

## SCOPE OF REQUIREMENTS – PPA

### Business Problem Statement

Transnet currently manages their procurement processes mostly manually with partial system enablement. The current processes are not optimized, standardized and integrated to deliver the intended business value. These processes are time consuming and labour intensive and lacks governance controls leading to the risk of Public Management Finance Act (PFMA) violation across the organization. The current procurement processes have since been analysed, documented, and areas of standardization have been identified. In addition, a technology solution needs to be identified to automate the to-be processes.

### Business Strategic Objectives

The primary objective of the project is to provide a fit for purpose technology solution that will enable an automated end to end procurement process with embedded business rules applied across all Transnet Operating Divisions and Business Units.

### Organisational Scope

The organisational scope of the project will include the following divisions and business units:

- Transnet Corporate Centre;
- Transnet Freight Rail;
- Transnet Engineering;
- Transnet Port Terminals;
- Transnet National Ports Authority;
- Transnet Pipelines; and
- Transnet Properties;

### List of Acronyms and Abbreviations

Acronym	Description
AC	Acquisition Council
BBBEE	Broad Based Black Economic Empowerment
CFST	Cross Functional Sourcing Team
CFET	Cross Functional Evaluation Team
CIDB	Construction Industry Development Board
CIPC	Companies and Intellectual Property Commission

Procurement Process Automation (PPA) Scope Requirements

<b>Acronym</b>	<b>Description</b>
COID	Compensation for Occupational Injuries and Diseases
CSD	Central Supplier Database
DOA	Delegation of Authority
EMEs	Exempt Micro Enterprises
ESD	Enterprise Supplier Development
GRV	Goods Received Verification
ICT	Information and Communications Technology, also referred to as IT
LDAP	Lightweight Directory Access Protocol
MRP	Material Requirements Planning
NT	National Treasury
OD	Operating Division
PFMA	Public Finance Management Act
PPM	Procurement Procedure Manual
PPPFA	Preferential Procurement Policy Framework Act
QSEs	Qualifying Small Enterprises
RACI	Responsible, Accountable, Consulted, Informed
RFP	Request for Proposal
RFQ	Request for Quotation
RFI	Request for Information
RME	Rehabilitation Maintenance Engineering
SAP	Systems Applications and Products
SAP CLM	SAP Contract Lifecycle Management
SAP ERP	SAP Enterprise Resource Planning
SAP FI	SAP Financial Accounting
SAP SCM	SAP Supply Chain Management
SAP SRM	SAP Supplier Relationship Management
SAP MM	SAP Material Management
SAPS	South African Police Service
SPP	Strategic Procurement Plan
SD	Supplier Development
SLA	Service Level Agreement

Acronym	Description
TEAR	Tender Evaluation and Recommendation Report
VPN	Virtual Private Network

### Scope Inclusions

This solution scope includes all the processes for:

- Demand Management;
- Sourcing;
- Tender Management;
- Contract Management;
- Purchase Requisition and Purchase Order Processing (Procure to Pay);
- Training;
  - Develop end-user training materials as per the installed and configured solution components;
  - Conduct Train-The-Trainer as per the installed and configured solution components.
  - Bidder commits to knowledge transfer to internal Transnet ICT employees, in terms of the functional and technical skill set required to maintain the solution going forward.

### Scope Exclusions

Re-engineering of the approved AS-IS procurement compliance policies control frameworks, procurement procedures and toolkits;

- Procurement Master Data Analysis, Vendor Cleansing and Enrichment;
- Shared Services Centre project scope;
- Commercial Contracts (i.e. Revenue generating contracts).
- Warehouse Management & Stock Management (Inventory Management)

\*Policies and Procedures Compliance Requirements are outlined in the Procurement Procedures Manual (PPM).

**System Requirements**

Requirement ID	Capability	Requirement Description	Requirement Type	OD	Requirement Priority (MoSCoW)
RQ001	Demand Management	<p><b>System must automate the creation of the demand plan</b></p> <ul style="list-style-type: none"> <li>• Capture budget allocated to the business plan.</li> <li>• Identifying key projects aligned to business plan (Opex/Capex incl.).</li> <li>• Capture quantities, schedule and description of goods or services required.</li> <li>• Approval of demand plan.</li> <li>• Generate the annual procurement plan.</li> <li>• Automated workflow for the approval of the annual procurement plan.</li> </ul>	Functional Requirement	All	Must have
RQ002	Demand Management	<p><b>Automation of pre-procurement and finalisation of demand request</b></p> <ul style="list-style-type: none"> <li>• Link system to approved procurement plan/demand plan.</li> <li>• The system must allow deviation from approved demand plan and follow DOA for approval of deviation.</li> <li>• The system must identify and flag common requirements across the organisation for consolidation on the demand plan.</li> <li>• The system must identify and flag existing contracts across the organisation for analysis of possible piggy-backing or standardisation initiatives.</li> </ul>	Functional requirement	All	Must have



## PPA Scope Requirements

		<ul style="list-style-type: none"><li>• Spend analysis view for procurement and programmatic view on various commodities.</li><li>• Enable catalogue management only for approved list of suppliers.</li><li>• The system must flag repetitive and out of contract sourcing events as part of the analysis required in the demand.</li><li>• There must be a central entry point across the organisation for all procurement requests, regardless of size.</li><li>• Enable the allocation of procurement event to a specific procurement resources guided by defined RACI model.</li><li>• Provision must be made to track procurement events per individual, or per pre-defined teams.</li><li>• In the process of finalising the specifications, a version-controlled document which is released from procurement to the authorised party. Changes to the specifications document can only be made when it has been released to an authorised party.</li><li>• Ensure there is a clear tracking history of who has worked on the document and current user working on the document.</li><li>• Electronic final acceptance of the demand request.</li><li>• Turnaround time calculator – total turnaround time, with breakdown of the amount of time taken to execute various process stages.</li><li>• Electronic /Digital signature required to allow from approval and time stamping of all documentation for all required process steps involved.</li><li>• Any changes to the demand request must to be logged especially after it was approved initially.</li></ul>			
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PPA Scope Requirements

		<ul style="list-style-type: none"> <li>• The system to prompt escalation if not attended within specified time.</li> <li>• Option must be created to send clarifications to single or all bidders.</li> </ul>			
RQ003	Demand Management / Sourcing	<p><b>Automated approval of Request for Sourcing Strategy (SPP or Strategy Document)</b></p> <ul style="list-style-type: none"> <li>• Market price analysis per commodity to be loaded and stored on the system.</li> <li>• Market analysis per commodity for the inclusion of Regulation 4 of the Preferential Procurement Regulations i.e. sub-contracting, B-BBEE Level, EMEs and/or QSEs to be stored on the system.</li> <li>• Sourcing Strategy document to be developed and stored on the system with all mandatory requirements completed.</li> <li>• Business case document and confirmation of approval (e.g. CAPIT approvals, warrants and sub-warrants) to be stored on the system.</li> <li>• Track all existing procurement events linked to a single approved budget (i.e. 1 warrant).</li> <li>• Identify procurement mechanism (system should enable the preferred procurement mechanism process – there is a predetermined sequence and approvals that will be required based on the mechanism selected).</li> <li>• Cross Functional Sourcing Team (CFST) and Cross Functional Evaluation Team (CFET) to be appointed and provided with their mandate (which includes confidentiality) which they must agree to on the system.</li> <li>• Capture decisions on where to advertise.</li> <li>• Evaluation methodology approval (including evaluation criteria, thresholds and weightings) must be determined and approved on the system,</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

		<p>relevant checks and prompts to ensure the correctness of evaluation methodology.</p> <ul style="list-style-type: none"> <li>• A generic evaluation criterion must be created on the system and also allow customization of criteria;</li> <li>• Include minimum legislative requirements e.g. Preferential Procurement Prequalification criteria, subcontracting feasibility for transactions above R30m, Local Content, NIPP and Job Creation.</li> <li>• System to record envisaged award allocation e.g. single/split award.</li> <li>• Load approved specifications (scope / requirements).</li> <li>• Any changes to the approved demand document need to follow a process of releasing a document to the end user for approval similar to pre-procurement approval.</li> <li>• Approval of budget confirmed by cost centre owner or warrant owner.</li> <li>• DOA approval must be automatically driven by the value of the transaction.</li> </ul>			
RQ004	Sourcing	<p><b>Automate Creation of RFX document</b></p> <ul style="list-style-type: none"> <li>• Differentiate between the various types of RFX documents i.e. RFP (with/without Local Content), RFP (goods and services), RFP (Two stage), RFQ, RFI, CIDB tenders.</li> <li>• Based on the type of RFX selected, provision must be made for the various templates to be uploaded with the relevant generic clauses.</li> </ul>	Functional Requirement	All	Must have
RQ005	Demand/Sourcing	<p><b>Automate population of RFX</b></p> <ul style="list-style-type: none"> <li>• System to pull through the evaluation methodology from the approved strategy.</li> <li>• Mandatory fields to be created to fill in the portions of the RFX that needs to be completed e.g.</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

