

REQUEST FOR PROPOSAL

DEVELOPER CONSULTANT SERVICES: SYSTEM DEVELOPMENT

CLOSING DATE: _____

Contents

| | |
|---|----|
| SECTION A: FORM OF TENDER | 3 |
| SECTION B: TERMS AND GENERAL CONDITIONS..... | 6 |
| SECTION C: SCOPE OF WORK | 9 |
| SECTION D: CERTIFICATIONS & WORK EXPERIENCE..... | 12 |
| SECTION E: TECHNICAL EVALUATION | 14 |
| SECTION F: SAMPLE PROJECT SPECIFICATION | 15 |
| SECTION G: TECHNICAL EVALUATION - SAMPLE PROJECT SOLUTION | 15 |
| SECTION I: PRICE PROPOSAL - SAMPLE PROJECT SOLUTION | 17 |

SECTION A: FORM OF TENDER**1. Project Description:**

Foskor MES Application redevelopment and implement enhancements.

2. Contact Personnel

The contact personnel at Foskor are:

Commercial (Procurement) - Nana Ndlovu
035 - 902 3235
NanaN@foskor.co.za

Technical – Please direct all enquiries to the procurement buyer above.

3. Site Visit

Not Applicable

4. Closing Date and Validity of Tender

All tenders to be sealed in an envelope clearly marked with tender no. ____

and must be submitted before _____ to:

Purchasing Manager,
Foskor - Richards Bay Division,
21 John Ross Parkway, Richards Bay,
P O Box 208,
Richards Bay,
3900,
SOUTH AFRICA

CONDITIONS OF TENDER

- 1.1 By the submission of this tender the Tenderer offers and agrees to contract for, execute and complete the works for the Total Tender Sum as stated on the Form of Tender unless otherwise negotiated with the relevant parties.
- 1.2 The successful Tenderer will be appointed in terms of Foskor Limited conditions of Contract.
- 1.3 The lowest tender will not necessarily be accepted and no reasons for non-acceptance will be given
- 1.4 This tender shall remain in full force for ninety (90) calendar days from the tender closing date

| | | | |
|-----------------|--------------------------------------|---------|--|
| Employer | FOSKOR (PTY) Ltd, | | |
| Street | 21 John Ross Parkway, | | |
| address | P.O Box 208, Richards Bay | | |
| Tel | 035 | 9023111 | |
| Tenderer | | | |
| Postal address | | | |
| | | Code | |
| Tel | Fax | E-mail | |
| Project | Foskor Developer Consultant Services | | |

| THE TENDER SUM | | Total |
|----------------|------------------------------------|-------------|
| 1.0 | Total Tender Sum (excluding VAT) | <div></div> |
| | | |
| 2.0 | SUB TOTAL | <div></div> |
| 3.0 | Add VAT on 2.0 (15%) | <div></div> |
| | | |
| 4.0 | TOTAL TENDER SUM <i>(in words)</i> | <div></div> |
| | | |

| | | | | |
|-----------------------|------------|-------------|-----------------|-------------|
| The Tenderer submits: | Letters | <div></div> | Drawings | <div></div> |
| | Catalogues | <div></div> | Other documents | <div></div> |

Signed at _____ On _____
for and on behalf of the Tenderer

as Witness

SECTION B: TERMS AND GENERAL CONDITIONS**1. Confidentiality**

The Supplier shall not disclose any such information or specification, whether explicit or implied, to any third party without the expressed or written consent from the Client, Foskor (Pty) Ltd.

Any Supplier that declines to tender must indicate this in writing prior to the close of Tender.

2. Conditions and Undertaking

The terms set out here are for the purpose of recording the basis of the principles and topics upon which the parties will be required to reach agreement in concluding on the proposed agreement. It shall not be binding until they are incorporated into a comprehensive formal and final contract agreement signed by both parties.

Tenderers are required to submit full technical and support documentation of their proposed course of action where necessary. The tenderer accepts Foskor's minimum standard in terms of quality and specification. The costs incurred in preparing the tender are for the account of the Tenderer. Foskor (Pty) Ltd will not accept liability for the costs arising out of the delay in the Tender process.

