



INFORMATION AND COMMUNICATIONS TECHNOLOGY

TERMS OF REFERENCE Business Intelligence Solution And Data Purification Services

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1. BACKGROUND

The South African Social Security Agency (SASSA) is an Agency of government established in terms of the SASSA Act of 2004, for the sole responsibility of administering and paying social grants - including the old age, child support, disability, care dependency and grant-in-aid, to millions of eligible South Africans. The Agency also administers temporary grants such as the Social Relief of Distress (SRD) grant and the Covid SRD grant.

In 2015, SASSA contracted Microsoft South Africa (MSA) to build an integrated data warehouse and business intelligence solution.

SASSA's data warehouse uses the Microsoft Analytics Platform System (APS) and applies Ralph Kimball's dimensional modelling method. The Agency faces a technology challenge as the APS has reached end of life and is no longer supported by the original equipment manufacturers (OEM). In order to mitigate the challenge, the Agency has migrated the grants administration (core business) operational data store to the Oracle Private Cloud Appliance. The Agency's data volumes have grown rapidly due to its added responsibility of administering the Covid SRD grant.

There is a critical business need to integrate data from all the operational systems, both structured and unstructured, to produce a single and logical version of the truth in order to support and enhance decision-making.

The Agency aims to use Artificial Intelligence and Machine Learning to improve decision making and combat fraud.

2. PURPOSE

The advent of Covid19 created both a threat and opportunity for many organizations in terms of how they conduct their businesses. Online technologies and digital transformation of business processes can no longer be left as an after-thought by many organizations when designing their strategic plans.

SASSA without exception had to relook at its business processes and respond to questions of whether it is an organization responsive to the demands of the 4th industrial revolution (4IR) while at the same time responding to its constitutional mandate of providing for the needs of its customer base.

The Agency has over the years embarked on several projects and programs that highlighted critical issues related to its data architecture. To name a few the Agency developed the following systems Online Grants Application, Covid SRD, Electronic Know Your Client (EKYC), Biometric Identity Access Management (BIAM), Records Scanning, Beneficiary Records Management (BRM), etc.

The Agency now seeks to improve its decision-making processes, enhance operational efficiency and improve customer experience using business intelligence applications.

3. PROJECT OBJECTIVES AND SCOPE

SASSA's vision is to be a leader in innovative social security services. The Agency's mission is to provide inclusive and accessible social security services that protect and empower eligible vulnerable people living in South Africa using modern, customer-centric and innovative approaches.

SASSA aims to develop a Business Intelligence platform that provides for integration of data from disparate operational sources into subject areas organized by commonly understood business terms and validated for accuracy to ensure that the business can rely on it to make decisions. The Agency seeks an analytics platform that will support the collection, cleansing, governance, and management of the data and relevant metadata and support information delivery via multiple approaches ranging from reports to portals to analytical and visualization tools.

The main project's objectives are:

- Single version of the truth by enabling factual and accurate reporting consistent with business rules across the Agency;
- An operational data store for enterprise use that contains master and transactional line-item data, designed for flexibility and scalability;
- Automated extraction of data and population of the data stores on a frequent basis (daily);
- Data cleansing/ purification and data quality assurance;
- Identification of best practice indicators for monitoring internal control and business processes for effectiveness and efficiency;
- Analytics performance and control indicators that enable analysts to identify root cause issues published once a month;
- Decreased necessity for manual intervention in reporting processes;
- Master report generation and secured, controlled access;
 - It must be noted that Cloud based solutions will be considered only if it is hosted in data centres in South Africa as it relates to production, non-production and Disaster Recovery environments;
 - Any information or data generated during the contract period is the Intellectual Property of SASSA and will be returned to SASSA at the end of the contract;
- Skilled and agile in managing ad hoc reporting requests.

4. ORGANISATIONAL CONFIGURATION

SASSA has the following tiers of operations:

- Head Office
- Regional Offices (one per province)

- District Offices (one per district / metropolitan municipality)
- Local Offices (one or more per local municipality)
- Services Offices.

