



FACILITIES MANAGEMENT

SUSTAINABILITY, ENVIRONMENT & UTILITIES

RFP UJ 73/2024

SPECIFICATION FOR PROVISION BUILDING MANAGEMENT SYSTEMS FOR AUCKLAND PARK KINGSWAY CAMPUS

1. BACKGROUND

The University of Johannesburg seeks to appoint service provider(s) to design, install and commission an integrated Building Management System (BMS) at Auckland Park Kingsway (APK) Campus. The purpose of implementing this system is to ensure:

- Equipment monitoring
- Equipment control
- Semi-Automation
- Electrical consumption monitoring
- Gas consumption monitoring
- Diesel consumption (generators) monitoring
- Carbon emissions (CO2) monitoring
- Dashboard display
- Report generation

2. **PROJECT SCOPE OF WORK**

The desired integrated building management system shall be compatible with UJ network infrastructure, any special requirements shall be discussed during the site briefing. The integrated BMS shall be required to incorporate the following:

- Be installed in a control room manner with two computer workstations (2x PCs and 2x PC monitors at a location to be confirmed by UJ).
- 2x Display screens with dashboards shall be installed in strategic places (i.e. E-ring near Auditorium & Protection Services Control Room).
- Display real live data (Shall be in a live environment).
- Alarm and alerts to identified staff members.
- Remote access to the web system for dashboards/report access.
- Supply trends and reports.
- Manage and control HVAC systems.
- Manage and control lighting in identified high consumption areas.
- Manage and control APK SMK boilers.
- Manage and control APK SMK chillers.
- Remote control of diesel generators (stopping and starting).
- Monitor diesel consumptions (generators).
- Monitoring of UPS's (UPS statuses and alarms).
- Monitoring of firefighting equipment (Statuses and alarms).
- Monitoring of electrical power consumption.
- Shall be able to function using open communication protocols.
- Incorporate energy efficiency targets.
- Provide smart data analysis.
- Incorporate disaster management and recovery protocols.
- Information enabling the client to download raw unprocessed demand and trend information in a format suitable for further processing using a spreadsheet such as Microsoft Excel.

The service provider will ensure through automated software procedures that all interval data is accounted for, and missing data must be detected and corrected by the service provider within 72 hours.

The service provider will ensure that the daily backups of the data are maintained at a location off site from the service provider's premises. The backups shall contain the full database.

The service provider shall confirm that all the data acquired and stored is the exclusive and confidential property of the client and will not be divulged to any third party without the express written instruction from the client.

Any contribution or improvement done through research and development by the UJ team shall belong to UJ.

Any collaborative work done between UJ and the service provider, UJ shall reserve the right to independently use the work or improvement thereof with any other service providers without any binding of Intellectual Property by the service provider.

The proposed system shall readily be integrated with various well known ERP system such as Oracle, SAP, Archibus, etc or should be agile to allow future development to incorporate emerging smart technologies.

The scope of work is made up of:

- Hardware (Workstations and field devices)
- Software (Compatible with UJ network)
- 1 year warranty
- 3-year maintenance over and above implementation of the system (including technical support)
- UJ staff training

The integrated BMS should incorporate the following functions and controls where applicable and shall be included in the pricing.

