

# FMG



Smarter systems.  
Earlier insight.  
Stronger uptime







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# ABOUT US



- **Established Expertise (since 2013):** GES has operated in Egypt for over a decade, delivering safety inspections and preventive maintenance for major oil & gas and petrochemical facilities. We've supported refineries and international energy giants — giving our team hands-on experience in high-stakes environments.
- **Core Services:** Condition Monitoring, Electrical Testing, NDT, Operation & Maintenance, Consulting, and Technical Training.
- GES teams are backed by ISO 9001 and 45001 certifications, GES delivers full diagnostic coverage: MCSA, winding and insulation testing, and transformer oil analysis—ensuring fast, accurate diagnose-to-repair operations with no downtime.
- FMG entered the market in 2022 as an independent Saudi brand while leveraging GES's legacy databases, equipment, instruments, tooling and senior specialists on demand.



# Unified knowledge Cloud



## ABOUT US

- **Global Engineering Solutions** has a Legacy built on results , trusted by clients, proven in the field.
- **FMG** serves the oilfield, petrochemical, construction, fabrication, marine, aviation, environmental , paper , cement iron & steel and allied support industries.
- **FMG** was Built in Saudi Arabia we deliver industry proven solutions while drawing on 12 years of proven data, procedures and talent developed by our sister company **GES** in Egypt. Through this technical partnership
- Saudi identity first - all contracts, assets and compliance in KSA are managed and delivered fully compliant with local regulations by **FMG-KSA**.
- Over the years, **FMG** and **GES** have earned a strong reputation among the Saudi and Egyptian major industrial sectors.
- Future Model Gateway for Operation & Maintenance Co.  
Commercial Registration No. 4030514852  
Unified National Number 703 482 5187



# OUR GOAL

## ➤ Vision



To lead regional oil, gas, and industrial sectors by delivering cutting-edge diagnostics and condition monitoring solutions.

We raise the bar for safety, reliability, and performance — with future-ready tech tailored to local needs.

## ➤ Mission

To deliver advanced inspection and diagnostic services powered by hands-on expertise and precision tools in NDT, condition monitoring, and electrical systems.

Our focus: real-world performance, operational insight, and next-gen reliability — built for today's assets and tomorrow's demands.



## ➤ Commitment to Quality and Certification

FMG backs every service with proven, field-tested quality.

Certified by ASNT, AWS, API, CSWIP, and ISO — we guarantee consistent performance through expert evaluation, asset monitoring, and continuous process validation.

# SERVICES



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# NDT SERVICES

## CONVENTIONAL

- Vacuum box
- Leak Detection
- Hardness Testing
- Visual Testing (VT)
- Penetrant Testing (PT)
- Radiographic Testing (RT)
- Magnetic Particle Testing (MT)
- Positive Material Identification (PMI)
- Ultrasonic Testing and flaw detection (UT)



# NDT SERVICES ADVANCED



- Phased Array Ultrasonic Testing ( PAUT )-Time Of Flight Diffraction ( TOFD )
- Tube Inspection ( ECT - ECA - MFL - RFET - RFA - NFA - IRIS )
- Magnetic Flux Leakage - Tank Floor Inspection (MFL)
- Portable Digital Radiography System (DRS)
- Short Range Ultrasonic Testing ( SRUT )
- Long Range Ultrasonic Testing ( LRUT )
- Holiday Detector Test ( Spark test )
- Remote Visual Inspection ( RVI )



## Phased Array Ultrasonic Testing ( PAUT )

PAUT is an advanced ultrasonic technique using multiple transducer elements arranged in an array. Each emits timed pulses to create a focused, steered ultrasonic beam — enabling high-resolution scanning of complex geometries without moving the probe.

Ideal for oil & gas and aerospace, PAUT detects critical flaws like cracks, corrosion, and inclusions with precision.

## Time of Flight Diffraction ( TOFD )

TOFD uses diffracted ultrasonic waves to accurately size internal flaws such as cracks. Highly sensitive and reliable, it's often paired with PAUT to enhance defect sizing and depth measurement.



### ➤ Device

 **Eddyfi Technologies M2M-GEKKO**



Industry-favorite for PAUT and TOFD — now enhanced with inspector-driven updates.

Gekko supports Total Focusing Method (TFM), conventional UT, and field-adapted PAUT — versatile, rugged, and built for real-world diagnostics.



# NDT SERVICES

## ADVANCED

### Tube Inspection

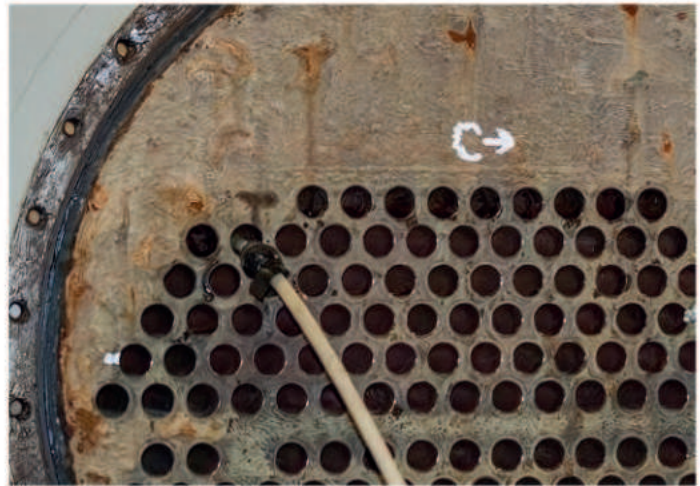
#### (ECT - ECA - MFL - RFET - RFA - NFA - IRIS)

Critical for heat exchangers, boilers, condensers, and pipelines — tube inspection detects corrosion, cracks, wall thinning, blockages, and other issues threatening equipment life and plant reliability.

Methods We Use:

- ◆ ECT (Eddy Current Testing): Surface & near-surface flaw detection.
- ◆ ECA (Eddy Current Array): Enhanced mapping for detailed surface inspections.
- ◆ MFL (Magnetic Flux Leakage): Detects wall loss and corrosion in ferromagnetic tubes.
- ◆ RFET (Remote Field ET): Internal flaw detection using low-frequency fields.
- ◆ RFA (Remote Field Array): Higher sensitivity with advanced sensor arrays.
- ◆ NFA (Near Field Array): Ideal for corrosion near internal surfaces.
- ◆ IRIS (Internal Rotary Inspection): Ultrasonic tool for precise wall thickness.

Together, these techniques allow us to adapt to various tube types and degradation modes — helping prevent failure, reduce downtime, and extend service life.



