



ARISE & SHINE

ARISE GLOBAL GROUP

visit our company



ANDT • NDT • TPI • Lifting • Engineering • Asset Integrity

Introduction

Arise Global provides technical expertise and cutting-edge advanced non-destructive testing solutions, Third-party inspection & lifting inspection services to a wide array of industries through its direct offices in Singapore (Headquarter), Malaysia, Kazakhstan, Indonesia, United Emirates, Egypt and through its business associates in more than 25 countries world-wide.



Our Logo

The Shield Protection of Client Assets

The Star Business from Singapore to all 4 corners of the Globe

The Spear Penetrating Markets and Beating Competition

Color represents enthusiasm, creativity, determination, and success.

Like the vibrant colour of the Arise logo, engagement with our youthful and energetic team will leave our customers with a lively and pleasant experience. Both parties are winners in the relationship!

Technology and service quality forge our identity in the market place. Aside from acquiring specific state of the art NDT equipment and technology, the Arise team is looking to develop innovative capability, both in house and through targeted collaborations. We aim to significantly improve the probability of detection and accuracy of inspection results; and to surpass current technology limitations for special materials and complex or inaccessible inspection situations.

20+
countries
served

2000+
advanced NDT
jobs done
worldwide

400+
clientes
& partners
worldwide

SERVICE



ADVICE



EXPERIENCE



SUPPORT



COMPETENCE



QUALITY



PERFORMANCE



SATISFACTION



HELP

01

Advanced Non-destructive testing

02

Lifting inspection & certification

03

Third Party & Supply chain inspection

04

Engineering & Assets integrity

05

HSE Monitoring & supervision

Our Services Cross Industrial Sectors



Fields of Activity



Vendor Assessment

Manufacturers Capability Assessment
Vendor Conformity Surveillance

Vendor Inspection

Visual Inspection
Dimensional Inspection
Welding Inspection
Painting / Coating Inspection
Witnessing of Tests
FAT and Final Inspection
Pre-Shipment Inspection (PSI)

ASME & API Standards

Conformity

Material Testing

Conventional NDT
Advanced NDT

DT - material testing

Expediting

Supervision of Loading

Project Monitoring

Contract Engineer (second party)

Owner's Engineer
Lender's Engineer
Independent Engineer

Supervision of Discharge

On Site Inspection

Inspection of Incoming Material
Inspection during Assembly and Erection

Technical Staffing

Material Testing

Conventional NDT
Advanced NDT

Project Monitoring

Contract Engineer (second party)

Owner's Engineer
Lender's Engineer
Independent Engineer
During Shut Down:
On Site Inspection
Inspection of Incoming Material
Technical Staffing
Material Testing
Conventional NDT
Advanced NDT
Project Monitoring
Contract Engineer
Owner's Engineer
Lender's Engineer
Independent Engineer



01

Advanced Non-Destructive Testing

Arise Global specializes in providing Inspection programs for asset integrity and some of our core services and partner services are as follows:

- ✓ Tube inspection.
- ✓ Acoustic Pulsed Reflectometry
- ✓ ACFM inspection for crack detection.
- ✓ Guided Wave Ultrasonic Testing (Long Range Ultrasonic Testing - LRUT) for pipelines.
- ✓ Short range ultrasonic testing (SRUT)
- ✓ MFL of Tank Bottom Plates.
- ✓ Phased array & TOFD Inspection.
- ✓ Pulsed Eddy Current Inspection.
- ✓ Corrosion mapping of pressure vessels, tanks, and piping.
- ✓ Acoustic Emission Inspection.
- ✓ Measurement Of Wall Thickness Of Steam Boiler Tubes With EMAT Technique.
- ✓ Ultrasonic Testing for Measuring Internal Oxide Scale in Boiler Tubes
- ✓ High Temperature Hydrogen Attach (HTHA) Detection
- ✓ In tank robotic inspection for tank floor inspection while it is in service.
- ✓ Visual inspection and photography survey of piping, vessels and tanks.
- ✓ Gamma Scanning for refinery and distillation towers.
- ✓ Thermo graphic survey of Furnaces and high temperature equipment.
- ✓ QSR Inspection - Quantitative Short Range (QSR)
- ✓ DCVG & CIPG for underground piping inspection.
- ✓ Assessment of static equipment according to API standard.





