
AFRICA FACILITIES MANAGEMENT ASSOCIATION

# Automated Facility Management Systems:

## The Future of Campus Operations

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Sherif is a well experienced facility management professional with over 29 years of experience managing Housing, Housekeeping, Landscape, Real Estate, Sustainability, and Transportation Departments. Sherif worked at HAMZA ASSOCIATES as a Structural Engineer designing Bibliotheca Alexandrina under sponsorship of UNESCO.

Holds an MBA, AUC, a Master of Science from Cairo University, Engineering, and a Bachelor degree in Civil Engineering from Cairo University.

Sherif is the current Africa FM Chair, a Co-Founder of EGYFMA, former Vice Chair of EGYFMA, and also Sherif is a Global FM board member representing EGYFMA

A Member in APPA Institute for Facilities Management.

Currently, Sherif is an FM instructor in AUC and a subject matter expert in AUC FM and course developer. Finally, a LEED Auditor for FM 41,000 from BSI

# BIOGRAPHY


# After Completing this session, you will be able to:

- Define FM Technology
- Benefits and Challenges of Automation for FM
- Spot on some FM Tools

# Four Main Functions of FM

## ISO 41001:2018

"Organizational function which integrates **people**, **place** and **process** within the built environment with the purpose of **improving** the quality of life of people and the **productivity** of the core business"


Facility Management

# TECHNOLOGY

## DEFINITION

Technology refers to the application of scientific knowledge for practical purposes, especially in industry, where tools, systems, and methods are used to solve problems or improve conditions. It encompasses a broad range of physical devices, software, and systems that interact with the environment and human society.

## EXAMPLES

- Internet
- Computers
- Smartphones
- Solar panels
- Blockchain technology
- Autonomous vehicles
- Artificial Intelligence



TECHNOLOGY

**Technology in FM has grown to a level that it guarantees FM delivery**

1.CMMS

2.CAFM

3.ERP (Enterprise Resource Planning)

4.GIS (Geographic Information Systems)

5.BIM

6.Digital Twin

7.BMS

8.VIRTUAL REALITY

9.IOT -SMART BUILDINGS –CONNECTED BUILDINGS

10.AI

11.MOBILE APPS

**Conceptually, digital FM comprises many related activities, broken down into these 5 classic main elements:**

— **what**: technology ecology based on the as-is and to-be analysis to create strategy;

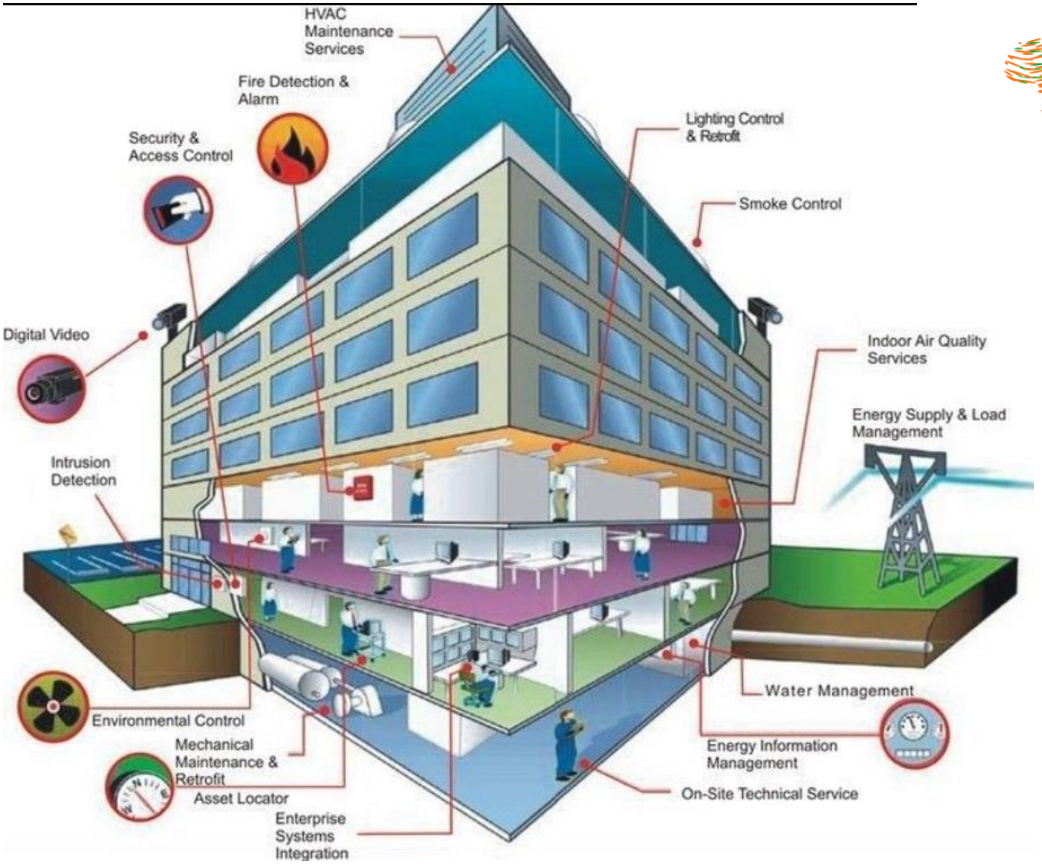
— **where**: place, space and asset definitions and methodologies;

