

Ministry of Electronics & Information Technology Government of India

# Overview and successful projects of ITE&C Dept.

### Govt. of Andhra Pradesh

#### MeitY's Azadi Ka Amrit Mahotsav Week Nov 29<sup>th</sup> – Dec 5<sup>th</sup> 2021



November 2021



Information Technology, Electronics & Communication Department (ITE&C Dept.) Govt. of Andhra Pradesh

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# ITE & C Dept Government of Andhra Pradesh - Overview



# ITE & C Dept – Key wings (1/2)



#### Andhra Pradesh Technology Services (APTS)

- A wholly-owned Government Company under ITE&C Dept
- CERT-in Empaneled, ISO 9001:2005, ISO 27001:2013 Certified - AP State Cyber Security Operations Center
- Aadhaar AUA-KUA Services to all Government
  Departments
- e-Procurement & e-Auction (https://tender.apeprocurement.gov.in/)
- Infrastructure Projects APSWAN, APSDC, AP Secretariat Campus Area Network
- https://www.apts.gov.in/

#### • Key Offerings to other states:

- Cyber Security Assurance, Monitoring and Capacity Building
- AUA KUA Services

# **Pragati**

#### e- Pragati

- Society of GoAP which supports the areas of e-Governance and digital transformation.
- aims to provide integrated citizen centric services for various departmental processes and welfare schemes undertaken by the Government.
- Adopts the best principles of Enterprise Architecture
- 7 Missions: Primary, Social Empowerment, Skill Development, Service Sector, Industry, Infrastructure and Urban Development.
- 5 Grids: Power, Water, Fibre, Road and Gas.
- 5 Campaigns: Agriculture, Education, Health & Sanitation, Environment & Poverty Alleviation
- CM Dashboards, GSWS platform, Agri Marketing, YSR Matsyakara Bharosa, eChallan RTA
- https://e-pragati.in/
- Key Offerings to other states:
  - Enterprise Architecture implementation in Government Sectors

# ITE & C Dept – Key wings (2/2)



Andhra Pradesh Information Technology Academy. (APITA)

- APITA focuses on bridging the gap between industry and academia and demand driven innovative job creation initiatives.
- Develop and offer courses in IT, Electronics and Communications in collaboration with Industry and Academia.
- Bridge the urban rural divide in producing readily employable graduates.
- Collaborate with Industry, Educational and Research Institutions for the promotion and development of e-Governance.
- http://www.apita.ap.gov.in

#### Industry Academia Collaboration

- Oracle, Microsoft, SAP, Infosys, ISB, Auto Desk, IBM, National Instruments, AWS, DQ Entertainment
- 202 Engineering Colleges & 167 Degree Colleges in
  State are Registered



#### International Institute of Digital Technologies (IIDT)

- International Institute of Digital Technologies (IIDT) was established in 2016 at Tirupati by the Government of Andhra Pradesh.
- IIDT's Vision is to 'make Andhra Pradesh to be the preferred destination for Digital opportunities in India'
- IIDT's Mission is 'to create professionals, experts and entrepreneurs for the Digital future.
- https://www.iidt.edu.in/

#### Post Graduate Programme in

- Cyber Security
- Data Science
- Artificial Intelligence and Machine Learning



# Successful Projects

# 1. Grama Ward Sachivalayam



#### Government of Andhra Pradesh is committed to:

- Revamp delivery systems in the State
- Improve living standards of the people through the concept of "Navarathnalu" as core theme of governance.
- Ensure leak proof implementation of Government Programmes/ Schemes.
- Extend all Citizen Centric Services to Grama Panchayats & Wards
- Extend the Grievance Redressal System– Spandana to Grama Panchayats & Wards





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#### Core components of Grama/Ward Secretariat