➤ **Device**



### Eddyfi Ectane 2

Our go-to for surface array and multi-tech tube inspections. Compact, high-speed, and field-proven — it supports multiple techniques in one portable unit for versatile tube diagnostics in harsh plant conditions.



## Magnetic Flux Leakage (MFL) -> Tank Floor Inspection

MFL tank floor mapping is a proven NDT method for detecting corrosion and metal loss in carbon steel tanks. The system uses magnets to saturate the tank floor with a magnetic field, detecting discontinuities by monitoring leakage signals.

Modern MFL tools provide:

- Top and bottom defect discrimination
- Real-time signal acquisition
- Accurate defect sizing with reliable repeatability

This method is ideal for in-service storage tanks in petrochemical and power plants, helping teams plan maintenance, prioritize repairs, and improve asset reliability.

Note: MFL is best suited for ferromagnetic materials and may be supplemented with UT for depth confirmation or non-magnetic surfaces.



### ➤ Device



### FLOORMAP3Di-R

High Speed MFL Floor Scanner with STARS Top & Bottom Defect Discrimination & MFLi Advanced Defect Analysis





## Radiography Testing (RT)

Radiography Testing (RT) is one of the most established and reliable Non-Destructive Testing (NDT) methods. It uses X-ray or gamma radiation to penetrate materials and capture images that reveal hidden flaws such as cracks, porosity, lack of fusion, inclusions, and wall-thickness variations. RT delivers permanent image records for documentation and verification.

Key advantages:

- Detects both surface and internal flaws.
- Provides a permanent record of inspection (XRAY-films).
- Suitable for welds, castings, and complex structures.
- Effective even on thick materials.

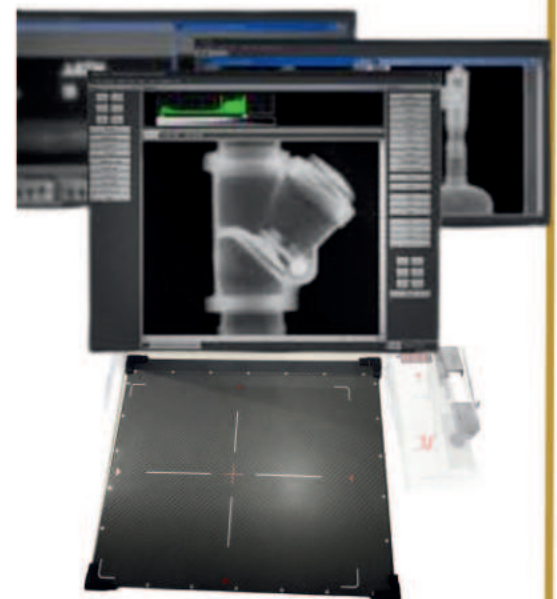


## Digital Radiography System (DRT)

Digital Radiography (DR) is the modern evolution of radiographic testing. Instead of film, it uses flat-panel digital detectors to instantly capture high-resolution X-ray images. This provides faster inspection, reduced radiation exposure, and easier data storage and sharing.

Key advantages:

- Instant image capture and analysis in the field.
- High-resolution, precise flaw detection.
- Faster inspection cycles compared to film.
- Digital archiving and easy reporting.





## Short Range Ultrasonic Testing (SRUT)

SRUT is a Non-Destructive Testing (NDT) method used to detect corrosion and material loss in hard-to-access areas — such as beneath pipe supports, tank floors, or localized insulation zones. It uses conventional ultrasonic pulse-echo techniques to scan short sections of pipe and detect wall thinning or pitting. SRUT is particularly useful for screening corrosion under insulation (CUI) and other high-risk zones without requiring full disassembly. While it helps locate defects, it does not measure remaining wall thickness with high precision — it's primarily used for risk-based screening.



## Long Range Ultrasonic Testing (LRUT)

Also known as Guided Wave Testing, LRUT is used to inspect longer lengths of piping from a single location. It sends low-frequency guided waves along the pipe wall to identify flaws such as corrosion, cracks, or weld issues. LRUT is highly efficient for screening insulated or buried pipelines. While it offers large-area coverage, it is a qualitative tool — best used to flag suspect zones for follow-up inspection with UT or other methods. Ideal for oil & gas, power, and process pipelines where access is limited or shutdowns are costly.





## NDT SERVICES ADVANCED

### Remote Visual Inspection (RVI)

Remote Visual Inspection (RVI) uses specialized visual tools — such as video borescopes, cameras, and robotic crawlers — to inspect confined, hazardous, or hard-to-reach areas without disassembly. This method is essential for evaluating internal surfaces in piping, tanks, turbines, and engines where direct access is limited.

RVI enables visual confirmation of defects like corrosion, cracking, or foreign object intrusion. It's widely used in oil & gas, aerospace, and power generation to ensure safety and operational continuity during inspections without shutdowns.



#### ➤ Device

**OLYMPUS®**

***IPLEX***  
**IPLEX GX/GT**



#### One Tool for Many Jobs

Change between white, ultraviolet, and infrared light sources  
Interchangeable scopes in a variety of diameters and lengths  
Tough enough to work in harsh environments



## Holiday Detector Test ( Spark Test )

The Holiday Test — also called a Spark Test or Pinhole Test — is a non-destructive method used to identify flaws in protective coatings, such as pinholes, cracks, or thin spots. It's commonly applied to pipelines, tanks, and vessels with dielectric (non-conductive) coatings.

Using a high-voltage probe, the system detects breakdowns in the coating by identifying current leakage through exposed metal, indicating a defect. This helps prevent corrosion, leakage, and early coating failure.



### ➤ Device

elcometer®

### Elcometer 266 Holiday Detector

A portable, high-voltage DC holiday detector designed for safe, efficient coating flaw detection. Suitable for a wide range of coatings and thicknesses, with adjustable output and rugged construction for field use.





# CONDITION MONITORING

## SERVICES

- vibration
- Oil Analysis
- Ultrasound
- Rotordynamics Analysis
- Thermography
- In-Situ Balancing
- Modal/ODS Analysis
- Acceptance Testing
- Motion Magnification
- Alignment (Laser Shaft Alignment)
- MCSA (Motor Current Signature Analysis)
- Troubleshooting (Multi-Technology Diagnosis)





## **vibration analysis**

Vibration analysis measures the mechanical oscillations of rotating assets to detect early-stage faults such as imbalance, misalignment, looseness, bearing wear, and gear defects. Using spectrum analysis (FFT), time waveform analysis, and trending, our specialists provide a deep understanding of asset condition.