		<p>description of goods/services, closing date, validity period, etc. These standard requirements must be pulled through to wherever they are mentioned in the RFX documentation e.g. the description of the goods/services.</p> <ul style="list-style-type: none"><li>• The validity period must be defined as a 'business day 'so that it can be automatically calculated on the system.</li><li>• Provision to be made for different subject matter experts to review/provide input on their areas (e.g. SD, Governance, end user, price evaluators, tax, etc.).</li><li>• System to pull through the Preferential Procurement Regulation 4, e.g. Sub-contracting prequalification criterion for designated groups, B-BBEE Level, EMEs and QSE from the approved strategy.</li><li>• Mandatory fields to be created for designated groups to be subcontracted for e.g.; an EME or QSE which is at least 51% owned by black people; an EME or QSE which is at least 51% owned by black people who are youth; an EME or QSE which is at least 51% owned by black people who are women; an EME or QSE which is at least 51% owned by black people with disabilities etc.</li><li>• System to pull through the local content pre-qualification criterion from the approved strategy.</li><li>• Mandatory fields to be created for local content designated commodities.</li><li>• System to pull through the NIPP obligations from the approved sourcing strategy.</li><li>• Mandatory fields to be created for NIPP obligations</li><li>• System to pull through the Job Creation Obligation from the approved sourcing strategy.</li></ul>		
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PPA Scope Requirements

		<ul style="list-style-type: none"> <li>• Mandatory fields to be created for Job Creation obligations as per Job Creation Schedule e.g. Number and Rand value of new skilled jobs for Black Individuals to be created due to award of contract; Number of new skilled jobs to be created in rural areas; Number of new skilled jobs for Black women etc.</li> <li>• Provision to be made for inserting additional commodity specific clauses in the RFX.</li> <li>• Provision to be made for standard Annexures (Transformation obligations documents, local content, job creation schedule, sub-contracting, and Portfolio of Evidence required Annexures) to be attached on the system.</li> <li>• Provision to be made to attach transaction-specific Annexures (drawings, detailed technical specification and/or questionnaires, pricing schedules etc.).</li> </ul>			
RQ006	Demand/Sourcing	<p><b>Automate approval of RFX</b></p> <ul style="list-style-type: none"> <li>• Provision to be made for RFX to be approved by parties with DOA (make allowance for strategy and RFX approval to occur simultaneously).</li> </ul>	Functional Requirement	All	Must Have
RQ007	Sourcing	<p><b>Automate Advertising</b></p> <ul style="list-style-type: none"> <li>• System must make provision to specify mechanisms for issuing RFQ's (e.g., Email, Transnet Website, E-publication portal etc.).</li> <li>• Provision also to be made to identify CIDB (Construction Industry Development Board) tenders and then prompt advert on CIDB website.</li> <li>• Create fields aligned to relevant platforms (Transnet website, National Treasury e-publication portal and CIBD) so that the bid advertisement can be automatically generated.</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

		<ul style="list-style-type: none"> <li>• Advert to be approved at an appropriate level by releasing it for publication.</li> <li>• Final Bid document must be automatically generated and automate publishing of advert on relevant platform (e-Tender Portal, Construction Industry Development Board - CIDB etc).</li> </ul>			
RQ008	Demand / Sourcing	<p><b>Automate issue of bids</b></p> <ul style="list-style-type: none"> <li>• Bidders intending to participate in bid will be required to forward their company details including contact details of company to the system. Further when bid fees are applicable, proof of payment to be forwarded prior to the system automatically generating bid issue register.</li> <li>• System must be capable of sending and receiving clarifications out on the bid.</li> <li>• System must make provision for Transnet to issue addenda to the RFX subject to required DOA approvals, notifications to extend closing date, validity period etc.</li> <li>• System must be able to receive clarification questions from bidders. The relevant procurement official must be able to respond to such clarification questions from the system.</li> <li>• The system to prompt escalation if not attended within specified time.</li> <li>• Option must be created to send clarifications to single or all bidders.</li> </ul>	Functional Requirement	All	Must have
RQ009	Demand / Sourcing	<p><b>Automate receipt of bids</b></p> <ul style="list-style-type: none"> <li>• System must be capable of receiving bids electronically by a set closing date and time.</li> <li>• Closing date and time should be capable of being set and adjusted based on DOA approval.</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

		<ul style="list-style-type: none"> <li>• System must be configured to accept bids received (late bids) after the closing date and time.</li> <li>• Systems needs to separate bids received on time and those received late including date and time.</li> <li>• Bidders must be informed that their bids are late and cannot be accepted – notification to petition AC Chairperson if they want it to be considered.</li> <li>• Alternatively, provision must be made for Chairperson of AC to consider late bids in a separate folder.</li> <li>• Bidders will be required to submit their proposals on the system.</li> <li>• The system must prompt bidders to provide information / documentation in alignment to Transnet’s evaluation methodology (e.g. Bidders will be required to submit all returnable documents (admin responsiveness) in order to proceed to the next stage i.e. substantive responsiveness).</li> <li>• No file constraints, alternatively a large size to be allowed (bidders to be advised of size limitations).</li> <li>• Electronic mark on documents with the number of the bid, date and time to prevent manipulation of information submitted.</li> <li>• Audit trail to be kept.</li> </ul>			
RQ0010	Sourcing	<p><b>Automate recording of evaluation process</b></p> <ul style="list-style-type: none"> <li>• System must pull through all evaluation stages as defined in the strategy and RFP.</li> <li>• The system must not allow evaluation methodology to be changed including the set thresholds.</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

		<ul style="list-style-type: none"><li>• Provide faster and accurate pre-qualification and evaluation and generate report of suppliers that fail to meet the tender specifications.</li><li>• Test for administrative responsiveness must be populated on the system.</li><li>• The test for administrative responsiveness must be as per approved RFP document</li><li>• People conducting administrative responsiveness check must be notified of when evaluation can be done.</li><li>• Fields to populate returnable documents must be created with a tick box for submissions and comments field.</li><li>• Bidders not meeting the requirements of the administrative responsiveness test must be disqualified and that decision must be recorded on the system.</li><li>• Test for substantive responsiveness must be populated on the system as per the approved RFP document.</li><li>• People conducting substantive responsiveness check must be notified when evaluation can be done.</li><li>• Fields to populate whether prequalification criteria has been met can be created with a tick box for submissions and comments field.</li><li>• Bidders not meeting the requirements of the substantive responsiveness test must be disqualified and that decision must be recorded on the system.</li><li>• Test for minimum threshold for local content must be done on the system (where applicable).</li><li>• People conducting the test for local content must be notified when the evaluation can be done.</li></ul>		
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PPA Scope Requirements

