-Governance GOLD Award 2022 under category of Excellence in Adopting Emerging Technologies.

16. Future proofing/Longevity of the Project:

The project has 3-componenets; CCTV Camera with edge location infrastructure, Body Worn Cameras and Drone Cameras with Broadband Connectivity linking the infrastructure to form a complete solution. The architecture is such that it can scale based on futuristic need bases. The system can accommodate and integrate additional CCTV Cameras/ Body Worn Cameras/ Drone Cameras and Video Analytics. The project designed keeping the requirements of Law Enforcement Agencies while some of the features are useful for other agencies of Govt. of Gujarat.

- Increasing 10,000+ new CCTV camera under VISWAS Phase-II Project

- Increasing 5,000+ new Body Worn Cameras Project
- Increasing 6+ new Drone based Camera System
- Adoption of Advanced Video Analysis and Synopsis tools and Artificial Intelligence (AI) and Machine Learning (ML) based hotspot mapping solutions
- Integration with Various Smart Cities
- Integration with Multiple Systems: Dial-100, e-GujCop Database and ICJS Application: for prevention, detection and investigation of criminal cases.
- Drone Traffic Police and Drone Training Centre: for the regulation of the Drone Rules, 2021 and enforcement: security zoning, co-ordination with Air Traffic Control, crash investigation, Drone Forensics etc.

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18. North Eastern Spatial Data Repository (NeSDR)

Sl. No.	Description	Write-up
1.	**Name of the State/Ministry**	North Eastern Space Applications Centre (NESAC), Department of Space, Government of India
2.	**Name of the host/owner organization**	North Eastern Space Applications Centre (NESAC), Department of Space, Government of India
3.	**Status of the host/owner organization**	Government of India, Department of Space
4.	**Name of the Project**	North Eastern Spatial Data Repository (NeSDR)
5.	**Name of the Nodal Contact Person**	Dr SP Aggarwal
6.	**Contact address**	Dr SP Aggarwal Director, NESAC, Umiam – 793 103, Meghalaya
7.	**Telephone/Fax/e-mail**	+91 3642570141/director@nesac.gov.in

8. Project Summary:

The project is taken up as per the directive of North Eastern Council (NEC)/Ministry of DoNER with the objective to establish a single window spatial data visualization and sharing gateway pertaining to the North Eastern region of India. NeSDR is a hub for geospatial big analytics that brings the centre's massive computational capabilities to address a variety of high-impact societal issues including deforestation, disaster, disease, food security, water management, climate monitoring and environmental protection. It is unique in the field as an integrated platform designed to empower not only traditional remote sensing scientists, but also a much wider audience that lacks the technical capacity needed to utilize high end cloud computing resources. The basic aim is to reduce the duplication of efforts by various departments for generating the same set of data, to provide analytical decision support platforms, intelligent monitoring mechanisms, gap analysis as well as overall planning and management of government processes. Platform consists of multi-terabytes of analysis-ready data that has been cataloged and co-located with a high-performance computation service. The NeSDR Geoportal hosted at https://www.nesdr.gov.in is populated with 1392+ geospatial products pertaining to land, water, administrative, terrain, action plan, infrastructure, weather and climate, utilities, disaster support inputs of NE states etc.The data has been regularly used by more than 35 major Government Departments including Agriculture, Forest, Urban, Mining, District Administrations, State Disaster Management Authority (SDMA) and various academic and research institutes. NeSDR also facilitates hosting of governance applications developed by NESAC for various user departments of NE region.

9. Date of launch of project: 11 November,2020

10. Coverage (Geographical): Entire North Eastern region

11. Beneficiary of the Project:

About 35 major departments (State/Central) from different sectors in the region are the primary beneficiaries of the NeSDR. A total of 25 responsive and unique dashboards and 25 smart Mobile Apps developed by NESAC are hosted under NeSDR platform.

