National Institute of Urban Affairs

UPYOG
Urban Platform for deliverY of Online Governance

Ministry of Housing and Urban Affairs
Government of India

आज़ादी का
अमृत महोत्सव

NATIONAL URBAN DIGITAL MISSION (NUDM)

Leveraging digital technology to improve urban governance

**National Urban Conference on the Communities of Practice
Nov 16-17, 2023**

Urban Service Delivery Ecosystem

Challenges in the Urban Ecosystem

Citizens	Municipal Employees	Elected Representatives	State Government Officers	Business and Industry
• Lack of Citizen centric processes; • Limited and inequitable access to online citizen service delivery.	• Weak Capacity / technical competence leading to procurement, delivery & adoption challenges; • Over dependence on few select staff / external consultants for day-to-day functioning and lack of innovation.	• Low visibility on current implementation status of various projects/schemes.	• Data lies in silos and lack of intelligent data across systems and departments to tap revenue potential / cost optimization and to drive responsive governance.	• Use of local, non scalable point solutions / proprietary systems leading to issues of vendor lock-ins, time & cost escalations, duplication of effort and resources, obsolete products.

Need to enhance Digital Urban Service Delivery

National Urban Digital Mission (NUDM)

A mission to support digitization of urban citizen services using shared digital infrastructure across the country.

National Level Platform
Ready to use, customizable IT platform – UPYOG (**U**rban **P**latform for Deliver**Y** of **O**nline **G**overnance)

Hand-holding Support
Cloud services, empanelled agencies, capacity building

Standards
Domain and tech Standards, API documents

Toolkits
Program Guidelines, dashboards, model RFP etc

- Mission launched in **Feb 2021** (₹ **96.5 Cr**)

- **No funding** to States /UTs **for rollout** of eGovernance.

- **31 States/ UTs** have **signed MOUs** post detailed engagement and as-is analysis.
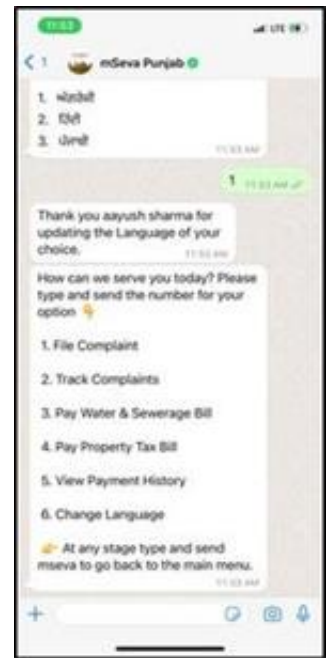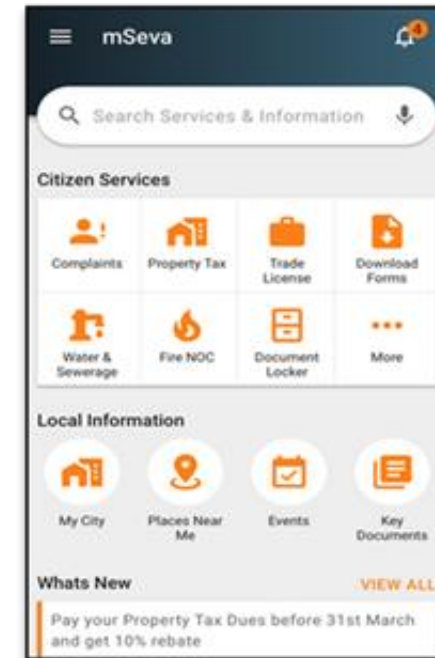
NUDM Components - UPYOG
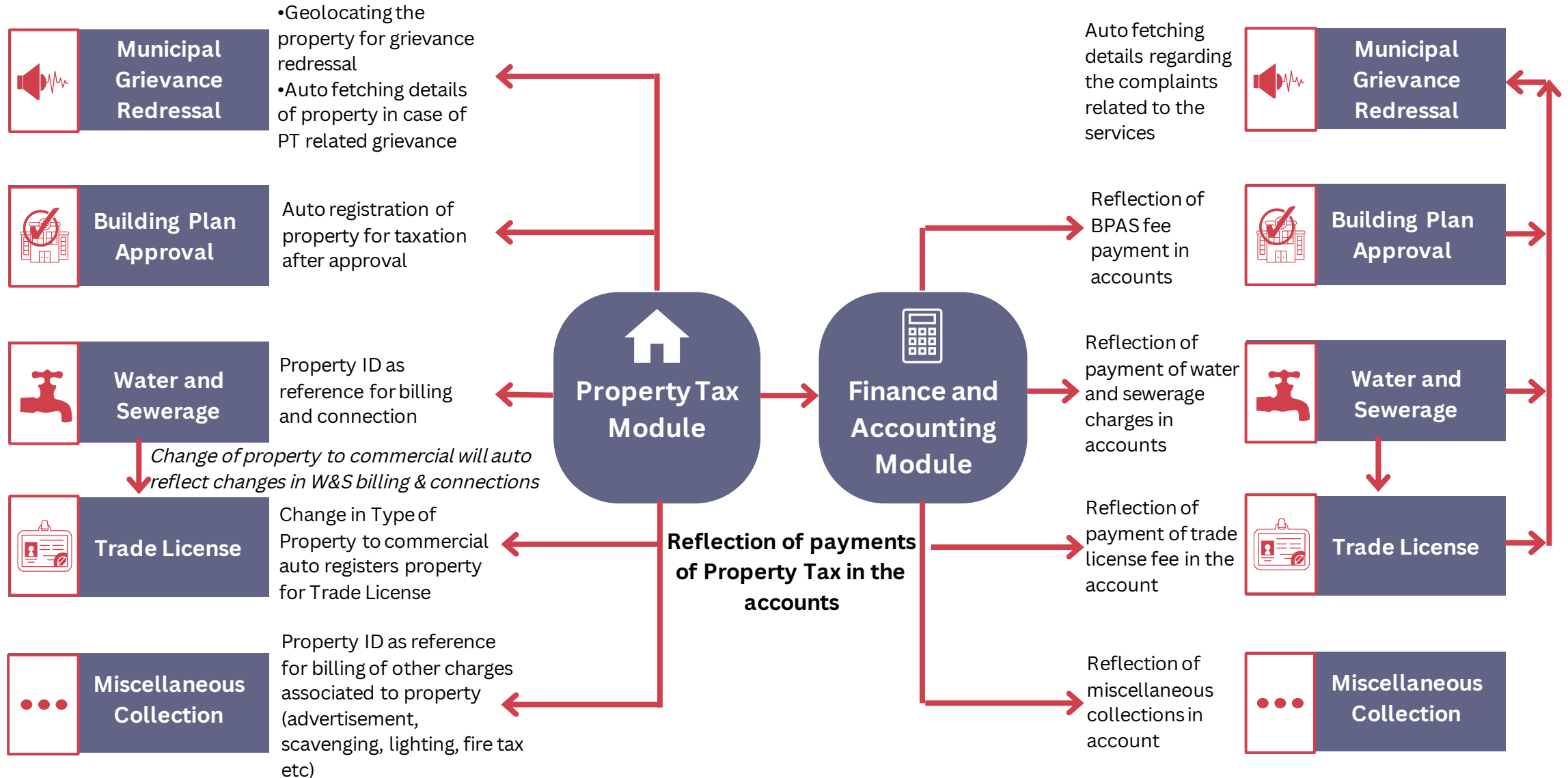
Reference E-Governance Services