		<ul style="list-style-type: none"><li>• Fields to populate whether the minimum threshold for local content has been met can be created with a tick box for submissions and comments field.</li><li>• Bidders not meeting the requirements of the local content test must be disqualified and that decision must be recorded on the system. (where applicable).</li><li>• Test for minimum thresholds must be done on the system.</li><li>• Individual scoring must be automatically populated on a consolidated scorecard on the system and sent to Chairperson of the evaluation committee.</li><li>• Minutes of the evaluation must be uploaded on the system.</li><li>• The system must allow the calculation of variances. (the system must have the parameters for determining an outlier to be set and outliers to be immediately highlighted / flagged).</li><li>• The system must allow for re-evaluation in the case that the relevant adjudication body has referred the matter back.</li><li>• System then automatically averages and weights the evaluation criteria.</li><li>• System automatically identifies those that have not met the set threshold.</li><li>• Scoring must also be rounded off as per the Procurement Procedures Manual requirements.</li><li>• Rates/price analysis must be done on the system to determine whether a market-related price has been achieved.</li><li>• 80/20 and 90/10 preference point system conducted on the system.</li><li>• System must be configured with the scores to be allocated depending on the bidder's B-BBEE level.</li></ul>		
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		<p>Users will manually insert the B-BBEE level and the system must automatically calculate the score for B-BBEE based on the applicable preference point system.</p> <ul style="list-style-type: none"><li>• System must also be configured to apply the price formulae prescribed by the PPPFA.</li><li>• Automatic ranking of bidders as well as premiums if applicable must be done.</li><li>• Where applicable, financial stability evaluations to be conducted on bidders based on their audited financial statements. Alternatively, financial stability assessments to be conducted on preferred bidders based on their audited financial statements. System must be configured to automate the calculation of certain key financial ratios e.g. Current Ratio, Turnover/ contract value, interest cover, gearing etc.</li><li>• The system must allow an independent risk assessment to be captured and managed in the system.</li><li>• The system must prompt negotiations where a market-related price has not been achieved.</li><li>• Provision must be made to negotiate with the top three ranked bidders (only sequentially) or cancellation if a market-related price has not been achieved.</li><li>• The system must generate a template for developing negotiations strategy which must be fully developed on the system. A strategy framework must be built into the system with guidelines stipulated to accommodate various commodity types.</li><li>• Negotiation strategy approval must be approved as guided by the relevant DOA.</li></ul>			
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		<ul style="list-style-type: none"> <li>• Before Letter of Award issue.</li> </ul>			
RQ011	Demand / Sourcing	<p><b>Automate recommendation process (Tear Report)</b></p> <ul style="list-style-type: none"> <li>• Standard parts of the Tender Evaluation and Recommendation Report (TEAR report) must be automatically generated.</li> <li>• Pull through outcome of the various evaluation stages into the TEAR report.</li> <li>• Detailed evaluation scorecards can be attached from the system and linked to the TEAR report.</li> <li>• The system must verify the CSD and Tax Compliant status on the preferred bidder(s). While this control would have been completed before evaluation, it should be repeated before Letter of Award issue.</li> <li>• The system must prompt that a check be done on the NT database of restricted suppliers, register of tender defaulters and the entities associated with terrorist activities. (look into possible links with NT and SAPS website for the list of individuals or entities subject to measures imposed by the United Nations Security Council (UNSC) to perform these checks automatically).</li> <li>• The system should be configured to be able to conduct conflict of interest checks (including Government employees doing business with the state as well as Transnet) prior to the award of business.</li> <li>• Recommendation must be populated by Chairperson of evaluation committee.</li> <li>• TEAR report together with mandatory documents must then be released to other signatories and then sent to Acquisition Council Secretariat.</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

		<ul style="list-style-type: none"> <li>Provision must be made for the review of the TEAR report by the applicable signatories.</li> </ul>			
RQ012	Demand / Sourcing	<p><b>Automate adjudication process</b></p> <ul style="list-style-type: none"> <li>Secretariat must receive all matters to be considered by Acquisition Council (AC) on the system.</li> <li>Provision must be made for the review of the TEAR report by the AC Secretariat.</li> <li>Deadlines for submissions must be managed by the system in relation to the next AC meeting.</li> <li>Secretariat must be able to indicate whether matter will be considered by AC and whether any matters need to be clarified – notification must be sent to procurement official.</li> <li>Submission must be automatically sent to AC members on acceptance by Secretariat for next AC meeting.</li> <li>Resolution and minutes of the AC meeting must be electronically submitted by the Secretariat to the Chairperson of AC.</li> <li>Chairperson must be able to make changes and/or approve resolution and minutes of the AC meeting electronically.</li> <li>Procurement official must be able to get immediate notification of resolution.</li> <li>The system needs to make provision for cancellation of bids to be executed after approval by relevant DOA.</li> <li>The system must prompt requirements for NT approval where transactions above the open tender threshold is being cancelled for the 2nd time.</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

RQ013	Sourcing	<p><b>Automate Award Process</b></p> <ul style="list-style-type: none"> <li>• Letter of award / Letter of intent / Letters of Regret must be automatically generated but allow for flexibility to change wording on a case by case basis.</li> <li>• System must be able to generate letters of regret to the unsuccessful bidders based on the reasons captured on the system by the evaluation team. The reasons should not be inputted manually to generate the letter, they must already reside on the system before the issue of regret letters.</li> <li>• Person with DOA signs with Electronic signature. Allow for virtual signatures via online approval mechanisms.</li> <li>• Where signed Letter of award / Letter of intent / Letters of Regret are outstanding, the system must flag them for escalation.</li> <li>• Details of award of business must be populated in alignment to the requirements of the relevant platform and prompt publication on the portal. In addition, this information must be published in the Transnet website.</li> <li>• Provision must be made for the review of the contract by all relevant parties and approval by the DOA.</li> <li>• Post award, the contract must be generated and approved on the system.</li> <li>• The system must also make provision for the contract to be sent to the successful bidder.</li> <li>• The system must make provision for the duly signed contract to be sent directly to the system for saving.</li> <li>• Where contracts are outstanding, the system must flag them for escalation.</li> </ul>	Functional Requirement	All	Must have
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PPA Scope Requirements

RQ014	Demand / Sourcing	<ul style="list-style-type: none"> <li>Declarations of interest/confidentiality agreement to be prompted and recorded on system for audit purposes at various stages e.g. all CFST and CFET members must declare interests when required. (In all applicable areas).</li> </ul>	Functional Requirement	All	Must have
RQ015	Contract Management	<ul style="list-style-type: none"> <li>Demand planning is the trigger for all procurement activities and the outcome must be closely linked to the corporate plan cycle of Opex/Capex/Copex commitments. The requirement is to systematically link existing contracts to commercial obligations. i.e. Start / End Date, Rand Value, Reporting dates – spend against / revised forecast / spend allowed.</li> <li>Manage contract value vs. Contract Spend vs. Duration of Contract vs. Allocated Budget (linked to a GL account).</li> </ul>	Functional Requirement	All	Must have
RQ016	Tender Management	<p>Electronic Document Management -</p> <ul style="list-style-type: none"> <li>Electronic Tendering Repository which supports electronic document management for all tenders in a secure environment with secure login, authentication and viewing rules.</li> </ul>	Functional Requirement	All	Must have
RQ017	Tender Management	<ul style="list-style-type: none"> <li>Allow for creation, maintenance and monitoring of project tasks and schedules throughout the duration of the tender process, e.g., phases, timelines &amp; tasks.</li> </ul>	Functional Requirement	All	Must have
RQ018	Tender Management	<ul style="list-style-type: none"> <li>Ability to track tender status online i.e. declined, submitted, for approval, under assessment or awarded.</li> </ul>	Functional Requirement	All	Must have
RQ019	Tender Management	<ul style="list-style-type: none"> <li>Electronic and manual bids are accepted; the solution should provide for a scan and upload function of documentation.</li> </ul>	Functional Requirement	All	Must have
RQ020	Tender management	<ul style="list-style-type: none"> <li>Repository of tender history and supplier details to be updated on the ERP system.</li> </ul>	Functional Requirements	All	Must have



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RQ021	Tender management	<p><b>The system must interface with the following systems:</b></p> <ul style="list-style-type: none"> <li>• National Treasury Portal for advertising</li> <li>• National Treasury Central Supplier Database to verify Supplier Registration.</li> <li>• CIPC registration.</li> <li>• BBBEE status etc. related documentation for suppliers.</li> <li>• SARS for verification of tax compliance status- Need to verify with both CSD and SARS interfaces – Sometimes CSD Tax Status does not correspond to SARS status.</li> <li>• CIDB for construction tenders to verify contractors CIDB grading and status.</li> <li>• Department of Labour for COID and other verifications.</li> <li>• SAPS for list of measures imposed on individuals or entities by UNSC.</li> <li>• NT database of restricted suppliers and register of tender defaulters.</li> </ul> <p>*Any future systems that NT may implement in relation to reporting (e.g. Annual Procurement Plan).</p>	Integration Requirements	All	Must have
RQ022	Contract Management	<ul style="list-style-type: none"> <li>• The ability to link Invoice to Contract, link Contract to budget and link Contract to supplier.</li> </ul>	Functional Requirement	All	Must have
RQ023	Contract Management	<ul style="list-style-type: none"> <li>• RFX, Purchase Order and Purchase Requisition must be linked to contract.</li> </ul>	Functional Requirement	All	Must have
RQ024	Contract Management	<ul style="list-style-type: none"> <li>• Contracts must be tightly Integrated with ERP systems.</li> </ul>	Functional Requirement	All	Must have
RQ025	Contract Management	<ul style="list-style-type: none"> <li>• A contract tracker with notification and alerts to the relevant stakeholders on contract consumption, contract expiration and contract variations/amendments both in time and value. Ability to link contracts payments to original contract value and be able to pull contract spend reports / alerts i.e. alerts from 50% / contract value reached and contract duration alerts.</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