Tube Inspection

Refinery and chemical plants operate numerous heat exchangers and condensers, each with unique processes and damage mechanisms. Tubes are exposed to fluids and heat on both the I.D. and O.D., leading to corrosion, thinning, pitting, cracking, erosion vibration damage, or combinations thereof

Techniques

- Eddy Current Testing (ECT)
- Eddy Current Array (ECA)
- Tangential Eddy Current Array (TECA™)
- Remote Field Testing (RFT)
- Near Field Testing (NFT)
- Near Field Array (NFA)
- Magnetic Flux Leakage (MFL)
- Internal Rotating Inspection System (IRIS)

Acoustic Pulsed Reflectometry (APR)

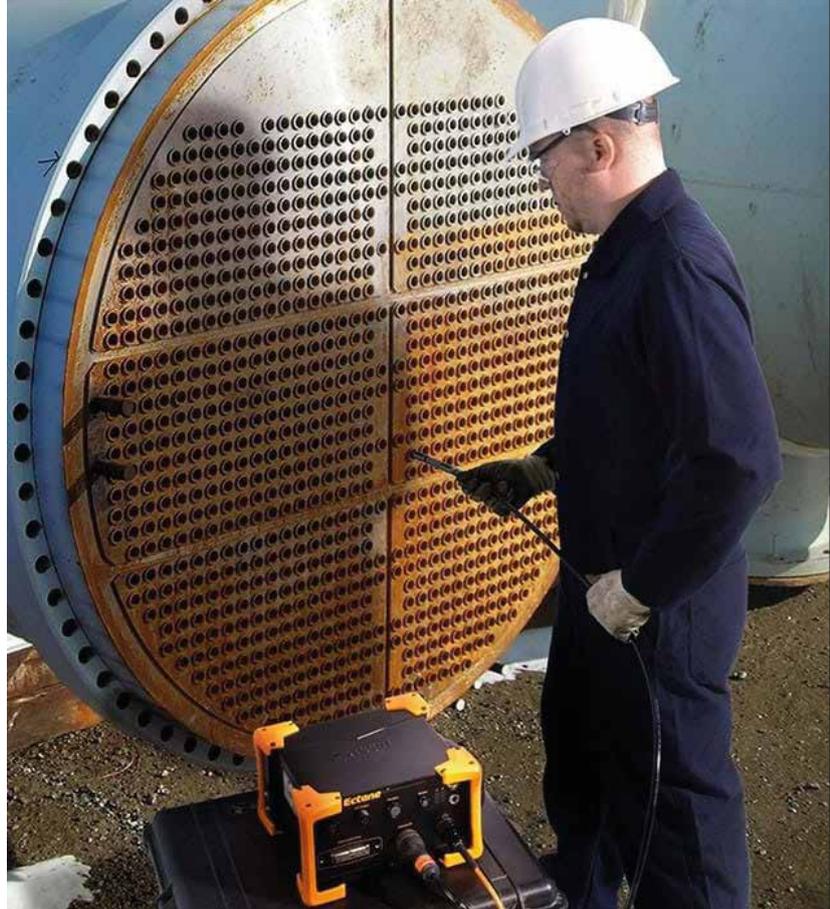
What is APR

APR uses specially configured acoustic waves to inspect tubes in heat exchangers, boilers, chillers, and more. Variations in tube cross-section cause reflections, each with a unique “signature” that reveals defects such as holes, leaks, blockages, scale, erosion, and pitting.

With advanced software and computerized inspection, our technicians can test each tube in less than 10 seconds, delivering precise results to boost productivity and efficiency.

