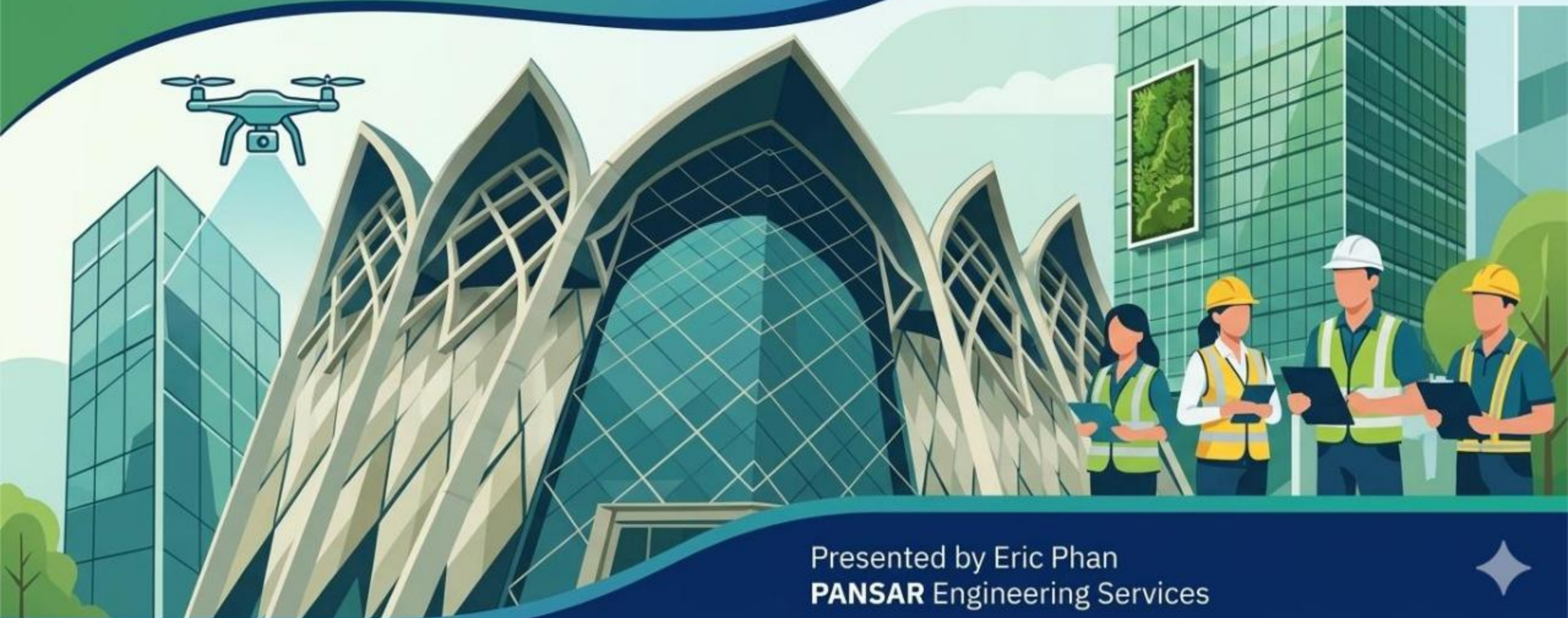


Topic: Incorporating **Soft Services** Requirements in the Design Brief to Enable Sustainable FM

PANSAR

FMM



Presented by Eric Phan
PANSAR Engineering Services

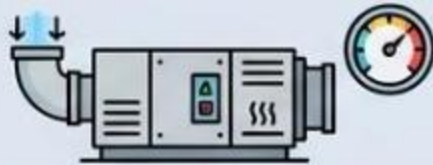


FM SERVICES: DEFINING THE DIFFERENCE

HARD SERVICES



• CORE INFRASTRUCTURE & MECHANICAL SYSTEMS



HVAC SYSTEMS



ELECTRICAL & LIGHTING



FIRE SAFETY & SPRINKLERS



PLUMBING & PIPING



BUILDING FABRIC



SOFT SERVICES



• HUMAN & ENVIRONMENTAL EXPERIENCE



CLEANING SERVICES



WASTE MANAGEMENT

LANDSCAPING



SECURITY



RECEPTION & CATERING



>>> TRADITIONAL SILOED APPROACH VS. modern integrated approach >>>

The Maintenance Challenge of Overly Ambitious Design

Looks Good on Paper: Not Soft-by-Design

PANSAR

INEFFICIENT GLASS
REPLACEMENT

HIGH-RISK
SKYBRIDGE
CLEANING

COMPLEX GREEN
ROOF ACCESS

DIFFICULT KINETIC
SCREEN REPAIR

DIFFICULT KINETIC
SCREEN REPAIR

PRECEDENT-SETTING
STRUCTURAL
COMPLEXITY

ARCHITECTURAL DESIGN: AN EXAMPLE OF COMPLEXITY OVER PRACTICALITY

Soft-by-Design: Elevating Lifecycle Sustainability Through Proactive Design Brief