RQ026	Contract Management	<ul style="list-style-type: none"> <li>The system to generate notification to the relevant people of contract expiry dates to trigger necessary actions can be done.</li> </ul>	Functional Requirement	All	Must have
RQ027	Contract Management	<ul style="list-style-type: none"> <li>The system must ensure all contracts with accompanying information are stored on a centralized.</li> <li>Contract Repository and allow supporting documentation to be linked and attached.</li> </ul>	Functional Requirement		Must have
RQ028	Contract Management	<ul style="list-style-type: none"> <li>Ability to measure the performance of the supplier's e.g. Adherence to Service Level Agreements.</li> </ul>	Functional Requirement	All	Must have
RQ029	Contract Management	<p><b>The solution must be able to track the performance of the vendor according to the agreed Transformation obligations and targets for the following Key Performance Indicators:</b></p> <ul style="list-style-type: none"> <li>Investment in Plant;</li> <li>IP &amp; Technology Transfer;</li> <li>Skills Development Plan;</li> <li>Job Creation;</li> <li>Indirect Job Creation</li> <li>Job Preservation;</li> <li>Capacity and Capability Building;</li> <li>Rural Development/ Integration;</li> <li>Small Business Promotion;</li> </ul> <p><b>The solution must be able to track the performance of the vendor according to the agreed sub-contracting obligations for the following KPIs:</b></p> <ul style="list-style-type: none"> <li>Contract spend;</li> <li>Spend on sub-contracting;</li> <li>Percentage value of sub-contracting against the contract spend;</li> <li>Spend on sub-contracting per supplier;</li> </ul>	Functional Requirement	All	Must have



PPA Scope Requirements

		<ul style="list-style-type: none"> <li>Percentage value of sub-contracting against the contract spend per supplier; and</li> <li>EME Affidavit/B-BBEE Level certificate.</li> </ul> <p>*If the vendor is not performing, enable the system to allow the flagging of non-performance.</p>			
RQ030	Demand Management/ Sourcing/ Contract Management	<ul style="list-style-type: none"> <li>Enable workflow capabilities where approvals would be required to only the people who have delegation of authority (DOA) to approve. The workflows must provide basic functions including: Task assignments; Identity management; Notifications; Auditing and Tracking.</li> <li>Provision must be made for recommendations.</li> </ul>	Functional requirement	All	Must have
RQ031	Demand/Sourcing/ Tender management/ Contracts Management	The system should cater for differentiated processes depending on the selected procurement mechanism. This must incorporate approvals from NT where required e.g. Deviation from the competitive bidding process.	Functional Requirement	All	Must have
RQ032	Business Intelligence & Analytics	<ul style="list-style-type: none"> <li>Real-time dashboard (reports).</li> <li>Allow all OD's to input on fields on the system and ability to pull reports based on fields selected over a period of time.</li> <li>Enable real-time performance monitoring of end to end process.</li> <li>Enable alerts and escalation if approval is not done within the agreed time. Timelines for specific processes to factored into the system.</li> <li>Notifications of actions due on the system.</li> <li>Machine learning on bulk usage and suggest optimized requirements and accurate forecasting based on lead times patterns.</li> <li>Machine learning on distribution plans and suggest optimized plans, integrate best scenarios on resource</li> </ul>	Functional Requirement	All	Should have



PPA Scope Requirements

		<p>stacking or management.</p> <ul style="list-style-type: none"><li>• AI (Artificial Intelligence) on buying recommendation engine with a strategic decision tool that predicts the right buy price of a commodity and recommends actions based on market factors and unstructured external data.</li><li>• AI to distinguish patterns in sets of significant data (e.g., spend analytics).</li><li>• AI to distinguish/provide spend analytics solutions for Procurement to point out exactly where the savings can be "harvested", quantify the savings, and recommend ways to maximize impact of different sourcing initiatives.</li><li>• AI to offer better methods of e-sourcing based on spent analysis to procurement.</li><li>• AI to proactively suggest demand for products/material.</li><li>• AI to pull unstructured data and integrate with our vendor's list to proactively provide potential contractor background checks and risk profile.</li><li>• Predictive analysis of inventory and provide alerts &amp; exception reports for fast moving items, slow moving, stock items, integrate with suppliers for buy backs or trigger re-ordering levels.</li><li>• Predictive analytics on procurement spend and provide alerts/notification with exception reports.</li><li>• Predictive analysis on user experience portal/web-based access and provide alerts on customer satisfaction index or health status based on pre-defined matrixes.</li><li>• Predictive analytics on contract management dashboards.</li></ul>			
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PPA Scope Requirements

		<ul style="list-style-type: none"> <li>• Predictive analytics on supplier performance dashboards.</li> <li>• Predictive analysis of production purchasing, integrate with inventory management, warehouse management and provide alerts.</li> <li>• Predictive analytics of production planning and packing, integrate with stock levels, maintenance plans etc.</li> <li>• Predict bulk requirements and accurate forecasting for long lead materials and provide alerts notification or exception reports.</li> <li>• Predictive analysis of procurement events based on complexities of projects and risks, provide alerts on timelines especially on material lead times.</li> </ul>			
RQ033	Mobility Management	<ul style="list-style-type: none"> <li>• System to make provision for mobile device capability</li> </ul>	Functional Requirement	All	Should have
RQ034	Robotics Automation Integration Process (RPA)	<ul style="list-style-type: none"> <li>• Application of RPA integrated with other next generation technologies to dramatically reduce the human effort required in processing repetitive, predictable tasks in a process.</li> </ul>	Functional Requirement	All	Should have



## High Level Interface Requirements

<b><i>Requirement ID</i></b>	<b><i>Requirement description</i></b>
INT001	<b>Interface with External Party Systems</b> <ul style="list-style-type: none"><li>• CIDB</li><li>• SARS</li><li>• National Treasury E-Tender Portal</li><li>• National Treasury CSD</li><li>• CIPC</li><li>• Department of Labour</li><li>• SAPS</li><li>• National Treasury on the database of restricted suppliers and register of tender defaulters</li><li>• SARB – Rate of currency exchange</li></ul>
INT002	<b>Interface with Transnet existing solutions</b> <ul style="list-style-type: none"><li>• Pilog Master Data Records Management (MDRM 8)</li><li>• SharePoint (Document Management system)</li><li>• SAP ECC6</li><li>• SAP Real Estate (RE)</li><li>• Accounts Payable (AP) Factory</li><li>• Emergency Procurement Solution</li></ul>



## Security Requirements

<b><i>Requirement ID</i></b>	<b><i>Requirement description</i></b>
SEC001	<b>Authorization and authentication</b> <ul style="list-style-type: none"><li>• Ability to apply access controls and privileges-based access to specific areas.</li><li>• Authentication for internal systems should be against the internal LDAP database.</li><li>• Every authentication attempt must be logged.</li><li>• System should guarantee that the service is only accessible to users as stipulated in the Transnet User Management Standard.</li><li>• Secure password and user identification for bidder's profile (as part of Tender Management – Bidder's Response).</li></ul>
SEC002	<b>Encryption</b> <ul style="list-style-type: none"><li>• All private or sensitive information is transmitted using strong encryption and authentication.</li><li>• 128 bit or better encryption for SSL/https.</li><li>• AES (Advanced Encryption Standard) or better encryption for VPN connections</li><li>• No private data stored on Internet accessible machines.</li></ul>
SEC003	<b>Access and control</b> <ul style="list-style-type: none"><li>• Authorization for internal systems should be centralised into an LDAP database</li><li>• Linked to approved DOA framework.</li><li>• System must guarantee that authenticated users can only access services or data matching their role and access rights.</li></ul>



PPA Scope Requirements

	<b>Login</b> <ul style="list-style-type: none"><li>• Single log-on of authenticated users</li></ul>
SEC004	<b>Auditing</b> <ul style="list-style-type: none"><li>• Include all authentication and authorization events will have detailed audit logs.</li><li>• The transaction will have a detailed audit log.</li><li>• Inquiries will have a detailed audit log.</li></ul>
SEC005	<b>Data privacy</b> <ul style="list-style-type: none"><li>• Ability to keep personal data secure.</li><li>• System must guarantee confidentiality that the data exchanged between the person requesting it and the service provider cannot be intercepted or accessed by a third non-authorised party.</li></ul>
SEC006	<b>Connectivity</b> <ul style="list-style-type: none"><li>• Restricted Network</li></ul>



