



# **Building Management System (BMS)**

Capability Statement

[p3aConsultingEngineers.com.au](http://p3aConsultingEngineers.com.au)





# TYPE OF **ASSETS**

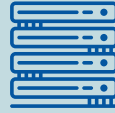
 We design BMS for:



Commercial  
Buildings



Shopping  
Centres



Data  
Centres



Universities  
& Schools



Museums &  
Memorials



Transport  
Facilities



Entertainment  
Facilities



Sports  
Facilities



Hotels



Hospitals



# WHY P3A

- ⓘ We involve early in the design process to produce a coordinated design.
- ⓘ We engage with other design professionals.
- ⓘ We incorporate design inputs from all project stakeholders.
- ⓘ Our design allows ESD consultants to clearly understand the design parameters and input their feedback.
- ⓘ Our specifications include detailed functional sequence for energy efficient control strategies.
- ⓘ Our BMS pointslists are coordinated and align with MEP drawings.
- ⓘ We review and provide comments for MEP drawings for inclusion of additional sensors and appropriateness of localities.
- ⓘ We prioritise cyber security requirements in the design.
- ⓘ Our design aligns with ICN requirements and integration.
- ⓘ We design energy metering, monitoring and reporting as per NABERS & Greenstar requirements.





# WHAT WE DO

## Projects

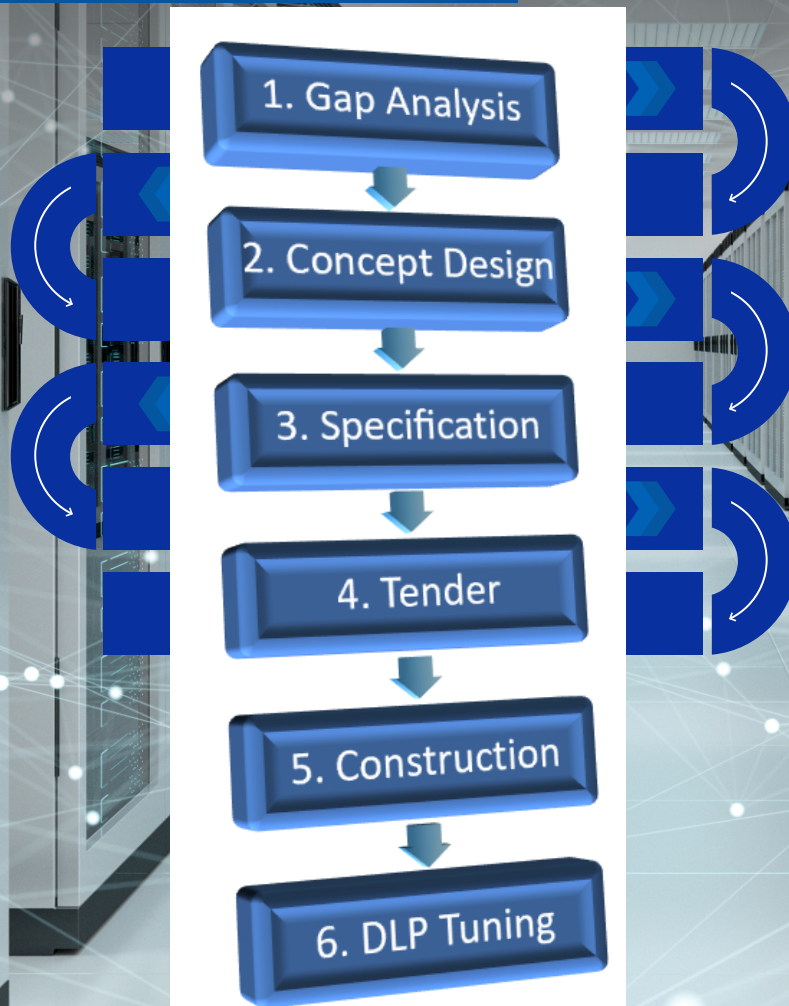
- Existing building BMS upgrades
- Existing building BMS expansions
- New building BMS installations