12. Problem statement or situation before the initiative:

The absence of platform for data search and discoverability for timely access of interoperable and critical spatial data service led to ineffectiveness of available data usage and in turn creates more data duplicity. Due to lack of awareness, the availability of relevant geospatial data is not known to the users for their planning activities. Further, there was no single geospatial platform or hub for performing geospatial analysis, where user can visualize, query and run analytical services on-the-fly for smart and quick decision making in governance process. They need to invest huge fund for generation of geospatial data and many of the officials are not trained on operation of geospatial software. Many departments generate same set of data of same region due to lack of awareness which leads duplication of efforts and financial investments. In addition, the planning and monitoring of developmental mechanisms were not found effective considering complex terrain and weather conditions of NER. There is no automation in the overall workflow, the evaluation and monitoring process is very tedious as there a lot of efforts are required. Traditional remote sensing and GIS analysis requires standalone geospatial software used for management, statistical retrieval of data, and their visualization based on thematic areas, but not effective for leveraging the power of large geospatial data catalogue to perform analytics in spatial domain and cross querying on multiple factors associated with it. One major hurdle is in basic IT management: data acquisition and storage; parsing obscure file formats; managing databases, machine allocations, jobs and job queues, CPUs, GPUs, and networking; and using any of the multitudes of geospatial data processing frameworks. This burden can put these tools out of the reach of many researchers and operational users, restricting access to the information contained within many large remote-sensing datasets to remote-sensing experts with special access to high-performance computing resources.

13. Project Objectives:

The salient objectives are

- Development of single window platform for spatial data repository & discovery, visualization & analytics and cart-based data sharing on demand
- Development of indigenous architecture enriched with emerging technologies such as artificial intelligence (AI), machine learning (ML), deep learning (DL), internet of things (IoT) including computer vision (CV) for user defined processing of geospatial big-data on the fly.
- Development of hosting environment for Governance Applications of various Government Departments.
- Outreach and capacity building programme for effective utilization of geospatial data and services in governance process.

14. Project scope approach and methodology:

The Space Technology deliverables have been effectively harmonized with the most advanced ICT tools and services in a service-oriented architecture (SOA) in the form of an interactive Web-based spatial decision support system (SDSS). NeSDR platform is built on a collection of open-source technologies that are widely used within the geospatial domain such as python-based Django framework, ReactJS, Postgres database. An innovative web browser-based solution has been developed for geospatial analytics on the ingested data by combining the OGC WMS standard visualization with cloud computing capabilities.

The platform consists of 3 major components.

- Custom Web Map Server/ Tile Map server for on-the-fly computation
- Catalogue server for cataloguing geospatial datasets
- Model catalogues for geospatial data processing

The web processing component is implemented using python programming language (Django framework). The processing framework consists of a library of a large number of functions, which range in complexity, from simple mathematical operations to powerful geo-statistical, machine learning, and image processing operations. Analytics platform is also enabled with tools to compute statistics on the computed results along with the capability to download the computed results. Web based raster calculator is also implemented and made accessible via a simple and easy to use user interface, to enable users to perform custom band math operations. Data layer hosts analysis ready data for the users.

It is securely accessed and controlled through an Internet-accessible application programming interface (API) and an associated web-based interface that enables rapid processing and visualization of results. The data catalog houses a large repository of publicly available geospatial datasets, including observations from a variety of optical and non-optical based remote sensing satellites that captures data under different thematic categories such as environmental, weather, land cover, topographic and socio-economic etc. Users can access and analyze data from the public catalog using a library of operators provided via respective APIs. These operators are implemented in a large parallel processing mode, providing high-throughput analysis capabilities. A number of case studies on usages of AI/ML/Dl/IoT/CV are being implemented and operationalized for strengthening the governance process in the region. Thus, it is now becoming a single source of geospatial data and analytic hub catering to all the departments and Ministry with linkages with various Governance Applications on top of NeSDR.