- Property Tax Assessment and Payment
- Building Plan Approval
- Municipal Grievance Redressal
- Trade License Issuance and Payment
- No-Objection Certificate Issuance
- Water and Sewerage Connection Management
- Birth and Death Certificates
- NMAM Compliant Municipal Accounting and Finance
- Desludging Services
- Miscellaneous Collections

UPYOG is an open-source digital platform for e-governance

National, State / UT and City Dashboard

"ready-to-use" reference applications

UPYOG

Ready to use Mobile Apps & Website

Micro-services

Digital Public Infrastructure (DPI) as a set of shared digital systems to enable delivery of services at societal-scale.

NUDM Components – UPYOG – Connected Services

Municipal Grievance Redressal
- Geolocating the property for grievance redressal
- Auto fetching details of property in case of PT related grievance

Building Plan Approval
Auto registration of property for taxation after approval

Water and Sewerage
Property ID as reference for billing and connection

Change of property to commercial will auto reflect changes in W&S billing & connections

Trade License
Change in Type of Property to commercial auto registers property for Trade License

Miscellaneous Collection
Property ID as reference for billing of other charges associated to property (advertisement, scavenging, lighting, fire tax etc)

Property Tax Module

Finance and Accounting Module

Reflection of payments of Property Tax in the accounts

Municipal Grievance Redressal
Auto fetching details regarding the complaints related to the services

Building Plan Approval
Reflection of BPAS fee payment in accounts

Water and Sewerage
Reflection of payment of water and sewerage charges in accounts

Trade License
Reflection of payment of trade license fee in the account

Miscellaneous Collection
Reflection of miscellaneous collections in account

UPYOG Components – Micro-services

Micro-services help integration, quick launch and development of new processes rapidly and at large scale

