FM BRIEFING · MALLS & COMMERCIAL PORTFOLIOS

Catch failures before *tenants do.*

Failure intelligence for the MEP plant that keeps a mega-mall trading — chillers, pumps, AHUs, cooling towers and electrical distribution. Every finding priced in AED.

Prepared for **MEP / Facilities leadership**
A briefing on the economics of late failure · Confidential

novek.ae · hello@novek.ae · Novek Technologies LLC, Dubai

01 — THE FM DESK

The failures you find late, you *pay for twice.*

A mega-mall runs on rotating equipment that fails slowly and then suddenly. The slow part is cheap to fix and invisible. The sudden part lands on your desk as an emergency, a tenant complaint, and an unbudgeted invoice — usually in the same week.

01
Reactive callouts
A chiller that trips on a 45°C trading day is an emergency, not a work order — premium parts, overtime, and crisis contractor rates, paid at the worst possible moment.

02
Tenant comfort
A warm wing becomes a service-charge dispute and a renewal risk long before it becomes a maintenance ticket. Comfort failures are felt by every shopfront on the floor.

03
Energy drift
Cooling is 60–70% of the building load. COP decline, condenser fouling and low delta-T inflate the DEWA bill every month — silently, with no alarm to tell you it's happening.

04
The BMS stays quiet
Threshold alarms fire *after* the fault. The gradual degradation — the kind that is cheap to catch early — never trips them. By the time the BMS speaks, the money is already spent.

05
FM accountability
You pay an FM contractor for planned maintenance on a schedule. You have no independent measure of whether the asset is actually healthy — only the report from the party being paid to maintain it.

Each of these is a number. Today it sits in next quarter's overspend. **Novek moves it forward — to a finding you can act on while it's still cheap.**

02 — THE ECONOMICS

Every leak has an *AED number.*

On a single commercial tower, Novek typically surfaces **AED 600K–1.4M / year** of recoverable spend. A mega-mall MEP plant is several towers of equipment under one roof. Here is where it leaks.

THE LEAK	WHAT IT IS	WHERE IT LANDS
Emergency premium	An unplanned intervention costs 3–5× a planned one.	**Overtime · expedited parts**
Secondary damage	A failed bearing takes the motor, then the chiller.	**AED 8K part → AED 400K+**
Efficiency drift	COP decline, condenser fouling, low delta-T.	**The DEWA bill, monthly**
Premature capex	Assets retired early because health was never tracked.	**7-figure replacement**
PPM you can't verify	Contracted maintenance you can't independently confirm.	**Paid for, unmeasured**

> Novek prices each of these continuously — so the conversation with finance, with the FM contractor, and with the landlord is about **numbers, not opinions.**

03 — THE LAYER

The early-warning layer your BMS and FM *don't give you.*

Novek is not a BMS and not an FM contractor — it replaces neither. It is the independent monitoring layer that sits outside both: wireless sensors on the equipment, analytics that read degradation 2–8 weeks early, and every finding priced in AED for the asset owner.

1. **Early failure detection**
   Multi-signal analytics catch degradation 2–8 weeks before the equipment stops. This is the platform's primary purpose.

2. **Asset health score**
   Every chiller, pump, AHU and cooling tower gets a single 0–100 score, updated every five minutes, auditable by you.

3. **Financial translation**
   Every finding expressed in AED — risk-weighted exposure, cost of inaction, and the ROI of acting now.

4. **FM accountability**
   Independent, continuous data that sits outside the FM provider's reporting chain — the measure you don't currently have.

5. **Portfolio rollup**
   Board-ready reporting across every wing and plant room, generated automatically — the worst assets surface themselves.

What the analytics catch: bearing wear, misalignment and imbalance (vibration); coil fouling and refrigerant loss (thermal / delta-T); COP decline and efficiency drift; phase imbalance and motor stress (electrical); tank and basin level drift — the signatures threshold alarms miss.

04 — THE MODEL

What the numbers look like *at mall scale.*

ILLUSTRATIVE RECOVERABLE EXPOSURE

AED 2.5M – 6M / year

Order-of-magnitude, built on Novek's per-tower benchmark scaled to a mega-mall MEP plant. To be replaced with your own asset register at the assessment — not a quoted saving.

HOW THIS IS BUILT

- Per-tower benchmark: AED 0.6–1.4M / year of recoverable spend, from Novek's commercial-property work.
- A mega-mall central plant plus its zoned air-side equipment carries the rotating-asset load of roughly 4–5 towers.
- Weighted across the five leaks on page 03 — emergency premium, secondary damage, efficiency drift, premature capex, unverified PPM.
- Energy is the largest single line: a 1–2 point COP recovery on the central plant alone moves a seven-figure annual cooling bill.

WHERE THE RECOVERY COMES FROM	MECHANISM	ILLUSTRATIVE BAND
Energy / efficiency	COP & delta-T recovery on the central plant.	**AED 1.0–3.0M**
Avoided failures	Planned vs. emergency + no secondary damage.	**AED 0.8–1.8M**
Extended asset life	Capex deferred by tracking true health.	**AED 0.4–1.0M**
FM & PPM value	Maintenance verified, not assumed.	**AED 0.3–0.6M**

The assessment replaces every band above with a number measured on **your** plant. Until then, treat this as the order of magnitude — not the invoice.

05 — DEPLOYMENT

Live in three weeks. *No trading disruption.*

Wireless sensors clamp onto the equipment. No wiring, no BMS integration, no plant shutdown, no closed shopfronts. The mall keeps trading while it goes in.

1 Survey
We map your critical MEP assets and the failure modes that cost the most — chillers, CHW pumps, AHUs, cooling towers, electrical distribution.

2 Install
TDRA-approved LoRaWAN sensors clamp on. Wireless, battery-powered, air-gapped from building IT — fitted during normal operation.

3 Baseline
The analytics learn each asset's normal in days, then begin flagging deviation — vibration, thermal, electrical, drift.

4 Live
From week three: health scores, AED exposure, and alerts — ranked so the worst asset is the first thing you see.

Build: TDRA-approved LoRaWAN EU868 · dedicated 4G gateways · fully air-gapped from building IT · data hosted in AWS me-central-1 with UAE data residency, TLS 1.2+ and AES-256. **No BMS integration required.**

COMPLIANCE, FROM THE SAME SENSORS

The same continuous data feeds **Al Sa'fat** (Dubai), **Estidama Pearl** (Abu Dhabi) and **DEWA DSM 2050** evidence packs — a secondary benefit on hardware you've already deployed for early warning.

NEXT STEP

Start with a Failure Visibility Assessment.

A fixed-scope assessment of your highest-risk MEP assets. We instrument a representative plant room, run it live, and come back with the AED exposure we actually found — before you commit to anything beyond it.

SCOPE One representative plant room / wing	MODE Live monitoring, wireless, no shutdown
OUTPUT Health scores + AED exposure report	DECISION POINT Roll out only on what we prove

Novek Technologies LLC · Dubai, United Arab Emirates
hello@novek.ae · novek.ae
Predictive maintenance · smart-building IoT · failure intelligence for critical assets.