

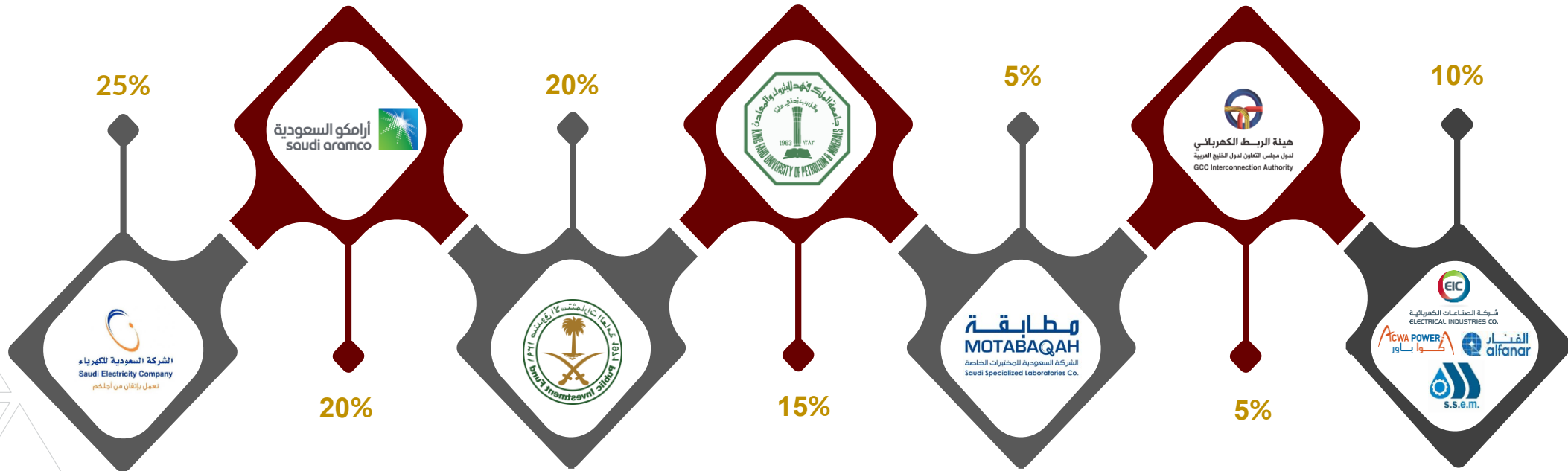
GCC Lab Overview

About GCC LAB



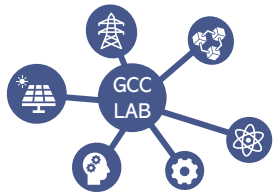
GCC Lab is the largest energy laboratory complex in the world, located in Dammam, covers an area of **170,000** square meters and investment of **1 Billion** Saudi riyals , provide a, Technical Engineering Consultation, and third-party service in Testing, Inspection and Certification.

Shareholders



GCC Lab Strategic Drivers

Conventional Energy



Introduce one-stop-shop technical excellence center



Building Technical Expertise in the Region

Renewable Energy



Sustain excellence to industry sector



Boost technical readiness for emerging specialties

Our Vision

To achieve unique global leadership in the energy industry through testing, inspection, certification and innovation.



Targeted Segments



Process Plants



Utilities



Buildings



Renewables

GCC Lab had successfully **Established several distinguished services** thru an advance Go-to-Market Strategy



Advanced Lab Tests



Renewables



Energy Optimization



Equipment Calibration



Inspection & Compliance Management



Technical Consultation



Oil Lab



Training & Certification

Consulting Services

Generation, Transmission & Distribution- Asset Lifecycle Support Services

Planning & Advising

- Financial plan
- Market Analysis
- Feasibility study
- Preliminary plan
- Regulation strategy
- Technologies selection
- Location and site studies
- Sustainability considerations
- Environmental and social impact

