

Contact Us



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Port-folio

- ▶ **POWER SYSTEMS ENGINEERING**
 - CONTROL & RELAY PANELS (ANY CLASS)

- ▶ **SCADA SYSTEM**
 - PROTOCOL CONVERTORS
 - GATEWAY/RTU PANELS
 - HMI / CLIENTS

- ▶ **RELAY APPLICATION / TECHNICAL SUPPORT**



Port-folio

- ▶ **SITE SUPPORT**
 - TESTING & COMMISSIONING
 - * PRIMARY EQUIPMENTS
 - * CONTROL & PROTN. PANELS
 - * LV / MV SWGR PANELS
 - * SCADA HMI & EMS
 - MAINTENANCE WORKS
 - RETROFIT WORKS
 - ELECTRICAL BALANCE OF PLANT



Port-folio

- ▶ **END TO END SUPPORT**
 - FROM TENDERING TO COMMISSIONING
- ▶ **EQUIPMENTS WE HAVE**
- ▶ **REFERENCES**
- ▶ **OUR POLICY**
- ▶ **SUMMARY & THANKS GIVING**

- Transformer Testing, Commissioning and Maintenance



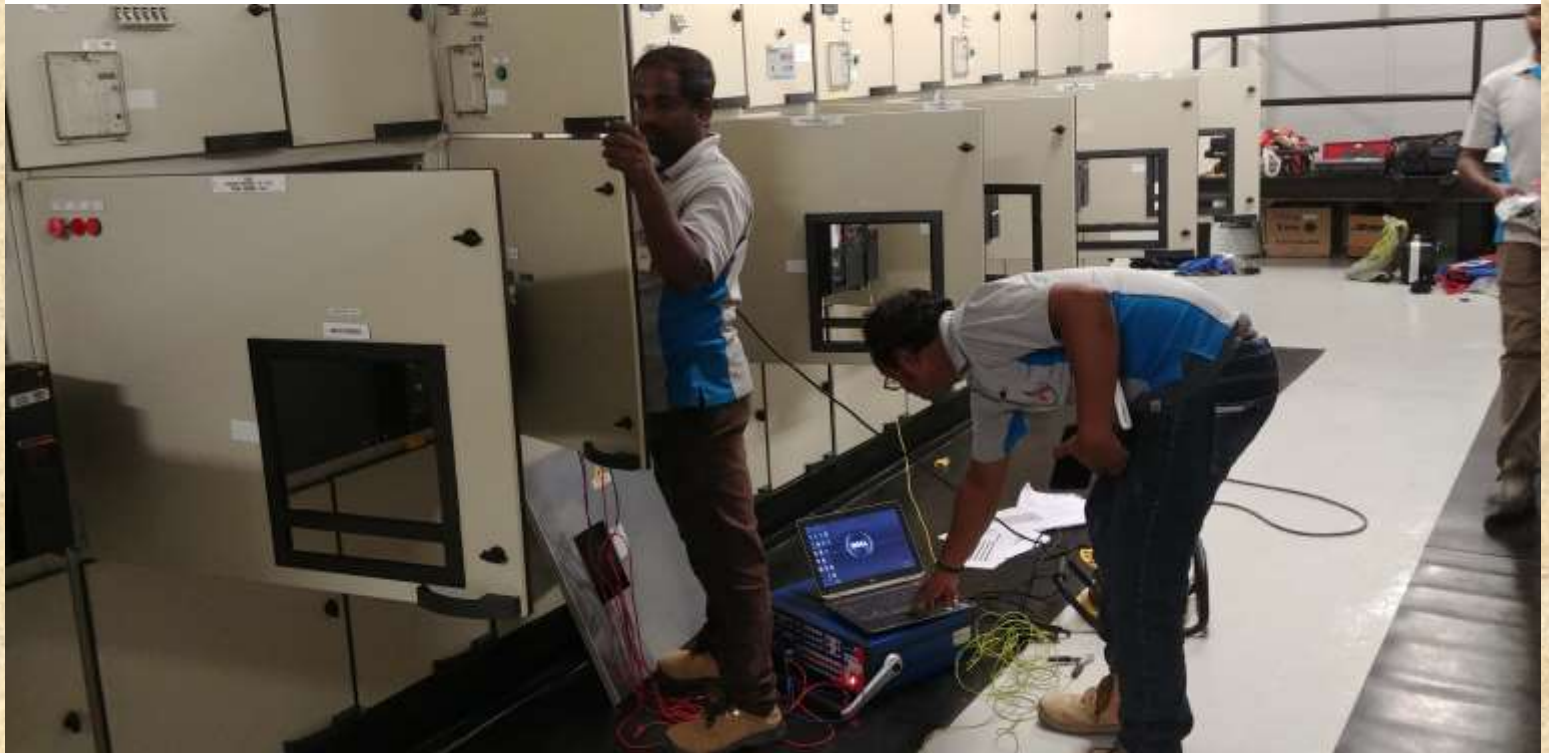
- Transformer Testing, Commissioning and Maintenance



