

# **EAST AFRICAN COMMUNITY SECRETARIAT**



## **TERMS OF REFERENCE**

**For**

**INDIVIDUAL CONSULTANCY; (IT) CONSULTANT FOR  
NATIONAL PAYMENT SYSTEM (NPS) TO SUPPORT BANK OF  
SOUTH SUDAN TO IMPLEMENT AN AUTOMATED TRANSFER  
SYSTEMS (ATS)**

**REFERENCE: EAC/PSSIP/IC/2021/38**

**EAC PAYMENT AND SETTLEMENT SYSTEMS INTEGRATION  
PROJECT  
(EAC-PSSIP)**

**EAC SECRETARIAT  
ARUSHA, TANZANIA  
July, 2021**

# I. TERMS OF REFERENCE (TOR)

## 1. Background

The development of a safe and efficient national payment system is important to the implementation of monetary policy, financial stability, and overall economic development in a country. Central banks therefore monitor developments in the payment system to assess their impact on the demand for money, the influence of monetary policy with efficiency and stability of financial markets. Moreover, an efficient payment system acts as an enabler for speeding up liquidity flow in the economy; apart from ensuring proper utilization of limited resources it also eliminates systemic risks.

The South Sudanese economy functions mainly on a cash basis. The use of cheque is low, there is no interbank money market and except for the manual cheques clearing house, no interbank clearing facility exists. Without core infrastructure, the financial sector in South Sudan is severely lacking and what exists is highly fragmented. In the absence of an electronic system for handling inter-bank transactions, clearing banks meet at the Bank of South Sudan Clearing House to exchange paper instruments and establish their net settlement positions. Settlement is then effected on a deferred basis.

Currently banks are the main providers of payment services in South Sudan. Twenty-eight commercial banks are licensed to operate, six of which are foreign-owned. The majority of local banks are mainly one-branch operations whose main business is foreign exchange trading. Regulations have been drafted and it is envisaged that mobile payment and banking services will be launched by several banks as soon as the regulatory framework is in place.

In pursuit to modernize its payment and settlement systems as empowered by *section 6 of the BSS Act 2011*, the Bank of South Sudan initiated efforts to develop the National Payment System that will be driven by customer demands of convenience, ease of use and access that will impel the necessary convergence in innovative e-payment products and capabilities.

In achieving all that the Bank stands to develop overall institutional and regulatory frameworks that will channel innovation and competition to meet these demands consistent with international standards and best practices. The overall regulatory stance is towards promoting a less cash/less paper society and hence increase the emphasis on use of electronic payment products and services that can be accessed anywhere and anytime by all at affordable prices. Embracing new technology and innovation to unveil a bouquet of simple, low-cost easy-to-use modern payment products and services would be the cornerstone of this endeavor.

The timing and sequencing of these initiatives is especially important given the country's historical experience, the state of automation across banking sector, the underdevelopment of the infrastructure and the weak institutional capacity.

The Project specifically aims at enhancing convergence and regional integration of payment and settlement; and strengthening a harmonized legislative and regulatory framework on financial sector and capacity building in the Partner States.

## **2. Objectives of the Consultancy**

The objectives of this assignment are as follows:

- To assist BSS in project implementation, supervision particularly from the technical scope/angle for National Payment Systems platform i.e. Automated Transfer System (ATS) hybrid that comprising of Real Time Gross Settlement (RTGS) Automated Clearing House(ACH) and Central securities Depository (CSD) but not limited to but including hardware and software,
- Provision of technical skills and training requirements for: (i) IT infrastructure, (ii) SWIFT system, (iii) ATS (ACH+RTGS) systems, and (iv) the users' desktop; bill of quantities for the primary and DRC datacentres; and awareness in the areas of payment system, IT and related areas.
- Proposed appropriate architecture to support retail, wholesale payments as well as settlement and integration of the proposed platform with other payment systems operating in South Sudan where applicable. .
- Provision of technical direction, advice and support to core project team in reporting, procedural and contractual activity.
- The consultant will also analyze the gap between the capabilities of the current industry and the desired capabilities as expressed by the BSS and presents a desired solution. The proposed solution will include situational analyze, the system specification requirements, the system implementation design and plan.

