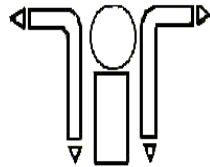


**EOI (EXPRESSION OF INTEREST)**

**FOR**

**BIG DATA ANALYTICS FOR INSPECTOR GENERAL OF  
REGISTRATION & STAMP GOMP**



**MAP\_IT**

**Madhya Pradesh Agency for Promotion of Information Technology  
State IT Centre, 47-A, Arera Hills, Bhopal**

**Website: [www.mapit.gov.in](http://www.mapit.gov.in)**

**Date: 07/01/2017**

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Intimation of discrepancy, if any, should be given to the specified office immediately. If no intimation is received by this office by the date mentioned in the document, it shall be deemed that the EOI document is complete in all respects and firms submitting their bids are satisfied that the EOI document is complete in all respects.

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## Notice Inviting EOI (Expression of Interest)

Madhya Pradesh Agency for Promotion of Information Technology, Government of  
Madhya Pradesh

No: .....

Date: 07/01/2017

### EOI for Big Data Analytics for Inspector General of Registration & Stamp GoMP

Proposals are invited from reputed agencies based in India to carry out PoC for Department of Science & Technology, Government of Madhya Pradesh for the Big Data Analytics for Inspector General of Registration & Stamp GoMP.

The EOI document can be downloaded from the MAP\_IT Website ([www.mapit.gov.in](http://www.mapit.gov.in)) commencing **07/01/2017, 10:30 AM IST**. The last date and time for Submission of EOI Responses is **23/01/2017, 03:00 PM IST**.

Eligibility criteria, timelines and other relevant details please refer the EOI document.

(Addl. Chief Executive Officer)  
MAP\_IT

## IMPORTANT DATES

1.	Issuance of EOI Document	07/01/2017
2.	Last Date and Time for receipt of queries for Pre Bid(email id : <a href="mailto:rakesh.dubey1@mapit.gov.in">rakesh.dubey1@mapit.gov.in</a> , <a href="mailto:vinay.pandey@mapit.gov.in">vinay.pandey@mapit.gov.in</a> )	16/01/2017, 03:00 PM IST
3.	Last Date and Time for Submission of EOI Response	23/01/2017, 03:00 PM IST
4.	Opening of Offers	23/01/2017, 04:00 PM IST

## Section 1. INTRODUCTION

### 1. Madhya Pradesh Agency for Promotion of Information Technology

Madhya Pradesh Agency for Promotion of Information Technology (here-in-after referred to as MAP\_IT) is a government society which has been established to propel the growth of Information Technology (IT) and e-governance in Madhya Pradesh and to provide institutional setup for implementation National e-governance Plan. Established in 1999, MAP\_IT provides IT support to the government departments and facilitate Human Resource Development activities in the field of IT.

MAP\_IT also co-ordinate with investors, industries, trade agencies and financial institutions in public and private sector so as to promote growth in the IT sector.

**Office of the MAP\_IT is situated at the IInd Floor, State IT Center, 47-A, Arera Hills, Bhopal.**

### 2. Introduction

Big Data Analytical solution help government entities successfully respond to increasing citizen and compliance demands. It will also help to reduce risk and operational expenses, meet statutory compliance requirements, improve services delivery and increase efficiency. Key benefits using Big Data Analytics includes;

- Improved Service delivery.
- Efficient use of staff, assets, resources and infrastructure.
- Identify the hidden trends, patterns for decision making.
- Reduce the cost of operation associated with multiple systems, growing information footprint and manual processes.
- Use analytics to increase project's effectiveness while mitigating operational risk.
- Improve information sharing and collaboration between departments.
- Make more effective use of government data.
- Support open and accountable government through sound governance, security and compliance.