The Tenderer must guarantee the validity of the response to this tender enquiry. Any arithmetical errors in pricing are the Tenderers responsibility. A contract will be signed by the preferred tenderer, after which they will be governed by the terms and conditions of the contract. If the Tenderer defaults, the Client, Foskor (Pty) Ltd, will have recourse in terms of the conditions as stipulated in the contract. Should you decline to tender, your courtesy in notifying us immediately and returning these documents will be appreciated.

3. Variations and Omissions:

3.1 By Foskor

Should any variations in the scope of the work arise during the period of the contract, the Foskor ICT Management will give reasonable notice in writing to the Supplier to enable him to assess the cost of such variations accordingly.

The cost of such variations will be communicated to the Foskor ICT Manager in writing who will either accept or reject the offer as the case may be. In either case, the Foskor ICT Management will advise the Tenderer/Supplier in writing as to this decision.

3.2 By the Supplier

Should the Supplier during the process of work become aware of any variations to the scope of work and/or specifications, which are at variance with the final quantities, and specifications agreed in the order, then he will advise the Foskor ICT Management in writing of these variations. Should any variations agreed to by Foskor involve either an increase/decrease in the contract price, the Supplier will as soon as is reasonably possible advise the Foskor ICT Management in writing to that effect.

3.3 Extras

No claim for extras will be allowed unless the work claimed is clearly outside the spirit and meaning of the specification and not unless the Supplier can produce a **written instruction** for the same, signed by the Foskor ICT Management and covered by an official purchase order number.

4. Suppliers Experience

The Supplier shall submit, with the Tender, a schedule/references showing previous experience in this type of work.

5. Terms and Conditions of Tender

The terms and conditions of this tender shall be governed by the specific terms and conditions as specified in the scope of work and contract documents which form part of the general contract.

6. Cost of Tender Preparation

All costs associated with the preparation of the Tender shall be borne by the Tenderer.

7. Transfers

The Supplier shall not cede, assign or sublet this order or any portion thereof, without the written consent of Foskor.

8. Company Profile

Tenderers are to submit an extensive portfolio indicating their experience and

expertise with reference to similar installations, more especially in the same environment and similar systems.

9. Tenders

Tenders will be formally opened by the Foskor Tender Committee in accordance with the company procedure. The lowest, nor any, or portion of any tender may not necessarily be accepted. All tenders shall hold good for 90 days (unless otherwise specified) from day of opening tenders.

10. Information Security

The Supplier will have access to sensitive and confidential information during the duration of the Project. The Supplier will be required to demonstrate throughout the Contract the security of data handling and the limitation of access of any Confidential Information to members of the supplier's staff who have a need for such access. A non-disclosure agreement (NDA) should be signed where applicable.

SECTION C: SCOPE OF WORK

1. Special instructions to tenderers

Tenderers shall provide full and accurate answers to the questions posed in this document. Tenderers must substantiate their response to all questions, including full details on how their proposals/solutions will address specific functional/technical requirements. All documents as requested/indicated must be supplied as part of the tender response.

2. Background Information

MES is a Manufacturing Execution System that supports production operations. It is mainly used for tracking production data and workflows, aggregating data for research or business intelligence purposes, as well as to ensure production operations are compliant with various standards and regulations.

Foskor implemented the current MES system in 2007 and named it FOSMES due to how its specifications were customized to meet Foskor's Product specifications at the time. The evolving nature of customer requirements, which leads to changes in product specifications, required the MES system to adapt to these changes. The current MES system has limitations in accurately specifying the product specifications for capturing and reporting purposes, amongst other requirements. Foskor processes are unique, and the solution will be best implemented by being part of the team, consultants are required to be part of the team and implement the solution.

3. Scope of Work

The scope is to acquire the services of a Senior Developer and a Developer Analyst/Architect to redo the MES tool with the latest technology and implement identified enhancements in Phase 1 of the project.