Presentation at FMAC 2026, Kuching

PANSAR

PROACTIVE
DESIGN BRIEF

SOFT-BY-DESIGN

CONSTRUCTION
& MATERIALS

REUSE
RETROFIT
& REUSE

OPERATIONS &
MAINTAINANCE

FMAC 2026

Capital Expenditure (Capex) — Design & Build (20%)

Operational
Expenditure
(Opex) —
Maintenance & Soft
& Services (80%)



The Atrium Trap

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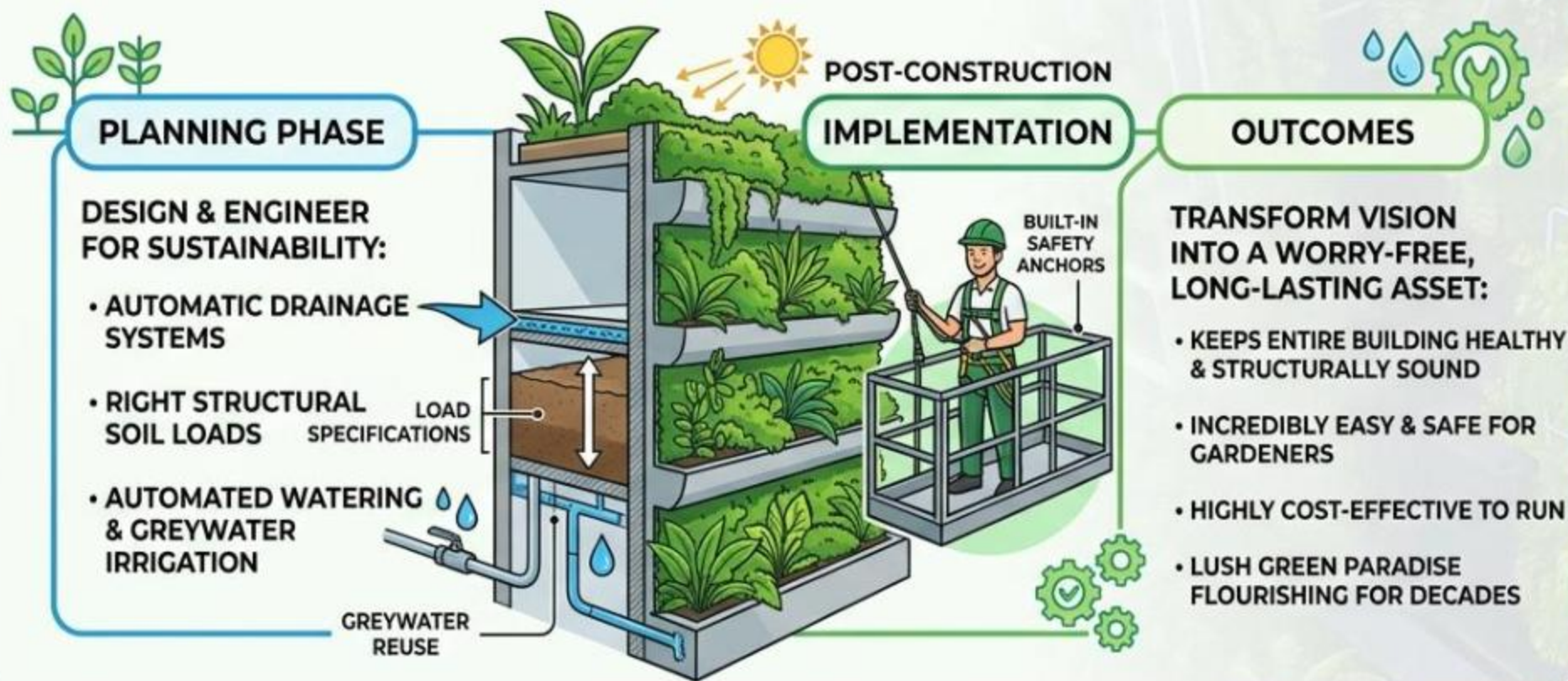


FMAC2026

LANDSCAPING: OUR SECOND PILLAR

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EARLY PLANNING FOR LONG-TERM FLOURISHING & EFFICIENCY.



Waste Management : ISOLATING WASTE FROM SUPPLY

THE F&B CONTEXT:

- **The Problem:** Single, narrow shared corridors create cross-contamination risks.

SOLVING

- **The Solution:** Dedicated routes and negative air pressure systems for isolation.
- **The Benefit:** Enhanced sanitation and tenant experience.