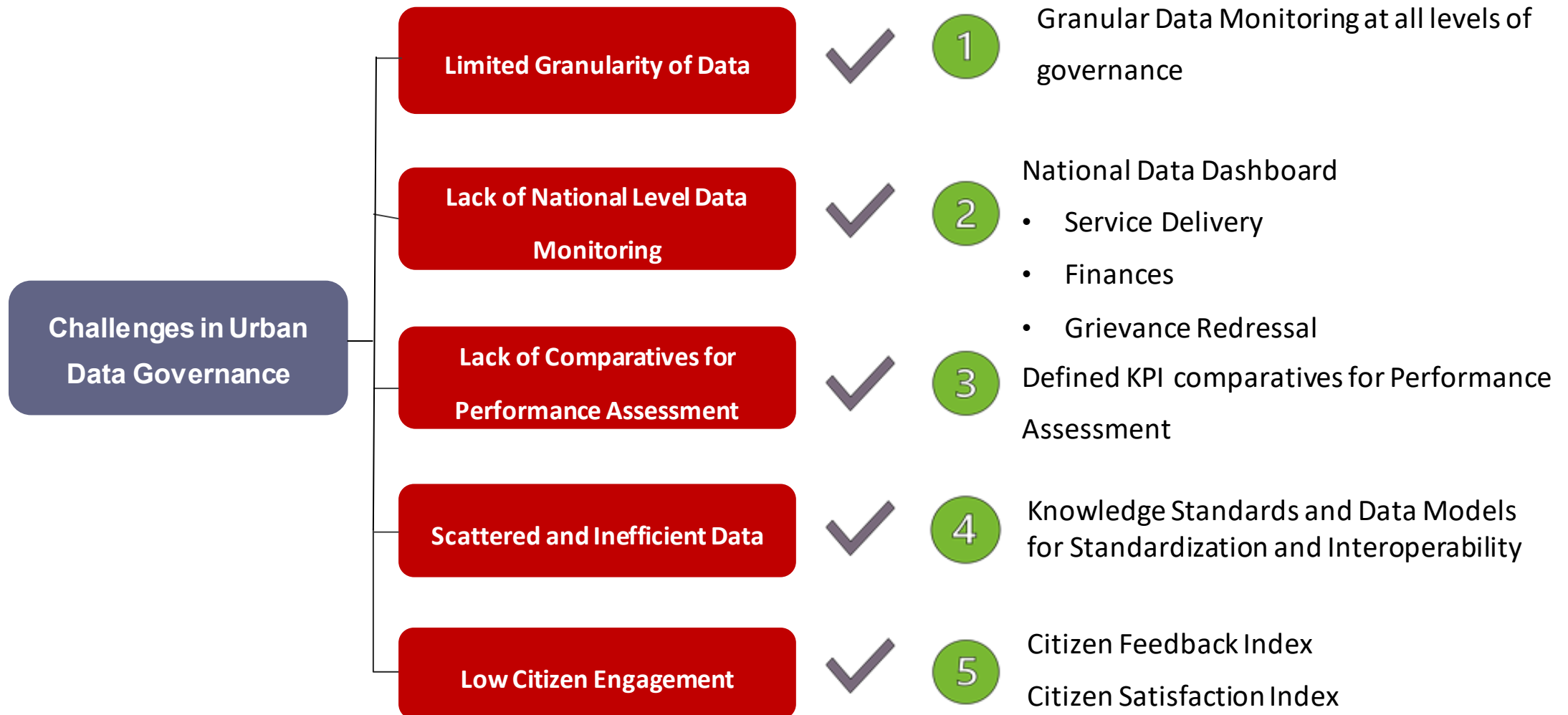## Ready re-usable components reduce the service launch time by 60-70 %

Data Services

Chatbot	Access Control Service	Encryption Service	File Store	ID generation Service	Indexer Service	Localization Service	Master Data Management service	Notification Mail Service
Notification SMS service	OTP Service	Persister Service	Payment Gateway	Searcher Service	Telemetry Service	URL Shortening Service	User Service	Workflow-v2 Service

Core Services

PDF Service	Report Service	User OTP Service	Zuul API Gateway Service	Chatbot Service	NLP Engine Service	Billing Service	Collection Service	Dashboard Analytics Service

Business Services

Dashboard Ingest Service	EGF Instrument Service	EGF Master Service	Apportion Service	HRMS Service	Dashboard Ingest Service	EGF Instrument Service	Building Plan Approval Calculator	Building Plan Approval service
User Event Services	Fire NOC Calculator	Fire NOC Services	Land Services	NOC Services	Public Grievance Redressal	Property Services	Property Tax Services	Public Grievance Redressal

Municipal Services

FSM Services	Vendor Services	Vehicle Services	Solid Waste Calculator Services	TL Calculator Service	TL Service	Water Sewerage Calculator	Water Sewerage Services	Property Tax Calculator