Governments are deriving value from the massive amounts of digital data they collect. Decision making in government usually takes longer time and is conducted through consultation and mutual consent of a large number of diverse actors, including officials, interest groups, and ordinary citizens. Governments deal not only with general issues of data integration from multiple sources and in different formats and cost but also with some special challenges. The biggest is collecting data; governments have difficulty, as the data not only comes from multiple channels but from different

sources. Success depends on the ability to integrate and analyze information, develop supporting systems, and support decision making through analytics. e

This document specifies the Background, Objectives and Scope of the Proof of Concept (PoC) exercise with intent to assess the tools and techniques of big data, fitment of requirement with solution and testing of mapping the processes involved can use big data, which can support in establishing Business Intelligence and Data Analytics Cell (BI/DA Cell) and further help MAP\_IT in applying tools and techniques of big data in ICT projects running at IGRS office GoMP.

The agency participating in the PoC need to demonstrate their understanding and capabilities towards the items listed under Scope of the Proof of Concept. The agency may also showcase any such tool or solution which can be deployed and enhance the overall Data analytics Cell.

### **3. Background**

The Inspector General of Registration and Superintendent of Stamps, Government of Madhya Pradesh has implemented the web enabled e-Registration & e-stamping application named SAMPADA (Stamp And Management of Property and Documents Application) at its 234 Sub-Registrar Offices (SROs), 51 District Registrar Offices (DROs), Office of Inspector General of Registration and Superintendent of Stamps (IGRS) and Department of Commercial Tax, Mantralaya, Bhopal (MP) through its vendors.

The Department of Registration and Stamps (DRS) is responsible for registration of various types of documents related to property transfer and other kinds as mentioned in Schedules 1A to the Indian Stamp Act 1899 (as applicable to M.P). DRS register documents to the tune of approximately 7lacs every year and there is approx. 5% growth every year.

The department of Registration has enabled SAMPADA in the entire state from 01.07.2015, More than 6.5 lakh documents have been registered on the system and revenue of more than 3400 Crores has been booked till date. The following are the main activities:

#### **SAMPADA Software – an overview**

1. Purchase of e-stamps
2. Creation of documents like sale deed etc.
3. Appointment for registration at office of sub-registrar.
4. Registration of Various type of documents
5. A system of record keeping, which is secure, easily retrievable, tamper-proof, thereby achieving public confidence.

6. E-stamping with high security features.
7. A system of property valuation and stamp duty calculation.
8. Maintaining all data in integrated electronic form, for easy access to the stake-holders.
9. MIS
10. Role based reports for internal users
11. System is designed on Java platform and Manage major database components like memory, performance and resources using Oracle Database 11g.

A web based solution is already in place, which is developed and maintained by the M/S Wipro limited. Hardware for the data center and sub-registrar offices/District Registrar offices /DIG offices / IGRS Head quarter has been supplied and maintained by the System Integrator M/S NIIT Technologies Ltd. Connectivity in all offices is provided by the State wide network (SWAN) managed and owned by the State IT department. All sub-registrar offices are equipped with hardware like Computer, Printer, Scanner, Biometric Finger print scanner, Web camera, Electronic Writing Pads, Digital Signature token (For SR), UPS with Power back up for 60 Minutes, Generator (wherever required) and All networking equipment's.

As on date, more than 7 Lakh documents are registered on SAMPADA and more than 10 lakh e stamps have been generated from SAMPADA, the data base size is approximately 78 GB, The meta-data related to the application is saved in SAN volumes associated with application and DMS servers

#### **4. Big Data Analytics Solution for IGRS**

Large amount of data is being generated from SAMPADA which needs to be analyzed and monitored for future forecasting of revenue, finalizing Guideline rates of an area, Checking duty evasion, Policy matters related to modification of duties on a particular set of deed instrument combination etc.

New technologies are emerging to organize and make sense of transaction data to find pattern, trends, sentiments and hidden messages. We can now identify patterns and regularities in data of all sorts that allow us to advance our decision making, improve the human condition, and create commercial and social value. The rise of “big data” has the potential to deepen our understanding of phenomena ranging from physical, social and economic behavior. Virtually every sector of the economy now has access to more data than would have been imaginable even a decade ago. Businesses today are accumulating new data at a rate that exceeds their capacity to extract value from it. The question facing every agency that wants to attract a community is how to use data effectively — not just their own data, but all of the data that's available and relevant.