— **when**: optimal start and delivery in the FM life cycle;

— **why**: performance outputs and key deliverables needed;

— **who**: the primary beneficiaries are those in the digital FM team.

These 5 elements are deployed to support the implementation of digital FM across various activities, dependent upon the maturity, capability and needs of each organization.




# Technology in FM

# BENEFITS OF AUTOMATION FOR FM

- Comfort -Increases the **productivity** of facility management staff.
- Organizations can decrease **operating costs, time**
- **Accountability** and transparency, and easy communication
- **Integrating** processes and data from various sources
- Creating additional **efficiencies** and removing **obstacles** and conflicts
- **Intelligent systems** make FM organizations more intelligent
- **Single Screen, smartphones**

## SOME WARNINGS ABOUT AUTOMATED TECHNOLOGY

- Automated processes depend on a large amount of accurate data.
- Processes that are flawed will only be performed more quickly and easily with automated tools – same poor outcomes, but with the higher cost of the technology investment.
- The needs of the technology and the organization must be considered.
- The issue of legacy systems must be faced (as lighting, access control, lifts, CCTV).
- Facility managers should think about resources beyond those required for acquisition.

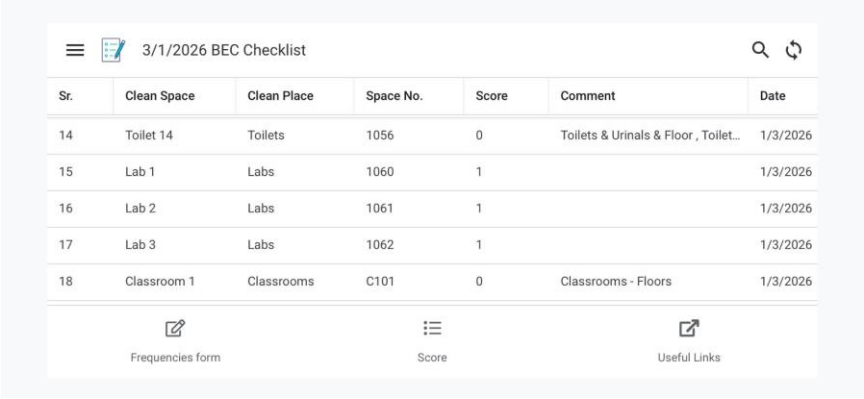
## Challenges of Using Technology in FM for Campuses

- Finance
- Culture
- Bureaucracy
- Procurement
- Availability
- Management Buy-in
- No infrastructure for massive amounts of data

# What did we do?

- IoT – Sensors **increased efficiency** by **taking over simple tasks**
- Energy is one of the **largest expenses** for facilities
- Smart energy/water meters –**gather data** trends and **analyze** information (**turn off lights,** HVAC systems)
- Inhouse App development – Google App Sheet – FREE -10 users
  Coding – formulas – data oriented – Graphs
- **TRAINING the TEAM** on technology, change, AI,

# Housekeeping



3/1/2026 BEC Checklist

| Sr. | Clean Space | Clean Place | Space No. | Score | Comment | Date |
|---|---|---|---|---|---|---|
| 14 | Toilet 14 | Toilets | 1056 | 0 | Toilets & Urinals & Floor , Toilet... | 1/3/2026 |
| 15 | Lab 1 | Labs | 1060 | 1 | | 1/3/2026 |
| 16 | Lab 2 | Labs | 1061 | 1 | | 1/3/2026 |
| 17 | Lab 3 | Labs | 1062 | 1 | | 1/3/2026 |
| 18 | Classroom 1 | Classrooms | C101 | 0 | Classrooms - Floors | 1/3/2026 |

Frequencies form  Score  Useful Links

# Bus Service

## AUC Bus Tracking System

**Technical Brief**

## Executive Summary

This document provides a technical overview of the AUC Bus Tracking System, covering architecture, data flows, security measures, and required coordination with AUC IT for deployment and integration.

