TERMS OF REFERENCE

For

Upgradation & Enhancement of RSBY IT System

1 Background

The objective of RSBY is to protect identified beneficiary households from major health shocks that involve hospitalization. Such families are entitled to smart card based cashless health insurance cover of Rs. 30,000 for in-patient treatment including maternity and insurance cover to new born during policy period in any empanelled hospital across the country. Pre-existing conditions are covered and there is no age limit. Coverage extends to the head of household, spouse and up to three dependents.

Insurance Companies are selected through a tendering process. They enrol the beneficiaries based on the certified list and issue them smart RSBY cards as per specifications and defined process. The beneficiaries can then go to any empanelled hospitals and avail cashless hospitalization benefits using their RSBY card. The transaction data is totally electronic and transferred directly from hospitals to three servers namely Central, State and Insurance Cos. server using an internet connectivity.

2 About GIZ

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is a federal enterprise owned by the Federal Republic of Germany. For over 60 years, GIZ has been working jointly with partners in India for sustainable economic, ecological and social development. The Indo-German Social Security Programme (IGSSP) is part of GIZ. IGSSP supports the MoHFW and state governments with the design and implementation of RSBY.

GIZ with the consent of the MoHFW will contract an agency for upgradation and enhancement of the existing RSBY IT System.

3 Description of tasks

Most of the tasks in RSBY involve the use of specialized software. Government of India with support of GIZ has already prepared the Enrolment, Card Issuance & Renewal software, District kiosk software, Transaction software and certain utilities for data collation & MIS which are deployed at Central & State servers. All these software use the Key Management System (KMS) and Security DLLs prepared by NIC and are then certified by STQC before being used in the field.

3.1 MODULE 1: Upgradation of Transaction Management System (TMS)

MoHFW has already prepared a transaction software which is mandated for use by all Insurers in all empanelled hospitals across the country. In addition to providing interface in the hospitals where transaction at the hospitals can be done using this software, this software has additional features like

Business Continuity Plan (to be used in exceptional cases where smart card or any of the devices such as computer, printing machines, etc. is not working), policy extension (in case policy is not renewed on time), etc. inbuilt into the system. Some of the State Governments also provide additional benefits like tertiary care, top up care etc. These benefits are also catered through this software.

The current TMS was prepared in the initial stages of the 64kb smart cards rollout. This is based on past learning and suggestions during the usage of 32kb cards (used from 2008 to 2012). Subsequently, many new innovations and features have been incorporated into the scheme and more still need to be introduced.

This requires that the current transaction software be upgraded and enhanced to cater to the new requirements as well as the business demands that have come in from the various stakeholders.

Brief description of the existing TMS software:

a. Technology

The Hospital Transaction Management Software is developed by an independent agency using following technologies:

- Desktop Application using Microsoft .net C#
- Backend database MySQL runs on local system

b. Basic Purpose of TMS software

Standardized RSBY- Transaction Management System (TMS) is designed and introduced to manage services to RSBY beneficiaries and associated transactions at the empanelled hospital.

The TMS facilitates the following operations:

- Beneficiary authentication and balance check using smart card
- Registration of patient, package blocking/ unblocking, discharge and balance update on smart card after treatment
- Uploading data to SNA, Insurance Company & MoHFW Servers using FTP
- Business Continuity Plan (against receipt of URN from beneficiary) in event of
    - non availability of beneficiary smart card at the time of treatment
    - corrupt beneficiary smart card
    - smart card reader related issues
- Dash board and reporting

c. Hospital Transaction Process Flow

The RSBY beneficiary visits the empanelled hospital with the RSBY smart card, which is the basis for authenticating the patient, validating the policy and balance insurance cover/amount for providing the treatment. The empanelled hospital uses the TMS for the following RSBY smart card based IP operations under the scope of treatment to the RSBY beneficiary:

- Registering patient
- Blocking treatment package with associated amount
- Unblocking treatment package and associated amount in the event of unblocking requirement
- Discharging patient post treatment
- Fingerprint authentication of the beneficiary/ alternate family member at registration, blocking and discharge
- Inbuilt Fingerprint Override Code provision in event of fingerprint verification failure due to failure of device
- Treatments under Medical, Pre-approved and Unspecified packages with provision of Authorization Code facility and transactions in case of “Unspecified” category of packages
- Generating copies of slips (Registration, Blocking, Unblocking, Discharge) for hospital beneficiary and insurance company/ TPA
- Obtaining data back-up
- Uploading above data to SNA and Insurance Company & MoHFW server on daily basis