RTCC Panel with Paralleling Scheme
BDV Test
Polarization Index
Tan Delta. Ratio Checks, Winding
Resistance
Transformer Mechanical Protection
Like PRD, Buchholz, etc – Checks
(Alarm/Trip Test)



- LV/MV Panel Maintenance



- All Relay – Configuration, Testing and Commissioning



- All Control and Power Cables – Testing and Commissioning



- All Control and Relay – Testing and Commissioning



- Thermal Scanning

Relay Application / Technical Support



Battery Maintenance / Load Test



Battery Racks / Battery Installation, Load Test and Commissioning

Power Systems Engineering

CONTROL & RELAY PANELS (ANY CLASS)





ARC ELECTRICAL ENGINEERING PTE LTD
Power of Engineering Services & Solutions

Power Systems Engineering

LV / MV SWGR PANELS

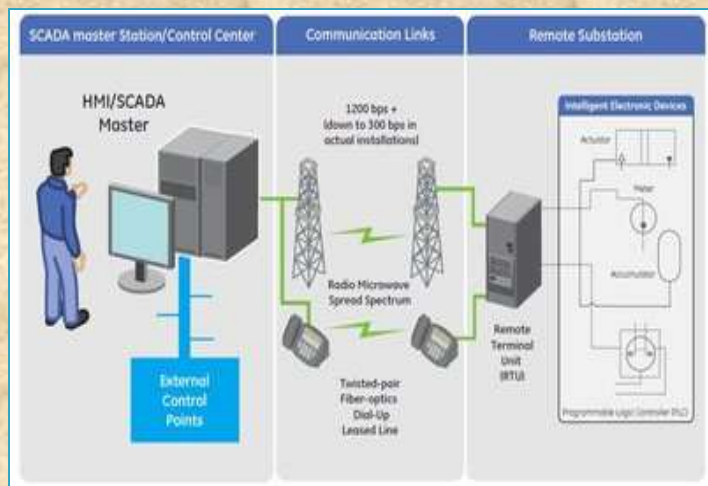


SOLAR SYSTEM – Engineering, System Installation, Testing & Commissioning

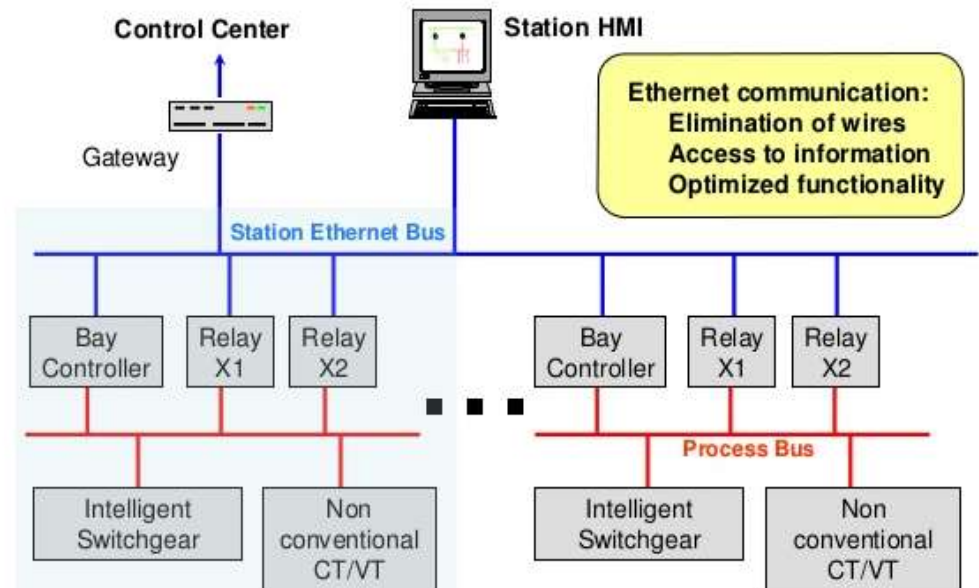


SCADA Systems

- IEC 61850 / HSR / PRP
- MODBUS / IEC 101 / IEC 104

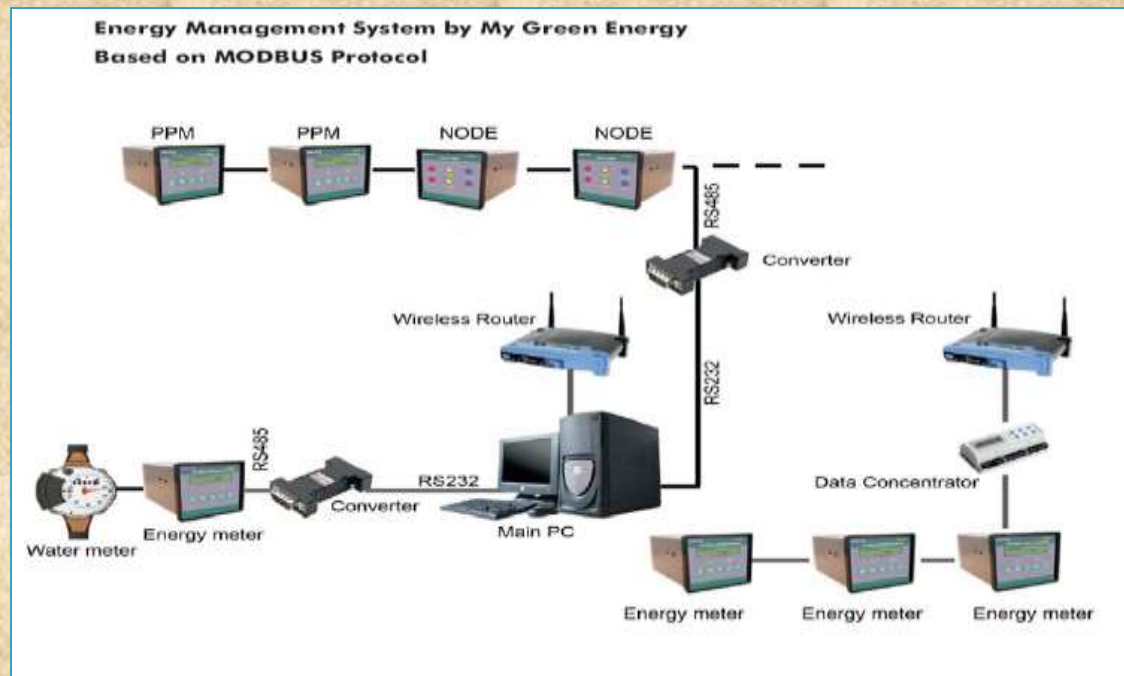
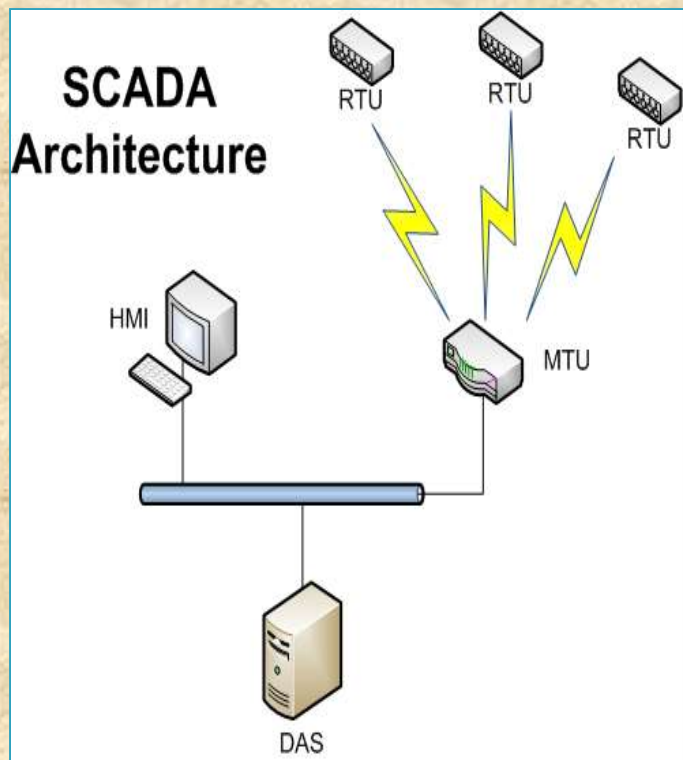


IEC 61850 Comm. Architecture



SCADA Systems

- EMS
- PROTOCOL CONVERSION
- CLIENT / SERVER CONCEPTS



Site Support – Testing & Commissioning

PRIMARY EQUIPMENTS



GIS Tests:

