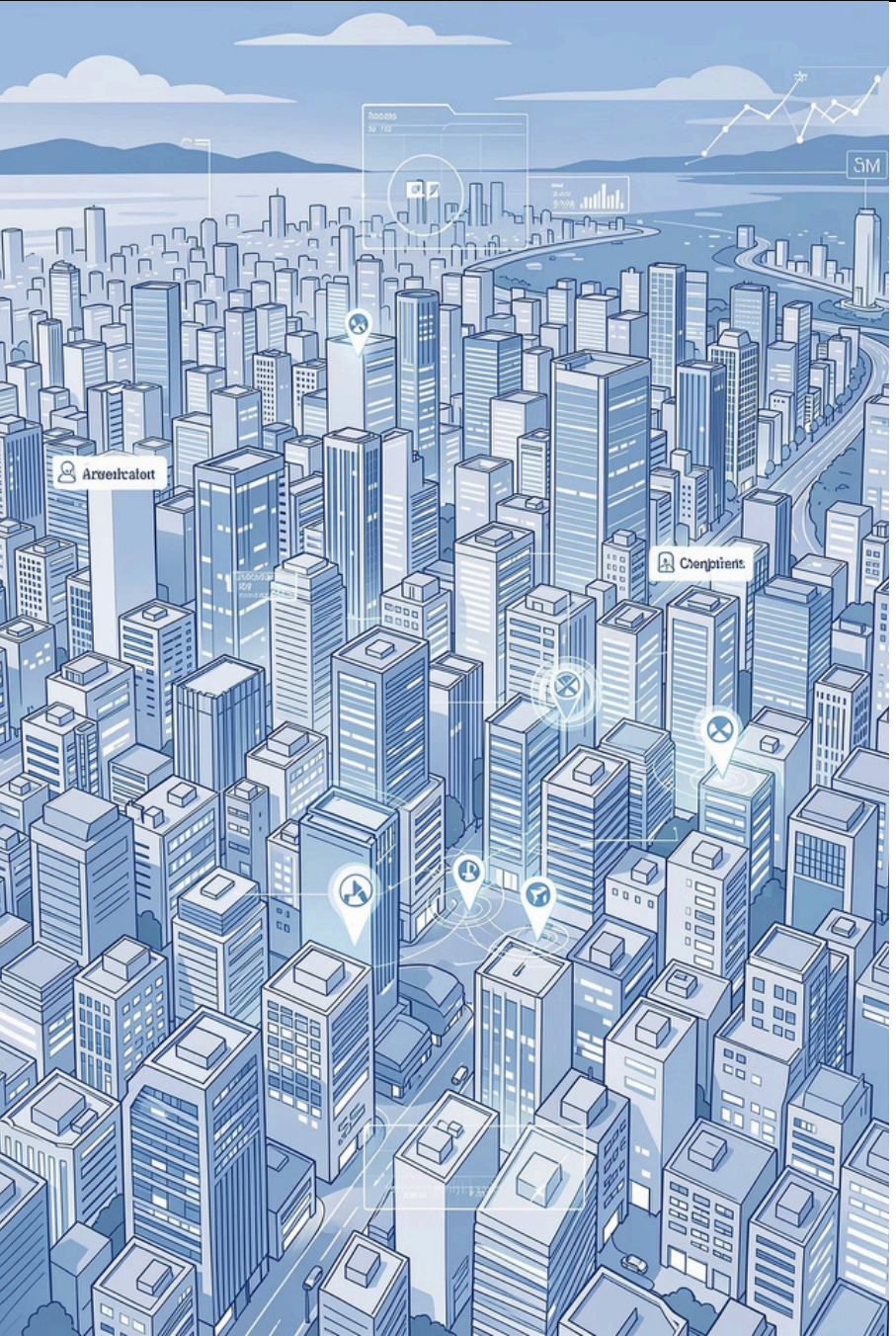

Problem — Civic Complaint Systems Are Broken

Urbanlocal bodies face escalating civic-management strain:siloed complaint channels, no intelligent categorisation, mass duplicate reports,lack ofgeo-visualisation for clustered issues, frequent SLA breaches, limited transparency and high manual monitoring burden. As cities grow, reactive models fail to deliver timely, data-driven civic services.