Additional feature, Business Continuity Plan (BCP), in cases when smart card based operation cannot be carried out by the hospital

The broad changes required to existing TMS software are

- Source code review: Analyse the existing source code and/or compiled version of code in order to find security flaws and to increase the efficiency of the software. A detailed report of proposed changes and risks involved along with the implications will be handed over to the GIZ-IGSSP and approval will be sought from the MoHFW before making necessary changes.
- Synchronising data from hospitals to server
    - If any records fails while transferring transaction data to the server, the whole file should be rolled back. Re-Export/Re-Upload should be there
    - There should be a provision to re-generate the uploaded data date-wise, even if the file has already been uploaded. This minimizes the issue of the file getting corrupted at the machine at the hospital.
- Secure data transfer i.e. SFTP. Any protocol required for data transfer/ file transfer etc. would first have to be discussed with designated representatives at MoHFW and only after approval should be implemented

- Renewal of policy, allowing RSBY balance update, and loading Top-up amount
- Development of Web service/routines by which data are populated from a Central Server to transaction Software
- Auto download of hot listing information from server to hospital
- System alert for download of latest version TMS or patch
- Automatic update hospital with policy extension details
- Debugging and fixing of issues already identified or which will be identified during the contract period, found during code review or arising while running applications, code validation/correction and optimization, database tuning.
- Minor modification in package management to display relevant on selection of scheme i.e.in case of RSBY scheme only RSBY package should be displayed.
- Resolve any defects that are introduced inadvertently during the development process, even if those defects are not within the scope of the requirements documented.
- Application portability to use MySQL and MS SQL Server ensuring a more efficient, relational, secured database with relevant data types in relation to the rest of the RSBY software.
- Suggest alternate authentication process (other than smart card) using Aadhaar (biometric authentication or eKYC) with implementation strategy.
- As a result of above changes, some of the software already running at server end for data decryption and collation will also be modifications to ensure compatibility.
- The successful bidder will be responsible for testing all changes they deliver to ensure a quality product through consistent execution of proven testing practices.
- Development of Application Programming Interface (API) for retrieving/ pulling transactions related data from IT system of States and storing in centralised system.
- Integration of API's exposed by State's IT system for transaction related data sharing

3.2 New modules to be developed

In addition to the customization of the existing TMS module, the agency needs to develop the following new modules:

MODULE 2: Online Claim Settlement System

The hospitals will raise claims through the above Transaction Management System integrated with online Claim Management System. Claims data will go to the SNA server, Central Server and the Insurance Company, with an email/ SMS alert. Claim data available on central server will be accessible through the online Claim Settlement System to Insurance Co. Hospitals, SNA and Central team.

Claim Settlement Process

- The Insurance Company will need to login on central system and update the claim settlement data on a daily basis and this data will need to be updated within 24 hours of claims payment.

Any claim which has not been uploaded shall be deemed to have been unpaid and the interest, as applicable, shall be charged thereon.

- The Insurance Co. or the TPA appointed by it shall decide on the acceptance or rejection of any Claim received from an Empanelled Hospital. Any rejection should be tagged with a proper reason.
- If a Claim is not rejected, the Insurance Co. shall either make the Claim Payment (based on the Package Rate or the pre-authorized amount) or conduct further investigation into the Claim received from the Hospital.
- The process specified in above in relation to Claim Payment or investigation of the Claim shall be completed such that the Turn-around Time shall be no longer than 1 (one) month. The counting of days for the purpose of this shall start from the date on which the Claim data is received on Central Server.
- The Insurance Co. shall make Claim Payments to each Empanelled Hospital against Claims received, on a weekly basis and as far as possible through electronic transfer to such Empanelled Hospital's designated bank account.
- Payment details with transaction reference number should be updated to online claim settlement system.
- Development of Application Programming Interface (API) for retrieving/ pulling claims related data from IT system of States and storing in centralised system.
- Integration of API's exposed by State's IT system for claim related data sharing

MODULE 3: Aadhaar seeding layer/ patch on top of existing RSBY Enrolment Software

The Centralised Enrolment and Card Issuance System (ECIS) is primarily used for capturing of the beneficiary data in the field. The ECIS is primarily used for capturing of the beneficiary data in the field. The software has the feature to use the validated and URN generated (VUGD) beneficiary data & other master data, make modifications and additions to it, personalize, print and issue the smart cards.

