Expression of Interest (EOI) – Voice Bot–Enabled Call Centre Solution

Department of Survey & Digital Land Records
Government of Kerala

1. Introduction

The Department of Survey & Digital Land Records, Government of Kerala, is undertaking a digital transformation initiative aimed at enhancing citizen services, improving response times, and strengthening transparency in land-record related queries.

As part of this initiative, the Department intends to establish a Voice Bot–Enabled Call Centre System capable of intelligently interacting with citizens, providing automated responses, capturing requests, and routing unresolved issues to human operators when required.

Kerala Startup Mission (KSUM) is inviting innovative startups to submit their Expression of Interest (EOI) to design, develop, deploy, and maintain a modern call-centre system powered by AI-driven voice automation, Natural Language Processing (NLP), and multilingual interaction capabilities.

2. Objective of the Solution

The core objective is to create a **scalable, automated, and intelligent voice-bot system** that can:

- Handle a large volume of citizen calls related to land survey, resurvey, digital land records, and allied services.
- Deliver **24×7 automated responses** without requiring human intervention for routine queries.
- Ensure **multilingual conversational flow** (minimum: Malayalam + English).
- Provide **accurate information** based on the Department's rules, SOPs, and available digital datasets.
- Reduce workload on field offices and improve citizen satisfaction.
- Enable robust monitoring, reporting, and traceability.

3. Scope of Work

3.1 Functional Scope

The solution should include (but not be limited to) the following features:

A. Call Handling & Voice Bot Engine

- Automated call pick-up and greeting.
- NLP-based understanding of citizen questions.
- Voice bot capable of:
    - Identifying caller intent.
    - Classifying query category (survey, resurvey, sketch requests, mutation status, etc.).
    - Providing real-time answers.
    - Triggering workflows (ticket creation, information retrieval, escalations).
- Support for Malayalam (primary) and English.
- Ability to handle dialect variations.

B. Query & Service Capabilities

The voice bot must be able to respond to queries including:

- Land survey status
- Resurvey progress
- Measurement request process
- Online application status
- Fees and service timelines
- Document requirements
- Contact points of Taluk/ Village offices
- GIS / map related basic information

C. Workflow Automation

- Creation of service request / ticket if query cannot be resolved.
- Routing unresolved queries to officers / call centre staff.
- Callback scheduling.
- Integration with:
    - Digital Land Records Portal
    - Survey Management Systems
    - SMS Gateway
    - Email services
    - Citizen service portals (if applicable)

D. Reporting & Analytics

- Call logs and categorisation.
- Frequently asked questions.
- Pending vs. resolved queries.
- Peak call time analysis.
- Call abandonment rates.
- User satisfaction measurement.

E. Administration Panel

- Dashboard for monitoring calls and issues.
- Live tracking of call statuses.
- Option to manually intervene in calls.
- Knowledge base management.

4. Technical Requirements

4.1 Core Technology

- AI-based speech recognition and synthesis.
- NLP and intent classification engine (custom or cloud-based).
- Conversational flow builder with adjustable logic.
- API-driven integrations.

4.2 System Architecture

- Highly available cloud architecture (AWS/Azure/GCP/MeitY-approved clouds).
- Containerised / microservice-based approach preferred.
- Scalable to 10,000+ calls/day.
- Disaster recovery and redundancy.

4.3 Security & Compliance

- Compliance with:
    - Government of India/ Kerala IT Security standards
    - ISO 27001 / SOC2 (if applicable)
- End-to-end encryption of calls and logs.
- Role-based access control.
- Audit logs.
- No data sharing with 3rd parties without consent.

4.4 Integration Requirements

Startups must demonstrate the capability to integrate with:

- Department databases
- Survey project management system
- Land records portals
- SMS/Email gateways
- SSO (if applicable)
- API interface for real-time data retrieval