Construction & Commissioning

- PMC
- QA/QC
- Certification
- Field engineering
- Owner's engineer
- Provisional acceptance
- Punch List management
- Design change management
- Site Construction supervision
- Commissioning and start-up support

Engineering

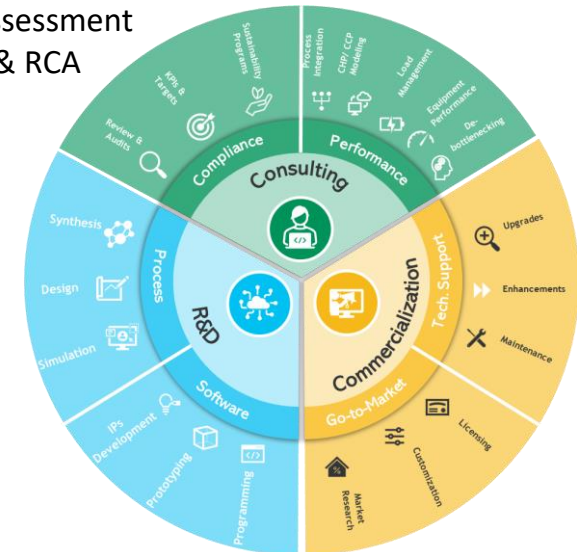
- EMC
- Innovation
- Earthing & lighting
- Power System design
- Simulation and modelling
- Concept, Feasibility & design
- Materials development & selection

Procurement & Project Management

- Project Scheduling
- Tendering support
- Procurement strategy
- Material management
- Pre-shipment inspection
- Factory acceptance testing
- Vendor inspection & expediting
- Material & product certification
- Vendor auditing & qualification

Operation & Maintenance

- Life Extension
- O&M Engineering
- Decommissioning
- Security Engineering
- Monitoring Solutions
- Corrosion Management
- Training & Learning Solutions
- Asset Integrity Management
- Engineering Critical Assessment
- Failure investigations & RCA



Technical, Engineering & Consulting Services

Generation Connection And Grid Compliance

Conduct generation grid compliance studies to meet transmission system operator requirements thru system & generator modeling, develop connection guidelines, conduct simulation and reporting the results and grid compliances.

Standard Review And Development

Review client standards & qualifications to enhance the supplier and systems requirement to assure high quality in material, product & systems and deploy the best practices.

Plant Process Assessment And Optimization

Review new or existing industrial plant process and provide recommendation for process optimization, monitoring tools and KPI improvement.

Energy Efficiency And Auditing

Conduct facility energy auditing & provide energy consumption envelop reports to pinpoint to potential saving in the load profile in addition to ESCO services in terms of retrofiring and energy efficiency improvement.

Product Specification Advisory Services

Provide advisory services in developing client product & system qualification and specification meet the client needs and deploying international and best practices.

Power Control Center Consulting Services

Provide technical advisory services for new control center development project or operating center in terms of center requirement, integration of automation systems, material specification, control center and system operator certification programs, operation procedure review and development, grid code compliance, human performance evaluating.

Environment Impact Assessment

Conduct pre-project studies such as environment impact assessment, site resources and projects feasibility studies to address all potential impacts, matters related to the project to take the appropriate measures.

Benchmarking Studies

Conduct Benchmarking studies to peer organization and top leading in similar industrial in compliance with Client needs and standard Asset Management practices guided by ISO 550001.

ISO 550001 Development

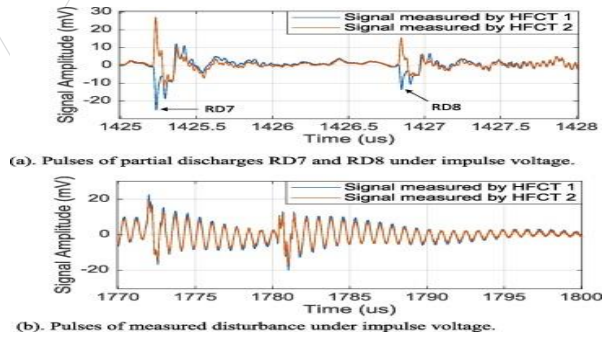
prepare the organization for ISO 550001 asset management certification by developing staff, process, and procedures toward achieving asset management accreditation.