The enrolment, card personalization and distribution is performed over-the-counter i.e. the cards are to be personalized and issued on the spot.

Selected agency is supposed to develop a layer/ patch on top of the ECIS for organic Aadhaar number seeding during the RSBY enrolment process following the latest guidelines of UIDAI for Aadhaar data seeding. Aadhaar seeded data should be encrypted and secure. Provision to capture the consent of beneficiary before Aadhaar seeding should also be there in the system.

MODULE 4: Web based Management Information System (MIS)

Selected agency is supposed to develop a web Management Information System (MIS) for data analysis and generating various reports and also ensure compatibility with the current RSBY Enrolment, Transaction, and DKMA software being used in the field.

Centre and State level user: Following reports will be available to the centre and state user from within the application. However, a state will only be able to access data for his particular state whereas the centre level user will be able to see national level reports. The reports can be broken down State wise/district wise/hospital wise.

MIS features

1. Prepare a dashboard with main data points, visible data points based on user hierarchy

2. Prepare the MIS (the reports mentioned below are indicative and a few other common reports may be added to them)
   i. Aggregation of common records between
      - FKO and signed data
      - FKO, signed data and PED
      - Transaction data at Central server and from SNA server
   ii. Unique data from combination of
      - FKO and signed data
      - FKO, signed data and PED
   iii. Enrolment related reports
      - Enrolment village wise data
      - Post and pre enrolment data comparison
      - Village/ district/ state wise enrolment status
      - National/ State/ District wise Aadhaar collected
      - National/ State/ District wise Mobile collected
      -
   iv. Transaction data related reports
      - State district wise list of hospitals that have not transacted in a given period of time
      - State district hospital wise number and amount of transactions and claims (separately for IP, OP and top up cases)
      - Number of hospitalization cases.
      - Date wise number of patient under treatment and patients treated with in the selected dates
      - Top 15 packages blocked

- Number of pre-authorization requested
- Number of pre-authorization denied
- Data related to emergency cases
- Transport allowance disbursement data.
- Out of pocket expenditure information.
- Break up of beneficiaries in terms of different categories.

v. Claim related reports
   - Pending, Rejected, Settled Claimed
   - Insurance Co., hospitals wise claim report
   - Number of claims delayed beyond the limit of one month
   - Average claim size
   - Gender-wise claims

vi. Complete history of a URN i.e., details of a URN from
   - Beneficiary data
   - PED (Post Enrolment Data)
   - Hospital transactions

vii. Total number of hospitals empanelled with specialty details.

viii. District-wise and state-wise implementation details of the RSBY policy including no of beneficiaries, IC

ix. Auto email alerts for any service and scheduler failure to the concerned email id.

x. Search features using different parameters

xi. All reports have to be available for view, printing, download in excel and extraction as SQL file.

xii. For view and printing, proper pagination, grouping etc. needs to be available with appropriate headings

xiii. All reports to have the facility for appropriate selection criteria, some of which are listed below but may be added to as per requirement. The criteria may be single or a combination of multiple criteria, There also needs to be possibility for 'ALL' as a criteria (wherever possible)
   - state/ district
   - Insurance company
   - Date from – to

xiv. Grouping and sub grouping may also be user defined wherever possible

xv. Wherever possible both Summary and detailed reports should be available

xvi. Provision for sending auto emails from various modules. The email ids to be picked up from a master based on defined criteria

3.3 Security Audit

All the software complies with secure programing/ codes and can be deployed in the Government as well as in private data centres. Therefore the selected agency needs to get the Security Audit Certificate for Claim management System (Module 2) and Web MIS (Module 4) from CERT-In (Indian Computer Emergency Response Team) agency for security audit empanelled under Ministry of Electronics & Information Technology on their own cost.