5. ORGANISATIONAL DATA SOURCES

The following table shows the existing data sources (DS) necessary for the successful implementation of the requirements of the project.

TABLE 1: SASSA DATA SOURCES

Data Source	Description
SOCPEN system	Natural Adabas
MIS system	SQL Server
Oracle ERP system	Oracle DB
Online Grant System	Open Text
Integrated Customer Care Administration System	SQL Server
Queue Management System (QMS)	SQL Server
Covid19 SRD System	Oracle DB
LiveLink	Open Text
Beneficiary Records	Open Text
T-Relational	Oracle DB
Beneficiary Biometric System	Oracle DB
Microsoft365	Microsoft

EXTERNAL DATA SOURCES

As part of its on-boarding and payment processes, SASSA interfaces with other external data sources namely BANKSERV, National Student Financial Aid Scheme, Unemployment Insurance Fund, SARS, Department of Home Affairs, Department of Basic Education, etc. supported by signed memorandum of understanding.

6. ORGANIZATIONAL INFRASTRUCTURE

6.1 Networks

SASSA uses MPLS VPN network for connectivity. SASSA has 1 head office, 9 regional offices, 43 district offices, approximately 414 local offices and 9 Regional Records Management Centres (RMC).

Some local and district offices share the same building. Access speeds vary considerably across the various sites according to demand for network bandwidth. Most offices (373) are connected using Microwave links, 51 offices make use of Fibre, 16 offices use Very Small Aperture Terminal (VSAT) communications links, 16 offices use Long Term Evolution (LTE). As the data requirements at these various points differ, the bandwidth differs significantly. Table 2 summarises SASSA's network.

Table 2: Bandwidth provided within SASSA's network

Office	Bandwidth
Head Office (1)	60 Mbps
Regional Offices (9)	20 - 30Mbps
Records Management Centres (9)	10 Mbps
District Offices (52)	6 Mbps
Local Offices	2 – 10 Mbps

NB: Some local offices have no Infrastructure and thus use LTE for connectivity.

6.2 Data Centres

The Agency has two data centres, namely the Primary Hosting Centre (PHC) and Secondary Hosting Centre (SHC) within Gauteng. The data centres house the Agency's dedicated Server Infrastructure that runs business applications and stores business data. The PHC serves as a production environment and the SHC serves as a Development, Test and Disaster Recovery environment.

7. HIGH LEVEL SOLUTION REQUIREMENTS

- Single Point of Access to Information
- Timely answers to business questions
- Lowering Costs
- Improving Stakeholder Satisfaction

8. SOLUTION FUNCTIONAL REQUIREMENTS

The solution should:	
FR01	Support a virtualized metrics layer, enabling users to define business metrics as code, manage them from data warehouses, and deliver them to analytics, data science, and business applications.
FR02	Allow users to track platform usage statistics, manage costs by monitoring capacity and/or credits and intervene by pausing or prioritizing jobs.
FR03	Have the capability to measure query performance and alert content authors on high utilization.

FR04	Have capability to apply machine learning techniques to automatically generate insights such as identifying the most important attributes in a dataset.
FR05	Enable administrators to oversee analytics content security, certification, and lifecycle.
FR06	Integrate analytical capabilities directly into business applications, legitimate websites and portals, enabling collaboration and communication of insights.
FR07	Support interactive and customizable reports and dashboards.
FR08	Offer robust Application Programming Interface (API) and Software Development Kit (SDK) integration.
FR09	Offer intuitive, user-friendly interfaces that promote engagement.
FR10	Support portal-like curation and collaboration of analytics and business intelligence content.
FR11	Enable users to share, find, search, comment and certify dashboards, reports and datasets from a diverse range of platforms in one place.
FR12	Support complex analyses, such as variance analysis and outlier detection.
FR13	Produce written or spoken responses, allowing users to specify the level of detail, verbosity and tone.
FR14	Enable users to ask questions of the data by using terms that are either typed into a search box or spoken.
FR15	Support drag-and-drop, user-driven combination of data from different sources and the creation of analytic models, such as user-defined measures, data pipelines, sets, groups and hierarchies.
FR16	Enable users to connect to and ingest data contained in various types of storage platforms, both on premises and in the cloud.
FR17	Provide pixel-perfect paginated reports that can be scheduled and shared with a large user community.
FR18	Support highly interactive dashboards and exploration of data through the manipulation of chart images.
FR19	Eliminate any data redundancies to ensure credible and trusted information
FR20	Support full redundancy
FR21	Scale up without compromising performance
FR22	Provide tight integration with specified data sources, as well as external sources of data using industry standard data interchange formats and protocols
FR23	Have a central set of metadata that defines elemental data formats and rules that apply across all data
FR24	Have the capability to integrate with emerging technologies, such as artificial intelligence and machine learning.