Some of the capabilities required to be implemented in phase 1 require the following functionality detailed below but not limited to:

- Building workflows, enhancing existing workflows,
- Streamline data management controls,
- Developing user interface application, enhancing collaboration,
- Building reports and dashboards, improving reporting,
- Establishing system integration,
- Process automation,
- General optimisation to improve efficiency and effectiveness.

The redevelopment of MES and implementation of enhancements must be done using Microsoft Visual Studio.Net. The services will be required for a period of 6 Months to complete all the items in scope. The consultant must be based in Richards Bay for the period of the service. Consultants required must be Analyst and Senior Developer.

4. Application Requirement

Develop User Interface Application and Workflows specific to the organization's requirements in addition to the redevelopment of the MES infrastructure, sites, and consistent branding.

The scope is to acquire the services of:

- Senior Developer (1)
- Developer Analyst/Architect (1)
- Project Manager (1)

to redo the MES tool with the latest technology and implement identified enhancements. These resources will be part of the full project implementation as part of the SDLC alongside the Foskor ICT Team and integrate with Foskor Production team. They will produce the necessary output in line with SDLC.

The service provider will be required to redevelop and automate the MES User Interface application and workflows as outlined below but not limited to the following Foskor related processes:

1. Integration to DCS and Exaquantum technology
2. Ability to integrate to 3rd party scale applications such as Navitrade and BTT
3. Ability to capture, aggregate and display production data flow
4. Drawing of reports from the application
5. Integration to LIMS applications
6. Project Request and Approval Process
7. Training Nomination and Booking Process
8. Contractor Management Process (*Included Sample Process*)
9. Supplier Evaluation
10. Scope of Work Process
11. Tender Process
12. Conflict Of Interest and Declaration Process
13. Delegation

The plan for this project is to enhance the current application in phase 1 and upgrade the system in phase 2.

Some of the capabilities required to be implemented in phase 2 require the following Production and Operation Management functionality detailed below but not limited to:

- Dashboard display

- Downtime management
- Energy optimization reporting
- Inventory (Depicting what's on JDE regarding Inventory)
- Knowledge (Process documentation)
- Maintenance (Schedules)
- Production Planning
- Production (Planned/Actual)
- Quality

For each of the design process the following must be included to the solution deliverables during the lifecycle of each workflow project.

- Project Plan & Methodology
- Functional Specification
- Technical and Information Architecture Specifications
- Security and Compliance
- Test Plan and execution
- Solution Implementation Plan
- Training Plan
- Documentation

Dependencies

- Exaquantum: incorporating a data historian for real time and historical data, alarms, and events along with aggregations, role-based views and KPIs, graphical HMI, trends, reports, and integration with MES.
- FOSLIMS: FOSLIMS is integrated with MES to publish the released laboratory analysis. This allows production to process the raw material into a finished product according to specifications provided by FOSLIMS.
- TREKSCALE: Trek scale integrates with FOSMES. receives the data after the train weigh in and out.

5. Recommendations From Service Provider

The service provider should provide a list of recommendations based on out of scope, but related issues and discoveries and decisions made throughout the project with the aim to maximize the value and mitigate risk of the resulting system. A recommendation of minimal and optimal staffing levels for the system as designed should also be included.

Note that Foskor has an existing enterprise agreement with Microsoft that covers Visual Studio Development Licensing (limited license acquired), the service provider needs to advise Foskor in their proposal of any additional licences required to deliver the project.

6. Foskor Logistics

Foskor will provide working space and necessary connectivity within the FOSKOR SPO. The awarded service provider will be expected to STRICTLY work according to the service providers normal business hours rates.

Foskor's working hours from Monday – Thursday is 7:30 to 16:30 and Friday from 7:30 to 14:00.

7. Supplier Provider Company Profile

The details of the company must be completed in the attachment Annexure 1. Additional information about the company can be included as attachments.

8. Information Submission Requirements

Technical evaluation will be conducted in two phases. In Phase 1, all tenders will be evaluated based on Certifications and Experiences, the qualifying tenderers (achievement greater than 70%) will be further evaluated in Phase 2 Sample Solution Evaluation. Thereafter the qualifying tenderers may be requested to do an overall presentation to the evaluation team for any further clarifications.