### **► Application**

Identifying hidden issues before they escalate enables proactive maintenance, reduces unexpected shutdowns, improves operational safety, and significantly extends machinery life.

**► Used On :** All rotating machinery including :( Motors / Pumps / Fans / Compressors / Gearboxes / Bearings / etc. )

**► Detects :** Imbalance, misalignment, looseness, bearing faults, gear mesh issues, etc.





## Oil Analysis

Oil analysis checks lubricant condition to evaluate the internal health of machines. It reveals wear, contamination, and chemical changes in the oil that help detect issues before they lead to failure.



### ► **Application**

Used to support preventive maintenance by tracking wear trends, oil cleanliness, and fluid breakdown. Helps reduce downtime, extend part life, and optimize oil change intervals.

► **Used On :** ( Gearboxes / Compressors / Hydraulic systems / Diesel engines / Turbines )

► **Detects :** Wear particles, oil contamination, oxidation, water ingress, additive loss, and signs of metal fatigue.



## Ultrasound

Ultrasound inspection picks up high-frequency sounds caused by air leaks, electrical discharge, and mechanical friction in machines. It's used to catch problems early — before they cause failures — and supports other condition monitoring methods.



### ▶ **Application**

Helps reduce air loss, spot lubrication problems, and detect hidden electrical issues before they escalate. It also supports reliability programs by giving early warning signs.

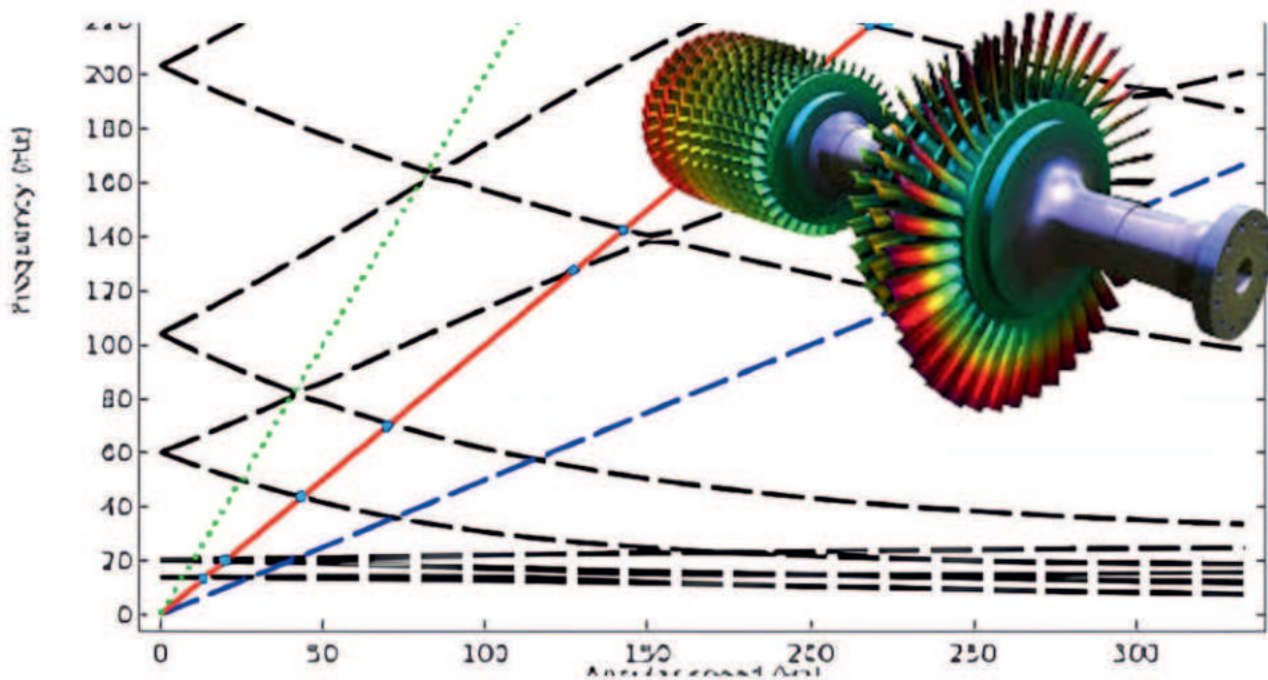
▶ **Used On :** (Bearings / Steam traps / Air lines / Electrical panels / Valves)

▶ **Detects :** Air and gas leaks, weak lubrication, internal leakage, electrical arcing, and abnormal friction or impact.



## Rotordynamics Analysis

Rotordynamics analyzes the behavior of high-speed shafts — predicting critical speeds, unbalance responses, and resonance risks using simulation and testing. It helps identify instabilities before they cause vibration, damage, or catastrophic failure.



### ► Application

Ensures safe startup and long-term performance of critical rotating assets. Prevents failures tied to resonance, poor design, or incorrect retrofits — especially in high-value or high-speed machines.

► **Used On :** ( Steam turbines / Gas compressors / High-speed motors / Expanders)

► **Predicts :** Critical speeds, whirling zones, vibration instability, and margin to resonance in rotor-bearing systems.



## Thermography

Thermal imaging uses infrared cameras to detect abnormal heat in mechanical, electrical, or process systems. It's a fast, non-contact way to find hot spots, poor connections, and insulation faults.



### ▶ **Application**

Helps prevent fires, improve energy use, spot hidden faults, and prioritize safe, efficient maintenance.