- Buildings and other amenities
  - o Office furniture
  - o Internet Connectivity
- Human Resources
  - Volunteers (2.34 lakhs Volunteers are identified and selected.)
  - Department Functionaries @ Grama/Ward Sachivalayam like Digital Assistant, ANM, Police, Lineman, Social Welfare, Education Assistant, Village Revenue Officer (VRO), Food & Civil Supplies, Banking Correspondent (with PoS Device) and Grama/Ward Secretary.
- Hardware Computers, UPS, Printers, Smartphones, TABS, Bio-metric devices
- Software (Web Portal with various Dashboards, Mobile App 400+ Citizen centric Services, Grievance Redressal System – Spandana, Asset Management Software)
- Field operations agency(FOA) to conduct Training, Workshops, Coordinating and Monitoring Grama/Village Volunteers and Grama Secretariats
- Call center
- Permanent Aadhaar Enrolment Centers (PECs 500)

# Grama Ward Sachivalayam (3/6)

#### Volunteers roles

- Volunteers for delivering Government Services at doorstep of all eligible households.
- Attending to the process of identifying the eligible beneficiaries, among the 50 households under his/her jurisdiction.
- Bringing the grievances of Households to the notice of Village Secretariat for redressal.
- Distribution of Social Security Pensions.
- Door delivery of Ration
- Distribution of Ration Cards/ Aarogyasri (Health) Cards, house site pattas
- All types of Certificates (Caste, Nativity, Residence, Death, Birth etc.)
- Delivery of Sanction orders of Economic Support Schemes of various Corporations (SC/ ST/ BC/ Minorities Corporations/ APKVIB/ Industries etc.)









# Grama Ward Sachivalayam (4/6)

#### Spandana – A 24/7 Call Center working 365 Days a year.

- One-Stop public grievance redressal platform for the citizens of Andhra Pradesh. The grievances can be registered from various sources viz. GSWS, 1902 Call Center, Mobile App, Web Application, Collectorate grievance day (Spandana Monday).
- 1902 Spandana Call Center for general grievances
- Dedicated Call Center for all the public grievances including Navaratnalu scheme related grievances.
- 14400 Call Center for corruption related grievances
- A dedicated 24/7 Call Center to register the complaints related to corruption or bribe. The citizen details are kept confidential and will never be disclosed.
- 1907 Call Center for YSR Rythu Bharosa grievances
- A dedicated 24/7 Call Center to register the complaints related to Rythu Bharosa and agriculture.
- 14500 Call Center for sand & excise related grievances
- Dedicated Call Center to register the complaints related to sand and excise.



# Grama Ward Sachivalayam (5/6)

#### Spandana – Grievance redressal mechanism



Grievance can be registered from multiple sources and a unique " YSR# " (Your Spandana Request Number) will be generated for each grievance

Grievance will be assigned to the respective redressal officer

Redressal officer performs the necessary enquiry, action and redresses the grievance

Citizen can 'reopen' the grievance if not satisfied with the resolution and the same will be assigned to the higher authorities to redress the grievance

# Spandana grievances from 02-Oct-2020 to Till date (New Portal)



### Grama Ward Sachivalayam (6/6)

#### **Digital Libraries**

- 4,530 would be established in the first phase
- Rs 140 crore would be spent for providing basic amenities, computer equipment and other requirements
- Useful for graduate students apart from primary and secondary school students
- Material related to common entrance tests would be made available
- Three desktops, UPS, desktop barcode printer, scanner, laser printer, software, anti-virus software, unlimited bandwidth internet and minimum facilities

# **YSR** Village Digital Library



- Facility for 6 systems in each library
- A newspaper stand in each library
- The schedule will be completed by December 2022
- The total construction cost is 2000 crores

THE VILLAGE DIGITAL LI

- The estimated cost of each library is 16 lakhs
- Establishment of 20 seats in each library
- Construction on an area of 690 square feet



# Successful Projects

# 2. Unified Ticketing Solution (UTS)

(Andhra Pradesh State Road Transport Corporation – APSRTC)



#### 42 Lakh Kms Operated daily

12,000 buses



Online Reservation System 50,384 Seat transactions per day



Bus Pass Transactions(Issue/Renewal)