Applications

Oil & Gas • Refineries • Power • Petrochemical
Chemical • Food & Beverage • HVAC





Alternating Current Field Measurement (ACFM)

ACFM detects and sizes surface-breaking cracks, especially at weld toes, in butt, fillet, node, and nozzle welds. It works on coated, ferritic, and non-ferritic metals – onshore, offshore, hot surfaces, underwater, or in irradiated areas.



Applications

Offshore cranes • Storage tank lap joints & annular welds • Vessel nozzles • MODUs • Duplex stainless pipe welds

Key Advantages

- ✓ Detects through several mm of coating
- ✓ Accurate depth & length measurement (up to 25 mm deep)
- ✓ Suitable for rope access & ROV
- ✓ Real-time results

Guided Wave Ultrasonic Testing (LRUT)

LRUT is a rapid screening method for detecting corrosion or cross-section loss in pipes, even in hard-to-access areas – insulated, buried, submerged, elevated, or sleeved. It's ideal when conventional inspection would be slow, such as long pipelines. Range depends on pipe size, contents, coatings, and condition.

Applications

- ✓ Insulated refinery piping
- ✓ Offshore risers
- ✓ Cased road/rail crossings
- ✓ Loading lines
- ✓ Tank dyke & bridge crossings
- ✓ Above-ground or buried flow lines

Long Range UT



Our Services



Short Range Ultrasonic Testing (SRUT)

SRUT uses guided ultrasonic waves to detect corrosion or erosion in areas up to 2 m under structures. It works on plates, pipes, and tank annular plates, even when hidden by supports, insulation, or concrete. Ideal for in-service inspection of AST annular plates and corrosion under pipe supports.



Applications

- ✓ Corrosion/erosion detection & sizing
- ✓ Metal loss under supports or annular plates
- ✓ Tank floor annular rings/plates
- ✓ Steel-concrete interfaces
- ✓ Pipes >200 mm diameter & flat surfaces

Magnetic Flux Leakage (MFL) Inspection

MFL is a non-destructive method to detect and assess corrosion, pitting, and wall loss in lined or unlined metallic storage tanks and pipelines. A strong magnet magnetizes the steel; defects cause the magnetic field to “leak,” which sensors detect.

- ✓ Instead of replacing assets, MFL with spot repairs can extend tank or pipeline life, allowing proactive maintenance and reducing the risk of failure



Our Services



Phased Array & TOFD

Phased Array Ultrasonic Testing (PAUT) and Time of Flight Diffraction (TOFD) detect and image defects such as cracks, voids, pits, and corrosion, measure material/coating thickness, and assess weld and rivet quality. They are versatile, highly sensitive, and reduce downtime compared to conventional methods.



Applications

- ✓ Weld inspection (vessels, piping, tubing, composites)
- ✓ Volumetric inspection of forgings castings
- ✓ Erosion & corrosion mapping
- ✓ Complex geometry scanning
- ✓ Detection of HIC, SCC, SOHIC
- ✓ Accurate sizing for fitness-for- service (FFS)



Pulsed Eddy Current (PEC)

PEC is a corrosion survey method for ferromagnetic materials that works without surface contact, allowing inspection through insulation, fireproofing, concrete, or coatings—avoiding costly removal. It can inspect pipelines, vessels, columns, tanks, skirts, sphere legs, and weather jackets (stainless steel, aluminum, galvanized steel).

Specialized probes enable splash-zone inspection on offshore platform legs/risers and underwater detection of corrosion beneath marine growth or coatings, with no surface prep. PEC reduces inspection costs and time compared to conventional methods.





Corrosion Mapping

The RMS is a high-speed, high-accuracy ultrasonic system for evaluating ferrous structures such as tanks, pipelines, pressure vessels, and other critical equipment. It provides 100% coverage in bands up to 1000 mm wide, increasing the probability of detecting corrosion and enabling optimized repair, RLA, and RBI planning.