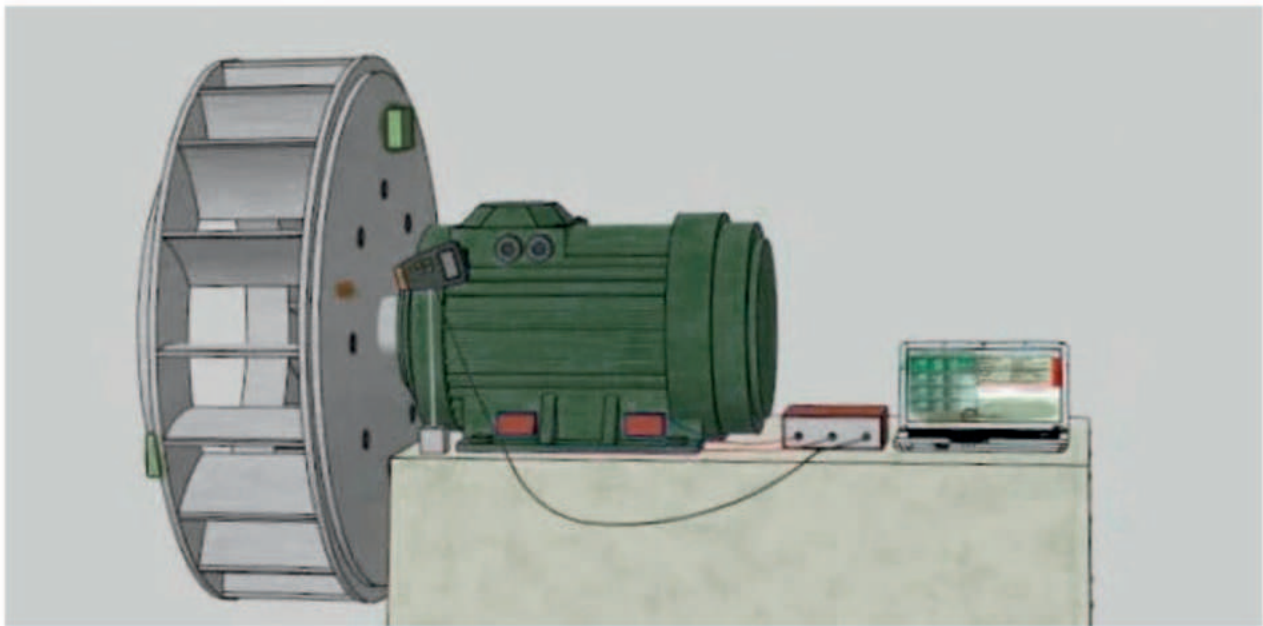
▶ **Used On :**( Motors / Electrical panels (MCCs, breakers) / Bearings / Transformers / Pipelines )

▶ **Detects :** Hot spots, load imbalance, failing insulation, thermal stress, and friction buildup.



### In situ balancing

In-situ balancing is the process of correcting rotor unbalance directly on-site, while the machine is running. It removes the need to dismantle equipment or transport it off-site. Using vibration analysis, phase measurements, and trial weights, the rotor is balanced dynamically under real operating conditions — minimizing vibration without interrupting operations.



#### ► Application

Restores vibration within acceptable limits, extends bearing life, and reduces fatigue on foundations or pipework — especially useful when shutdowns are costly or access is limited.

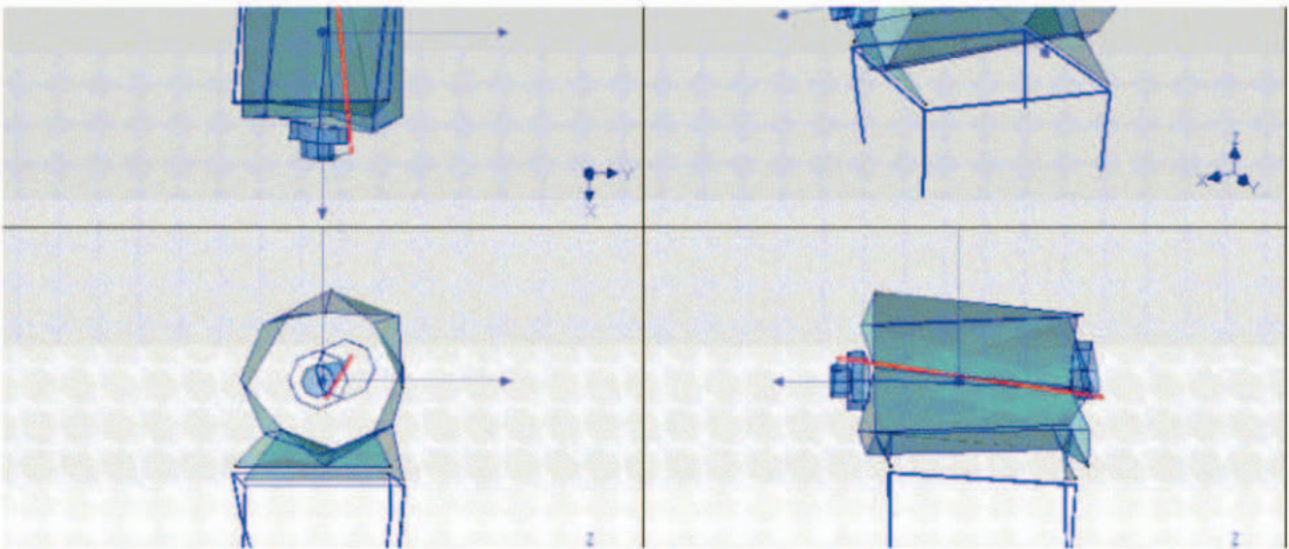
► **Used On :** (Fans / Blowers / Centrifuges / Impellers / Rotors (low to medium speed))

► **Detects :** Mass unbalance — the most common cause of vibration — while the rotor is installed and spinning. Not a fix for bent shafts, soft foot, or misalignment, but can rule them out during diagnostics.



## Modal/ODS Analysis

Modal and ODS (Operating Deflection Shape) analysis reveal how structures move and vibrate during operation. Modal shows natural frequencies and mode shapes. ODS shows actual movement patterns under running conditions — visualizing how and where the structure flexes, twists, or amplifies vibration.



### ► Application

Used to prevent resonance, verify design strength, support structural modifications, and avoid failures caused by unexpected vibration behavior.

► **Used On :** ( Platforms / Piping systems / Machinery bases / HVAC supports / Steel structures )

► **Visualizes** Real structural behavior under operating or test conditions — including resonance, mode shapes, and areas of amplified motion..



## Acceptance Testing

Acceptance testing checks that newly installed, repaired, or commissioned machinery meets ISO/API vibration standards and client performance specs. It confirms that the machine is ready to run — safely, reliably, and within limits.

VIBRATION SEVERITY PER ISO 10816					
Machine		Class I small machines	Class II medium machines	Class III large rigid foundation	Class IV large soft foundation
in/s	mm/s				
Vibration Velocity Vrms	0.01	0.28			
	0.02	0.45			
	0.03	0.71		good	
	0.04	1.12			
	0.07	1.80			
	0.11	2.80		satisfactory	
	0.18	4.50			
	0.28	7.10		unsatisfactory	

### ► Application

Protects your investment, verifies workmanship, prevents warranty issues, and ensures smooth handover from vendor to client. Also used to catch problems early before equipment enters full operation.