4 Task to be performed

- Customise Module 1 and Develop Modules 2-4, as described in the TOR
- Deployment of all modules 1-4
- After approval of all design documents mentioned in deliverables section 6, ensure development in a manner that the front end (i.e. user interface) as well as the output from the software (data) undergo minimal change since most of the interfacing systems have already been developed and put to use by Insurance companies, MoHFW, state nodal agencies and other stakeholders. Any changes to these should be done only after specific approval from GIZ.
- During the development phase, keep MoHFW & GIZ informed of the progress. A reporting mechanism should be proposed by the agency and agreed upon with MoHFW and GIZ.
- Provide training to the MoHFW team on the software coding standards used in the software.
- Provide technical support to the MoHFW operation team that would in turn provide support to the field teams (SNA, SCSP, TPA and Insurance Co.). During the contract period in case required, the contractor's team may have to intervene on an ad-hoc basis to get issues sorted out fast.
- Develop and signed agreed SLA for post deployment maintenance and support
- Support and maintenance of the software for a period of one year from the date of first deployment in the field.
- Ensure a maximum TAT of 12 hours for reverting to any queries/ issues raised by the MoHFW/ GIZ team.
- Selected agency should also provide the interface for project monitoring and technical support i.e. RT, Bugzilla etc. during the contract period.
- The contractor has to define a change management plan to take care of enhancements and changes in the systems. This plan should also define the manner in which these changes would be costed by mutual consent.

5 Deliverables

The selected agency is responsible for delivering the following:

1. Preparing the understanding document (As-is process) for business logic implemented in existing Module 1 (TMS) on the basis of code review and proposed code and process optimisation plan.

2. Modify the SRS for exiting Module 1 for the changes as mentioned in TOR, prepare the SRS for all new Modules 2-4, mentioned above and get it approved by MoHFW and their designated representatives.
3. Prepare and get approved the following design documents for all modules 1-4: (1) Data dictionary, (2) data flow diagrams, (3) database relational specifications, (4) architecture and program flow as well as (5) validations and business logic layer.
4. Provide user manual, installation deployment manual and integration guidelines for all modules (to be delivered with each module)
5. Deliver the complete source code of all modules and executable file on a DVD to MoHFW. The code would be handed over to a designated person only nominated by MoHFW (to be delivered with each module).
6. Design training modules (presentation & documents) in consultation with GIZ/ MoHFW for the field teams (SNA, Insurance Co./TPA, Hospitals) (to be developed alongside module 1-4)
7. Provide utilities for troubleshooting of all modules (to be provided on a permanent basis throughout the duration of the contract).

6 Delivery Schedule

Sno	Deliverable	Timeline
1	Final understanding and design document as mentioned above under deliverables 1-3	Within 1 month from start of the contract
2	Deployment of Module 1: Revised TMS along with user manual and training module	Within 3 months
3	Deployment of Module 2 & 3: Claim Settlement system and Aadhaar seeding layer along with user manual and training module	Within 5 months
4	Deployment of Module 4: Web based MIS along with user manual and training module	Within 6 months
5	Maintenance and support	After delivery of modules 1-4 until the end of the contract
6	Utilities for troubleshooting	Throughout the duration of the contract

7 Location and duration

Duration:

The contract duration is for eighteen months (18 months). This includes six months of development time (no. of days mentioned under experts profile) and 12 months of maintenance (no. of days 288 approx. for support period). It is estimated that the contract will start in December 2017.

Travel:

Travel will tentatively take place to Delhi, however if required agency may have to travel to implementing states after consulting with MoHFW/ GIZ. It is estimated that a total of 6 travels for 2 persons each up to 2 days each is required.

Location of assignment:

A senior member of the agency shall be deployed in Delhi for coordination with MoHFW/GIZ during requirement analysis and development phase (in case the agency does not have office premises in Delhi, the agency should arrange for the same).

8 Experts profile

The agency is requested to provide experts with the following profile for this assignment. All experts need to be fluent in written and spoken English:

SNo.	Designation	Professional experience	Location
1.	Project Manager	PMP, ITIL certified with minimum 5 years of experience as project manager Total no of days 132	Onsite
2	Solution Architect	MCA/ M tech with minimum 3 years of experience as solution expert Total no of days 44	Offsite
3	Analyst (Insurance Domain)/ Transaction Advisor	MBA/MCA/ M. Tech with minimum 3 years of experience in Health Insurance domain Total no of days 22	Offsite
4	Sr. Software Developer	B. Tech/ MCA with minimum 5 years of experience Total no of days 264	Offsite
5	Software Developer	B. Tech/ MCA with minimum 2 years of experience Total no of days 396	Offsite
6	Database Designer/ expert	B. Tech/ MCA with minimum 2 years of experience Total no of days 88	Offsite
7	Quality Assurance/ Tester	B. Tech/ MCA with minimum 2 years of experience Total no of days 66	Offsite
8	Technical Content Writer	B. Tech/ MCA/ MSc IT/ PGDCA with minimum 2 years of experience Total no of days 44	Offsite