Inbox Service	eChallan Service	eChallan Calculator	…	…	Others

Need for a National-level Dashboard

Country level aggregated citizen services data

Challenges in Urban Data Governance

Limited Granularity of Data

✓ ① Granular Data Monitoring at all levels of governance

Lack of National Level Data Monitoring

✓ ② National Data Dashboard
- Service Delivery
- Finances
- Grievance Redressal

Lack of Comparatives for Performance Assessment

✓ ③ Defined KPI comparatives for Performance Assessment

Scattered and Inefficient Data

✓ ④ Knowledge Standards and Data Models for Standardization and Interoperability

Low Citizen Engagement

✓ ⑤ Citizen Feedback Index
Citizen Satisfaction Index

UPYOG Components – National Dashboard

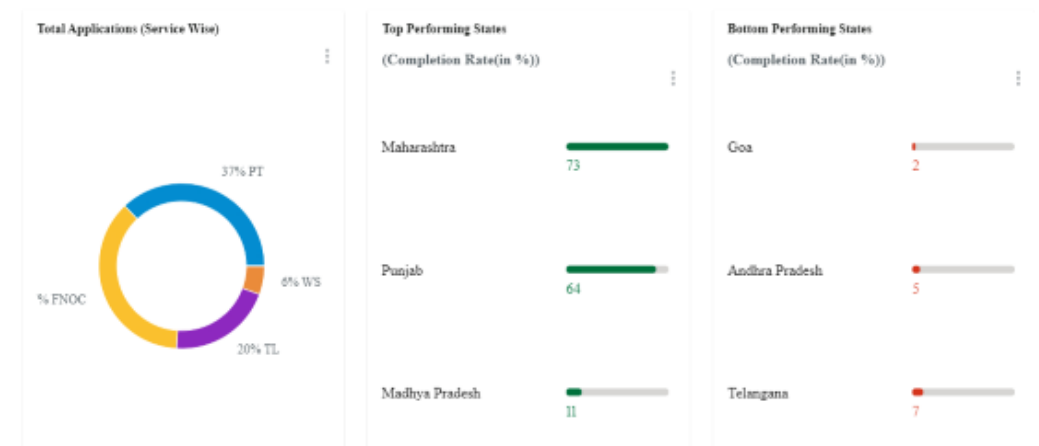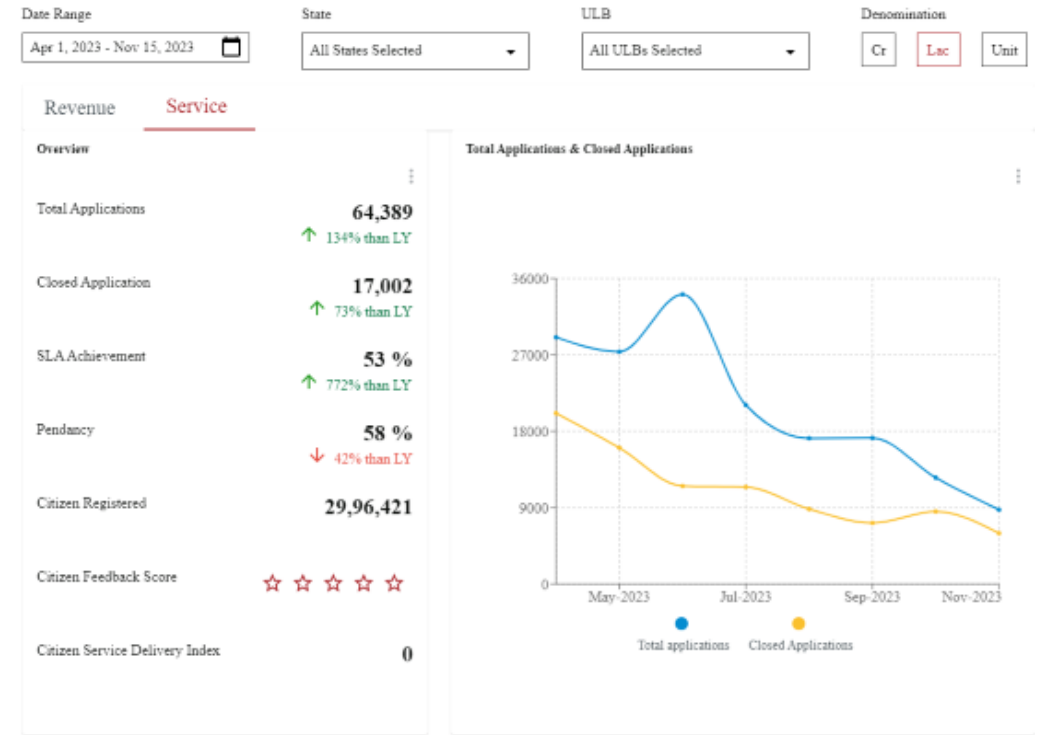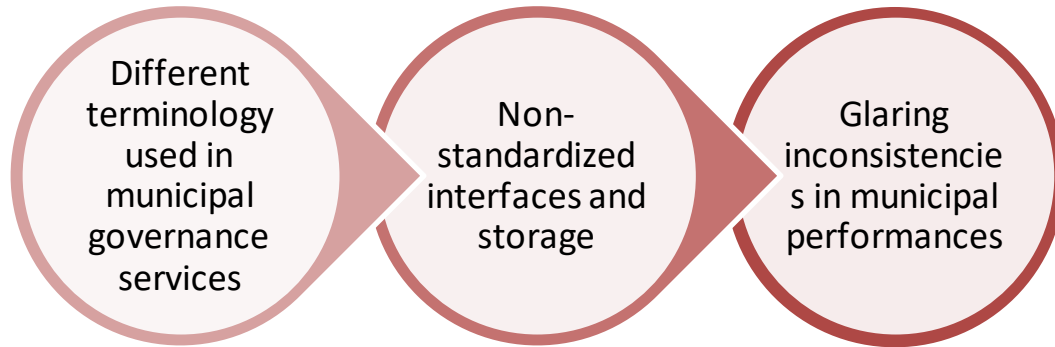## UMEED - Urban Monitoring for Efficient and Effective Decision-making