Key Features

- ✓ Fast coverage with real-time imaging
- ✓ High POD with 0.5 mm scan grid
- ✓ Operates up to 170 °C, thickness up to 150 mm
- ✓ 3D internal/external profiling
- ✓ Suitable for 6" NB to flat plate
- ✓ Longitudinal scanning for crude oil lines, slug catchers, etc.
- ✓ Up to 50 m × 1 m scans from one location
- ✓ Field proven durability; reduces scaffolding costs

Acoustic Emission (AE)

It is a non-intrusive method that evaluates equipment without shutdown, avoiding the high cost and downtime of cleaning and intrusive inspections—especially when equipment is found to be in good condition after testing.

AE technology detects active corrosion, cracks, and leaks in pressurized equipment such as storage tanks (AST, UST, spherical), pipelines (above or buried), pressure vessels, columns, reactors, composite tanks/vessels/piping, seamless cylinders, structural components, and rotating machines.



Measurement of Steam Boiler Tube Wall Thickness with EMAT

Arise Global uses magnetostrictive EMAT (Electromagnetic Acoustic Transducer) technology to measure steam boiler tube wall thickness without removing oxide scale, and without adding scale thickness to the reading. Measurements are fast and require no liquid couplant.



Advantages

- ✓ No scale removal
- ✓ No couplant needed
- ✓ Works in contact or slightly above surface
- ✓ Suitable for elevated temperatures
- ✓ Applicable to small-diameter pipes
- ✓ Adjustable magnetic field with protective metal ring

Measuring Internal Oxide Scale in Boiler Tubes

Periodic scale thickness measurement helps estimate tube service life and identify tubes nearing failure. Ultrasonic testing (UT) offers a quick, non-destructive method, measuring oxide layers as thin as 0.2 mm with a 20 MHz delay line transducer, or 0.152 mm using a 20 MHz shear wave probe with shear wave couplant. The coupling surface must be smooth, and some surface preparation may be required.



HTHA DETECTION

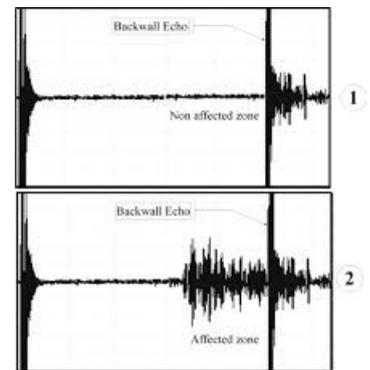
High Temperature Hydrogen Attack (HTHA) is an insidious condition that can occur in process equipment exposed to hydrogen at elevated temperatures (at least 400F or 204C), under dry conditions, when hydrogen disassociates into nascent (atomic) hydrogen, which is then driven into the steel by the temperature and pressure of the environment. The atomic hydrogen then reacts with unstable carbides in steel to form methane gas, which accumulates in the microstructural grain boundaries, eventually leading to cracking. This is often hazardous as the equipment usually contains hydrocarbons at high pressures and temperatures.



Inspection Techniques

Inspection techniques for finding advanced stages of HTHA at the surface include WFMT, MT, UT and in-situ metallography (e.g., field metallographic replication).

Advanced ultrasonic backscatter testing (AUBT) Along with some further verification techniques like Velocity Ratio, PAUT TFM, Spectrum Analysis and TOFD has been successfully used to find earlier stages of HTHA.