MAP\_IT through IGRS will provide sample data set of SAMPADA Database. The application is running in the state and crucial in service delivery of the department. IGRS office intended to establish Data Analytics cell, use data mining tools and produce meaningful reports with the support



from MAP\_IT through PoC. This activity support IGRS and MAP\_IT to frame the BI Cell in IGRS office and further support in informed decision making based upon the insight derived from the Business Intelligence (BI) and analytics tools proposed to be implemented as part of Big Data Analytics Cell.

## 5. Objective of PoC

- Demonstrate the utility of Big Data based solutions to enhance data visualization and interpretation leading to improve revenues, greater compliance to rules and better policy inputs.
- Recommendations for future state Artificial Intelligence (AI).
- Pilot new analytical capabilities and use cases to prepare long term roadmap.

## 6. Scope of the Proof of Concept

The scope of the proof of concept exercise is to demonstrate the tools and techniques to perform the activities mentioned in the tracks below. It may be noted that the activities mentioned are indicative in nature and are mentioned to provide guidance to the participating agencies in carrying out a structured PoC exercise. The participating agencies may customize their approach as per their tool/solution being proposed to be used in the PoC and create/develop a role based dashboard based on the structured, semi-structured and unstructured data in SAMPADA. The NDA (Non Disclosure Agreement) shall be signed by the authorized signatory of the shortlisted agencies.

### 6.1. Validation of data received from data source systems

Transactional database of SAMPADA from 1<sup>st</sup> April 2015 to 30<sup>th</sup> Nov 2016 shall be provided by IGRS for performing the following activities:-

- Validate data's prescribed format.
- Validate consistency of data.

### 6.2. Data Quality Management through data cleansing (structured/unstructured/semi-structured data sets)

As a second track of the POC exercise the data needs to be cleansed, data inconsistency needs to be identified (if any) and incorrect data needs to be highlighted. In the PoC exercise, the similar set of activities shall be required to be undertaken on the sample data provided to the Agency.

- Detection of inconsistencies in the database.
- Detection and highlighting of incorrect information (logical checks on data eg. Age, name and gender, Property Information, etc.)

### 6.3 Extraction of data from unstructured/ semi-structured data & data cleansing

Data is available and useful is both structured and semi-structured/unstructured (PDF documents etc.). The department believes that information in relation to non-compliance to rules/law and

improper/reduced valuation of assets for determination of stamp duty charges, registration may be available in this data set. However, current tools available with IGRS are not able to detect the same.

#### 6.4 Standardization of data and defining datasets

The third track of the PoC exercise shall enable standardization of the data. This track shall be significantly important as the data might have different masters, different formats, different syntax, etc. The outcome of the track shall be to ensure that standardized data shall be loaded in the data warehouse with master. Following activities shall be performed as part of the PoC.

- Creation of standardized data based on the provided dataset.
- Preparation of Identical data set for BI/DA processing.
- Recommendations on standardization of data for further analysis.

#### 6.5 Business Intelligence Reporting

As a last track of the scope of PoC exercise the participating agency shall be responsible for creating the BI report. Following activities shall be performed as part of this track:

- MIS and Dashboard reports generated from this data repository.
- Customization of report based on user requirement based on discussions.
- Propose a methodology for determination of collector guidelines and projection of the same in the medium and long term.
- Report on different types of analysis and findings.
- Application of GIS defining the collector guidelines.
- Revenue sensitivity analysis with respect to Collector Guidelines Rates.
- Inferring future trends in Real Estate Sector development.
- Analysis of data for performance evaluation reports of IGRS employees and outsource agencies involved in e-registration process.

#### 6.6 Themes to follow

The following theme should apply, while creating the analytical reports. The analytical report should contain, wherever applicable, inputs on comparison of Metadata entered in to the application and its comparison with Unicode data available in deed drafting module of the application.