DEFICIENT AND CONTAMINATED 'SHARED' LAYOUT

(Image 0)

Shared Service Corridor
(Uncontrolled Airflow)

Shared Airspace (Risk)
Contamination Points

Cockroaches
(Severe Cross-Contamination Risk)



PROPOSED 'ISOLATED' (The Solution)

Negative Air Pressure
(Active Isolation)

Pest Exclusion
(Mechanical Barriers)

Pest Exclusion
(Sealed Physical Barriers)

Dedicated Fresh Supply Route

Verified Food Path

Hygienic Dining Area
Clean



Smart floor planning and dedicated ventilation prevent odor migration and enhance F&B sanitation.

FMAC2026

HEALTH & SAFETY: OUR FOURTH PILLAR



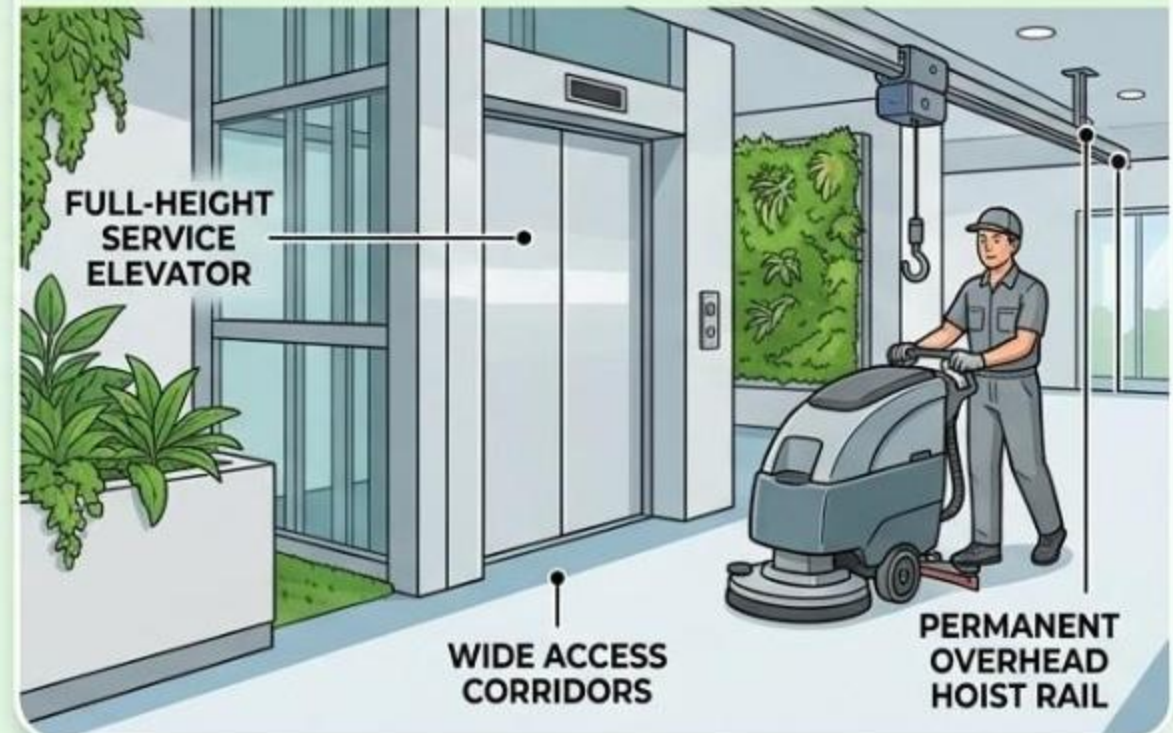
PROBLEMATIC LAYOUT: MANUAL HANDLING RISK



PROACTIVE DESIGN: ENGINEERED ERGONOMICS



PROACTIVE DESIGN: ENGINEERED ERGONOMICS



VULNERABLE FACADES: UNINTENDED HABITATS



- COMPACT GEOMETRIES & DEEP VOIDS CREATE NESTING SITES
- INSECT/BIRD HARBORAGE FROM COMPLEX FORMS

HIGH-ALTITUDE SAFETY & OPERATIONAL DISRUPTION



- DANGEROUS HIGH-ALTITUDE PEST ABATEMENT
- EMERGENCY OPERATIONAL DISRUPTIONS
- EXTREME REPAIR COSTS AND SAFETY LIABILITY

SOFT FM CHALLENGE: SECURITY & AESTHETICS

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AESTHETIC CHOICES CREATE BLIND SPOTS



UNSUSTAINABLE WORKAROUND



SUSTAINABLE OPERATIONS BEGIN AT DAY ZERO: BUILDING LIFECYCLE & FACILITY MANAGER (FM) INVOLVEMENT

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Topic: Incorporating Soft Services Requirements in the Design Brief to Enable Sustainable FM

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CONCLUDING REMARK

Sustainable Operations Begin at Day Zero

Bring the FM Manager into the Design Briefing Room.