Equipment	Monitoring	Function
Lifts	<ul style="list-style-type: none"> • Status • Alarms • Lift stoppages 	<ul style="list-style-type: none"> • Health status indication • Reports on number of stoppages
HVAC (VRF/VRV Systems)	<ul style="list-style-type: none"> • Status • Temperature 	<ul style="list-style-type: none"> • Health Status indication • Temperature
HVAC (Data Centres)	<ul style="list-style-type: none"> • Status • Temperature 	<ul style="list-style-type: none"> • Health Status indication • Temperature
HVAC (Offices)	<ul style="list-style-type: none"> • Status 	<ul style="list-style-type: none"> • Health Status indication
Diesel Generators	<ul style="list-style-type: none"> • Status • Alarms • Remote control 	<ul style="list-style-type: none"> • Health Status indication • Remote control (Start/Stop)
Main substation and other substations	<ul style="list-style-type: none"> • Status • Consumption 	<ul style="list-style-type: none"> • Health Status indication • Consumption report
Electricity per Area (DB's)	<ul style="list-style-type: none"> • Status • Consumption 	<ul style="list-style-type: none"> • Health Status indication • Consumption report
UPS	<ul style="list-style-type: none"> • Status 	<ul style="list-style-type: none"> • Health Status indication
Lighting	<ul style="list-style-type: none"> • Status • Remote Control 	<ul style="list-style-type: none"> • Status • Remote control (Start/Stop)
High Mast lights	<ul style="list-style-type: none"> • Status • Remote Control 	<ul style="list-style-type: none"> • Status • Remote control (Start/Stop)
Solar PV plant	<ul style="list-style-type: none"> • Status • Production 	<ul style="list-style-type: none"> • Health Status indication • Production Report
Gas (Egoli)	<ul style="list-style-type: none"> • Consumption 	<ul style="list-style-type: none"> • Consumption
Gas (Laboratories)	<ul style="list-style-type: none"> • Consumption 	<ul style="list-style-type: none"> • Consumption
Diesel Tank (APK Magasyn)	<ul style="list-style-type: none"> • Tank Level 	<ul style="list-style-type: none"> • Tank Level
Water tank levels (SMK & Lebone)	<ul style="list-style-type: none"> • Tank Level 	<ul style="list-style-type: none"> • Tank Level Indication
Irrigation	<ul style="list-style-type: none"> • Status 	<ul style="list-style-type: none"> • Status
SMK Boilers	<ul style="list-style-type: none"> • Status 	<ul style="list-style-type: none"> • Status

	<ul style="list-style-type: none"> • Consumption 	<ul style="list-style-type: none"> • Consumption
SMK Chillers	<ul style="list-style-type: none"> • Status 	<ul style="list-style-type: none"> • Status
Geysers & Heat Pumps	<ul style="list-style-type: none"> • Status • Remote Control 	<ul style="list-style-type: none"> • Status • Remote Control (Stop/Start)
Fume Hoods	<ul style="list-style-type: none"> • Status • Alarms 	<ul style="list-style-type: none"> • Status • Alarm Report
Fire/Smoke alarms	<ul style="list-style-type: none"> • Status • Alarms 	<ul style="list-style-type: none"> • Status • Alarms Report
Fire Pump Station	<ul style="list-style-type: none"> • Status • Alarms 	<ul style="list-style-type: none"> • Status • Alarms Report
Disaster management Protocols	<ul style="list-style-type: none"> • Alarm • Auto-recovery and escalation 	TBC
Clean Rooms	<ul style="list-style-type: none"> • Status • Alarms 	<ul style="list-style-type: none"> • Status (Vacuum/Temperature) • Alarms
CO2 Emissions	CO2 monitoring	CO2 Report
Energy efficiency	Energy comparison target	Report/graphic presentation of current consumption versus target

Equipment not compatible with BMS

Equipment not compatible with BMS shall be highlighted. Where required, a report will be provided to client (UJ) to indicate the scope, extent, modifications and cost of changes required to facilitate the integration for review by client (UJ), and for client (UJ) to then implement to ensure that the equipment can be integrated into the BMS.

Equipment/sensors locations

- In line with the University's surveillance
- Leak free spaces
- Not readily accessible

Equipment/sensors requirements

- Not interfering with the output or functioning of the main equipment
- Seal or insulation, where applicable
- Protective cover
- UV protection, where applicable
- Water or rust proof
- Cables to comply with SANS 10142 & BS 7671

Installation of equipment

A layout drawing with detailed indication of all sensors or devices shall be presented to the client. Stage gate approvals by the relevant parties shall be obtained before proceeding with, and during the implementation as necessary.