SECTION D: CERTIFICATIONS & WORK EXPERIENCE

This section requires the submission of Microsoft certifications, past implemented projects, and certifications of resources, including experience and required skills to deliver proposed services.

The service provider will be required to redevelop and automate the MES User Interface application and possess skills as outlined below but not limited to the following application development related processes:

1. Integration to control systems technology
2. Proficiency in multiple programming languages (VB.net, C++, C#, etc)
3. Database Management and Data Modelling (SQL Server)
4. Reporting Solutions (SSRS, PowerBI, etc)
5. Development Life Cycle (SDLC)
6. Data Analysis
7. Networking
8. Active Directory (AD)
9. Application Support

Annexure 2 must be completed and reference letters to be included.

1. Previous related projects of similar work

Respondents to this RFP must provide references to verify capabilities, experience, and work history in MES Application Development and implementation. References should consist of projects of a similar scope and complexity. The reference contact information shall include the customer's name, start/end dates of the project, customer e-mail address, street address, telephone number, a description of the services provided and timeframe of project. The attached reference form (Annexure 2) must be used. Other reference letters can be accompanied as attachments.

2. Resources Experience

Respondents to this RFP must submit resumes for the staff proposed to deliver service to FOSKOR. Staff must have experience implementing MES applications in Microsoft Visual Studio environment and possess Microsoft Visual Studio / .NET Certifications. The winning respondent must guarantee that proposed staff will actually deliver the proposed services and complete, or where necessary, be substituted for staff with equivalent experience for smooth and stable continuity without affecting the project constraints.

3. Implemented Solution Samples

Respondents to this RFP must submit samples of MES Application User Interface designs created as part of previous or current client engagements. Sample screenshots (or equivalent) and links to associated websites (where available) are sufficient to satisfy this requirement.

SECTION E: TECHNICAL EVALUATION

The following criteria described below will be used to evaluate the responses as stipulated in SECTION D.

| CERTIFICATIONS & EXPERIENCE | | |
|-----------------------------|--|--------|
| | Category | Weight |
| 1 | Microsoft Solutions Partner Certification Each relevant certification will quantify for a point. Min 0 – Max 5 | 5 |
| 2 | Application Development Tools Certifications Each relevant certification will quantify for a point. Min 0 – Max 5 | 5 |
| 3 | Knowledge of Systems Integration background Each relevant certification will quantify for a point. Min 0 – Max 5 | 5 |
| 4 | Vast knowledge of MES and Control Systems background Each relevant certification will quantify for a point. Min 0 – Max 5 | 5 |
| 5 | Knowledge of Relational Databases and AD Each relevant certification will quantify for a point. Min 0 – Max 5 | 5 |
| 6 | Previous Implementation of similar work: Each relevant submission will quantify for a point. Min 0 – Max 15 | 15 |
| 7 | Resource Experiences on MES, LAB, and WB Applications Each relevant submission will quantify for a point. Min 0 – Max 15 | 15 |
| 8 | Implemented Solution Samples using Visual Studio Platform Each relevant submission will quantify for a point. Min 0 – Max 15 | 15 |
| 9 | Ability to read and translate Delphi/C++ Code Each relevant submission will quantify for a point. Min 0 – Max 15 | 15 |
| Total | | 85 |

SECTION F: SAMPLE PROJECT SPECIFICATION

1 Sample Project Analysis

Further to responding to the requirements from SECTION D based on Certification and Experiences, the tenderer will also be required to provide their implementation proposal related to a sample development project as stipulated further in this section.

2 Sample Project Overview

The Revised MES System (MES To-Be) and current MES Application diagrams with required integrations are provided in Annexure 3 and Annexure 4 respectively for the tenderers to analyse and prepare a technical response in developing this sample. The minimum technical response is required as noted below, the solution make encompass any other initiatives to show case any additional functionality and capabilities the tenderer may offer.