15. Result achieved/value delivered to the beneficiary of the project and other distinctive features/accomplishments of the project:

NeSDR is currently populated with more than 1392+ geospatial products which are found extremely useful for the user departments. The cart-based data delivery on demand has been found very effective among the user departments including other stakeholders. Geo-Analytics of NeSDR with more than 800 datasets with powerful geoprocessing platform is the major achievement of the project which incorporates a range of AI/ML/DL analytical tools. The application is designed to analyze the satellite images on-the-fly and produce the result as OGC compliant WMS. The bulk of

the catalogue is made up of Earth-observing remote sensing imagery, including the archive of MODIS and INSAT datasets pertaining to NER along with certain cloud free scenes of LANDSAT and Sentinel-2. It also includes weather forecasts, land cover data and many other environmental, geophysical and socio-economic datasets. The analytics platform is built on an open-source stack and other enabling technologies that are widely used within the geospatial domain through user-friendly UI. The Geo-processing framework consists of a library of a large number of functions, ranging in complexity from simple mathematical operations to powerful geostatistical, machine learning and image processing operations. The platform has various modules for disseminating output of research and applications for various thematic areas like; vegetation monitoring system using long term vegetation index datasets, monitoring air quality using AOD (aerosol optical depth) products from Satellite images, assimilating rainfall from INSAT satellite data, forest fire analytics using night light images, identifying the flood-affected areas using near-real-time flood inundation.

NeSDR integrated with effective Governance applications with analytical decision-making tools and services has brought vital changes in the citizen-centric governance services. The NeSDR data has impacted many organizations and departments in terms of their planning and developmental activities. So far, about 35 major departments from different sectors in the region are the primary beneficiaries of the NeSDR database. As of date, a total of 25 dashboards and 25 Mobile Apps for Governance Applications have been developed for a number of Government User Departments for various citizen-centric services. Election e-ATLAS for the Office of Chief Electoral Officers (Manipur, Tripura, Sikkim, Nagaland), Smart AXOM App for ASDMA, Govt. of Assam, Fever Tracker App of ICMR-RMRC-NE etc. important citizen-centric Governance applications has been developed and operationalized using NeSDR data. It also reduces the huge cost of the departments; which was incurred earlier due to data duplication and lack of awareness. It has been reported speedy implementation of the projects including the remotest corner of the region, proper utilization and funds, and timely submission of utilization certificate (UC) for the overall growth of the region.