Key features :

- **Broad Overview at National Level.**

- **State-wise project status view.**

- **Drill down capability of data till ULB level.**

- **Synoptic view of major KPIs, both revenue and service-wise**, such as Revenue to GDP Ratio, Tax Revenue Per Urban Household, Non-Tax Revenue Per Urban Household, Top and Bottom Performing States, SLA Compliance, along with detailed definitions for each attribute ensuring clarity and transparency.

- **Multiple filters, customization options.**

- **Shareability.**
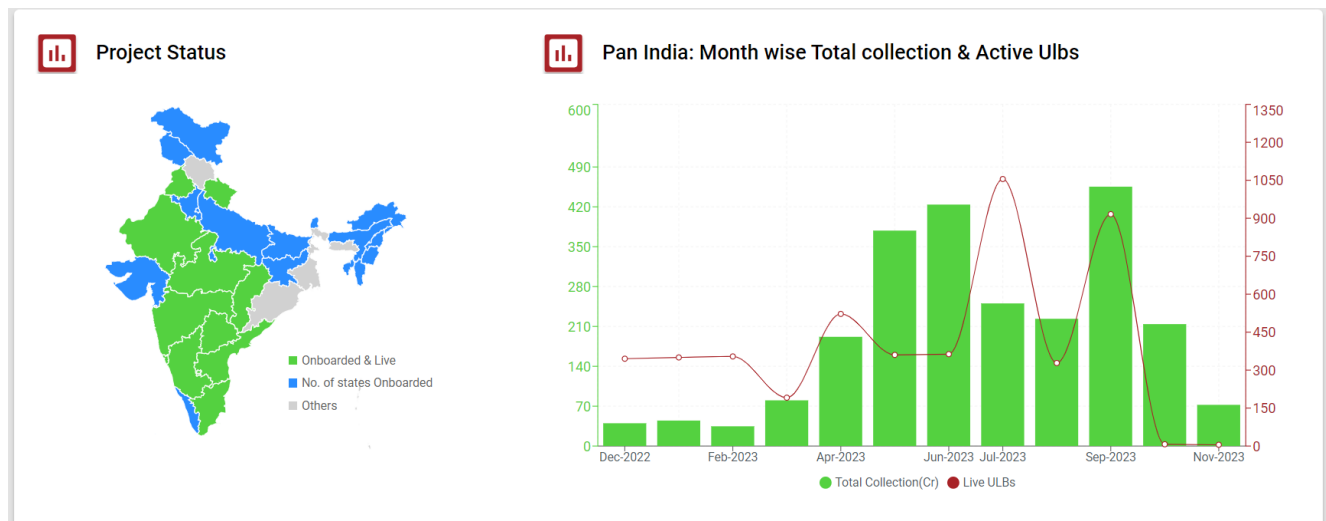
UPYOG Components – National Dashboard

UMEED - Urban Monitoring for Efficient and Effective Decision-making

Need for Standardization

Different terminology used in municipal governance services

Non-standardized interfaces and storage

Glaring inconsistencies in municipal performances

Hence, without clear definitions, vocabulary, specifications and benchmarks for municipal governance, we lack the ability to enable 'Data-Driven Governance'

Example

Image 1: Gujrat Trade Categories

Category	Number of employees
Commercial establishment	Less than 10 employees
	More than or equal to 10 employees
Shop	Less than 10 employees
	More than or equal to 10 employees
Hotel	-
Hotel with restaurant	-
Theatre/Entertainment	-
Self-employed	-

Image 2: Snippets of Assam Trade Categories (List of 215 Trade Categories)

Sl. No.	Trade Name	
1	Astrologer Shop	
2	Automatic Bakery Plant	
3	Audio Video Production Center	
4	Advocate Chamber	
5	Advertising Agency (Above 5 Lakhs as Advertisement Tax)	
6	Advertising Agency (Below 5 Lakhs as Advertisement Tax)	
7	Air Conditioned Showroom	
8	Air Conditioning Repair	
9	Ayurvedic Medicine Sale	
10	Architectural Firm / Consultancy	