1. Trend Analytics : This may apply to identify new patterns or behaviors and attributes in service delivery to find data points which forms a set pattern or lie outside the norm and potentially indicative of issues in the delivery of services. This could be for a special geographically covered area or for complete state.

Any hidden trends with delivery of services, complaints should be uncovered from the transactional datasets.

2. Quantitative Analytics: High/ Low revenue area mapping, tax evasion, Overvalued and undervalued property with breakup of area, cost and tax amount, savings by seller/buyer and agents.
3. Predictive Analytics: On the basis of data provided trends and setting up pattern of services being requested by citizens ahead of time, during a particular season, Area notification, trending property pattern, stamping for different purposes.
4. Correlation Analytics: Direct and Indirect correlation examples based on the data provided to generate the meaningful decisions.
5. Classification Analytics: Based on nature / type of property or related with Process, Policy, Budget related and so on.
6. Keyword Analytics: Based on textual search of registry, stamping information.
7. Spatial dataset based Analytics:
  - Explain data available
  - Explain data captured
  - Existing Master Plan
  - Data analytics based on spatial dataset

## **7. Key Roles and Responsibility of the Stakeholders**

### **i. Department of Registration and Stamps (IGRS)**

1. Provide the sample data set and interface document.
2. Provide access to the data for carrying out the PoC exercise.
3. Provide access to MAP\_IT premises for demonstration of the PoC exercise
4. Provide support and guidance to the participating agencies

### **ii. Madhya Pradesh Agency for Promotion of Information Technology (MAP\_IT)**

1. Facilitation for POC.
2. Documentation.
3. Bid processing management (If Applicable).
4. Validate and publish the results of the PoC exercise
5. Issuance of LoI

### **iii. Participating Agency**

1. Make initial presentation to MAP\_IT detailing out the approach, tools being used, methodology and expected results.
2. Sign the Non-Disclosure Agreement and ensure confidentiality, privacy and security of data/information.

3. Carry out the PoC exercise at no cost, no commitment basis.
4. Configure, deploy and demonstrate the tools for carrying out the PoC exercise within 60 days from acceptance of LoI.
5. Seek MAP\_IT/IGRS guidance and support to resolve difficulties faced in the PoC exercise.

## 8. Expected outcomes of the PoC

The PoC shall enable MAP\_IT to assess the capabilities of the tools and techniques used by the participating agency towards establishment of Big Data Analytics Cell and creating report/dashboard as per the objective envisaged by MAP\_IT.

The outcome expected from this PoC exercise would be following;

1. Meaningful analysis to identify the gaps in service delivery of IGRS in the state.
2. Uncover issues related to performance of officers, procedural issues, competency issues, seasonality effects etc.
3. Poor service delivery or poor quality complaint resolution trend analysis.
4. Relative grading system of services, registry.
5. To assess the tools and techniques which can support right from establishing BI/DA Cell to operationalizing and maintaining the BI/DA Cell.
6. Inputs to design strategy & architect of a solution and procurement of the same.

## 9. Process of Carrying out the PoC

Interested Agencies are expected to show their interest with a proposal including small introduction, expertise, capabilities details, approach & methodology and project plan.

MAP\_IT in consultation with IGRS shall constitute an Evaluation Committee, which shall carry out the entire evaluation process for this PoC. Shortlisted agencies shall be invited for an onboarding workshop where the scope of work & expectations would be explained in detail.

MAP\_IT would issue Letter of Intent to the shortlisted agencies whose acceptance shall have to be submitted by the agencies within a week time.

The agencies who accept the LoI, will be expected to carry out the Proof of Concept exercise on **No Cost No Commitment Basis**. The cost incurred towards carrying out the PoC exercise shall be borne by the participating agencies by themselves. MAP\_IT or IGRS does not guarantee any commitment for futuristic actions based upon successful execution of the PoC.

The agencies would be provided with actual data sets from the database of SAMPADA. The actual data or metadata might differ in the live environment. The agency would have sign **Non-Disclosure**

**Agreements (NDA)** so as to maintain the data confidentiality. However, the agencies shall be required to source other requirements, if any such as own hardware, software, licenses etc. The PoC exercise has to be completed within 60 days from acceptance of LoI.