9. TECHNICAL REQUIREMENTS

The solution should:	
TR01	Provide required data storage capacity, file types and locations. Supports processes such as disaster recovery, rollbacks, extraction or eradication.
TR02	Integrate with all relevant applications, data sources and technologies.

TR03	Provide proactive alerts on system events.
TR04	Enable logging and resolution reporting on all issues.
TR05	Enable configurable controls that extend data and transaction security and compliance to third-party platforms or the solution's hosting providers.
TR06	Document security policies, audits, attestations or evaluations, for compliance needs.
TR07	Enable monitoring, reporting and management of data sharing.
TR08	Support encryption and security for data at rest and in motion.
TR09	Send data to external systems such as large language models and use insights from connected engines such as generative AI to deliver product functionality.
TR10	Enable users to manage all aspects of data sharing, including full disablement.
TR11	Enable processes such as disaster recovery, rollbacks and version control.
TR12	Support identity and user access management aligned to the SASSA ICT policy and Information Security policy.
TR13	Support capabilities such as user authentication, password policy management, multi-factor authorization, single sign on and role-based access.
TR14	Allow customization of the standard deployed solution with custom user interfaces, data tables, process components and business logic.
TR15	Allow compatibility with various technologies in the market as well as legacy mainframe systems such as Natural Adabas
TR16	Be able to manage user access and security by defining user roles, access permissions, and security measures to protect sensitive data.

10. DATA ARCHITECTURE REQUIREMENTS

Number	Requirements
DA01	Provide support for incremental data loading
DA02	Provide partitioning for large transactional tables and associated archiving
DA03	Overall data warehouse infrastructure design with scaling and high-availability options
DA04	Staging database - a database that will temporarily store transactional and non-transactional data sources before entering in data warehouse
DA05	Valid and accurate data sources such as Excel and Word documents should be accepted as data sources to the Reporting Architecture
DA06	Consolidated information from various sources to a single repository for accurate and timely reporting
DA07	The architecture should contain a repository of transactions and events that are in flight, completed, cancelled and failed

Number	Requirements
DA08	The solution should have the ability to track data changes and the ability to limit the number of versions shown
DA09	Should support automated scheduled import and export of data from internal and external systems

11. PROJECT MANAGEMENT REQUIREMENTS

Number	Description
PM01	High level Project plan detailing the milestones and timelines, including project risks.
PM02	The successful bidder will be expected to develop a detailed project plan, project charter and project scope outlining the work to be performed.
PM03	The successful bidder will be expected to develop communication plan to keep stakeholders informed about the BI project progress and changes.
PM04	The successful bidder will be expected to develop training plan to ensure that users are adequately trained on how to use the BI system.

12. SUPPORT AND MAINTENANCE REQUIREMENTS

Support and Maintenance for the BI solution will be required. Within the SASSA context, Support and Maintenance for the Solution will include systems operations, and thus will include but not limited to the following components:

- Systems Support;
- Systems Change Control;
- Systems Administration;
- Database Administration;
- Capacity and Availability Management.

Number	Description
OR01	The successful bidder must collaborate with the SASSA Service Desk to handle, update, resolve, implement, and report on logged incidents, problems, and changes.
OR02	Loading of patches and routine maintenance of the BI solution needs to be properly planned, tested and scheduled by means of the Sassa change control policy and procedures before implementation.
OR03	An interactive first line support environment needs to be established to assist users with queries on the system as well as analytic tool assistance.

