SaaS based Global Office Facilities Management System Scope document - v1.0

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2. Introduction

A **SaaS-based Global Office Facilities Management System (GOFMS)** delivers all core functions of facilities management through a cloud-native, multi-tenant platform, enabling organizations to manage multiple office locations from a single, centralized solution—without needing to maintain infrastructure.

The **SaaS-based GOFMS** is a subscription-based platform designed to help companies automate, digitize, and optimize the full lifecycle of facility operations—from space planning and maintenance to sustainability and IoT-driven insights—accessible over the web and mobile apps.

3. Core Modules

Following Table 2.0 - Provides high level description about the modules

Modules	Description
1. Space Management	Floor plans, seat allocations, hot-desking, and occupancy analytics
2. Asset Management	Asset tracking, depreciation, tagging, vendor contracts
3. Maintenance Management	Preventive & reactive maintenance, ticketing, SLA enforcement
4. Booking & Scheduling	Meeting rooms, desks, service requests, visitor passes
5. IoT Sensor Integration	Real-time occupancy, energy use, air quality, motion detection
6. Sustainability & ESG	Energy efficiency tracking, carbon footprint analytics
7. Admin Dashboard	Role-based access, site-level configuration, billing management
8. Analytics & Reporting	Heatmaps, KPIs, dashboards by region/department/location

Table 2.0 - High-Level Scope description

4. Detailed Scope

- ❑ Space & Occupancy Management
  - Floor planning & seat allocation
  - Real-time occupancy tracking (IoT-based)
  - Hoteling and hot-desking
  - Move/add/change (MAC) requests

- ❑ Asset Management
  - Inventory tracking of furniture, electronics, and equipment
  - QR/barcode-based tagging
  - Depreciation and lifecycle management

- ❑ Maintenance Management
  - Scheduled preventive maintenance
  - Reactive maintenance (tickets/requests)
  - Vendor assignment & SLA tracking
  - Equipment breakdown analytics

- ❑ Workplace Services
  - Conference room booking
  - Visitor management system
  - Catering, cleaning, security scheduling

- ❑ Sustainability & Energy Monitoring
  - Energy consumption dashboards
  - Water, gas, and lighting usage
  - Compliance reporting (ESG frameworks)

- ❑ Health & Safety Compliance
  - Incident tracking
  - Evacuation plans
  - COVID-19 protocols / air quality monitoring

- ❑ Integration Capabilities
  - Integration with HRMS, ERP, BMS, and IoT sensors
  - Mobile app for employees and technicians
  - Global language & timezone support

5. Multi-Tenant SaaS Architecture Overview

Key Characteristics of Multi-Tenancy Application

- ❑ **Multi-tenancy:** One codebase, multiple customers (tenants)
- ❑ **Horizontal scalability:** For serving enterprise clients across regions
- ❑ **Microservices:** Domain-based logical separation (e.g., Maintenance, Booking)
- ❑ **Self-service provisioning:** Admin portal to onboard new tenants
- ❑ **Global deployment:** Using CDN, regional zones, edge caching