Impact on Citizens

Delayed resolutions, low trust, accessibility gaps.

Impact on Authorities

Operational overload, poor prioritisation, audit gaps.

The Opportunity

Move from reactive fixes to predictive, geo-led governance.

CivicEye — Solution Overview

CivicEyeis an AI-powered,geo-enabledcivic intelligence platform thattransformsscattered citizen complaints into structured, actionable, real-time intelligence — enablingpredictivegovernance andfaster service delivery.

AI-Based Categorisation

Auto-converts raw citizen input into Category | Department | Priority | SLA for immediate routing.

Geo-Intelligence Mapping

Live map with colour-coded status pins, filters and heatmap toggle for cluster detection.

Duplicate Prevention

Geo-detection (150 m) + time-window similarity checks encourage support over duplic ation.

SLA Escalation Engine

Automated countdowns, multi-level escalation and breach-triggered priority tagging keep SLAs visible and enforceable.

Voice Access

Speech-to-text intake and support for Hindi, English,
— widening accessibility.

Technical Approach — Built for Scale & Governance

A modular, cloud-first architecture combines secure access,geo-optimised data,AI classification an devent-driven automation to deliver reliable civic workflows and auditable governance.

Core Technologies

- Frontend: React.js, Tailwind CSS, Leaflet.js for mapping, Chart.js for analytics
- Backend: Node.js, Express.js, event-driven escalation automation
- Data: MongoDB with GeoJSON & 2dsphere indexing for fast spatial queries
- AI: OpenAI for structured categorisation and embedding-based similarity detection
- Auth & Security: Stateless JWT role-based access (Citizen | Admin | Officer)

01

1. Intake

Multi-channel capture: app, IVR/voice, web and social inputs.

02

2. Classify & Geo-Map

AI tags + spatial index place issues on the live map and detect clusters.

03

3. Automate & Escalate

SLA timers, automated routing and escalation workflows drive accountability.

Feasibility, Resilience & Risk Mitigation

CivicEye is designed to deploy with zero specialised hardware—leveraging existing municipal systems and citizen smartphones. The architecture prioritises reliability, configurability and operational safety.

Zero Hardware Overhead

Cloud-hosted services and mobile-first intake minimise capital investment.

Dynamic SLA Logic

Configurable thresholds, server-side countdowns and admin overrides ensure operational flexibility.

Optimised APIs & Geo Queries

Indexed geo queries and lightweight endpoints support high concurrent loads.

Audit & Security

Complete digital audit trail, JWT auth, role-based access and secure cloud storage protect integrity.

Risks & Controls

- High concurrency → indexed queries, autoscaling and route optimisation
- Geo accuracy → admin correction workflow to maintain data quality
- False duplicates → citizen override and manual review
- Data security → strict RBAC, encrypted storage and JWT validation

Impact — Faster, Smarter, Transparent Cities

CivicEye delivers measurable benefit across citizens,municipal authorities and institutional operations—aligning with Smart City goals and improving trustin localgovernance.

For Citizens

Faster issue resolution, transparent status tracking, voice-enabled reporting and reduced duplication frustration.

For Municipal Authorities

Real-time analytics, department performance tracking, reduced overload and automated SLA governance.

Operational & Institutional

Complete digital workflow and audit trail, improved reputation, data-driven planning and fraud reduction via geo-validation.

Key Outcomes

- Lower administrative costs through automation and reduced duplicate workload
- Improved citizen trust via transparency and faster SLAs
- Better environmental and infrastructure planning enabled by heatmap intelligence