Number	Description
OR04	Bidders are required to propose the comprehensive provision of Support and Maintenance within the contract period of three years.
OR05	The above-mentioned proposal must include the Service Level Management process, access to raw performance information by SASSA from time to time, access to knowledge information by SASSA from time to time, etc.
OR06	Bidders must have locally based resources to deliver the required level of user and technical support.
OR07	Bidders to provide minimum of two high quality references with organizations in which a similar solution was implemented.

13. EXPECTED DELIVERABLES

The winning bidder must upon signing an SLA for support and maintenance, present a proof of concept using a SASSA data set prototype.

Hereunder follows the minimum services requirements expected by SASSA from the successful bidder:

- 13.1. Conduct User Requirements Specification (URS) to accurately develop an integrated data model
- 13.2. Establish an enterprise data warehouse or data lake system that would provide scalability, data integrity, security, high availability and performance
- 13.3. Provide an effective and efficient ETL (extract, transform and load) solution from SASSA's existing mainframe hardware architecture as well as any other IT infrastructure, where appropriate
- 13.4. Reporting and Dashboards: Specify the types of reports, dashboards, and visualizations required to meet the needs of different user groups.
- 13.5. Analytics and Insights: Describe the analytical capabilities of the BI system, including data mining, predictive analytics, and other advanced analytics techniques.
- 13.6. Facilitate access to high quality information for standard or ad hoc reporting, analysis and decision-making
- 13.7. Provide business intelligence functionality by seamlessly utilising various BI tools in an enterprise-wide solution
- 13.8. Establishment of an architecture that allows for future integration with other source systems
- 13.9. Implementation services

13.10. Ongoing support and maintenance for 3 years

14. BID EVALUATION CRITERIA

14.1 The bid proposals shall be evaluated in accordance with the 80/20 principle.

14.2 The evaluation process will be carried out in terms of the following two (2) stages:

STAGE 1: MANDATORY REQUIREMENTS, ADMINISTRATIVE COMPLIANCE & FUNCTIONALITY EVALUATION

- ✓ **Phase One:** Mandatory Requirements
- ✓ **Phase Two:** Administrative Compliance
- ✓ **Phase Three:** Functionality Evaluation

STAGE 2: PHASE 1: PRICE & SPECIFIC GOALS

STAGE 1: PHASE 1 - MANDATORY REQUIREMENTS,

- a) The bidder must be accredited by the OEM of the proposed solution
- b) The bidder must provide at least two signed reference letters from organizations where they have successfully implemented a similar solution within the past five years

NB: The accreditation referred to in (a) and reference letters referred to in (b) must be submitted and must contain the letterheads of the organization as well as their contact details. SASSA reserves the right to conduct due diligence on all the submitted documents.

NOTE: FAILURE TO COMPLY WITH THE ABOVE WILL INVALIDATE YOUR BID AND WILL NOT BE EVALUATED FURTHER.

STAGE 1: PHASE 2 - ADMINISTRATIVE COMPLIANCE

- Bidders are required to submit electronic copies of their bid proposals through the e-Tender Portal and deposit the original proposal in the tender box as per the address stated in the bid advert.

The Bidder should submit the following:

- Valid Tax Compliance Status Pin (SARS).
- Proof of registration with Central Supplier Database (CSD).
- Fully completed and signed Standard Bidding Documents (SBD's).

NOTE: FAILURE TO SUBMIT THE ABOVE-REQUIRED DOCUMENTATION MAY INVALIDATE YOUR BID.

STAGE 1: PHASE 3 - FUNCTIONALITY EVALUATION

Functionality includes the following:

- Written Proposal or Bid Submission
- Compliance checked against your responses as per all the functionality requirements of the bid.
- **Annexure A: Business Intelligence Bid Response Template** will be used to evaluate functionality as per the evaluation criteria below.

The table below contains the weights of each Expected Deliverable component.