Power System & Protection Studies

Conduct power system modeling and Studies using different programs such as but not limited to Etap, PSS®E, PSCAD, DlgSILENT and EMTP-RV in addition to protection & relay coordinate studies.



Field Engineering Services



PD Measurement



Transformer Corrosive Sulphur Treatment



Onsite High Voltage Testing system



Testing & Commissioning



FAT & SAT Support



Mobile Testing Services

Third-party Inspection Services

GCCLab thru its ISO 17020 & ISO 17025 accreditation “inspection & Testing body” Conduct third-party inspection services for Factory Acceptance Testing (FAT), Site Inspection Services (SAT), failure investigation, third party critical tasks inspection and witness, asset performance inspection services and advise the client with Testing Plan needed, witness on behalf of the client the testing and pre-commissioning activities and other field services such as but not limited to:

Equipment Failure Investigation

Perform equipment failure investigation and lab diagnostic testing and analysis that include on-site and lab comprehensive testing services to find the root cause of the malfunction of the equipment and provide a 3rd party engineering report.

3rd Party FAT And SAT Inspection Services

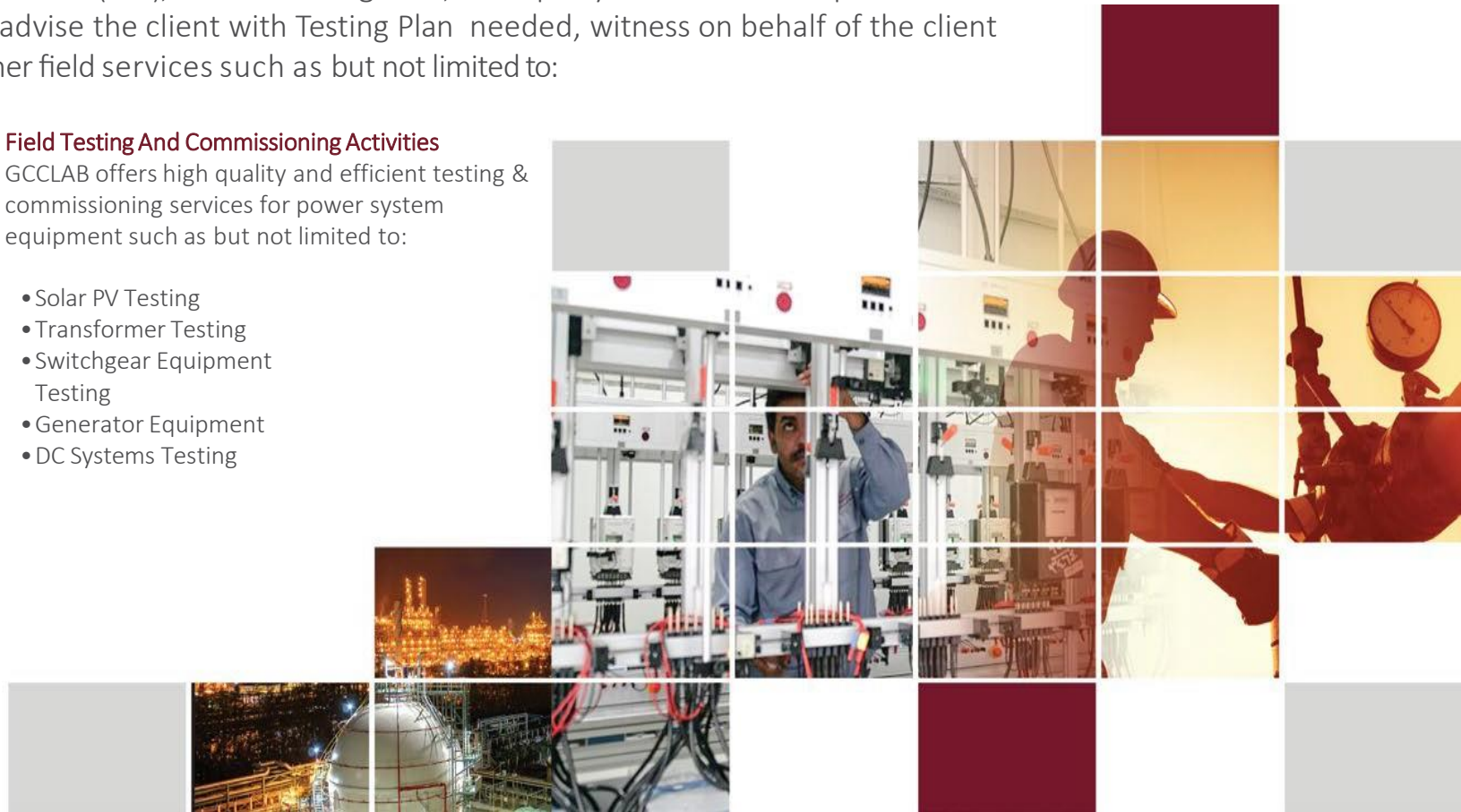
Perform wide range of independent third-party inspection services including Quality Assurance and Factory Acceptance Tests. GCCLAB is able to provide FAT and SAT for the following industries.