2.1 Technical Approach and Methodology

In this sub section, respondents should explain their understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. Respondents should highlight the problems being addressed and their importance and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.

2.2 Work plan & Hours Quantification

In this sub section respondents should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the Terms of Reference (TOR) and ability to translate them into a feasible working plan. A detailed project plan with all milestones and timelines inclusive of the different resources and hours to deliver the solution.

SECTION G: TECHNICAL EVALUATION - SAMPLE PROJECT SOLUTION

| SAMPLE SOLUTION EVALUATION | | |
|----------------------------|---|----|
| 1 | Technical Approach and Methodology (min 0 – max 5) | 80 |
| | Assignment Objective 0: None; 1: Poor; 2: Average; 3: Good; 4: Very Good; 5: Excellent | 20 |
| | Approach 0: None; 1: Poor; 2: Average; 3: Good; 4: Very Good; 5: Excellent | 10 |
| | Methodology | |

| | | |
|-------|--|-----|
| | 0: None; 1: Poor; 2: Average; 3: Good; 4: Very Good; 5: Excellent | 20 |
| | Output & Deliverables 0: None; 1: Poor; 2: Average; 3: Good; 4: Very Good; 5: Excellent | 30 |
| 2 | Work Plan & Hours Quantification (min 0 – max 5) | 20 |
| | Development Hours & Costing 0: None; 1: Poor; 2: Average; 3: Good; 4: Very Good; 5: Excellent | 10 |
| | Licensing Model & Costing 0: None; 1: Poor; 2: Average; 3: Good; 4: Very Good; 5: Excellent | 10 |
| Total | | 100 |

SECTION I: PRICE PROPOSAL - SAMPLE PROJECT SOLUTION

Note: Final pricing for final awarding of this tender will be subject to a full & comprehensive due diligence being conducted with the most suitable supplier(s).

1. Please indicate the pricing breakdown to develop and implement the sample solution including the licensing costing for this module: R..... (compulsory)

2. Costing Model/Pricing Breakdown Sample Module

| Costing Model/Pricing Breakdown | | | |
|---|-------------|--------------|-----------------------|
| Description | Rate | Hours | Total Exc. VAT |
| Project Manager - (1) | | | |
| Senior Developer - (1) | | | |
| Developer Analyst / Architect - (1) | | | |
| Implementation | | | |
| Training | | | |
| Documentation & Types of documentation (SDLC) | | | |
| Administration | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Other Costs/Rates | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total Cost | | | |

Annexure 1: Attachment (Company Profile)

| Company Background | |
|--|--|
| Company Name | |
| Location of Head office in South Africa | |
| Parent Company, if applicable | |
| Proposer Experience | |
| # of years in ICT business | |
| # of year providing MES Application Development and Integration services | |
| Customer Base | |
| # of clients implemented MES User Interface Application | |
| # of clients in KwaZulu Natal | |
| About the Company | |
| Number of Total Employees | |
| Number of Employees Providing MES User Interface Application Implementation Services | |

Annexure 2: Attachment (Reference Form)