- Breaker / Isolator / CT / VT / Contact Resistance / ES HV Test
- Other Tests if specified

Transformer Tests:

- BDV / Polarization Index / Tan Delta / Ratio / Winding Resistance
- Mech. Protections – PRD / Buchholz (Alarm/Trip Test)

Site Support – Testing & Commissioning

CONTROL & PROTECTION PANELS



- Protection Schemes Logical Verifications
- Protection Relays Settings & Testing with Reputed Test Kits
- RTCC Panel with Paralleling Scheme

Site Support – Testing & Commissioning

LV / MV SWITCHGEAR

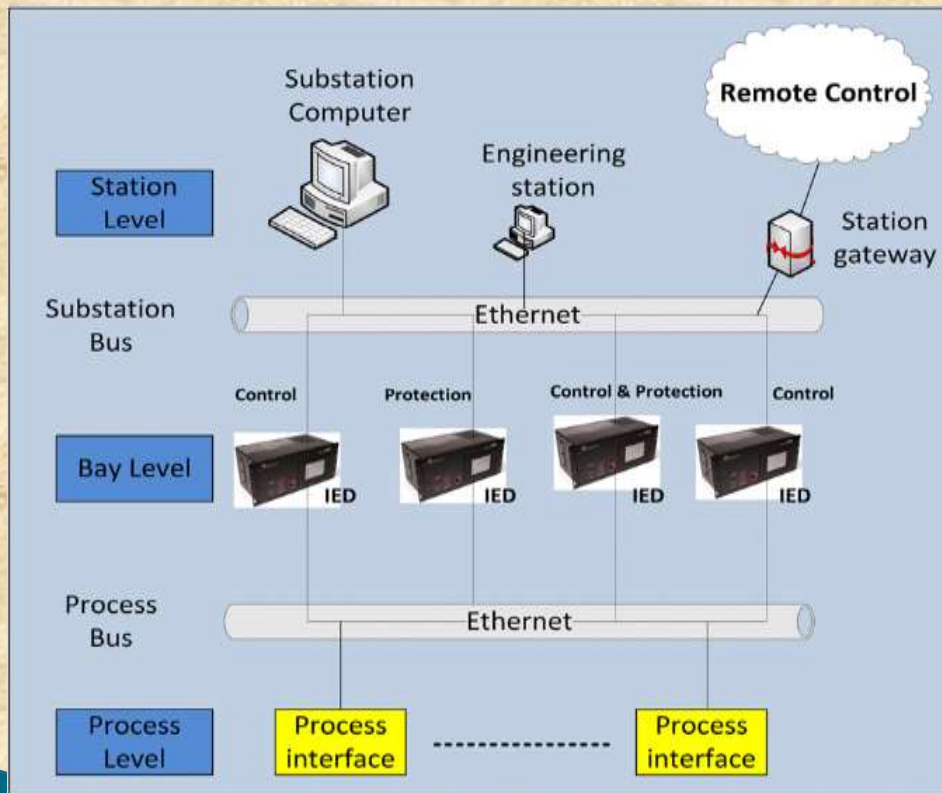


- Protection Schemes Logical Verifications
- Protection Relays Settings & Testing with Reputed Test Kits
- CT / VT / CB & Instrument Testing
- AC DB / DC DB Testing



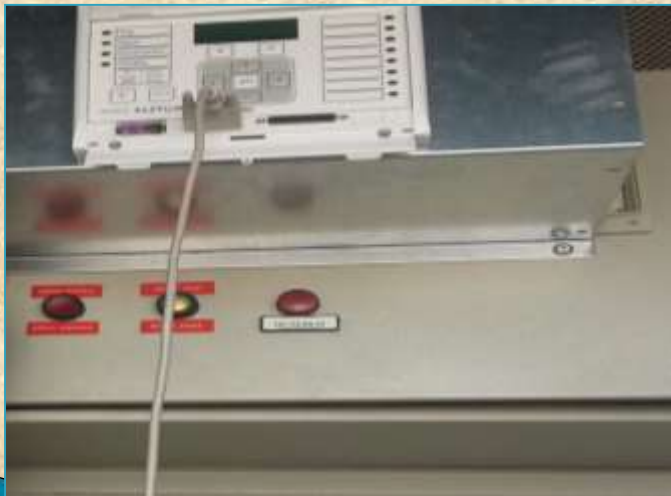
Site Support – Testing & Commissioning

SCADA



- I / O Points Check
- Communication Checks using IED Scout / MOD Scan Tools
- E & I Systems
- IED to IED communications – GOOSE
- Network Topology Verification

Site Support – Maintenance & Retrofit (Brownfield)



