



Building Management System (BMS)

Capability Statement

p3aConsultingEngineers.com.au



TYPE OF **ASSETS**

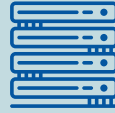
 We design BMS for:



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

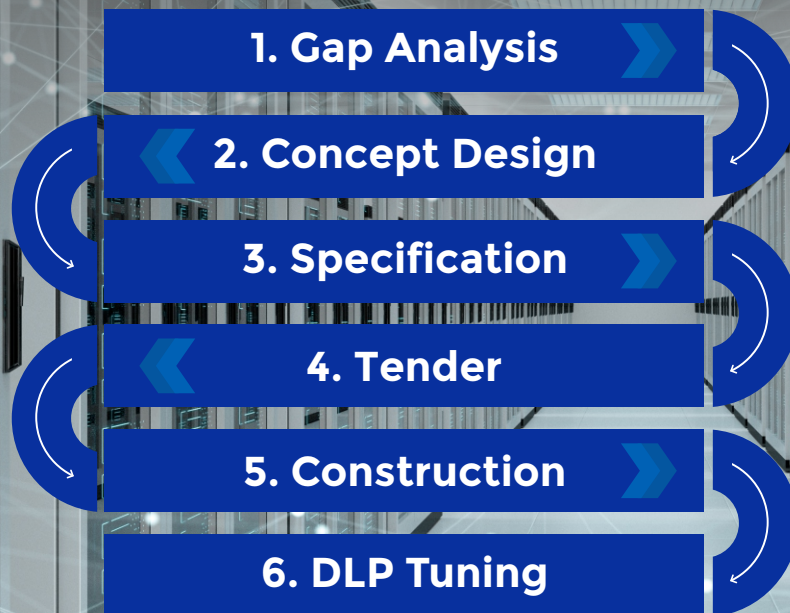
- Existing building BMS upgrades
- Existing building BMS expansions
- New building BMS installations

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 contractors

- ✓ 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: _____ Impact to occupants: _____ System Openness: _____ Opex: _____
Option 2	\$\$\$	Capex: _____ Impact to occupants: _____ System Openness: _____ Opex: _____
Option 3	\$	Capex: _____ Impact to occupants: _____ System Openness: _____ 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

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