## Peer Reviews

- Specifications
- Fee Proposals
- Contractor Submittals

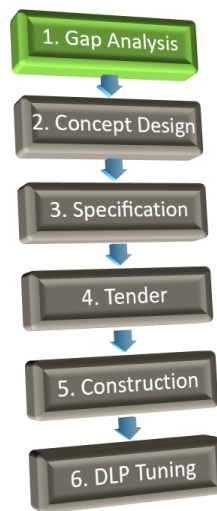
## Due diligent report

## PROJECT PHASES





# 01 GAP ANALYSIS



🏢 BMS GAP Analysis or Conditions Audit Report

🏢 Site inspection of existing BMS with site FM or incumbent contractor:

- ✓ Servers
- ✓ Workstations
- ✓ IP level master controllers
- ✓ Field controllers
- ✓ Control panels
- ✓ Field devices – sensors, actuators, etc.

| System         | Qty | Life Cycle          | Risk   |
|----------------|-----|---------------------|--------|
| Server         | 1   | Partially supported | Medium |
| Workstations   | 2   | Not supported       | High   |
| IP Controllers | 5   | Current             | Low    |
| AHU DDCs       | 20  | Not supported       | High   |
| Field Devices  | 46  | Current             | Low    |

🏢 Review of existing documents

🏢 Liaison with FM and incumbent mechanical & BMS contractors to understand performance requirements and issues.

🏢 Liaison with Client/Principal to ascertain desired extent of upgrade

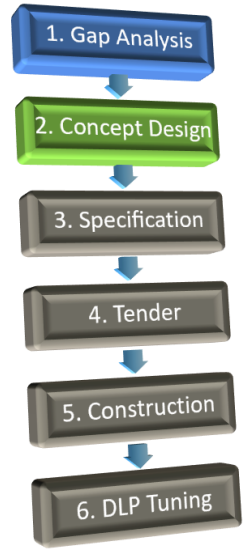
🏢 Upgrade recommendations with high-level budgets

🏢 Page turn with Client/Principal

| Upgrade Options | Budget     | Merits & Demerits   |
|-----------------|------------|---|
| Option 1        | \$\$\$\$\$ | Capex: _____<br>Impact to occupants: _____<br>System Openness: _____<br>Opex: _____ |
| Option 2        | \$\$\$     | Capex: _____<br>Impact to occupants: _____<br>System Openness: _____<br>Opex: _____ |
| Option 3        | \$         | Capex: _____<br>Impact to occupants: _____<br>System Openness: _____<br>Opex: _____ |



## 02 CONCEPT DESIGN



### BMS Concept Design Report

- ✓ Summary of Existing System
- ✓ Design Criteria
  - ✓ Components that are retained
  - ✓ Components that are upgraded
  - ✓ Floor/areas that are added for expansion
  - ✓ Method of procurement
  - ✓ Indicative network diagram
- ✓ Additional Design requirements
- ✓ Energy monitoring requirements – NABERS, Greenstar, etc.
- ✓ Standards
- ✓ Energy efficient control strategies
- ✓ Cut-over or Staging Plan

### Design workshops

### Requirements of graphics, alarms and trend logs



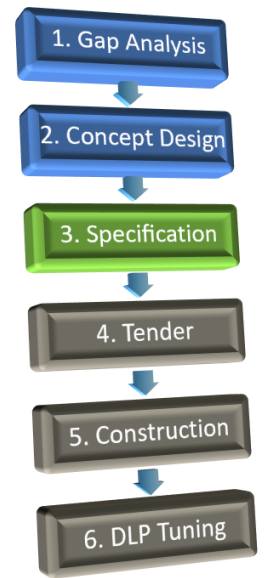


## 03 SPECIFICATION

### BMS Specification (NATSPEC)

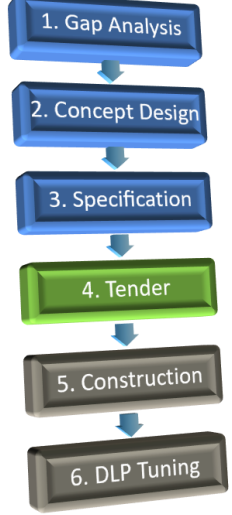
- ✓ Project Brief
- ✓ Design Criteria
- ✓ Scope of works
- ✓ Demarcation / Work by others
- ✓ Control sequences
- ✓ Quality Clauses – Controllers, sensors, graphics, alarms, history, etc.
- ✓ Commissioning requirements
- ✓ Schedules
  - ✓ BMS Points list
  - ✓ Network Diagram
  - ✓ Schedule of servers & workstation
- ✓ Tender Apportionment