16. Future proofing/Longevity of the Project:

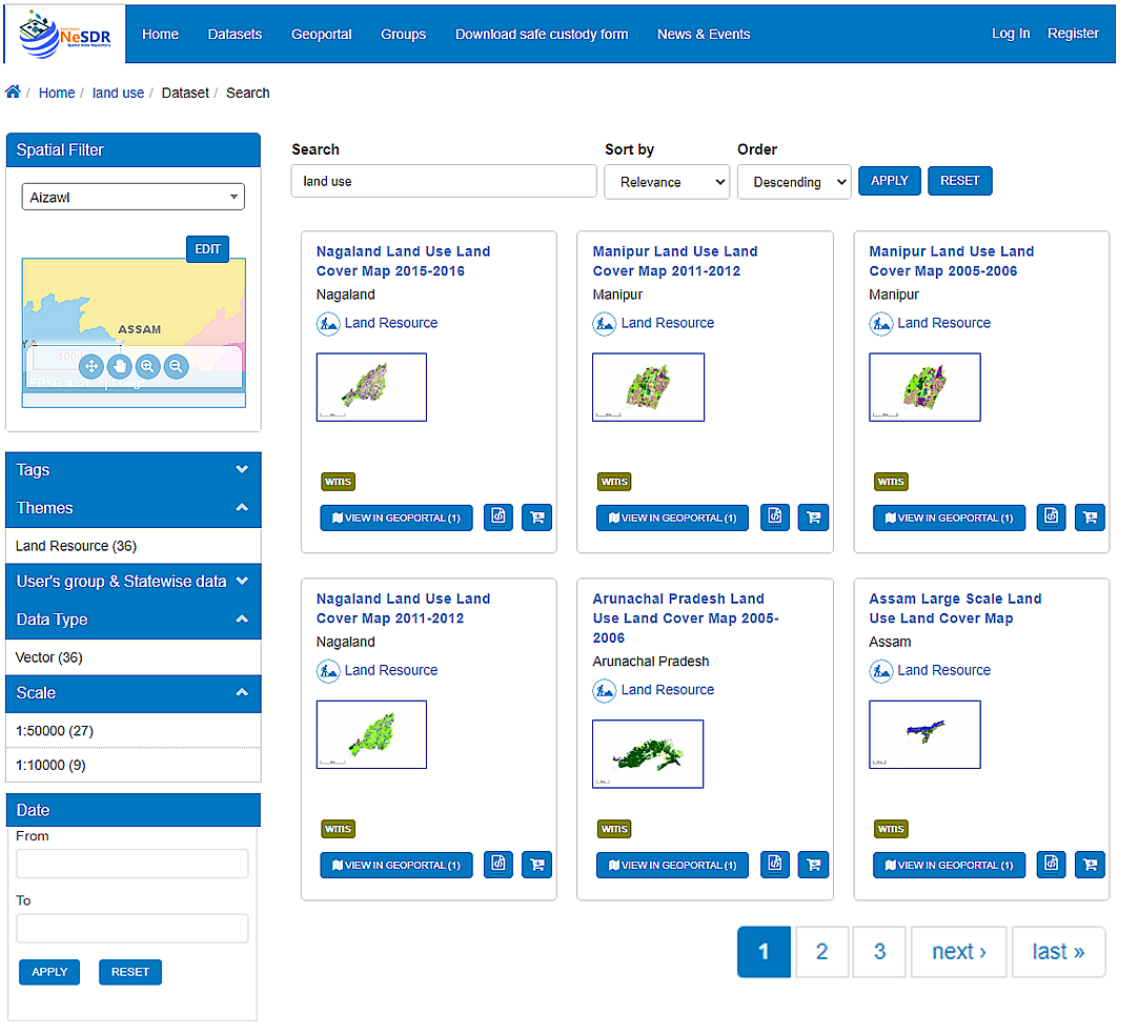
Various challenges and lessons were learnt from conceptualizing the whole NeSDR framework from data cataloging to data delivery and building tools to meet various demands of the diverse users. Considering the challenges in seamless data crawling and archival from state remote sensing agencies, a centralized mode of data repository was chosen for better utilization of the repository's data and to create numerous e-Governance tools. The choice of metadata was based on NSDI Metadata standards to describe the data efficiently and helps in data search and discovery. The software needed to be scalable which must accommodate newer functional requirements based on dynamic needs of the users and diverse data formats. Open-source tools with OGC standards were found to be effective for data service and exploration. New challenges were also faced for handling big geospatial on-the-fly analytics. The Cloud Optimized Geotiffs were chosen as raster data formats for internal tiles data storage with overviews for better and on-demand retrieval of data based on AOI.

The continuous availability of remote sensing derived datasets will continue to benefit the region for ongoing planning and monitoring activities. The NeSDR platform will remain a critical platform for search and discovery of these datasets effectively and efficiently. With the opening of the space sector to public and private sector enterprises, there is expected to be a huge increase in data