Values: 1= Poor; 2=Average; 3= Good; 4 = Very good; 5= Excellent

EVALUATION CRITERIA	WEIGHT
Solution Functional Requirements	35%
Solution Technical Requirements	30%
Data Architecture Requirements	15%
Project Management Requirements	10%
Support And Maintenance Requirements	10%
SUB TOTAL	100

NB: Bidders who score less than 70 points of the Functionality Points will be disqualified and thus will not be evaluated further on Price and Specific Goals.

STAGE 2: PRICE & SPECIFIC GOALS

EVALUATION CRITERIA ON PRICE AND SPECIFIC GOALS

Price and Preference	100
Price	80
Specific Goals	20

80 points will be for price and the 20 points will be for specific goals.

Price

$$P_s = 80 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{min} = Price of lowest acceptable tender

Specific Goals

Preference points will be awarded to a bidder for attaining the specific goals in accordance with the table below:

Specific Goals	Number of points (80/20)
B-BBEE Status Level 1 - 2 contributor with at least 51% black women ownership	20
B-BBEE Status Level 3 - 4 contributor with at least 51% women ownership	18
B-BBEE Status Level 1 - 2 contributor with at least 51% black youth or disabled ownership	16
B-BBEE Status Level 1 - 2 contributor	14
B-BBEE Status Level 3 - 8 contributor with at least 51% youth or disabled ownership	12
B-BBEE Status Level 3 - 4 contributor	8
B-BBEE Status Level 5 - 8 contributor	4

Others (Non-Compliant)	0
Note: In the event of a bidder claiming more than one specific goal category, SASSA will allocate points based on specific goal with the highest points.	

- Bidders must submit a B-BBEE verification certificate from a verification Agency accredited by the South African National Accreditation System (SANAS) or certified copies thereof and/or a CSD MAAA number and/or a sworn affidavit indicating the percentage of ownership of all shareholders and/or owners and signed by the commissioner of oaths. A sworn affidavit should be submitted over and above the SANAS or CSD MAAA number to claim for the below contributor level points:
- Failure to submit the required documents shall be interpreted to mean that preference points for specific goals are not claimed.

15. BID CONDITIONS

- 15.1 Bidders should be compliant with the Protection of Personal Information Act, 2013 (POPIA) in all aspects of the bid. No information whatsoever will be stored outside the borders of the country.
- 15.2 No advance payment will be made. Payment would be made in terms of the deliverables or unless otherwise agreed upon by SASSA and the successful bidder.
- 15.3 The successful bidder must ensure that the information provided by SASSA during and after the contract period is not transferred/copied/corrupted/amended in whole or in part by or on behalf of another party.
- 15.4 The successful bidder will be required to sign a declaration of secrecy with SASSA.
- 15.5 The successful bidder will be required to sign a service level agreement with SASSA prior to the commencement of the contract.
- 15.6 SASSA will contact referees and do the due diligence to check the implementation of the project in such organizations, and any misrepresentation will result in the disqualification of the bidder(s).
- 15.7 Late bids will not be accepted and will be disqualified.
- 15.8 SASSA reserves the right not to award the bid.
- 15.9 SASSA reserves the right to negotiate with the preferred bidder.
- 15.10 Failure to comply with the requirements may invalidate the proposal.
- 15.11 Bids must be submitted in line with specifications.
- 15.12 All costs relating to Travelling and Accommodation will be at the expenses of the bidders.

16. DURATION OF CONTRACT

- 16.1 The duration of the contract will be for a period of three (3) years.

17. NON-COMPULSORY BRIEFING SESSION

- 17.1 A virtual non-compulsory briefing session will be conducted.
- 17.2 All enquiries, questions and requests for clarification that may arise in relation to this bid must be directed to the BI2025@sassa.gov.za email address.
- 17.3 Bidders must register details of their representatives for the briefing session at the BI2025@sassa.gov.za email address.
- 17.4 All questions and/or enquiries must be raised within 3 working days from date of the briefing session. No questions and/or enquiries will be considered beyond that period.
- 17.5 Responses will be provided within 5 working days from date of the briefing session.