## **3. Scope of the Services/work**

The scope of the assignment and the specific services to be provided by the Consultant include:

### **3.1 Study of existing payment system infrastructures in South Sudan**

- Assess the BSS existing IT environment and preparing any necessary recommendation for upgrading it to accommodate the new equipment related to the ATS (RTGS, ACH and CSD)
- Develop the technical and functional specifications requirement to be used in procuring, configuring and implementation of the IT infrastructure, SWIFT system, ATS (integrated RTGS and ACH) systems, and the users' desktop and review bill of quantities for the primary and DRC data centres;
- The consultant shall also incorporate recommendations for the requirements for the infrastructure keeping in view the present payment landscape in South Sudan;
- Analysis of the operational environment (Datacenters) to identify requirements, constraints and specific action items;
- Recommendation for adoption of International Messaging Standards i.e. ISO 20022 by the banks in the light of the proposed ATS system;

- Hold workshops to engage with potential stakeholders to establish a common understanding and align plan according to the objectives, goals and proposed technical specifications of the ATS under Bank of South Sudan strategy;
- Review regional payment and settlement system solution used in other jurisdictions e.g. other EAC partner state central Banks. and
- Analyze gaps between BSS and the Stakeholders.

### **3.2 Work plan including benchmark and target to be achieved i.e. the ATS system**

- Prepare an overall framework, design and architecture of the ATS system infrastructure requirement;
- Assist vendor in identifying technical requirements and develop detail technical design including core, subsidiary and integration components (end-to-end);
- Develop the architecture of the required ATS on an internationally recognized standard;
- Review the proposed security architecture offered by the vendor;
- Provide estimated timelines for the ATS project implementation. The timelines should identify all major tasks provided by the vendor, Bank of South Sudan and the participants; and;
- Assist BSS in completing the bidding formalities.
- Project implementation governance indicating the role of the various stakeholders.

### **3.3 Assist in implementation, project management and installation of the ATS at BSS.**

- Assist in project implementation for each component of ATS. Provide supervision to the project including procurement, acquisition and implementation. Provide guidance during developments, issues resolution and document activities at all stages of the project as per the work plan;
- Review project tasks, schedules, and resources and advise changes or additions as appropriate. Measure and evaluate progress against the project plan with the core project team and the PSSIP EAC project team;
- Supervision of the installation of ATS until finalization in light of the scope of work to the satisfaction of Bank of South Sudan technical team;
- Assess implementation against the prescribed requirements, criteria and standards and provide recommendations for the final acceptance and closure of the project;
- Assist in developing policies, operational procedures, rules related to ATS in consultation with the legal consultant, vendor of the ATS;
- Submission of periodic project status reports in consultation with the Vendor and the core project team.
- Working closely with the supplier of the system and coordinating implementation activities across a number of organization in addition to the BSS (including at least the commercial banks Ministry of Finance and may be Revenue Authority;

- Overseeing the provision by the supplier and assist BSS on a broad variety of aspect of the implementation which are strictly unrelated to putting the system into operation, including items such as policies and procedure for liquidity support, information security, management of digital certificates, disaster recovery, participants agreement, system rules; and so on. the consultant will not be expected to provide these items directly, but rather to advise the BSS on their quality, timelines;
- Advising and assisting the BSS in working with external participants (Bank, Gov't agencies) to prepare their systems and procedures for interfacing with RTGS, ACH and CSD systems.
- Supporting the BSS in assuring itself that User Acceptance Testing and technical Stress testing of the system are carried out successfully and in a timely manner and subjected to a comprehensive external security review (penetration test) carried out by a respected and professional external company;
- Assist on the preparation of the pilot and the GO-live readiness.

### 3.4 Developing BSS official's capacity and post-implementation requirements

- Provide complete history of developments, activities, knowledge, learning before the end of the combined (and assist in doing so as per requirements);
- Provide future strategic recommendations for sustainable development and operations of the system;
- Ensure that the vendor for the ATS will develop BSS officials' functional, technical and operational management of the ATS system;
- Ensure that the capacity building is effectively measure through at least a set of measurable key performance indicators.

## 4. Deliverables and Timelines

The table below indicates the key deliverables timelines by the consultant to be monitored by the BSS Management or the Project Manager and the National Core Project Team.

Major Activities	Major Outputs
<b>Review of payment system infrastructure in South Sudan</b>	<p>A comprehensive Report(s) and Work Plan</p> <p>Existing payment system infrastructures and recommendations for the proposed ATS system;</p> <p>Operational environment, constraints and specific action item for BSS, financial industry and the vendor for proposed ATS solution;</p> <p>Recommendations for adoption of International Messaging Standard .i.e. ISO 20022 by banks and payment system in South Sudan;</p> <p>Incorporate potential participants, operator and beneficiaries' suggestions</p>