**Reporting Requirements**

Report ID	Report Name	Report Description /Purpose	Report Fields	Report Frequency	Target Audience
REP001	Enterprise Supplier Development	Transformation Obligation performance and compliance monitoring report	<p>BBBEE improvement plans. Transformation Obligation SLA.</p> <p>Tracking of the following Key Performance Indicators/initiatives/plans:</p> <ol style="list-style-type: none"> <li>1. IP &amp; Technology Transfer; <ul style="list-style-type: none"> <li>- Rand value of proposed capital asset / Intellectual Property Rights [IPR] transfers against award of contract.</li> <li>- Rand value of other technology and IPR initiatives and value of the know-how transferred to suppliers as detailed in the SD Proposal.</li> </ul> </li> <li>2. Skills Development; <ul style="list-style-type: none"> <li>- Number of Black People to be trained and the Rand value over the contract period.</li> <li>- Number of Black Women to be trained and the Rand value over the contract period in designated development programmes.</li> <li>- Number of Black Youth to be trained and Rand value over the contract period</li> </ul> </li> </ol>	Near real-time	ESD managers



PPA Scope Requirements

			<p>[where "Youth" means individuals between the ages of 16 - 35 years].</p> <ul style="list-style-type: none"><li>- Number of Black Persons with disabilities to be trained and Rand Value over the contract period.</li></ul> <p>3. Investment in Plant;</p> <ul style="list-style-type: none"><li>- Value of investment in plant.</li><li>- Percentage of the investment of plant purchased in South Africa.</li><li>- Percentage indication of the increase in locally supplied items with resultant decrease in and dependency on imported items.</li><li>- Potential value of increase in exports through development of local industrial capability.</li></ul>		
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PPA Scope Requirements

			<p>4. Job Creation;</p> <ul style="list-style-type: none"><li>- Total Number and Rand value of new skilled jobs for Black Individuals to be created due to award of contract.</li><li>- Number of new skilled jobs to be created in rural areas.</li><li>- Number of new skilled jobs for Black women.</li><li>- Number of new skilled jobs for Black persons with disabilities.</li><li>- Number of new skilled jobs for Black Youth [where "Youth" means individuals between the ages of 16 - 35 years].</li><li>- Number and Rand value of new unskilled jobs to be created by award of contract.</li><li>- Number of unskilled jobs to be created in rural areas.</li><li>- Number of unskilled jobs for Black individuals and/or contractors.</li><li>- Number of unskilled jobs for Black women</li><li>- Number of unskilled jobs for Black persons with disabilities.</li><li>- Number of unskilled jobs for Black Youth [where "Youth" means individuals between the ages of 16 - 35 years].</li></ul>		
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PPA Scope Requirements

			<p>5. Job Preservation;</p> <ul style="list-style-type: none"><li>- Number of jobs which would be preserved through award of contract.</li></ul> <p>6. Capacity and Capability Building;</p> <ul style="list-style-type: none"><li>- Number of local suppliers that would be utilised in the fulfilment of the contract.</li></ul> <p>7. Rural Development/ Integration; and</p> <ul style="list-style-type: none"><li>- Rand value spent on businesses within the town/city of operation.</li><li>- Number and Rand value of rural businesses that the Service Provider plans to develop as a result of the contract.</li></ul> <p>8. Small Business Promotion;</p> <ul style="list-style-type: none"><li>- Percentage of your projected annual procurement spend from Black Owned Businesses with an annual turnover of less than R50 million [QSEs].</li><li>- Percentage of your projected annual procurement spend from Black Owned Businesses with an annual turnover of less and equal to R10 million [EMEs].</li></ul>		
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PPA Scope Requirements

			<ul style="list-style-type: none"> <li>- Rand Value that the Supplier plans to provide for Enterprise Development Initiatives.</li> <li>- The solution must be able to track the performance of the vendor according to the agreed sub-contracting obligations for the following KPIs:               <ul style="list-style-type: none"> <li>✓ Contract spend.</li> <li>✓ Spend on sub-contracting.</li> <li>✓ Percentage value of sub-contracting against the contract spend.</li> <li>✓ Spend on sub-contracting per supplier.</li> <li>✓ Percentage value of sub-contracting against the contract spend per supplier.</li> <li>✓ EME Affidavit/B-BBEE Level certificate.</li> </ul> </li> <li>• The system must allow Suppliers to report on actual values against Transformation Obligations KPIs and targets.</li> <li>• Suppliers must be able to upload minim required Portfolio of Evidence as per attached Annexures.</li> </ul>		
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			The system must automate reporting of actuals reported by the Supplier against Transformation Obligations per OD.		
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PPA Scope Requirements

			<p>The system must automate reporting of actuals reported by the Supplier against Transformation Obligations per OD.</p> <ul style="list-style-type: none"><li>• The system must automate reporting of consolidated actuals against each KPI's.</li><li>• The system must automate reporting on Suppliers with Local content and NIPP obligation.</li></ul> <p>The system must automate reporting of actuals reported by the ESD Partner against each KPI per OD.</p> <p>The system must automate reporting on Suppliers with Local content and NIPP obligation; Local Content Reporting requirement:</p> <ul style="list-style-type: none"><li>✓ The system must automate reporting of actual spend (actual money paid to the supplier) and Local Content Spend (actual spend x local content percentage) per OD.</li><li>✓ The system must automate local content reporting per Contract number, PO number, Supplier name and material number per OD for a specific period.</li><li>✓ The system must automate the Local content percentage performance as per calculation <math>\text{Total Local Content Spend Amount} \div \text{Total Designated Sector Spend}</math> per OD.</li></ul>		
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PPA Scope Requirements

			<ul style="list-style-type: none"> <li>The system must automate reporting on Contract spend suppliers with Transformation Obligations, Local Content and NIPP Obligations.</li> </ul>		
REP002	Contract Management	Effective Contract Management against spend	<ul style="list-style-type: none"> <li>Contract Spend against contract amount/supplier.</li> <li>Key Performance Indicators/Measurements to be enabled for functional areas.</li> <li>Service Level Agreement and proactive alerts enabled.</li> <li>Contract expiry report.</li> <li>Report on renewable contracts.</li> <li>Contract variations report.</li> </ul>	Near real-time	Contract managers / Commercial managers
REP003	Tender Management	Tender process monitoring	<ul style="list-style-type: none"> <li>Number of tenders issued.</li> <li>Status of tenders.</li> <li>Number of tenders awarded and /or cancelled.</li> <li>Track in particular the validity period of RFX's. Automated alerts to be sent via email and whenever one logs in that the expiry of the validity date is, for example, 30 days away.</li> <li>Track the length of any process.</li> </ul>	Near real-time	Procurement managers



PPA Scope Requirements

REP004	Procurement Regulatory & Compliance	Legislative reporting requirements	<ul style="list-style-type: none"><li>The system must automate as far as possible legislative reporting requirements to Regulators such as National Treasury, Department of Trade and Industry and Department of Public Enterprise (e.g. Reporting on Annual Procurement Plans, local content, transformation targets, emergencies etc.</li></ul>	Near real-time	Regulators and Transnet Executives
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## Other Non-Functional Requirements

### Disaster Recovery

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR001	The following System Areas will be required to be available in the event of a Disaster. <ul style="list-style-type: none"> <li>• Secure storage environment</li> <li>• Data backups</li> </ul>
NFR002	Based on the Class 2 System / Service Criticality Classification: <ul style="list-style-type: none"> <li>• RTO/ Restore time (i.e. the targeted time within which a business process must be restored) = <b>less than 24 Hours.</b></li> <li>• RPO/ Backup time (i.e. the time duration that business is prepared to accept loss of data) = <b>Near 0 Data Loss</b> (synchronous and daily back up).</li> <li>• Maximum Tolerable Period of Disruption (MTPD) = <b>24 hours.</b></li> </ul>

### High Availability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR003	High availability required for the users and bidder's ability to interact with the system 24/7.