9 Eligibility criteria

The agency submitting a bid has to fulfil the following criteria:

1. The selected agency is not allowed to participate in any implementation aspect of RSBY, either as an enrolment/ card issuance agency or service provider/ support for hospital transaction software, unless explicitly stated in the contract they would sign for the duration of the contract.
2. The agency should have developed software using at least one of the following criteria for at least 2 projects each of more than Rs, 30 Lakhs (excluding hardware cost). This has to be evidenced as part of the bid.
    i. Software for Health Insurance Scheme (Enrolment, Transaction or Claim Management)
    ii. Development of software involving smart cards and biometric technologies
3. The agency should have a minimum of 3 years' experience of handling similar project.
4. The agency should have an average annual turnover of not less than Rs 1 crore in the last three financial years.

10 Other information

- The Government of India will own the software, documentation and all programming code developed. The same can be distributed by MoHFW to any agency they deem fit.

11 Bidding requirements

- The bidding agency is expected to submit their understanding of the project and requirements. In addition they are expected to give a project plan for the completion of the task, change management plan and technical support process post deployment.
- Confirmation to provide the IPR of customized software, if any, including the source code to MoHFW. This should be delivered in totality before the start of implementation.
- Signing of annexures A and B and delivery to GIZ at the time of bidding. If the annexures are not signed at the time of submission, then the bids will be rejected.
- **Eligibility & Technical Evaluation Process**
  Kindly refer to Point Nr. 8 of Bidding Conditions.

12 List of Abbreviations

API	Application Programming Interface
BCP	Business Continuity Plan
BSI	Balance Sum Insured
DLL	Dynamic Link Library
ECIS	RSBY Enrolment and Card Issuance System
EID Number	Enrolment ID Number (Temporary UID)
Ekyc	Electronically Know Your Customer
EPI	Enrolment Personalization & Issuance
FKO	Field Key Officer
FP Scanner	Finger Print Scanner
FTP	File Transafer Protocol
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HAC	Hospital Authority Card
HoF	Head of Family
IGSSP	Indo-German Social Security Programme
IP Policy	In Patient Policy
KMS	Key Management System
LAN	Local Area Network
MIC	Master Issuance Card
MoHFW	Ministry of Health and Family Welfare
NIC	National Informatics Centre
OP Policy	Out Patient Policy
PED	Post Enrolment Date
RSBY	Rashtriya Swasthya Bima Yojana
RT	Request Tracker

SCSP	Smart Card Service Provider
SLA	Service Level Agreement
SNA	State Nodal Agency
SRS	System/Software Requirement Specification
STQC	Standardization Testing and Quality Certification
TAT	Turn Around Time
TMS	Transaction Management System
TPA	Third Party Administrator
UID Number	Unique Identification Number
URN	Unique Reference Number
VUGD	Validated and URN Generated Data

Annexure A

Verification

1) We confirm that we will abide by all the terms and conditions contained in this TOR.
2) All the details mentioned in the bidding documents are true and correct and if MoHFW, GoI observes any misrepresentation of facts on any matter at any stage, it has the right to reject the proposal and disqualify us from the process.
3) We hereby acknowledge and unconditionally accept that MoHFW, GoI can at its absolute discretion apply whatever criteria it deems appropriate, not just limiting to those criteria set out in the TOR and related documents, in the shortlisting of agencies for providing solutions.
4) We also acknowledge and unconditionally accept that MoHFW, GoI can request for further information, documents in order to technically qualify or disqualify an agency.
5) We acknowledge the information that this response of our agency is valid for a period of at least **six months**, for the short-listing purpose.
6) We also confirm that we have noted the contents required including various documents forming part of it and have ensured that there is no deviation in filing our offer in response to this document. MoHFW will have the option to disqualify us in case of any such deviations.

Place and date:

_____

Name and designation

_____

e B

LETTER OF UNDERTAKING

Dated_____

I _____ (Name), _____ (Designation) being the

authorized signatory for the _____

_____

(Name & Address of the bidding agency) do here by declare that we are not working on any field

implementation of RSBY by issuing smart card or supporting RSBY empanelled Hospitals. We also

confirm that we shall not take up any such tasks that may be construed to be field implementation of

RSBY during the time of being under contract with GIZ unless we take express permission from MoHFW.

For and on behalf of the
(Name of the Agency)

_____

Date and place

_____

Name and address of authorized signatory

_____