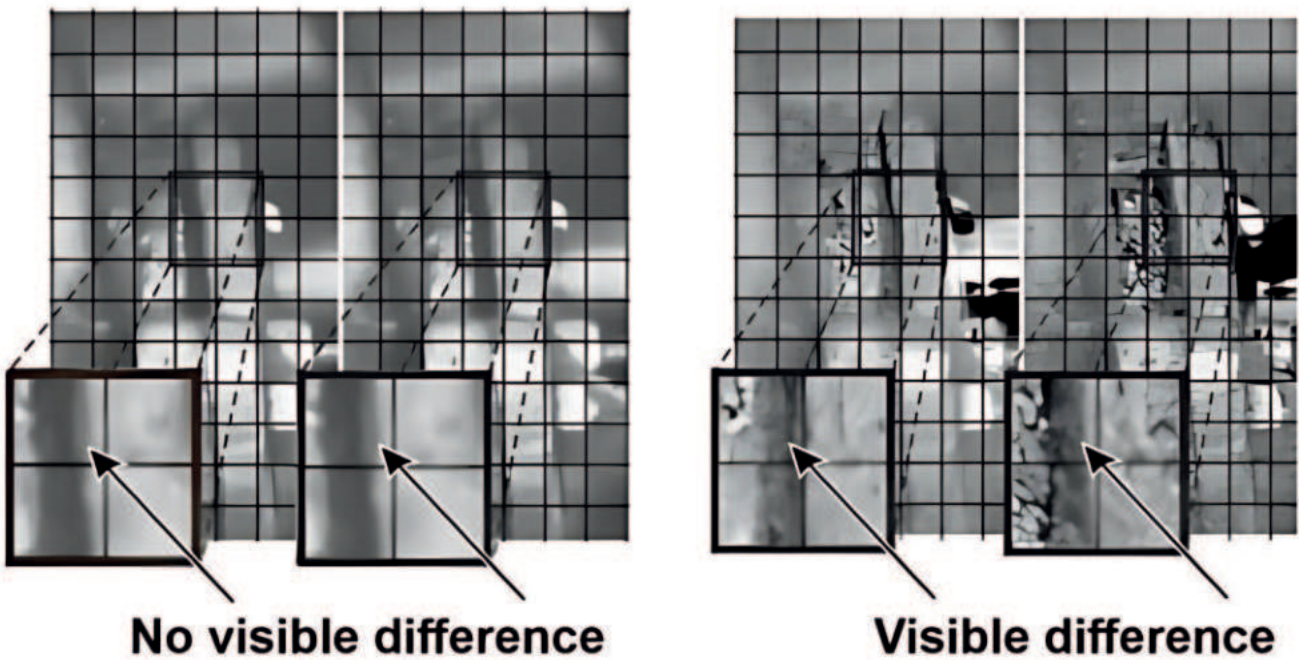
► **Used On :** ( New or overhauled pumps, compressors, motors, turbines — and any equipment after service or factory delivery. )

► **Detects :** That vibration and performance fall within ISO/API acceptance thresholds — and flags any out-of-spec behavior before it becomes a dispute.



## Motion Magnification

Motion magnification is a video-based technique that visually amplifies tiny machine or structural movements — making invisible vibration problems visible. It helps detect looseness, misalignment, and structural deflection without disassembly.



### ► **Application**

Used to speed up diagnosis, reduce manual inspections, and find hidden root causes — without stopping the equipment.

► **Used On :** ( Structural steel supports / Large piping / Foundations / Machine frames / Motor housings )

### ► **Detects :**

Resonance, looseness, mechanical play, and vibration-related movement that's hard to see by eye or traditional tools.

## CONDITION MONITORING



### Alignment (Laser Shaft Alignment)

Laser shaft alignment ensures precise collinearity between connected machine shafts. It reduces mechanical stress, prevents premature bearing and seal failure, and optimizes operational efficiency.



#### ► **Application**

Decreases energy consumption, lowers repair costs, minimizes machine downtime, and extends equipment service life.

► **Used On :** ( Motor-to-pump couplings / Gearbox-to-compressor assemblies / Turbine drive systems / Fan & blower shafts )

► **Corrects :** Angular/parallel misalignment between rotating components.



## **MCSA (Motor Current Signature Analysis)**

MCSA detects electrical and mechanical faults in motors by analyzing current waveforms. It identifies issues like broken rotor bars, eccentricities, stator faults, and power supply anomalies without interrupting machine operation.



### **► Application**

Provides predictive insights into motor health, avoiding costly breakdowns, optimizing energy usage, and enabling better motor lifecycle management.

**► Used On :** ( Electric motors / Variable Frequency Drives(VFDs) / Pumps / fans / compressors powered by motors )

**► Detects :** Broken rotor bars, eccentricity, stator issues, air gap problems, unbalance-related electrical harmonics.

## CONDITION MONITORING



### Troubleshooting (Multi-Technology Diagnosis)

Technical troubleshooting involves rapid, multi-discipline analysis (vibration, ultrasound, thermography, electrical) to find and fix critical machine or system faults impacting production.



#### ► Application

Restores productivity fast, pinpoints root causes instead of symptoms, and minimizes production losses during unexpected events.

► **Used On :** ( Complex machinery (when failure cause is unknown) / Systems with intermittent vibration, noise, or overheating /

► **Applies :** Vibration + thermography + ultrasound + electrical checks.



# ELECTRICAL SERVICES

## ELECTRICAL TESTING & COMMISSIONING SERVICES

### ➤ Testing & Commissioning

Start-up testing to verify breakers, motors, cables, and transformers meet specs, function safely, and comply with standards before energization.

### ➤ Preventive Maintenance (PM)

Scheduled inspections, cleaning, lubrication and functional tests that keep electrical assets reliable and extend life.

### ➤ Repairs & Overhauls

Field or workshop repair of motors, switchgear, and transformers — including rewinds, refurbishments, and terminal rebuilds.

### ➤ Advanced Diagnostics

Includes partial discharge analysis, IR thermography, power audits, and oil diagnostics to spot faults before failure.

### ➤ Support & Auxiliary Services

Grounding tests, relay tuning, lighting upgrades, and emergency sourcing of spares to maintain system uptime.



# SERVICES

## ELECTRICAL MAINTENANCE & WORKSHOP SERVICES



- **Smart Diagnostics, Minimal Downtime**
  - Online diagnostics — including MCSA, partial discharge, and thermal imaging — detect faults without shutdowns, saving runtime, fuel, and CO<sub>2</sub> emissions.
- **Efficiency That Pays for Itself**
  - Power-quality audits, harmonic mitigation, and relay tuning reduce wasted kWh, cut energy bills, and improve system efficiency.
- **Life-Cycle Asset Care**
  - Includes insulation testing, breaker timing, transformer oil analysis, and winding diagnostics — extending asset life and deferring major replacements.
- **Future-Ready Sustainability Focus**
  - Helps document savings, highlight ESG actions, and demonstrate a greener energy system to auditors, investors, and the community..