- Power Generation
- Transformers
- High Voltage Gear
- HV & MV Power Cable
- Renewable Energy
- Oil & Gas
- Pipelines

Field Testing And Commissioning Activities

GCCLAB offers high quality and efficient testing & commissioning services for power system equipment such as but not limited to:

- Solar PV Testing
- Transformer Testing
- Switchgear Equipment Testing
- Generator Equipment
- DC Systems Testing





Gulf Renewable Energy Services

Indoor Testing

- Safety Test
- Design & Performance Test

Outdoor Testing

- Performance Test

Consultancy Services

- Due Diligence
- Metrological Stations
- Environmental Studies
- Design Review & Validation
- Feasibility/Bankability Studies

Operation Services

- Post-Inspection
- Failure Analysis
- Performance Mentoring
- O&M review & optimization

Support Services

- QA/QC
- Performance Test
- Owner Engineering
- Testing & Commissioning
- Inspection & Assets Management



Solar PV Qualification



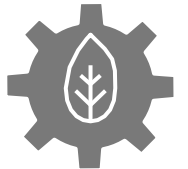
Boost technical readiness for emerging specialties



Training and Certification



Sustain excellence to industry sector



Bankability and Engineering



Research and Development

Oil Lab

Areas of Services

- Testing services
- Fuel Oil Analysis
- Lube Oil Analysis
- Engine Oil Analysis
- Turbine Oil Analysis
- Transformer Oil Analysis

Training & Consultation

- Lab safety
- Chemical testing
- ISO 17025 gap analysis
- Transformer maintenance and life assessment



Calibration Services Company

Areas of Services

- Perform instrument's calibration to utility, gas, oil, medical, aviation and military sectors
- Repair Services
- On Site Calibration Services
- Develop procedures and manuals

Accreditation

- ISO/IEC 17025
- Saudi Accreditation Committee (SAC)
- GCC Accreditation Centre (GAC)
- Quality management (ISO 9001)



Calibration Services.



Repair Services



Training Services



On Site Calibration Services.