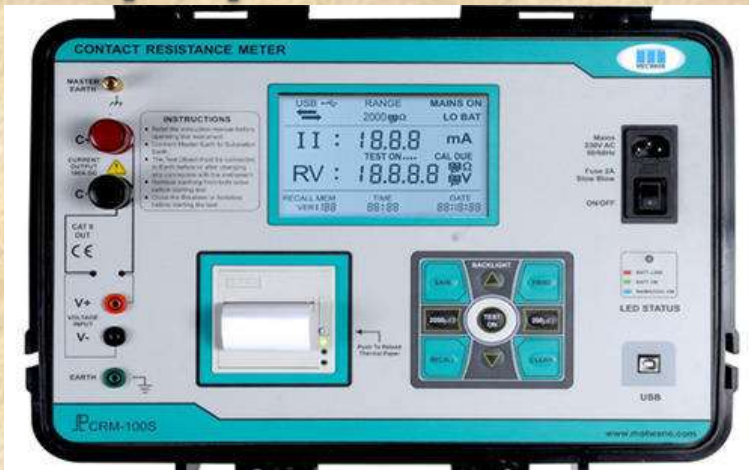
- Transformer Oil BDV, OLTC/RTCC Checks
- Electric motors
- Electric control equipment – LCC/Remote Panel
- Electrical protection equipment
- Switchgear & Control equipment
- Overall Interlocks/Control and Protection after retrofit including method of statement procedure/RA – document preparation
- Protection Relay Replacement with SI test inclusive of it's configuration

Site Support – e BOP



- ▶ Cable Pulling
- ▶ Cable Tray/Support
- ▶ Cable Termination
- ▶ IO Points Checks for total system
- ▶ Cable Schedule
- ▶ Cable Interface Drawings
- ▶ Busduct – Installation, T & C

Equipments We have



200A – CONTACT RESISTANCE METER



TM1600 – CB Timing Kit



CMC356



TRAX 280 – Transformer Test



T2000 – CT and
3kV AC Dielectric



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Power of Engineering Services & Solutions

Equipments We have



TAN DELTA – Transformer/Bushing/
Motor

Schneider Electric - FFT



LOAD BANK (RESISTIVE)



Equipments We have



Transformer – Winding Resistance, TTR and SFRA Test Kit

Equipments We have

THERMAL CAMERA



FLUKE 435 – PQ ANALYZER



MULTIMETERS



4000A – PI KIT

Equipments We have

AC/DC HIPOT TEST SET 30KVA/150KV AC 210KV DC



60kV VLF Test Kit



References

GIS LCC, Control and Protection Panel – From Engineering to Commissioning

- BUSSBAR CORP, Philippines – 66kV/132kV AIS
- 22kV GIS – Secondary Engineering for
- Schneider Electric – Marina Bay Project @SPPG Project

Solar Installation : PUB, Choa Chu kang Water works through SolarGy pl, CW Group – Installation, Test and commissioning of Rooftop Solar System

Data Centre : KC2, Equinix through Wah Loon engineering pl (sub con), MICROSOFT, GOOGLE through ABB : GLOBAL SWITCH (LV, MV PANELS, Annual Maintenance Contract)



References

- Oil and Gas : SLNG through SC & T (2 Part – 1 through Alstom Grid and other for Euroasiatec – GT side (11/22/6.6kV)
- : Keppel Shipyard – Heat Trace installation work for Saksi, Mondo vessels through Supermec
- : ROCKWELL AUTOMATION – LV/MV PANELS
- : Ex PROOF PANELS – NUOVA ASP
- Construction : e-BoP for PUB Plant through HSL Pte Ltd
- Power Plants : KMCC2/Banyan/TMUC/HYFLUX through ALSTOM
- KMC 1 – Plant Maintenance (GSUT/UAT)
- Hyflux – WTE Plant (66kV GIS/GSUT/UAT)

Our Policy

Our policy is to identify the needs of our customers and satisfy them by our quality products and services delivered on time, in conformance with their requirements.

Summary

We render the following services : Overseas Capabilities

- Pre Commissioning Tests on
 - Power Transformers up to 500MVA
 - GIS Substations
 - Control & Protection System/Relays
 - MV/LV Switchgears
- Power Plant commissioning
- OHL commissioning
- Supervision / Coordination of substation commissioning activities
- Trouble shooting / Fault Analysis
- Protocol Interface / ICD, CID file Creation and Verification of Logic Files (FUPLA, CAP505, PCM600 and PSL) Micom Agile, Studio1 and DIGSY, etc)

THANK YOU