**9,000** Per day

62 Lakh passengers every day

85% revenue through Cash



**Offline Electronic Ticketing Machine** (in Bus)

**₹ 34.35 Lakhs** Passengers per day



Bus Pass Validations



Per day

# Unified Ticketing Solutions – IT Systems



#### Online Passenger Reservation System



Live Vehicle Tracking system



Electronic Ticket Issue Machines (TIMs)



Passenger Information System (Passengers can track the bus location)



Online Bus Pass issue System



Online Parcel booking System

# Unified Ticketing Solutions – Features



# Unified Ticketing Solutions – Earlier System Vs UTS



### Unified Ticketing Solutions – Earlier System Vs UTS





Manual Trip sheet submission after journey | Offline seat sale Manual Process

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Offline record of trip sheet



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Offline sale of available seats 4

#### Realtime, sanitized data sync | VTS | Online Sales and Larger Market share

Automated and efficient process



# **Unified Ticketing Solutions – Components**

- 1. e-POS machines capable to issue tickets, accept cashless payments, push GPS data and ticket transaction data.
- 2. Software for integrated solution to cover OPRS ticketing, Bus Pass, VTPIS, General ticketing.
- 3. Solution hosting on cloud environment, Data analytics and MIS reports.



# Unified Ticketing Solutions – Advance Online/Open Ticket Booking

#### APSRTC Online Portal/Mobile App/B2C - OTA Web Portals



Driver on-boards passengers by scanning ticket PIN or QR code

#### Legends:



### Unified Ticketing Solutions – In Bus Ticketing \_ Wallet

Bus Stop: Passenger boards the bus at the bus stop.



1. Driver enters journey details.

2. **Seat fare** & eWallet payment mode displayed on the driver app.

3. Customer also has option to pay through RTC's closed wallet through OTP validation

4. If driver app does not have internet connectivity cash tickets can be issued seamlessly.



### Unified Ticketing Solutions – In Bus Ticketing \_ UPI



Bus Stop: Passenger boards the bus at the bus stop.



 Driver enters journey details.
 Seat fare & UPI payment QR code displayed displayed on the driver app.
 If driver app does not have internet connectivity cash tickets can be issued seamlessly.

Legends:



Passenger notes the PIN and takes the seat.

### Unified Ticketing Solutions – Benefits for APSRTC (1/2)

APSRTC



Build a Scalable solution by using existing infrastructure. Integration of APSRTC Ticketing Services with Grama Ward Sachivayalam.



Realtime Perfromance monitoring



Staying relevant,

Go digital and contactless.

# Occupancy Ratio Improvement of 2% will lead to an estimated revenue increase of Rs.150 Crores per annum to APSRTC



**e-Wallet :** Boosts advance collections through recharges. For example: If 50 Lac passengers store ₹100 each, ₹50 Cr Working Capital gets added for APSRTC.





e-Bus Pass/Ticket Issue and Validation



Effective Staff Utilization for Ticketing which helps redeployment of Conductors to APSRTC Parcel Service Operations and other Govt. related activities. Estimated 12% reduction of cost of operation will lead to an estimated operational cost saving of Rs.102 Cr per annum to APSRTC

#### Unified Ticketing Solutions – Revenue Maximization



### **Unified Ticketing Solutions – Cost Reduction**





# Successful Projects

# 3. Samagra Bhu Survey

(Andhra Pradesh State Revenue Department)



# Samagra Bhu Survey – Land records Information in Andhra Pradesh

- Creation and maintenance of records/information relating to land and property ownership is done under the of four different agencies
- Survey Department: The Survey department maintains graphical record like Village Maps/FMBs and textual records in RSR/SFA/Diglot register etc.
- Revenue Department: Revenue Department maintains the records such as Pahani/Adangal, Record of Rights etc.
- Registration Department: It undertakes registration of deeds pertaining to transactions of lands, residential and other properties involving sale, Mortgage, gift etc.
- Local Bodies: Local Bodies maintain property registers for the purpose of collection of taxes.



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Most of the records earlier are obsolete and does not reflect the actual requirements of the people at present.

As per the public requirements on daily basis, continuous updating of the records is being done and maintained by the Depts. - Revenue, Survey, Registration and local bodies.