Image 3: Snippets of Bangalore Trade Categories (Image is short example of Trade Categories)

| Major Category	Minor Category	Category
Others	Others	Others
PART-1(Trade Articles of food and Beverages All Food	BREAD,BISCUITS,PASTRY CONFECTIONARY AND SAVORIES	Preparation with Power of 10HP and above
PART-1(Trade Articles of food and Beverages All Food	BREAD,BISCUITS,PASTRY CONFECTIONARY AND SAVORIES	Others including preparation without power
PART-1(Trade Articles of food and Beverages All Food	BREAD,BISCUITS,PASTRY CONFECTIONARY AND SAVORIES	Retail stores where the storing and service area exceeds 2000 square feet
PART-1(Trade Articles of food and Beverages All Food	BREAD,BISCUITS,PASTRY CONFECTIONARY AND SAVORIES	Retail stores where the storing and service area less than 2000 sq feet but
PART-1(Trade Articles of food and Beverages All Food	BREAD,BISCUITS,PASTRY CONFECTIONARY AND SAVORIES	Retail stores where the storing and service area above 500 sq feet but
PART-1(Trade Articles of food and Beverages All Food	BREAD,BISCUITS,PASTRY CONFECTIONARY AND SAVORIES	Retail where the storing and service area is less than 500 square
PART-1(Trade Articles of food and Beverages All Food	EDIBLE OIL STORING,PACKING ,PRESSING, CLEANING,	Edible and non edible oil mills manufacturing/refining
PART-1(Trade Articles of food and Beverages All Food	EDIBLE OIL STORING,PACKING ,PRESSING, CLEANING,	Stockists/Wholesale of edible and non-edible oil
PART-1(Trade Articles of food and Beverages All Food	EDIBLE OIL STORING,PACKING ,PRESSING, CLEANING,	Retail sales of edible and non-edible oils(Exclusive)
PART-1(Trade Articles of food and Beverages All Food Articles referred in Schedule X of the KMC Act)	EDIBLE OIL STORING,PACKING ,PRESSING, CLEANING, PREPARING OR MANUFACTURING	All other oil other than manufacturing/Extracting, storing for sale

NUDM Components - Standards

Urban citizen services related standards for the processes and terminology to enable common data formats, exchange and benchmarking.

Published

- Municipal Governance Reference Architecture
- Property Tax
- Public Grievance Redressal
- Trade Licenses
- Fire NOC
- Water and Sewerage

Draft Preparation

- Building Plan Approval
- Birth and Death Certificates
- NMAM compliant Municipal Accounting and Finance
- Misc Collections

Benefits

- Common Language
- Accountability
- Easier Comparison & Collation
- Provide Interpretability Consistency & Uniformity
- Compliance to Common Minimum Features
- Foster Innovation & Create Markets

NUDM Components - Toolkits

Urban citizen services related standards for the processes and terminology to enable common data formats, exchange and benchmarking.

1 — Program Implementation Guideline
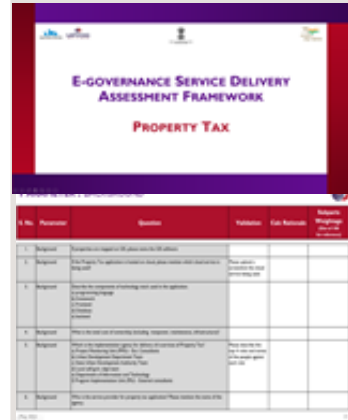
2 — Assessment Framework

3 — Model RFPs

4 — Empanelled Agencies

5 — National Urban Innovation Stack and Blueprint

6 — Technical Guidelines

NUDM Benefits & Impact

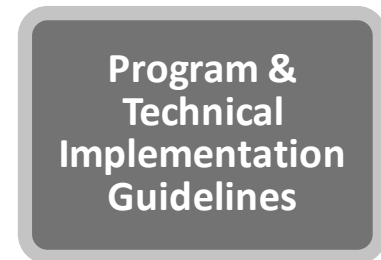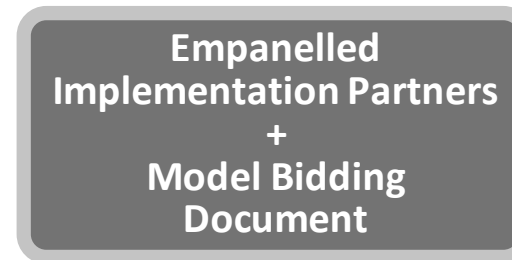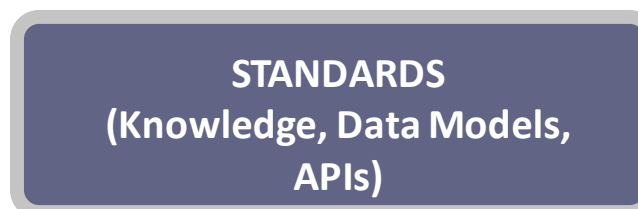| PARAMETER	UNDER NUDM	IMPACT
LAUNCH TIME/EFFORT	• Considerably less rollout time • Any new services will take only 3-4 months to implement	Saves considerable time for implementation
COST OF DIGITALISATION	• Free of cost Platform • Free cloud hosting support for 1 yr	Significant savings per year
FINANCIAL REFORMS	• Readily configurable KPIs/ Dashboards (State/National) • Tech enablement like GIS, SMS Gateway to improve financial collections	Increased collections National level revenue monitoring
DATA BENCHMARKING & DASHBOARDS	• Readily configurable KPIs/ Dashboards (State/National) • National benchmarking data	Improved service monitoring