## Testing & Commissioning



Switchgear & Motor Control Centers (MCCs)

Includes breaker timing, contact resistance, and full protection circuit validation (relays, CTs, and VTs)



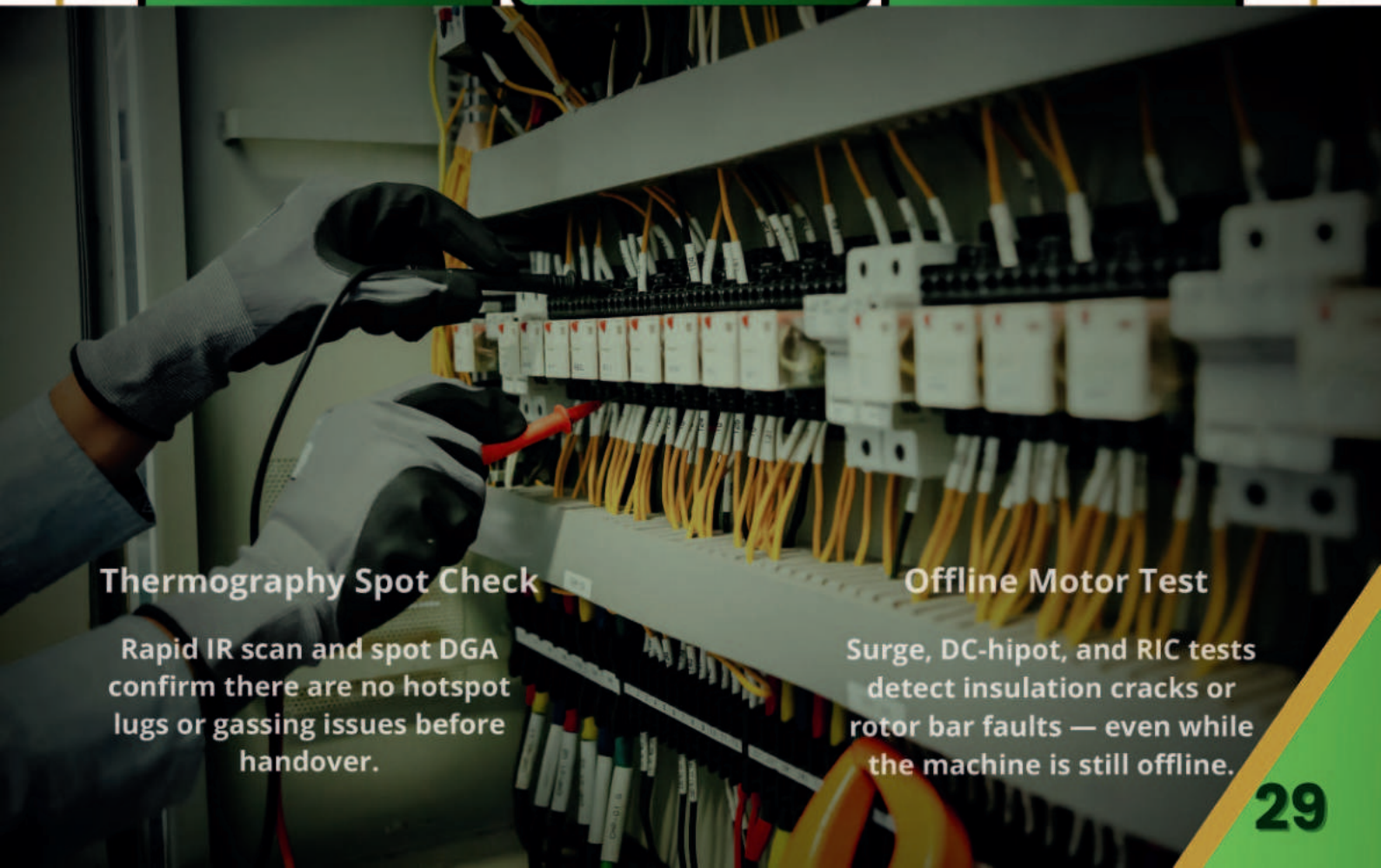
Protection Assurance 360 Relay, CT & VT Validation

Confirms pickup levels, operating time, ratio, and polarity before a fault ever happens



Transformer Acceptance Suite: Oil & Electrical Diagnostics

Includes DGA, dielectric strength, oil factor ( $\tan \delta$ ), insulation resistance, winding resistance, and excitation current tests.



Thermography Spot Check

Rapid IR scan and spot DGA confirm there are no hotspot lugs or gassing issues before handover.

Offline Motor Test

Surge, DC-hipot, and RIC tests detect insulation cracks or rotor bar faults — even while the machine is still offline.

## Generator / UPS Load-Bank Trials

New standby generators or UPS units are run at 25 %, 50 %, 75 % and 100 % load to confirm voltage regulation, frequency stability and automatic transfer—so your emergency power works perfectly the first time it's needed.



## Power-Quality & Harmonics Audit

We log every voltage dip, unbalance and harmonic up to the 50th order, then propose filters or capacitor tuning. Cuts nuisance breaker trips, overheated drives and inflated utility charges. Ideal for: Facilities with large VFDs, arc furnaces, chillers or photovoltaic inverters.

## Static motor / generator tests

Suspect insulation fatigue or hidden rotor faults? We run surge, DC-hipot, rotor-influence and partial-discharge tests up to 12 kV, spotting weak windings before they burn out.



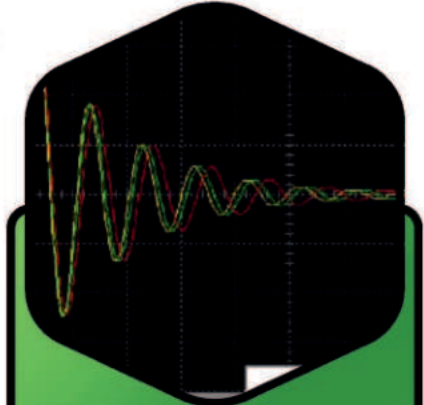
## Grounding System Verification

Clamp-on and four-point tests confirm that earth grids, rods and straps keep fault energy where it belongs—underground. Protects personnel and electronics from touch voltages and lightning strikes.



## Cable Integrity Testing

We stress-test LV/MV cables with VLF voltage, listen for partial-discharge clicks, and trend insulation resistance. Flags ageing joints and water-treeing early, so the only trenches you dig are planned.