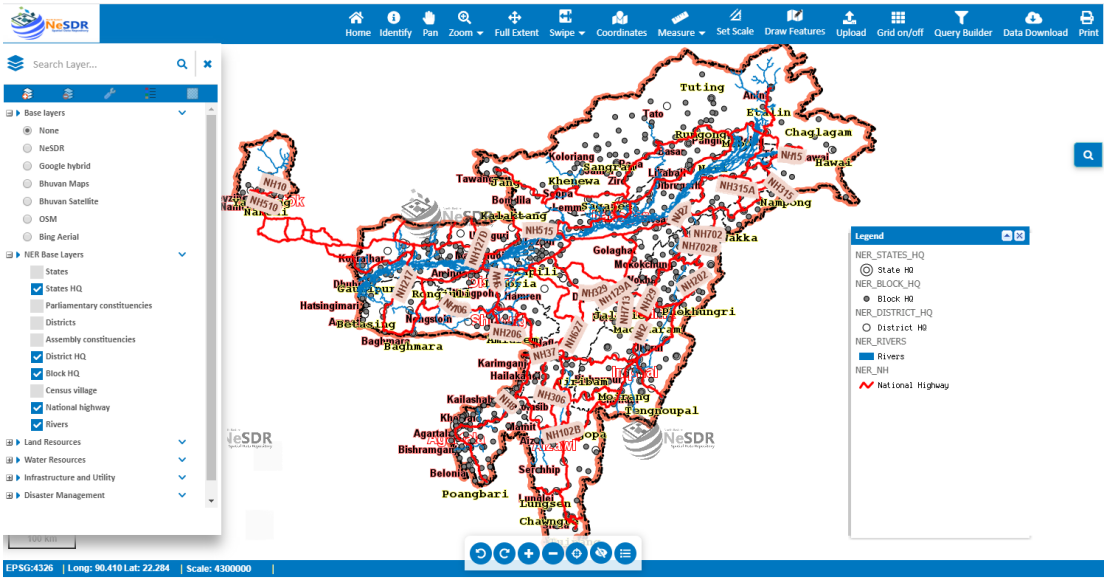
generation and consumers in diverse areas. The datasets and tools available with NeSDR will also make value additions to PM-Gati Shakti activities for planning at different areas for enhanced and fast developmental pace in the region. The emerging tools in AI/ML will further be upgraded to suit future needs of data and customized application access.

There has been increasing demand for relevant geospatial data in various scale, format, and resolution for informed and integrated problem solving by various departments. These data must be accompanied with powerful yet user-friendly applications so that they can use it for overall decision making. To meet these demands, the following points have been considered as future roadmaps:

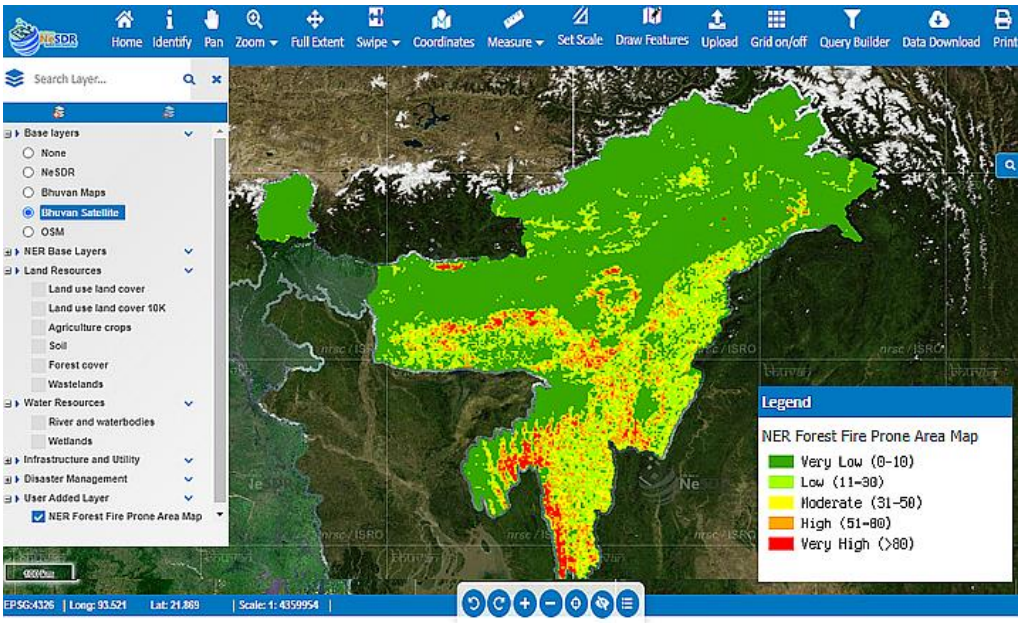
- Availability of up-to-date diverse forms of geospatial big data in different resolution, scale and formats
- Addition of more user-oriented and demand based geo-analytics for larger user departments
- Adoption of newer emerging tools for better delivery of service with efficiency
- Increase development of governance solutions to target diverse user groups
- Replication of NeSDR in other states with due customization to suit their needs.