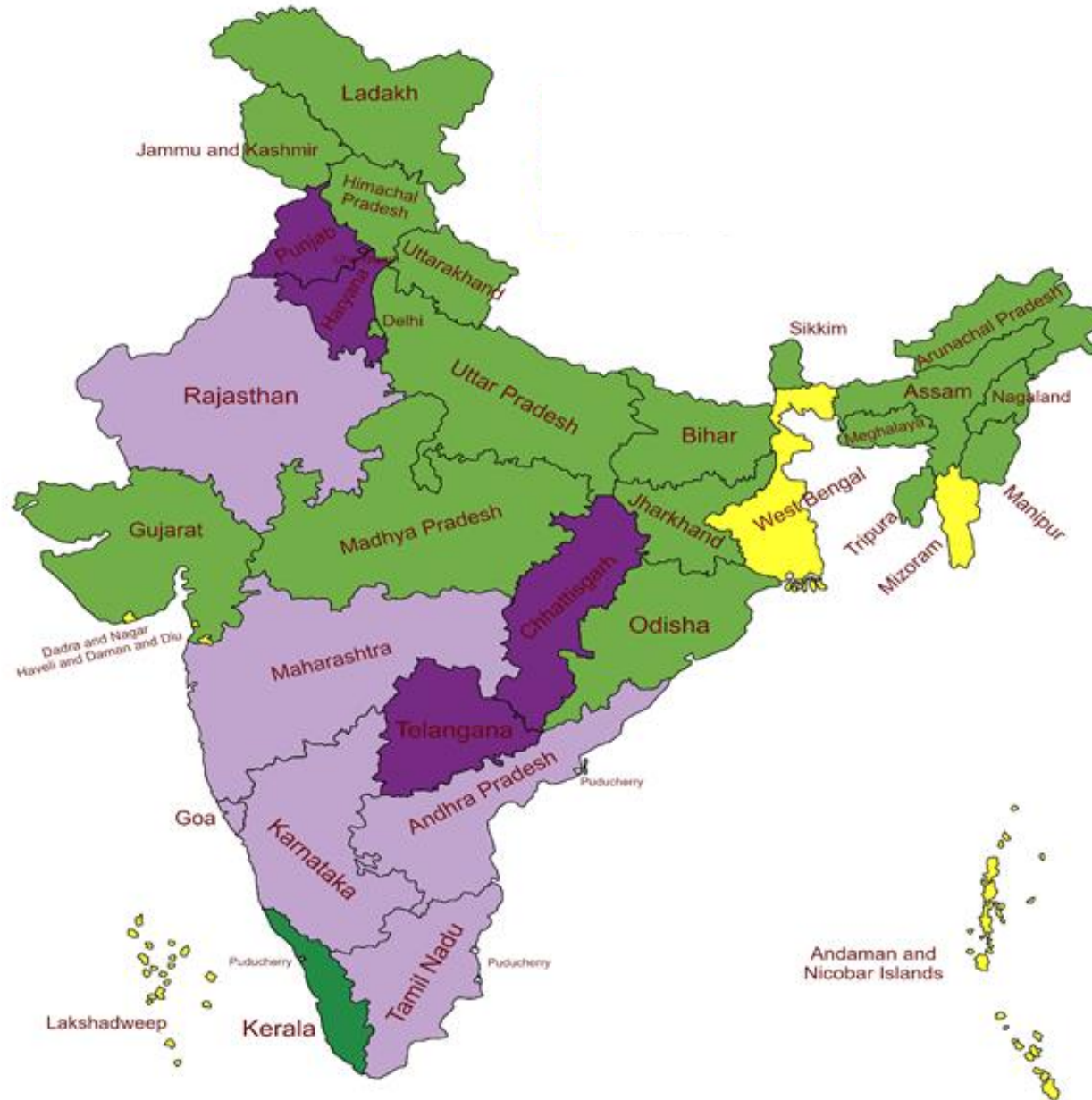# Multiple Options Under UPYOG for States

FOR STATES WITH LOW DIGITISATION

COOKED MEAL

UPYOG : READY TO USE PLATFORM WITH 10 SERVICES

FOR STATES WITH MEDIUM - DIGITISATION

INGREDIENTS + RECIPE

NUIS Digital Blueprint	Empanelled Implementation Partners + Model Bidding Document	Program & Technical Implementation Guidelines

FOR STATES WITH HIGH DIGITISATION

INGREDIENTS

STANDARDS (Knowledge, Data Models, APIs)

KEY BUILDING BLOCKS Microservices sources codes + Dashboard APIs

NUDM - Current Status

MoUs signed with 31 States / UTs

■ (dark green)	Implementation in Advanced Stage
■ (light purple)	National Dashboard Integration in Progress
■ (green)	MoU Signed
■ (purple)	Advance stage of implementation & National Dashboard integration in progress
☐ (yellow)	MoU Signing in Progress

Mission Achievements

MoU signed with 31 States and UTs, Implementation in progress in 2000+ ULBs

Centralized Team (both PMU and Technical) established at CDG-NIUA

UPYOG Platform version 2.0 released with additional module, new features and enhancements.