### Design workshops





# 04 TENDER



## Tender Review and Recommendations

- ✓ Tender walk-through with contractors and principal.
- ✓ Responses to RFIs during the tender stage
- ✓ Tender review of contractors' submissions, including clarifications and exclusions
- ✓ Tender interview of a shortlisted contractors

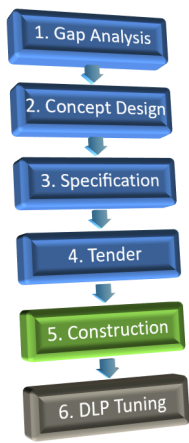




# 05 CONSTRUCTION

## Construction Stage

- ✓ Document reviews and approval
  - ✓ Data sheets
  - ✓ Pointslist
  - ✓ Functional description
  - ✓ Network diagram
  - ✓ Commissioning plan
  - ✓ Commissioning records
- ✓ Progress inspections
  - ✓ Design workshops and meetings
  - ✓ Witness testings
  - ✓ Defects list
  - ✓ Defects inspections
  - ✓ Review of O&M manual

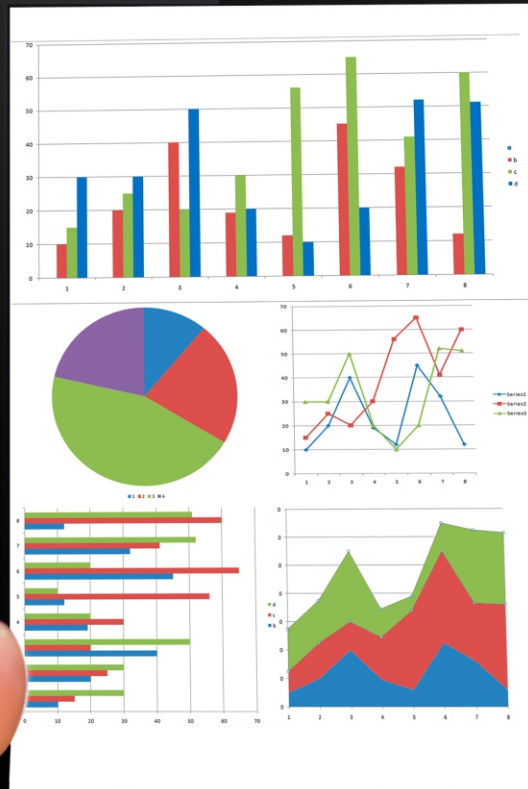
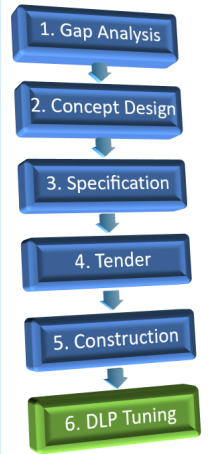




## 06 DLP TUNING

### DLP Building Tuning – monthly/quarterly

- ✓ Analysis of graphics, alarms and trend logs by remotely logging into the BMS
- ✓ Facilitating meeting with BMS contractor, mechanical contractor and client
- ✓ Discussion of fine tuning opportunities





# ABOUT US



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## MIEAust CPeng NER APEC Engineer IntPE(Aus) M.AIRAH

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is an accomplished registered professional engineer with over seventeen (17) years extensive experience in the field of Building Management System (BMS), Critical Services Monitoring System (CSMS), HVAC Controls and Energy Management System (EMS). He has worked on broad spectrum of buildings including data centres, hospitals, commercial buildings, shopping centres and universities across Australia, Singapore and the Middle East.

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has provided design, construction stage support and peer review services for challenging and complex projects to a range of clients.

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expertise in networks and integration, including BACnet, MODbus, SNMP and Integrated Communications Network (ICN) has proven to produce well-coordinated design outcomes.



EXPERIENCE

# CONSULTING

PROFESSIONAL

EXPERT

POTENTIAL

KNOWLEDGE

## CONTACT US

☎ 0123 456 789

✉ [info@yourmail.com](mailto:info@yourmail.com)