Each and every department works on stand-alone basis and thus, lacks coordination among the Depts. These result in that no single record has fulfill the complete title/ownership of the property of public.

Integration of Revenue, Survey and Registration Depts. is highly required because Survey before Registration and Registration before Mutations in the Revenue records is essential

The existing survey records viz., Village Maps, Field Measurement Books (FMBs) and Resurvey Settlement Registers were prepared basing on the surveys conducted during 1920s (Ryotwari villages) and 1952 to 1975. There is a huge gap between the textual and spatial data.

#### Maintenance of records:

- updated at the Village and Mandal levels but have not been updated for patta subdivisions while implementing the RoR Act during 1990s.
- mutating patta transfer cases in revenue records, RoR subdivisions were not implemented

#### Vulnerability of disputes:

- huge gap between the number of land holdings recorded in RoR and FMB due to non-updation of spatial data.
- record and maintain the distinct boundaries which must also be integrated with RoR and registered instruments.

#### Inconsistency of spatial and Textual data:

- 49 lakh FMBs
- Though the spatial and textual data is digitized and available online, there is no appropriate integration between these two data and the Registration process.
- The proof of possession is only Tax assessment registers maintained by the local bodies.

#### VISION

- Resurvey of every individual immovable property
- Issuing Title Certificate by assigning Unique Land parcel Identification Number (ULPIN).

#### **OBJECTIVES**

- Efficiency enhancement with the support of IT Environment
- Administer a system of recording conclusive Title, which is secure & enjoys public confidence
- Maintains a single source of truth
- Maintains real time data-Mirror Image of the ground
- Title Registration System
  - The Title holder alone can make transaction
- Provide integrated land related services
  - Through a unified interface, With efficiency and easy accessibility, In a cost effective manner
- Provide Value-added Services in areas like
  - Development planning , Welfare schemes , Land related taxes

### Samagra Bhu Survey - Methodology for Conducting Resurvey

- After 100 years, to facilitate for implementation of A.P. Land Titling Act, 2019, Resurvey of entire State has been proposed using advanced/Hybrid surveying technology by name Continuous Operation Reference Stations(CORS), Drones, GNSS (global navigation satellite systems) receivers and Blockchain.
- total estimated cost of Rs 987.46 crore
- survey completed in 51 villages on pilot basis
- Work going on in 700+ villages in Phase 1





# Samagra Bhu Survey – Advantages of Resurvey (1/2)

- Implement a transparent system of property valuation & land record management
- Develop and maintain a Geodetic Control Network for referencing maps
- Maintain all records in integrated digital form in a central repository
- Implement systems & processes for maintenance & auto-updation of data
- Anywhere and anytime transactions
- Establish a sustainable operating model
- A single window to handle land records, including maintenance and updation of maps, survey and registration of properties.
- Clarity over ownership status and these records will be tamper-proof using blockchain technology
- Real-time land ownership records will be available to the citizens.
- Since the records will be placed on the websites with proper security IDs, property owners will have free access to their records without any compromise in regard to confidentiality of the information.
- Greater ease of doing business in the sector, by making it simpler for the developers and buyers to check the authenticity of the land or the property

- The resurvey involves four main inevitable activities apart from the statutory procedures:
- Demarcation of boundaries: Practically, on ground there exist enjoyment bunds which are the limitation of land parcel and in addition to that there are bunds built for land, crop & water management. Only the ownership bunds shall be demarcated to record the land parcel as a legal entity. This should be conducted in presence of the land holders only.
- **Measurement:** Using any measuring tool, the demarcated boundaries shall be measured as accurately as possible. Both the positional as well as dimensional accuracy is required.
- Field Register: The attributes like lawful enjoyer (reputed ownership), extent, land parcel no., nature of enjoyment, crop details etc. corresponding to each land holding recorded in Adangal (land holding wise Register) shall be written. Though the Surveyor is not competent to decide the Pattadar, he/she shall ensure 100% accurate Registry.
- Mapping: After completion of field survey, land parcel map for each land parcel and the village map shall be prepared as per prescribed standards.

# Thank you

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