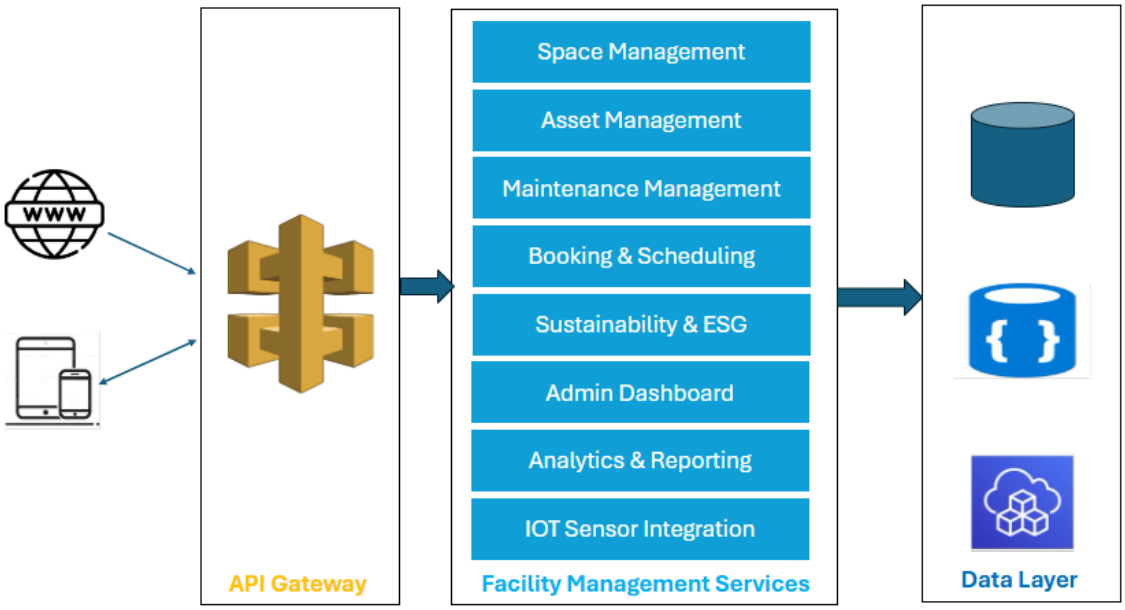
6. System Architecture

Following Picture 5.1 - Describe the system topology

Picture 5.0 - System Topology

7. High-Level Architecture

Following picture 7.0 - Describes System High-Level Architecture



Picture 7.0 - High-Level Architecture

8. Features of SaaS Model

Following table 8.0 - describes code specification of SaaS Model

Feature	Description
Tenant Isolation	Separate data access and role-based views per organization
White-Labeling	Branding per tenant: logos, domain, email notifications
Subscription Billing	Usage-based metering (API calls, sensors, users)
CI/CD Pipelines	Automatic upgrades, rollbacks, regional deployments
Audit Logs & Analytics	Admin logs, security events, tenant usage metrics
Multi-language / timezone	Global-ready with I18N and localization support

Table 8.0 - Features of SaaS based model

9. Dashboards & Reporting

- dashboards: global space utilization, cost trends
- Facility manager dashboard: work orders, asset health
- Custom reports for regions/offices

10. Security & Compliance

- OAuth 2.0 / SSO
- SOC 2, ISO 27001 compliance
- Data encryption
- Regional data residency options (GDPR) **(Out of Scope)**

11. Proposed Technical Stack

- ❑ Frontend
  - Web App: React.js
  - Mobile App: Flutter
- ❑ Backend
  - API Layer: Node.js
  - Microservices Architecture
  - Authentication: OAuth2, SSO
- ❑ Database
  - Relational: PostgreSQL
  - NoSQL: MongoDB (for sensor data)
  - Time-series DB: InfluxDB (for energy & occupancy)
- ❑ IoT Integration
  - MQTT broker
  - Edge device communication
  - Sensor data ingestion (temperature, motion, CO2)

- ❑ Cloud & Hosting
  - AWS
  - CI/CD via Jenkins
  - Kubernetes / Docker for container orchestration

More Details about Technologies

- ❑ **Frontend Access**: React.js (Web) and Flutter (Mobile)
- ❑ **Gateway**: NGINX/API Gateway
- ❑ **Auth & IAM**: OAuth2 / JWT / SSO
- ❑ **Microservices**: User, Space, Asset, Booking, Maintenance
- ❑ **IoT Integration**: MQTT broker + real-time sensor inputs
- ❑ **Storage**: PostgreSQL, MongoDB, InfluxDB, S3
- ❑ **Analytics & BI**: Dashboard and reporting tools
- ❑ **Cloud Infrastructure**: Kubernetes, Monitoring, CDN