### Scalability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR004	<b>Storage:</b> All currently stored Procurement data at the time of execution.
NFR005	<b>Growth requirements:</b> Data growth in the next 3-5 years = 5%.
NFR006	Ability to scale up to n users in a year (read only) = all procurement personnel across Transnet.
NFR007	Ability to scale up to n users in a year (transactions) = all super users.

## Redundancy

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR008	No redundancy requirements anticipated.

## Systems Availability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR09	Time required for the system to become available in normal recovery mode in line with high availability systems.
NFR010	Geographies and time zones that impact the systems = Not applicable.
NFR011	Availability requirements for different geographies = Not applicable.
NFR012	Frequency of scheduled planned outage activity that is acceptable = Monthly.
NFR013	System availability for the users = 24/7.
NFR014	Support service based on standard coverage = Business hours, Mon - Fri, excluding public holidays.
NFR015	Elapsed time acceptable for service to recover from incident = 24 hrs.
NFR016	SLA based on IT Data Services Masters Services Agreement.

## Performance

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR017	<b>Throughput:</b> <ul style="list-style-type: none"> <li>• Number of maximum transactions on the system for (from day 1 of Production). = unlimited.</li> <li>• Number of concurrent users during peak periods = unlimited no of users.</li> </ul>
NFR018	<b>Response time</b> Simple Query processing time = less than 2 seconds. Complex Query processing time (read only) = 5 seconds.

## Data Take-on

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR019	All data residing to current system required to be migrated from the old systems to new system for continuity and retention. Any data conversion must be compatibility with new system.

## Verifiability and Dual Operation

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR020	Parallel operation. No further requirements.
NFR021	When a new version of the system is released, it shall be possible to upgrade to it from any previous version.
NFR022	The maximum number of test cases to cover testing of any particular source code module shall be guided by the Transnet Test & Release Strategy.

## Off-Line Operation

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR023	The system must allow the following critical functional area in offline mode: <ul style="list-style-type: none"><li>• Offline storage of specific data generated by the user.</li><li>• Application caching - to retain latest changes if the user lost connectivity.</li></ul>

## Data Accuracy and Integrity

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR024	<ul style="list-style-type: none"><li>• The system shall be 100% accurate in its retention of all information that has been entered and confirmed by the system.</li></ul>

NFR025	<ul style="list-style-type: none"> <li>The system will notify the system administrator if the input data source is corrupted</li> </ul>
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## Training

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR026	Offer user training sessions to help procurement officers and suppliers to fulfil their roles when using functions and services of the system.

## On-Line Help and Documentation

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR027	<b>Demonstration and Simulation</b> e-Learning demonstrators and testing environments (simulating the operation of the real system) can assist users to better understand the complete functionality of the eProcurement system. A short tutorial video will be created on how to use the system effectively.
NFR028	<b>e-Learning documentation</b> Provide documentation to assist users to understand the details of the process, as well as the exact functionality of the system. eProcurement guides, Q&A and training manuals online.
NFR029	The system shall include a custom help screen on which the user may perform typical CRUD (Create-Retrieve-Update-Delete) functions.
NFR030	All system documentation must be embedded in the source code.

## Audit Trails and Logs

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR031	<b>Audit trailing</b> – required to monitor activities performed by users, either successful or unsuccessful (such as attempted

	but failed logons). Audit trails need to be archived indefinitely in case security incidents or disputes need to be investigated (thus providing for non-repudiation). System performance should not be adversely impacted as a result of audit log retention.
NFR032	<b>Logging</b> Log files need to be generated throughout the user interaction and used for monitoring.

## Capacity

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR033	Maximum number of concurrent transactions = based on no of Procurement users.
NFR034	Expected number of peak users = based on no of Procurement users.
NFR035	Number of records (active and archived) = Based on Records Management policy.
NFR036	Ability to store and retrieve business data = 5 years.

## Reliability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR037	<b>Frequency and severity of failure</b> <b>MTBF</b> -The system shall fail no more frequently that once a week.
NFR038	<b>Recovery Time Objective (RTO)</b> –the maximum period of time within which systems, applications or functions must be recovered after an outage and handed over to the users = 24 hrs.
NFR039	<b>Recovery Point Objective (RPO)</b> – There must be close to zero data loss after an outage or a maximum of zero hours of lost data is tolerable.
NFR040	<b>Downtime Notifications:</b> System must automatically issue notifications to the users when the system is going down for maintenance xxx days in advance.
NFR041	<b>Maximum Tolerable Period of Disruption (MTPD)</b> – Represents the maximum period of time after which Transnet business will be irreparably damage if service delivery cannot continue = aligned with Bronze support package.

NFR042	<b>Data integrity</b>
	<ul style="list-style-type: none"> <li>• Dependent data not to be impacted by uncommitted data (Consistent, Atomic).</li> <li>• Long running transactions not to impact read processes (Isolated).</li> <li>• Committed transactions to survive system crashes or downtime (Durable).</li> </ul>
NFR043	<b>Application integrity</b>
	<ul style="list-style-type: none"> <li>• Application rollbacks to keep the data consistent.</li> <li>• Ability to access system from external environments via secure web interfaces; based on privilege access controls.</li> </ul>

### Maintainability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR044	<b>Mean Time to Change (MTTC)</b> for defects < 2 person days.
NFR045	Ability to customise business rules. All business rules must not be hard-coded.
NFR046	There is a preference for a system that will include the use of a source code version control.
NFR047	Ability to change one component without affecting others, and without causing unexpected failures.
NFR048	Ability to investigate a failure.
NFR049	Ease with which an application can be deployed and upgraded.
NFR050	List of active users subscribed should be maintained by the administrator.
NFR051	Functionalities to be maintaining at customer level.
NFR052	Ability for error messages to be customisable by an administrator.

### Extensibility

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR053	Ability to extend or modify the product easily.

NFR054	The logical separation of the application into different tiers (client, presentation, business logic, integration and EIS tier) allows a system to be flexible and easily maintainable.
NFR055	Leveraging design patterns throughout the application architecture.
NFR056	Object orientation like encapsulation, inheritance, low coupling and high cohesion are leveraged in application design.
NFR057	Is supported by proper documentation of the application.
NFR058	Independence of interface from implementation.

### Manageability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR059	Alerts required when the system suffers from a recoverable interruption.
NFR060	Alerts required with the system does not complete its overnight processing in the allotted time frame.
NFR061	The key data that needs to be captured to measure the performance of the system against the SLAs.
NFR062	<p><b>Logging and tracking</b></p> <ul style="list-style-type: none"> <li>• Includes all authentication and authorization events</li> <li>• The transaction will have a detailed audit</li> <li>• Inquiries will have a detailed audit</li> <li>• Ability to log user activity and access/recall based on privileges; that is, registration, authentication, product, content, third party</li> </ul>

### Interoperability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR063	<p><b>Compatibility:</b></p> <ul style="list-style-type: none"> <li>• with shared applications (other systems it needs to integrate with) - SAP, PILOG, SharePoint, OpenText, etc.</li> <li>• with third party applications (other systems it has to live with amicably) – CSD and National Treasury portal</li> <li>• with various Operating Systems - S/4 HANA</li> <li>• on different platforms (hardware platforms it needs to work on)</li> </ul>

NFR064	<p><b>Application Interface:</b></p> <ul style="list-style-type: none"> <li>• Ability to communicate to internal and external systems through recognised and accepted protocols. These protocols include SOAP, HTTP, FTP, and XML.</li> <li>• Ability to communicate to other internal and external systems through known mechanisms. These include SOA and Event Driven mechanisms.</li> <li>• Export of information to be available in approved formats and standards. These standards include CSV and XML.</li> <li>• Ability to comply with the W3C Web Content Accessibility Guidelines (WCAG).</li> </ul>
NFR065	<p><b>Time-stamping</b></p> <p>Must have a secure and reliable time-proofing mechanism through the Time-Stamp Protocol (TSP). Through this mechanism the audit trailing module can use an accurate time-stamp to record all activities performed.</p>
NFR066	<p><b>Synchronous Communication</b></p> <p>Allow the real-time exchange of messages for Questions and Answers sessions.</p>
NFR067	<p><b>Asynchronous Communication</b></p> <p>Must have functionality for supporting electronic mail that can be read or sent from within the system.</p>
NFR068	<p><b>Semantic Interoperability</b></p> <p>Integration of resources which were developed using different vocabularies and possibly different data perspectives and capable of exchanging data in a way which makes the precise meaning of the data readily accessible.</p>
NFR069	Ability to work with existing systems.