National Dashboard: UMEED live with data integrated from 12 States / UTs

55 registered firms empaneled as 'Implementation Partners',

5 Urban Digital Experts empaneled

DigiLocker, NIC SMS & NSDL PayGov India Payment Gateway successfully integrated

GIS (NRSC) Integrations underway; Aligned with e-Gov DPG Roadmap

Conducted national-level UPYOG Technical Training, state-level technical trainings, monthly Best Practice Sessions, Workshop on Standards.

Cloud availability offered to all States / UTs

Adoption of UPYOG Platform by States / UTs

Kerala – 8 modules to be launched in Jan 2024.

Chhattisgarh – Online Building Plan launched.

Haryana – e-Licensing of Group Housing Societies to be launched

Himachal Pradesh – Building Plan approval system (Development in progress)

Manipur – Property Tax (Development in Progress)

RFPs in progress – Assam, Maharashtra, Tamil Nadu, Punjab, Karnataka, Ladakh, Uttar Pradesh, etc.

Urban eGovernance Roadmap for States / UTs

Institutional Structure - State Urban Digital Mission on lines of IKM, Kerala/UP (SUDM)

1

Appointment of dedicated Senior Nodal officer to drive the urban e-Governance

2

Self-sustaining financial model on lines of IKM, Kerala

3

High level committee for Urban services reforms and implementation monitoring

4

Setting up of Project Management Unit – Structure, Role & Fund requirement

5

Adoption of futuristic micro-services based IT platform (UPYOG)

6

Finalizing Implementation timelines

7

Establishment of In-house Technical Team / Engagement of System Integrator

8

Software development/ Customization/Implementation/Support

9

Service delivery monitoring by O/o PS, CS,CMO

10
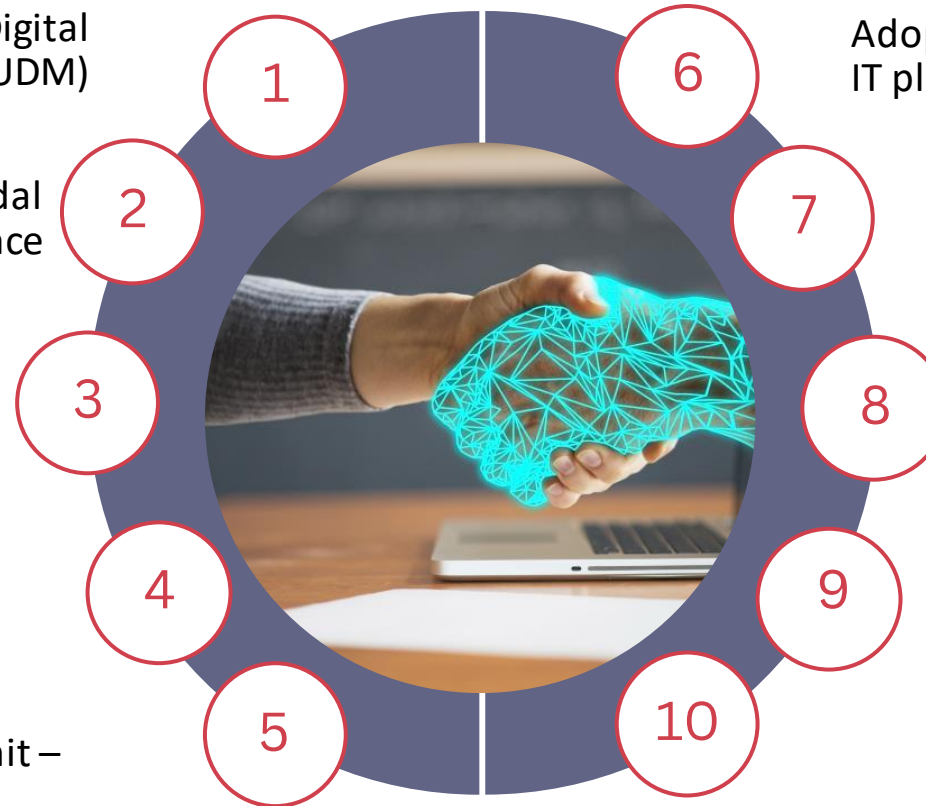
THANK YOU

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