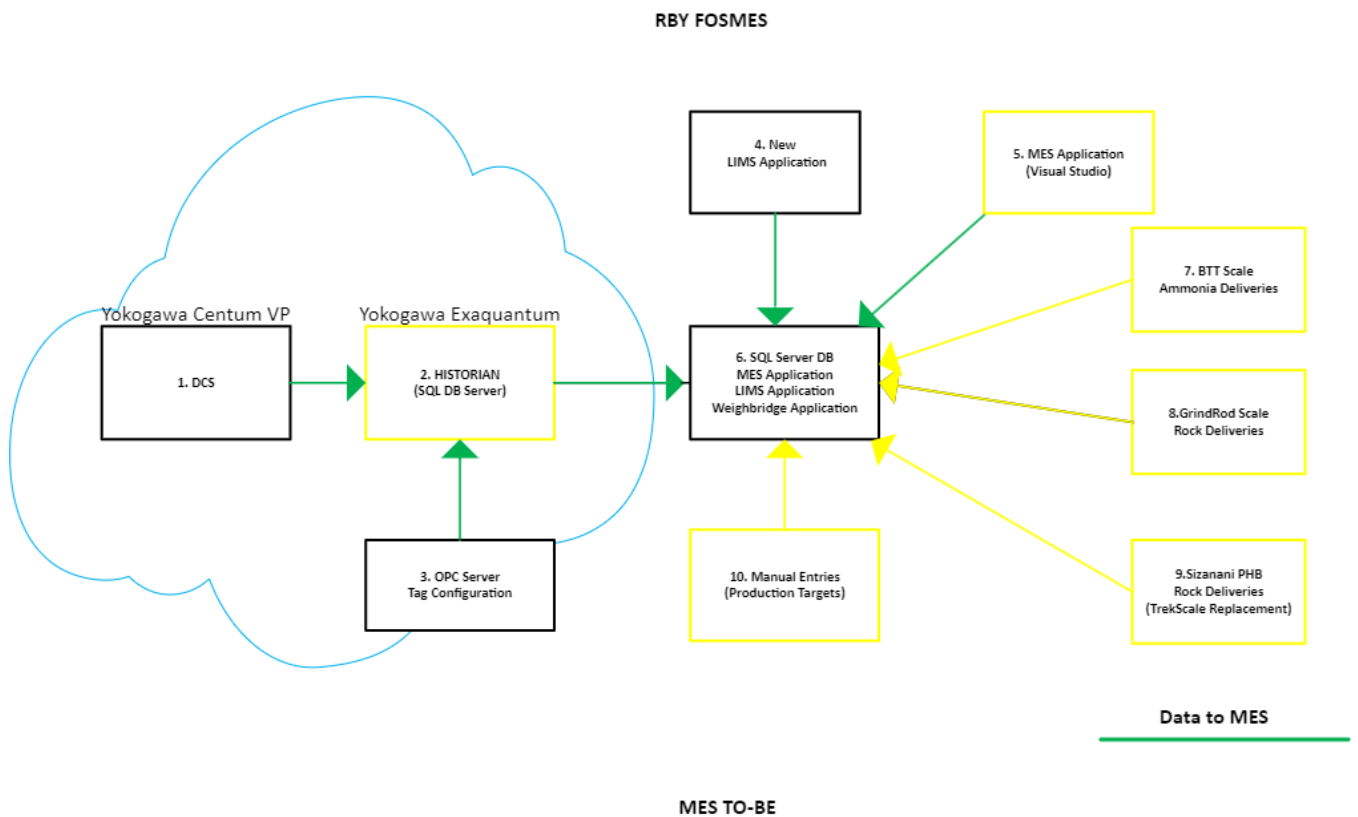
Please provide references for the past projects that include products and services similar to those proposed in this RFP for MES User Interface Application.

Please use the following format in submitting references and attach any further. Multiple pages can be submitted.

| GENERAL BACKGROUND | |
|--|----------------|
| Name of Client | |
| Client Project Manager | |
| Contact No | |
| E-Mail | |
| MES User Interface or system/Version | |
| Summary of Project | |
| Title | |
| | |
| No of MES User Interface or system -Developers | Project Budget |
| | |
| PROJECT SCOPE | |
| Please indicate the capabilities by checking the box | |
| MES User Interface Development | |
| MES User Interface Collaboration/Integration | |
| MES Application Implementation | |
| IMPLEMENTATION INFORMATION | |
| Project Date | |
| Project Duration | |

| | |
|--|--|
| Project Description | |
| | |
| Project Challenges | |
| | |
| MES User Interface Application Implemented | Total Estimated Hours of Solution Design |
| | |
| | |
| | |
| | |
| Additional Information | |
| | |
| | |
| | |

Annexure 3: Revised MES System (To-Be) Diagram



The figure above illustrates the MES solution and integrated control system. The aim is to redevelop the current system to depict what's in the figure.

Annexure 4: Current MES Delphi Application and Menus



The figure above illustrates the current MES Application developed in Delphi. It shows version number of the application, user currently logged on, and the workstation name.
The menus will be revised, while retaining the same functionality.