The agency shall have to live demonstrate the tools and the techniques before the MAP\_IT/IGRS/MP Govt. official. The agency shall be allotted 45 mins time for a presentation on the same.

Committee shall look at the tools and the techniques that are at the disposal of the participating agencies and the effectiveness of the same including BI and Analytics. Agencies shall have to submit findings of the PoC, both in hard copy and in electronic form at the time of demonstration.

#### **10. Eligibility / Qualifying Criteria**

Following are the essential qualifying criteria for the Agency to technically qualify for the assignment:

1. The Agency should be a legally registered entity in India. Incorporation/Registration certificate along with MoA/Bylaws (or similar legal document) should be furnished as documentary proof.
2. The Agency should not have been black listed by any State Government, Central Government or any other Public Sector undertaking or a Corporation as on the date of EOI submission. An undertaking to this effect should be submitted by the Agency on its letter head.

## **Section 2. TERMS AND CONDITIONS**

#### **11. Submission of Proposal**

Sealed cover containing the response, super scribed with “Expression of Interest for Big Analytics for Inspector General of Registration & Stamps GoMP” should be addressed to:

The CEO  
Madhya Pradesh Agency for Promotion of Information Technology (MAP\_IT),  
2nd Floor, State IT Center, 47 A, Arera Hills, Bhopal 462004

The proposal should be submitted within the specified timeframe as mentioned under section ‘Important Dates’. It should be submitted in a sealed envelope with superscription.

#### **12. Amendments to EOI**

At any time prior to the deadline for submission of Proposal, MAP\_IT may amend the EOI documents by issuing suitable Corrigendum. Any corrigendum issued in this regard shall be uploaded on MAP\_IT website. To give reasonable time to the Agencies, so that they can take corrigendum into account in preparing their Proposals, the Department shall extend (if necessary), the deadline for submission of Proposals.

### **13. Language of proposal**

The Proposal, and all correspondence and documents related to the Proposal exchanged by the Agency and the Department should be in English. Supporting documents and printed literature furnished by the Agency may be in any language other than English provided they are accompanied by an accurate translation of the relevant passages in English language. Supporting material, which is not translated in English, will not be considered for evaluation. For the purpose of evaluation and interpretation of the proposal, the English language translation shall prevail.

### **14. Confidentiality**

The EOI contains information proprietary to MAP\_IT. MAP\_IT requires the recipients of this EOI to maintain its contents in the same confidence as their own confidential information and refrain from reproducing it in whole or in part without the written permission of MAP\_IT.

MAP\_IT will not return the Proposals/responses to the EOI received. The information provided by the Agency/s will be held in confidence and will be used for the sole purpose of evaluation of Proposals.

### **15. MAP\_IT reserves the right to the following**

- Reject any or all proposals received in response to the EOI without giving any reason whatsoever.
- Waive or change any formalities, irregularities, or inconsistencies in proposal format delivery.
- Extend the time for submission of proposal.
- Modify the EOI document, by an amendment that would be published on the MAP\_IT's website.

### **16. Other instructions**

- A signed copy of this EOI shall be submitted along with the technical proposal as a token of

- acceptance of EOI terms & conditions.
- The proposal should be free of overwriting/ corrections/ alterations.
  - The proposals should be signed by the authorized representative/s of the Agency.
  - MAP\_IT in consultation with IGRS would constitute a committee that will evaluate the proposals. The decision taken by the committee in this regard is final and binding on all the agencies participating in this EOI.
  - The agencies who wish to submit responses to this EOI should note that they should abide by all the terms and conditions contained in the EOI. If the responses contain any extraneous conditions put in by the agencies, such responses may be disqualified and may not be considered for the empanelment / selection process.

## **17. Disputes and arbitration**

If any dispute of any kind whatsoever shall arise between MAP\_IT and the Successful Agency in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity, or termination, the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference by mutual consultation, the dispute can be resolved as per the Arbitration & Conciliation Act 1996 or as per the notification thereof.

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