Technical Specifications

ERP and Reporting

1. Objective

Implement a hybrid BuildSmart solution integrating local and cloud-based systems, supporting the employees of Sefateng. The system should provide a comprehensive business dashboard that integrates data from BuildSmart, mining production systems, SCADA systems, and other business operations.

2. Scope of Work

- **Local Server Implementation:**
    - Install and configure BuildSmart on a local server with periodic data synchronization to the cloud.
- **Cloud Integration:**
    - Establish secure data synchronization between the local server and the cloud for real-time data integration and reporting.
- **System Integration:**
    - Integrate BuildSmart with mining, SCADA, and other business systems for a unified business view.
- **SCADA Integration:**
    - Connect SCADA systems to the dashboard solution to capture real-time production and operational data.
    - Implement data transformation processes to convert SCADA signals into usable metrics for business reporting.
- **Dashboard Development:**

- Develop a dashboard reporting solution to visualize key metrics such as production output, operational efficiency, and resource utilization, with automatic data updates.

3. Server Specifications

- **Hardware Requirements:**
  - **Processor:** Dual Intel Xeon Silver 4210R (10 cores, 2.4GHz) or higher.
  - **RAM:** 128 GB DDR4.
  - **Storage:** 4 TB SSD (RAID 10) for primary storage, 2 TB HDD for backups.
  - **Network:** Dual 10 Gbps Ethernet.
  - **Redundant power supply and cooling.**
- **Software Requirements:**
  - **Operating System:** Windows Server 2019/2022 Standard.
  - **Database:** Microsoft SQL Server 2019 Standard or higher.
  - **Virtualization:** Hyper-V or VMware ESXi.
  - **SCADA Integration Software:** OPC servers or middleware compatible with existing SCADA systems.
  - **Security:** Endpoint protection, firewall, and VPN for secure remote access.

4. Integration Requirements

- **Data Integration Tools:**
  - Use Azure Data Factory or SSIS for data extraction, transformation, and loading from SCADA and other systems.
  - Configure APIs or use OPC connections for seamless SCADA data integration.
- **Dashboard Reporting Solution:**

- Develop dashboards that include data from SCADA, accounting, and ERP systems for a comprehensive view of business operations.

5. SCADA Data Integration Specifications

- **Data Capture:**
  - Implement real-time data capture from SCADA systems, including key performance indicators such as equipment status, production rates, and operational alarms.
- **Data Processing:**
  - Use middleware or integration tools to process SCADA data into structured formats compatible with reporting systems.
- **Data Visualization:**
  - Include SCADA data in dashboards to monitor real-time production metrics and operational health.

6. Security and Compliance

- Ensure data security through encryption and secure communication channels.
- Compliance with local data protection regulations and internal IT policies.

7. Support and Maintenance

- Comprehensive support for installation, configuration, and ongoing maintenance.
- Training for IT staff and end-users on system usage and troubleshooting.

8. Deliverables

- Detailed project plan and timelines.
- Documentation of the implemented system, including configuration and user manuals.

- Functional dashboards with automated data integration from SCADA and other systems.

9. Evaluation Criteria

- Technical capability and experience in similar projects.
- Cost-effectiveness and scalability of the proposed solution.
- Support and maintenance terms.

10. Submission Requirements

- Company profile and experience in hybrid ERP, SCADA integration, and BI solutions.
- Detailed proposal with a breakdown of costs.
- References from similar past projects.