End-user training

Involved or identified staff members shall be involved in the design reviews, installation and commissioning of the system. Involved or identified staff members shall be trained and declared competent by the service provider.

Warranty

The service provider provides a minimum (1) year warranty on all equipment installed (Software and Hardware).

Any equipment breakdown or malfunctioning within the warranty period shall be attended to by the service provider at own cost.

Maintenance and service

Service provider shall provide maintenance and service of the entire system for a period of at least (3) three years.

Maintenance program shall be provided to the client and will be broken down into schedules i.e. monthly services, quarterly services, software updates, annual services etc.

Technical Support

The service provider will be required to provide a 24-hour technical support. Shall respond to call outs within an hour during working hours.

3. EVALUATION CRITERIA

The submitted tenders will be evaluated based on the list of criteria defined below and in the specific sequence. A tenderer, which fails to meet any one criterion, will not be considered in subsequent evaluations.

1. Stage1: The tender evaluation criteria are listed in sequence below:

- Compliance to prescribed tender returnable documents.
- Proof of previous related work experience with contactable references
- Compliance to scope of work specifications.
- Technical competence to execute the work.
- Resources required to perform work.

2. Stage 2: Functionality

No	Functionality Criteria	Points	Maximum Points Attainable
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(i)	References of similar projects (Integrated Building Management System – Turnkey project for Facilities Management or similar). These references must not be older than 5 years. The reference list must include the company name, brief scope of work, contact persons, contact details, and value of contract. The client reference letters (Signed) (10 points per client reference letter) <ul style="list-style-type: none">• 1 Reference letter = 10 points.• 2 Reference letters = 20 points• 3 Reference letters = 30 points• 4 Reference letters = 40 points• 5 Reference Letters = 50 points		50

(ii)	<p>Provide short CVs of personnel that will be assigned to the project.</p> <p>Key personnel's Qualifications (Electrical, Mechanical, Control & Instrumentation and/or IT/Software developers) - 30 points obtainable.</p> <ul style="list-style-type: none"> • CV with Qualifications – Project Manager = 10 points • CV with Qualifications – Engineer/Technical Lead = 5 points • CVs with Qualifications – 4x Technicians (IT, Control Systems, Instrumentation, Electrical or Mechanical) =10 points 		25
(iv)	<p>Programme Methodology</p> <ul style="list-style-type: none"> • 5 Points - Quality Control Plan. • 10 Points – Detailed Methodology (Incorporate requirements from the specification) • 5 Points – External Data Backup & External support/offside data checks and analysis 		25
	<ul style="list-style-type: none"> • 5 Points – Systems future development/agility/collaboration/emerging technology/research and development 		
	Total Points Awarded		100

Notes: A minimum of 70 points is required to proceed to stage 3: Presentations

3. Stage 3: Presentations

No	Presentations Criteria	Points	Maximum Points Attainable
(i)	Building Management Platform overview <u>Max points 10</u> <ul style="list-style-type: none"> • <i>Generic – 2</i> • <i>UJ Specific – 3</i> • <i>Comprehensive, agile & addresses the requirements – 10</i> 		10
(ii)	BMS System updates, Support, Management, Report Generation, Platform future development <u>Max Points 5</u> <ul style="list-style-type: none"> • BMS System Updates, Support & Management (<i>Basic – 0; Comprehensive – 2</i>) • Report Generation (<i>Basic – 0; Robust – 1</i>) • Platform future development (<i>No future developments – 0; Future developments – 2</i>) 		5
(iv)	Project Plan <u>Max points 5</u> <ul style="list-style-type: none"> • <i>Basic - 2</i> • <i>Compressive - 5</i> 		5
	Total Points Awarded		20

Notes: A minimum of 70% (14 Points) is required to proceed to stage 4: Pricing & B-BBEE

1. Stage 4: Pricing & B-BBEE

CATEGORY	POINTS ALLOCATION
PRICE	80
BROAD BASED BLACK ECONOMIC EMPOWERMENT	20