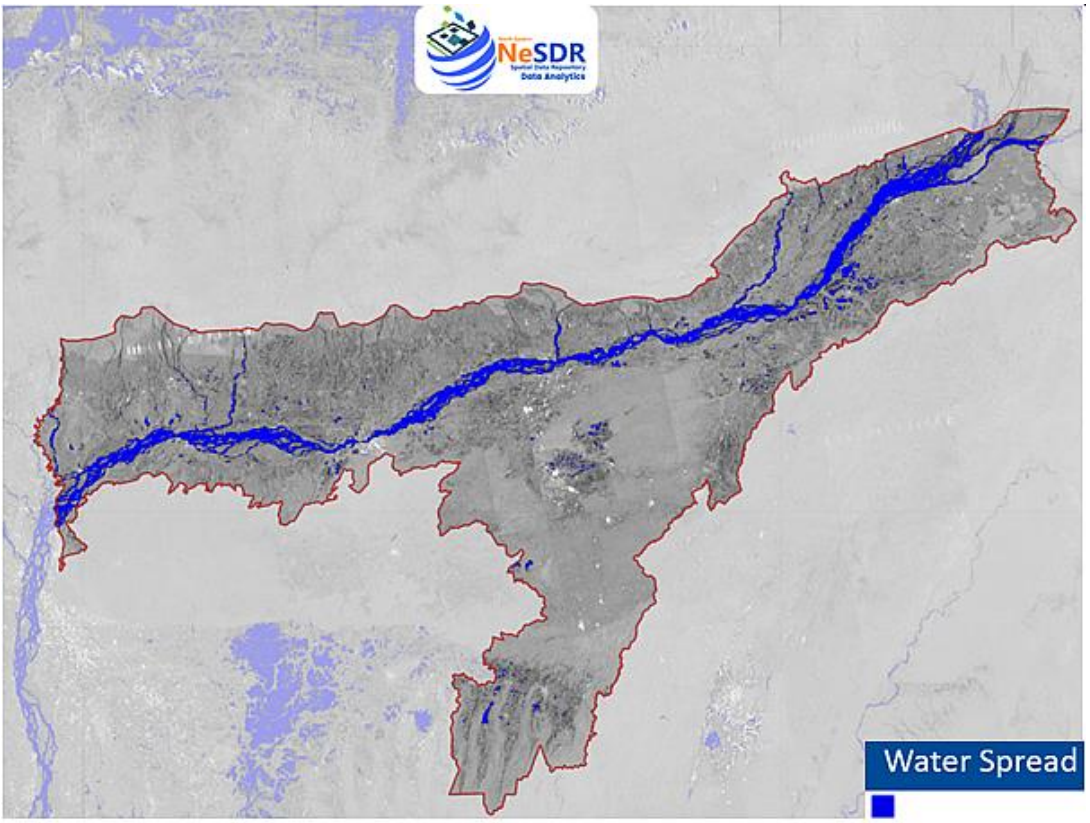
NeSDR data discovery panel: User can search any thematic data via keywords and can apply state-wise, theme-wise, scale and date filters in the search option.



Visualization of National Highways and rivers with Administrative Head Quarters



NeSDRMapViewer showing the forest fire-prone area of NER



Waterbody extraction by dynamic thresholding on Sentinel 1 Imagery of May 2022 using NESDR analytics platform

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DEPARTMENT OF
ADMINISTRATIVE REFORMS
& PUBLIC GRIEVANCES

आज़ादी का अमृत महोत्सव

Department of Administrative Reforms & Public Grievances, Government of India