## Accessibility

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR070	Application being usable by persons with special needs such as colour blindness.

## Data Retention

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR071	Retain all stored data residing on current system.

## Usability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR072	The UI must be consistent and user-friendly
NFR073	The UI must be intuitive
NFR074	All menus must have a consistent format.
NFR075	Limit number of clicks to maximum 3 clicks to complete any transaction
NFR076	Different user groups should be able to use the product with or without training
NFR077	Ability to re-use existing components and create new re-usable components

## Localizability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR078	At this time, only support of English (US) will be anticipated. No requirement yet to customise for other natural languages.

## Testability

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR079	All major use cases must be regression tested

## Cloud based subscription

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR080	Excludes storage costs and software license costs. These are to be costed separately as guided in the pricing schedule.
NFR081	Includes backups of production environment.
NFR082	Includes backup restore tests conducted 4 times a year.
NFR083	Includes replication to DR including DR testing conducted 2 times a year.

## Data Storage and Migration

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR084	Storage usage and capacity for structured and unstructured data.
NFR085	Includes backups of production environment.
NFR086	Scalable storage on demand that can scale up from a minimum of 100 million records to a maximum of 500 million records.
NFR087	Includes replication to DR of production environment.
NFR088	Data to be extracted, enhanced and migrated = maximum of 50 million records to be extracted, enhanced and migrated. The data enhancement refers to any data conversion or other activities required to ensure that the data migrated is compatible with the proposed technology solution , for example, if the service provider solution requires a vendor number with 10 characters while the Transnet vendor number only consist of 7 characters, a data conversion will be required to meet the service provider solution requirement of 10 characters.

## Solution Enablement

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR089	Specify that the solution must include a 3-tier landscape i.e. Development, Quality Assurance and Production
NFR090	Demand Management; Sourcing; Tender Management; Contract Management; Purchase Requisition Purchase Order Processing
NFR091	Project Management: The bidder should submit a project organogram with the following personnel: Programme Manager/Director; Project Manager; Project Administrator; Scrum Master; Product

	Manager; Solution Architect; Developer; Process Engineer; Test Specialist; Quality Assurance Engineer; SAP Consultant; Information Security Engineer; Data Scientist.
NFR092	<p>Training;</p> <ul style="list-style-type: none"> <li>• Develop end-user training materials as per the installed and configured solution components;</li> <li>• Conduct Train-The-Trainer as per the installed and configured solution components (50 people)</li> <li>• Bidder commits to knowledge transfer to internal Transnet ICT employees, in terms of the functional and technical skill set required to maintain the solution going forward (25 people).</li> </ul>

### Technical Environment & Systems

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR093	Any technical environment that will easily be compatible and integrated with both SAP and Non-SAP technical environment

### Support & Maintenance

<b><i>Non-Functional Requirement ID</i></b>	<b><i>NFR description</i></b>
NFR094	Solution support and maintenance during Transnet business hours and as-and-when required
NFR095	Software licenses support and maintenance to meet the scope of work requirements

### Key Project Milestones

The table below shows high level key milestones. The project should be completed within a period of 12 months following the project kick-off meeting:

<b>High Level Project Key Milestones</b>
Redefine Scope of Work with Vendor
Tender Management System
Contract Management System
Purchase Requisition & Order Processing System
Demand Management System
Sourcing
Final deployment, Go-live checks, Regression Testing
Post Implementation Stabilisation
Close-out

## **Project Approach**

### **Project governance:**

The Group Chief Procurement Officer will be the programme Sponsor and Chair the project Steering Committee, which shall include:

- Group Procurement;
- Group ICT; and
- All Operating Divisions.

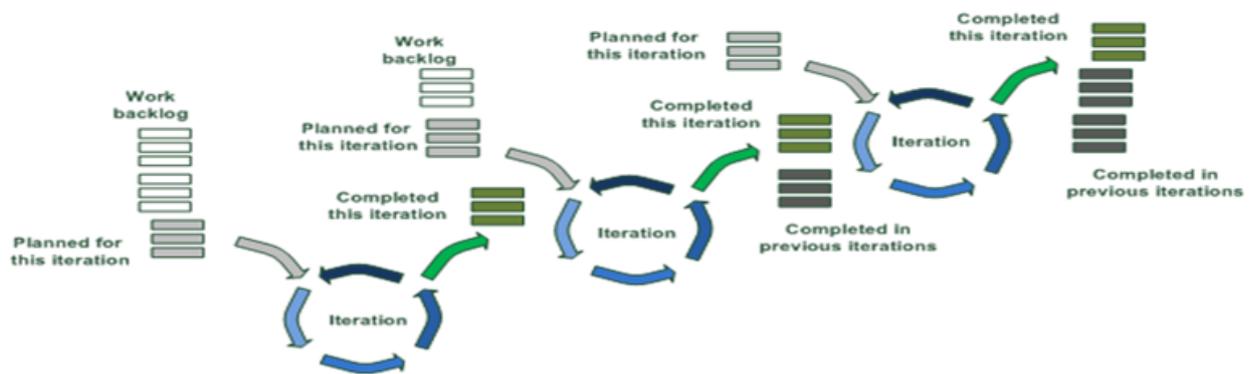
The project Sponsor will receive weekly reports from the project manager.

The project Manager will manage the resources on the project focusing on managing scope, goals, timelines, budget and desired outcomes.

A weekly progress meeting will be held with the project team. A project Steering Committee meeting will be held and chaired by the project Sponsor to review progress and make strategic decisions.

The execution phase approach can be Agile where development components are delivered in small iterations where the requirements are delivered as a whole adhering to the different project phases approval process. The diagram 1 illustrates the Iterative delivery approach.

## Iterative Delivery Approach



An iterative process is one that makes progress through successive refinement. A development team takes a first cut at a system, knowing it is incomplete or weak in some (perhaps many) areas.

The team then iteratively refines those areas until the product is satisfactory. With each iteration, the software is improved through the addition of greater detail.

For example, in a first iteration, a search screen might be coded to support only the simplest type of search. The second iteration might add additional search criteria. Finally, a third iteration may add error handling.

*Diagram 1: Iterative Delivery Approach*

### Requirements Scope: Concept Diagram

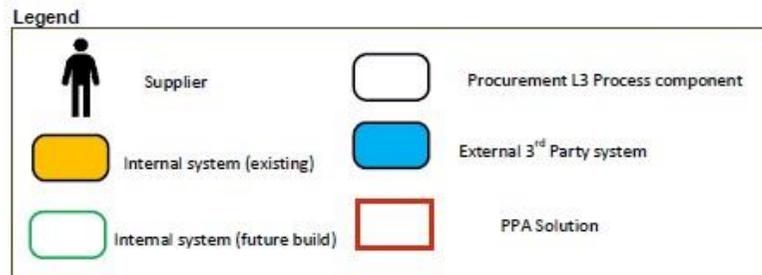
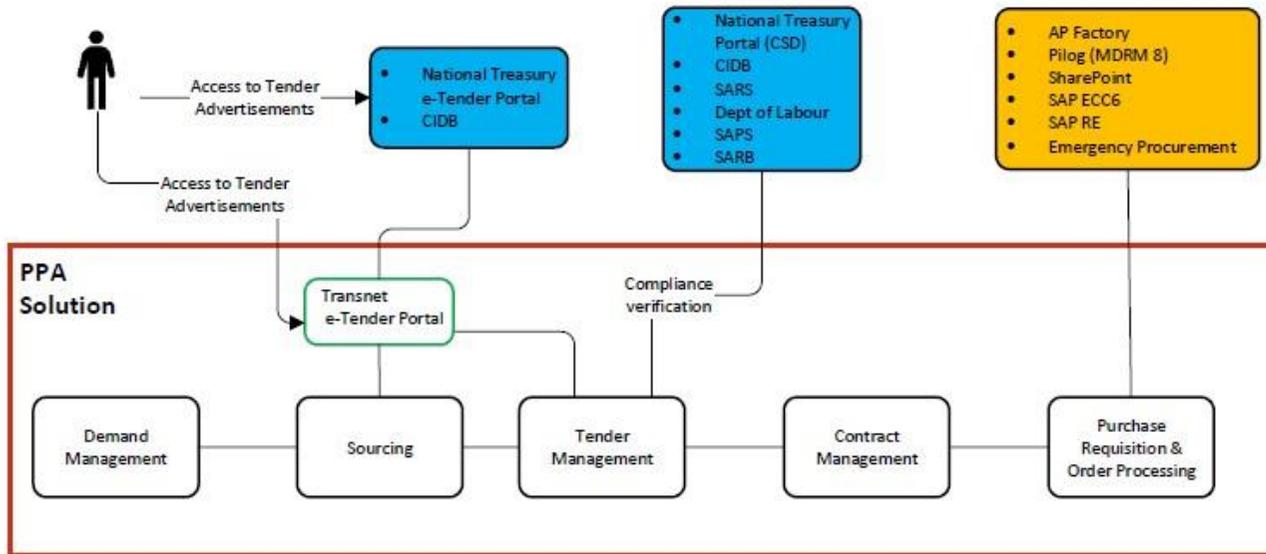