## Offline Motor & Generator Confidence Test

Surge, DC-hipot and rotor-influence signals expose weak insulation or cracked bars while the machine is still on the floor.



## Preventive Maintenance contracts

A scheduled, data-driven programme that inspects, cleans, lubricates and electrically tests critical switchgear, transformers, motors, UPS and batteries on a fixed calendar—so assets stay reliable and warranties stay valid.



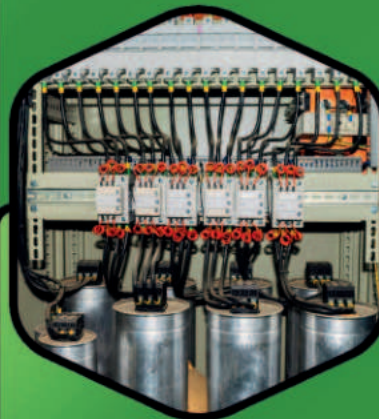
### Battery & UPS Health Program

Load tests, impedance scans, charger calibration.  
Value: Ensures DC control and turbine lube-oil systems never lose power.



### Switchgear & MCC PM

Annual clean-and-lube, breaker timing, interlock tests and panel IR survey.  
Value: Extends switchgear life to 30+ years and keeps OEM warranties valid.



### Capacitor-Bank Service

Visuals, kvar balance, fuse check and detuned-reactor inspection.  
Value: Keeps power factor above 0.95 and eliminates penalty fees.



### Transformer Oil Service

Degassing, dehydration, top-up and silica-gel change on site.  
Value: Maintains dielectric strength and prevents costly re-winding.



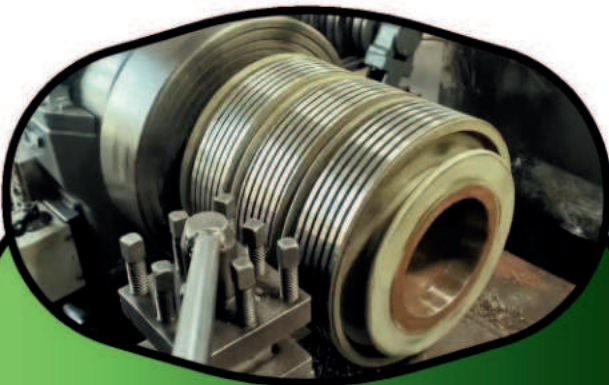
### Motor & Generator Routine Care

Bearing greasing, insulation-resistance trending, exit-temperature checks.  
Value: Predicts failure months in advance and schedules repairs for outages, not emergencies.



## Repairs & Overhauls

Complete restoration of critical electrical assets—motors, generators, breakers, transformers, cables and control cards—carried out on-site or in our workshop to OEM or IEC standards.



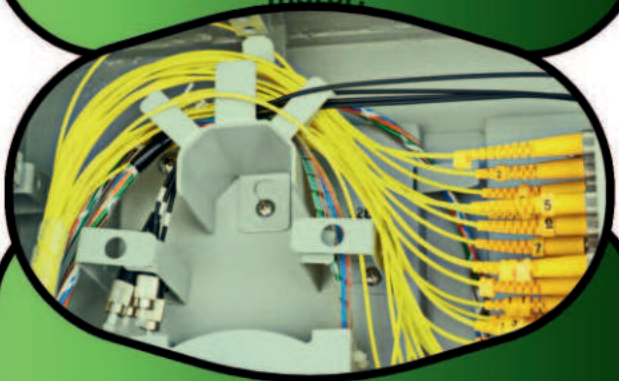
### Motor / Generator Rebuilds and slip ring machining

Factory-grade overhaul of rotating machines: bearings, slip-rings, windings and dynamic balancing are restored to IEC/EASA specifications it Extends machine life 10-15 years and avoids the long lead-time of a new motor.



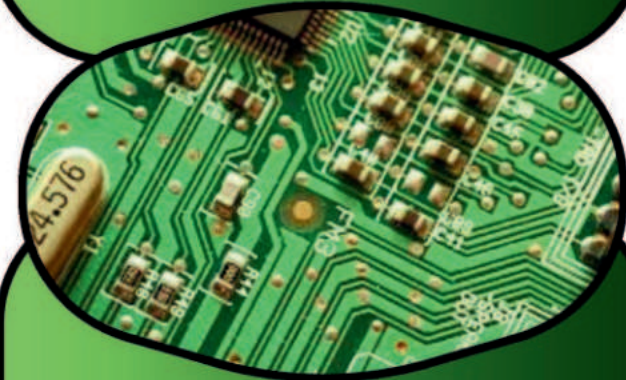
### Breaker & OLTC Refurbishment

Re-silvering or replacing contacts, vacuum/SF<sub>6</sub> bottles and mechanism springs, plus contact-resistance and timing tests to OEM limits it Restores safe trip speed and prevents arc-flash or tap-changer mis-operations.



### Cable Jointing & Termination

Heat-shrink, cold-shrink or resin kits installed under manufacturer torque and crimp specs; insulation stressed with VLF / AC-hipot and PD sensors to prove the joint it Eliminates partial-discharge points that cause flashovers and costly trench digs later.



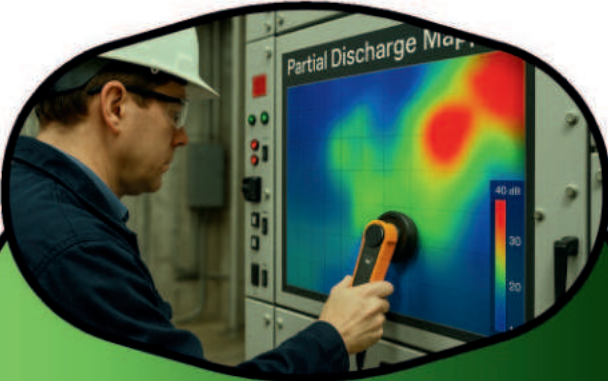
### Control-Card Restoration

Component-level repair of PCB control cards and drives, followed by conformal-coating to protect against moisture, dust and corrosive gases it Saves weeks of import lead-time on OEM boards and keeps legacy equipment in service.