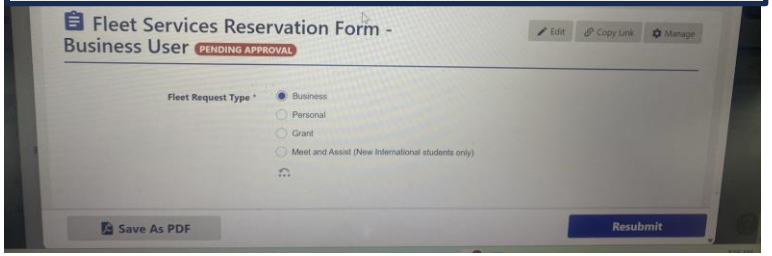
## 1. System Overview

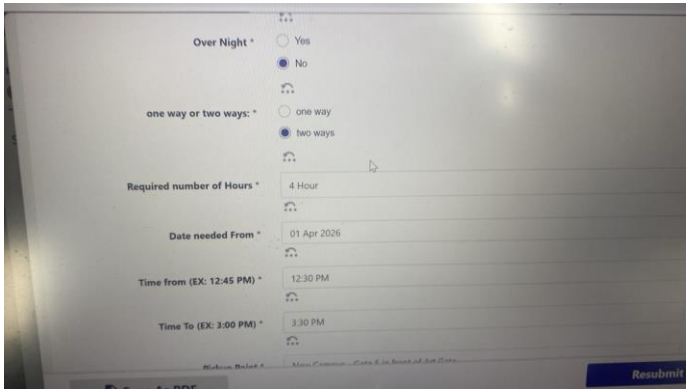
**Core Components**

- **Rider Mobile App**
  Live tracking, ETAs, proximity-based boarding confirmation.
- **Vendor Dashboard**
  Dynamic bus-to-route assignment and operational oversight.
- **Admin Dashboard**
  Ridership analytics, route monitoring, system health.

**Status:**
Three live trials completed successfully, validating all major components.

# Fleet Service



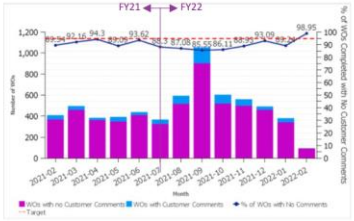



# CMMS - KPI Dashboard

- Fleet Service,
- Maintenance,
- Landscape,
- Housekeeping

## Services Delivery - Campus Facilities

### Customer Satisfaction Rate




**Goal:** Improve client satisfaction score to 95% or higher.
**Drivers:** Timelines, Communication, Rework, Neatness, Professionalism.
**Initiative:** Improve Communication at time of service visit to ensure client is satisfied before technician completes.

### Housekeeping Service Quality Score


**Goal:** Improve janitorial inspection score to 90% or higher.
**Drivers:** Weather, Events, Construction, Location.
**Initiative:** Align contractual requirements and client expectations using KPIs cleanliness standards based on International and/or Regional Codes.

## Some foundational questions for a facility manager considering a technology solution Checklist.

| Reference | Foundational question |
|---|---|
| T3-Q1 | What strategic outcomes and business requirements are the demand organization seeking, such as enhanced health outcomes, higher productivity, improved user satisfaction, raised space utilization efficiency, greater sustainability, workspace flexibility? |
| T3-Q2 | How will any technology deployments perform and scale in the future? |
| T3-Q3 | What qualitative and quantitative technology gap analysis has been performed and what are the key results? |
| T3-Q4 | Are there technologies that can be retrofitted? |
| T3-Q5 | Is the digital network infrastructure capacity suitable to support planned FM technologies and to address future anticipated demand? |
| T3-Q6 | Will the network infrastructure capacity be sufficient to address future anticipated demand? |
| T3-Q7 | What cyber security measures are required? |
| T3-Q8 | What corporate, local, national and international communication protocols and naming conven tions are used? |
| T3-Q9 | How will return on investment (ROI) be calculated: financial versus unit of productivity versus user satisfaction? |
| T3-Q10 | What special skills or maintenance will be required to enable ongoing use of the technology? |
| T3-Q11 | What type of FM sustainable impacts are expected from technological breakthroughs? |
| T3-Q12 | What ethical principles and values of the organization are to be considered? |

# TECHNOLOGY

Those who neglect the new will stay at the end of the line


**Angola – Luanda**

**September 10-11, 2026**

# THANK YOU

**GET IN TOUCH**

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THANK YOU!