Diagram 2: Concept Diagram

### Concept Required

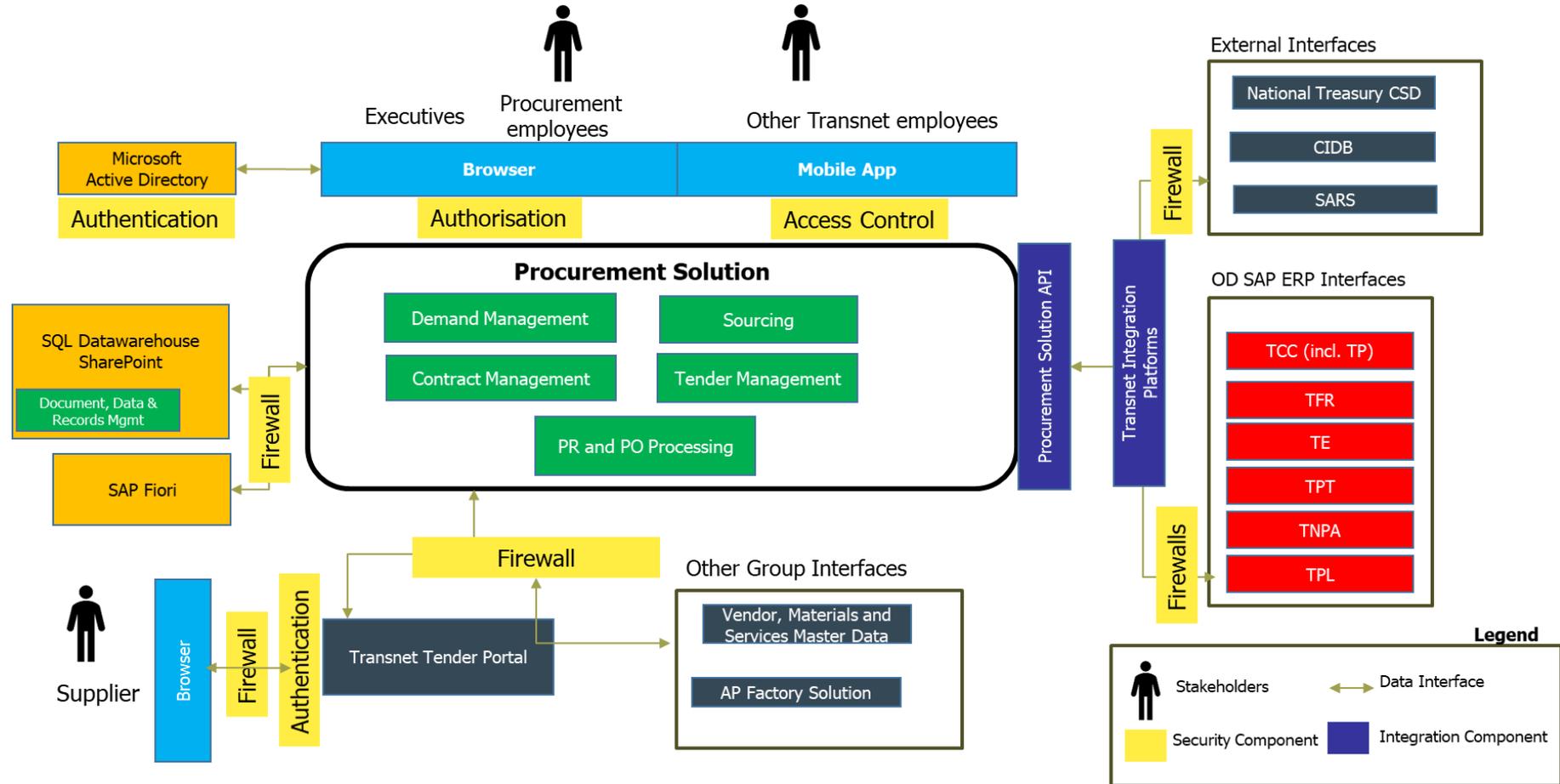
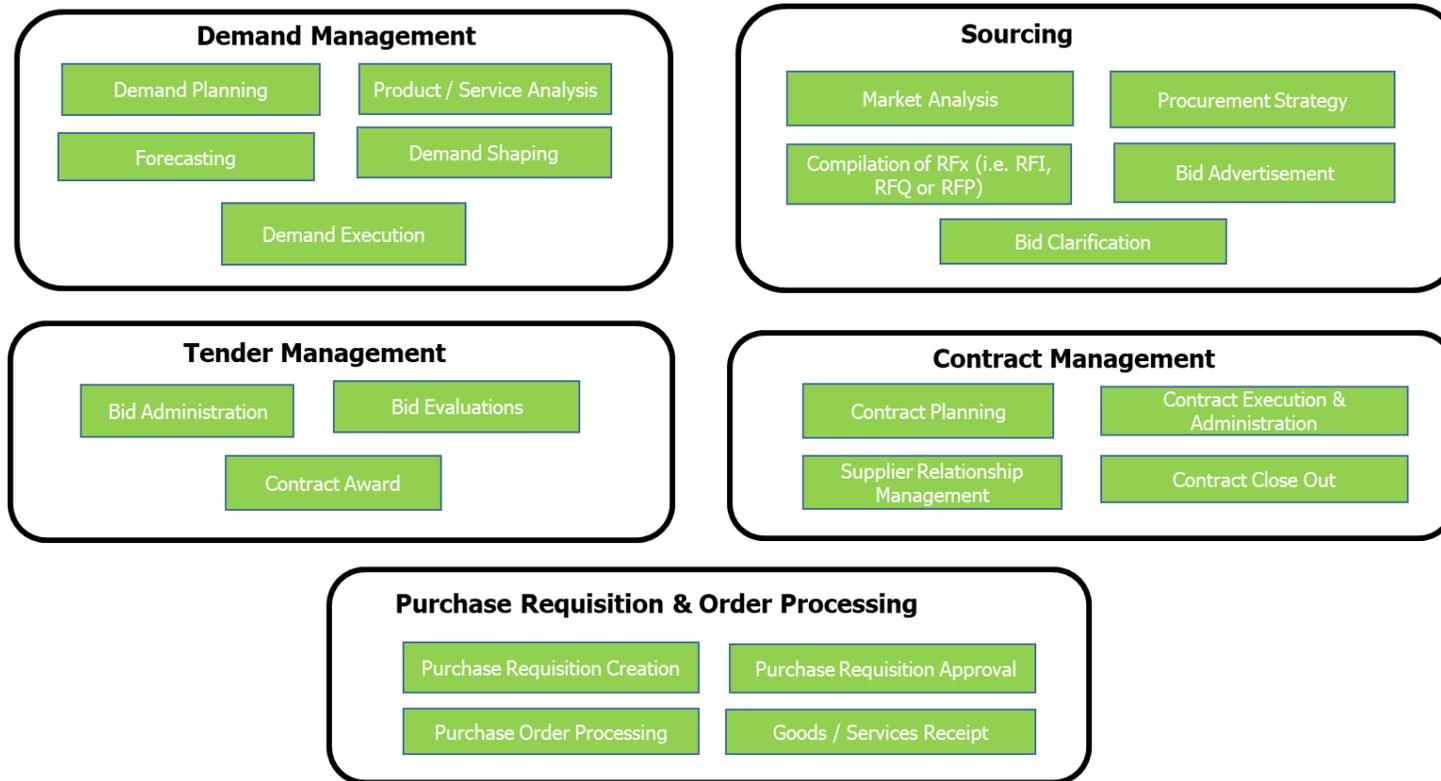


Diagram 3: Solution Architect

**Level 3 TO-BE Procurement Business Processes:**

Below are the Level 3 process value streams.



*Diagram 4: Level 3 To Be Procurement Processes*