## Advanced Diagnostics

Rapid, on-load health-checks that reveal hidden electrical faults before they become failures. Using high-resolution power-quality recorders, live partial-discharge sensors, trending thermography and 48-hour oil-lab reports, we turn raw data into clear maintenance actions—so you repair on your schedule, not the asset's



### Partial-Discharge Mapping

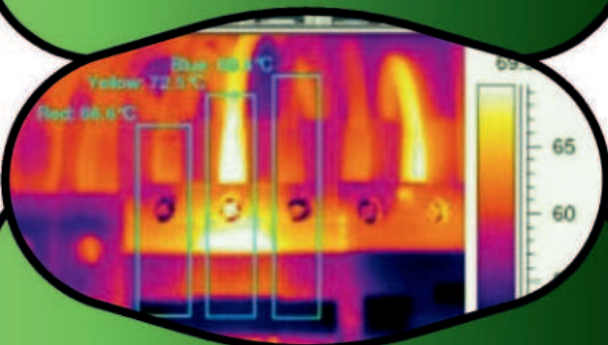
Non-intrusive sensors listen for microscopic insulation discharges inside live switchgear, GIS or MV cables.

PD is the #1 early-warning sign of an arc-flash event; finding it months in advance lets you repair during a planned outage



### High-Resolution Power-Quality Capture

Portable analyzers record every sag, swell, harmonic and sub-cycle transient down to 8  $\mu$ s—detail a standard meter simply misses it pinpoints which drive or feeder is cooking your capacitors or tripping your PLCs.



### Electrical Thermography

Trending infrared scans link hotspot temperature to load and ambient shift, turning one-off photos into a predictive health curve

tighten a lug or swap a breaker long before heat reaches the danger zone See the fault before it sparks: find loose connections or overloads in minutes—no shutdown, no contact, no guesswork."



### Oil & Lube Trend Lab

48-hour lab report tracks moisture, dissolved gas and wear metals in transformer oil or gear-box lube schedule maintenance on data—not alarms—avoiding secondary damage and unplanned shutdowns.



## Support & Emergency

back-up that keeps the plant running when the unexpected happens. From urgent spare-parts sourcing and on-site firefighting-panel resets to “virtual war-room” remote diagnostics



### Lighting & Lightning Protection Audits

Survey indoor/outdoor lighting levels, energy use and fixture condition; verify down-conductors, surge arresters and earth straps for lightning paths. it Cuts energy bills with LED retrofits and reduces strike damage that can trip your whole plant.



### Fire-Alarm & Fire-Fighting Loops

End-to-end loop testing, device address verification, flow/pressure checks and battery health for fire-alarm and fire-pump panels it Ensures alarms sound, pumps start and civil-defence certificates stay valid—protecting assets and lives.



### Spare-Parts & Calibration

Source OEM breakers, CTs, VTs and motor bearings in 24 h; calibrate meters, torque tools and relays it Keeps maintenance windows on schedule and audit certificates up-to-date without long import lead times



### Call-Out & Virtual War-Room

Dispatch a Saudi field crew within hours and connect them live to senior engineers in Cairo for real-time data review and fix guidance it Turns a midnight fault into a measured intervention; decisions are made in minutes, not the next business day.



# Technical Manpower Supply

We provide certified professionals across Non-Destructive Testing, Condition Monitoring, and Electrical Diagnostics, tailored for industrial reliability and regulatory compliance.

FMG provides turnkey staffing for inspection, diagnostics, repair and reliability work. Our talent pool spans certified technicians (Level I-III), internationally-accredited inspectors (API, ASNT, ISO, NFPA), and specialist engineers who can be mobilised short- or long-term across oil-&-gas, petrochemical, power and heavy-industry sites in Saudi Arabia.

## NDT

API 510/570/653 inspectors and ASNT Level II-III UT / RT / PAUT technicians who perform code-compliant weld, vessel and piping examinations etc. delivering same-day reports that satisfy both HSE and insurance requirements.

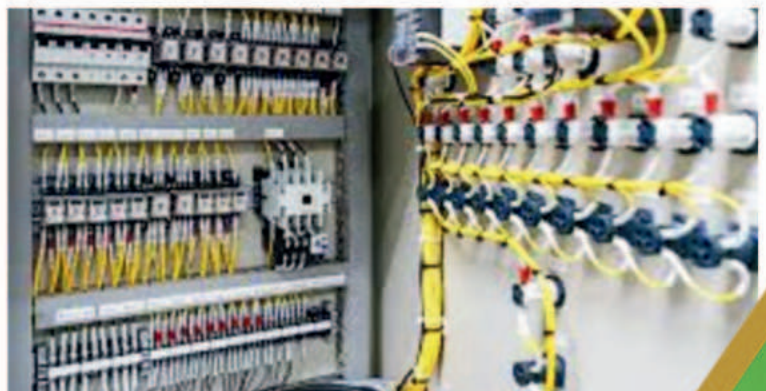


## Condition monitoring

ISO 18436 Category I-III vibration analysts, ITC Level II thermographers and ICML MLA-II oil analysts embedded with maintenance teams to predict failures, balance rotors

## Electrical services

IEC-licensed LV/MV test engineers, IEEE relay specialists and certified 33 kV cable-jointers equipped for switchgear, transformer, motor and protection-relay diagnostics





## Training & Consultancy

Detailed syllabi, schedules, and enrolment links will appear on our website as soon as accreditation is confirmed. Follow our LinkedIn page or email [academy@fmg-ksa.com](mailto:academy@fmg-ksa.com) to receive the launch bulletin.

### NDT master track

NDT Level III Services  
NDT Training & Certification  
Services  
Inspector Training Program –  
API, CSWIP & AWS

### Reliability & CM School

Cat I-III Vibration,  
Cat I Ultrasound  
Cat I Infrared Thermography

**FMG Academy Next – Coming Soon**  
**Building tomorrow's experts, today.**

**Accreditation applications are in progress**





# International Partners





## KSA Clients

اسمنت اليهامة  
YAMAMA CEMENT

PCMARINE



أسمنت الرياض  
RIYADH CEMENT



أسمنت الجوف  
AL JOUF CEMENT

العبيكان  
Obekon

Paper Industries

## Egypt Clients



EGYPTIAN PROPYLENE  
& POLYPROPYLENE



CLEOPATRA

COATING MATERIALS & TOOLS TRADING

أنريك  
NRPC



NILE  
Electro Mechanics



HOSOKAWA  
ALPINE GROUP



EHCSS  
Egyptian Holding Company  
for Silos & Storage



EGYPT  
OIL & GAS  
GROUP

سيناء للأسمنت الأبيض  
sinaiwhitecement  
aalborgportland  
CEMENTERIE HOLDING

Dips  
Delta Inspection & Petroleum Services

EGPAPER  
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ARCOSTEEL



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مدينة مصر  
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Fulkrum Technical Resources.





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**FMG**