	where feasible, for ATS system.
<b>Specification documents</b>	<p>Specification document comprising at least following items:</p> <p>Framework , design, architecture of the ATS including design industry and enterprise architecture required for integration of existing platforms with ATS on an internationally recognized standard;</p> <p>Infrastructure requirement for the proposed ATS solution;</p> <p>Review of security architecture proposed by the vendor;</p> <p>A draft project plan for implementation of ATS solution</p> <p>Assist in completing the bidding formalities.</p>
<b>Workshop. (Validation)</b>	Stakeholders validate technical and functional specification requirements and implementation plan
<b>ATS implementation support</b>	<p>Assist in project implementation for each component of ATS</p> <p>Provide supervision to the project including procurement, acquisition and implementation;</p> <p>Provide guidance during developments, issues resolution and document activities at all stages of the project;</p> <p>Supervision of the installation of ATS solution till finalization in light of the scope of work;</p> <p>Assess implementation against the prescribed requirements, criteria and standards</p> <p>Provide recommendations for the final acceptance and closure of the project;</p> <p>Assist in developing policies, operational procedures, rules related to ATS in consultation with the legal consultant and the vendor;</p> <p>Submission of periodic project status reports in consultation with the vendor</p> <p>Participate in review and validation of technical design of the ATS and specification of hardware/software.</p> <p>Supervise deployment of hardware and installation of the software</p> <p>Participation in pre-bid meeting, technical clarification, evaluation and contract negotiation.</p>

<b>Post Go-live support</b>	<p>Development of key performance indicators to ensure that vendor has developed BSS official's capacity for functional technical and operational management of ATS systems/solution;</p> <p>Provide future strategic recommendations for sustainable development and operations of the system;</p> <p>Ensure that vendor for the ATS solution will develop BSS official's functional, technical and operational management of ATS system/solution; and</p> <p>Coordinate and prepare the team readiness and software development, delivery, integration and UAT testing;</p> <p>Assist on the preparation of the pilot and the GO-live readiness</p> <p>Project completion report in light of the scope</p>
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## 5. Duration of assignment

It is estimated that the work will require a maximum input of **100 expert-days** spread within **twelve (12)** calendar months. The work is anticipated to start in November 2021 and is expected to be completed by end of November 2022.

## 6. Methodology

The consultant will accomplish the task in close coordination with the PSSIP Project team and the core project team and any other relevant stakeholders specifically identified for the project. In proposing the ATS technical requirements, the Consultant will consider the possible integration requirements of the current assortment of payment systems used by Central Banks in the region. The consultant will participate in consultative workshops with identified key stakeholders for the purposes of:

- a) Review of payment system infrastructure in South Sudan
- b) Presentation of the comprehensive report(s) and findings of the comparative analysis of available solutions in the market that could meet future requirements;
- c) Validation of the proposed solution by the stakeholders; and
- d) Review of technical specification requirements.

## 7. Key Qualifications and Experience of Consultant

The Consultant will have the following qualifications and experience:

- a) Master's Degree in Computer Science/ Engineering or other IT related disciplines
- b) Demonstrated experience in informatics, engineering or related fields.
- c) Experience in writing Technical Specifications for Enterprise ICT Solutions preferably payment systems.
- d) Extensive experience:

- i) at least ten (10) years of professional experience in providing ICT consultancy services
- ii) At least five (5) years of consulting experience in similar assignments with hands-on experience in designing and implementation of payment systems.
- iii) At least five (5) years of experience working with information systems in corporate and public sector.
- e) Substantial project management and organizational expertise. Proven proficiency in the preparation of study reports and ability to communicate project issues with high ranking officials, and to resolve key issues quickly.
- f) The consultant will have thorough knowledge of National Payment Systems (ATS) operation and required infrastructure. Experience in conducting ATS solution analysis and selection, implementation, assessment of business and technical requirements and project strategic management;
- g) The consultant should also have excellent understanding of various risks involved in such payment systems, understanding of how other digital payments infrastructure could be integrated;
- h) Knowledge of development and implementation of regional payment systems in East Africa, SADC, Euro Zone or other regional blocks.
- i) Expertise in managing large public sector ICT projects.
- j) Strong skills and knowledge of international standards and best practice in Information Security.
- k) ICT Certifications is required.

## **8. Reporting**

The Consultant shall report to the BSS and EAC-PSSIP Project Manager. The Consultant shall seek input for the project from stakeholders on important technical matters; For this consultancy, key stakeholders are identified as the BSS, South Sudan Bankers Association (SSBA), Ministry of Finance & Planning (MoFP), Ministry of Justice (MoJ), Ministry of Telecommunication and Postal Services (MoT), National Communication Authority (NCA), and Mobile Network Operators (MNOs). Key Stakeholders shall provide suggestions and feedback for the development of the solution based on their requirements and demand. The suggestion and feedback of the key stakeholders may be provided during progress update meetings.

## **9. Ownership of confidential information**

The consultancy would ensure all data/information collected under this consultancy is kept confidential and will be the sole and exclusive property of Bank of South Sudan. The consultant will not acquire any right, title or interest in or to any of the confidential information collected for this consultancy.