Industrial

Defense

Communication & it

Utilities

Aviation

Medical

Energy Efficiency Services ESCO

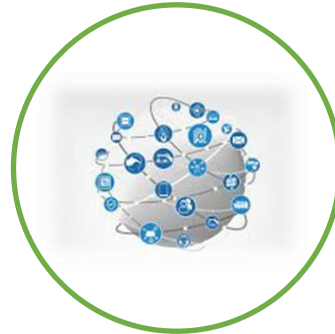
Areas of Services

Energy Efficiency & Energy Management



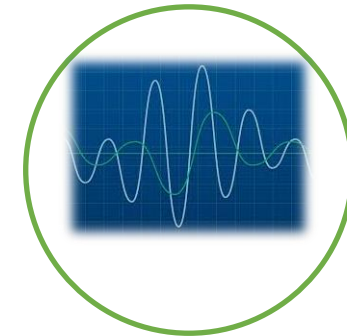
- Light ESCO (Li-ESCO)
- Energy Audits (Commercial & Industrial)
- ISO 50001 implementation
- Facilitation of Energy Efficiency Funding

Digitalization for Energy Efficiency



- IoT based EMS for buildings
- Industry 4.0 and AI for Energy Efficiency

Power Quality



- Power Quality Monitoring System
- PQ Assessment & Trouble shooting
- Power Factor Improvement

Energy & Process Optimization

Advanced Consultancy Services

- Process Integration
- CHP/CCP Modelling
- Load Management
- Power Production
- Monitoring Systems
- Water System Opt
- Gen. Cycle Optimization

Compliance Service

- Energy audit
- KPIs/ Benchmarking
- EnMs (ISO50001)
- Policies & Procedures
- Budget Planning
- Target Setting
- Online Monitoring
- Efficiency Reporting
- EMS for Building (IoT)

Engineering Services

- Process Simulation
- Conceptual Design
- Economic Feasibility
- Equipment Sizing
- Design Documents



Quality Inspection Services

- Third Party Inspection – TPI
- Non- Destructive Test – NDT
- Testing & Commissioning – T&C
- Lifting Equipment Inspection
- Civil Defense & SASO Services
- Curtain Walls & Façade inspection
- Training & Certification
- Material Lab Testing
- Manpower Supply
- Safety

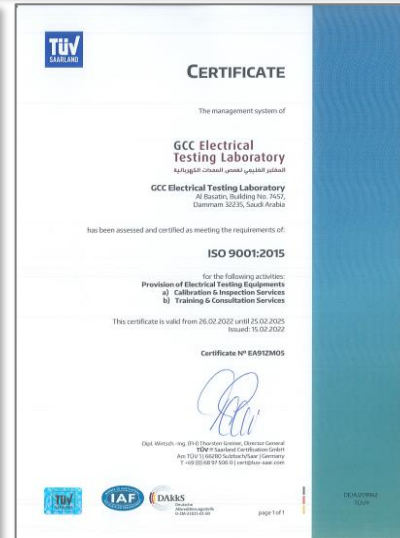
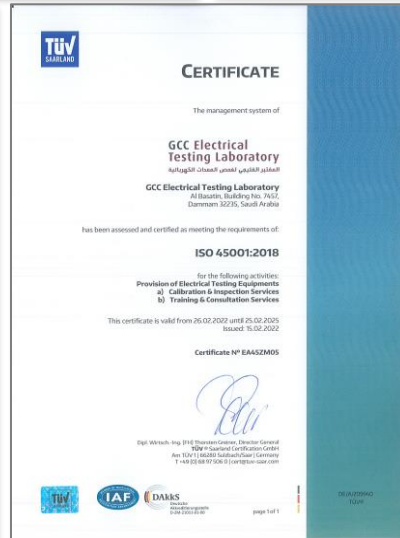


Training & Certification

- Inspection Programs
- The KPI Institute Certifications
- Certified Power System Operator (CPSO) certification
- Certification preparation programs of Board of Certified Safety Professional® (BCSP®)
- Vibration Analysis and Asset Reliability Practitioner
- Machinery Lubrication Programs & Certifications
- Asset Management Professional IAM Certification
- SOS NERC Certification Preparation Programs
- IFM's International Facility Management Association
- International Code Council Certification ICC
- Professional Evaluation and Certification Board-PEC
- Cybersecurity Courses & Certifications
- Fire Protection Association



GCC Lab was successful in achieving international, regional and national certifications including ISO, GAC and SAC



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