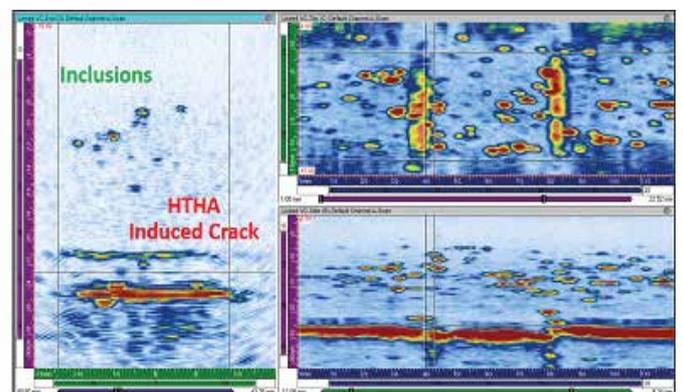


Advanced Ultrasonic Backscatter Testing (AUBT)

Advanced ultrasonic backscatter testing (AUBT) used primarily to determine damage progression through the wall. It works with materials of any geometry with or without cladding.

Spectrum analysis which helps to determine the degree of HTHA; it is sensitive to fissures and is independent of the measurement system.

The velocity ratio measurement which differentiates between fissures and other internal defects. It is not affected by material geometry, back wall surface condition, or the measuring system.





HIC DETECTION

What is HIC?

Hydrogen Induced Cracking (HIC) is a common form of damage caused by the blistering of a metal due to a high concentration of hydrogen. The blistering damage tends to form parallel to the surface and to the direction of hoop stress.

HIC usually occurs due to the effects of aqueous hydrogen charging of steel in wet H₂S refinery process environments. It can occur at relatively low temperatures, largely as a result of atomic hydrogen from wet H₂S corrosion reactions which enter the steel and collect at inclusions or impurities within the steel. The H₂S prevents the hydrogen recombination reaction that would normally occur so, rather than bubbling off from the corroding surface, the hydrogen atoms are forced into the metal structure causing corrosion and weakness.

The damage occurs when the hydrogen collects at inclusions or impurities in the steel. It tends to primarily occur in steels that have a hardness of 22 or more on the Rockwell C scale.

Application

A combination of the AUBT, Directional & Frequency Dependence technique and the velocity ratio measurement technique is a proven method for HIC Detection.

HOW TO DETECT HIC ?

The advanced ultrasonic backscatter technique (AUBT) is used first as a screening tool to identify the presence of micro-cracking in parent material, these are rapidly detected by scanning using a straight beam transducer. The method enables the early recognition of potential Hydrogen Attacking based upon the amplitude of reflections caused by micro-cracking.

• Further Evaluation Method

Directional & Frequency Dependence technique

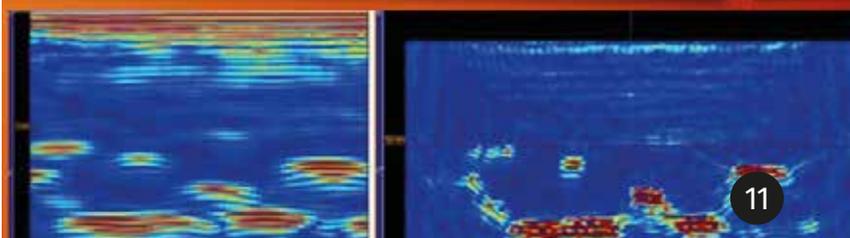
Where ultrasonic indications are detected using the Back Scatter Technique all indications shall be further inspected using the Frequency Dependent Back Scatter. The Frequency Dependent technique differentiates hydrogen damage from mid wall inclusions and laminar cracks.

Velocity Ratio Principle.

This technique relies on measurement of transit times and is accomplished with a digital UT flaw detector. Using the same spot location first the longitudinal velocity and then the shear velocity is measured. The ratio should be 0.55 or less for plates and pipes. Fittings have a different ratio and vary based on material and type of fitting.

Ratios above 0.55 are an indication of HTHA

TFM w/GEKKO vs PAUT E-Scan on HIC Damage





Robotics Inspection

Arise Global offers a full range of Robotic CCTV crawlers for the inspection of any pipe, tank or vessel, hazardous locations and confined spaces, utilizing latest HD cameras and can be adapted to perform Ultrasonic Testing, Pulsed Eddy current etc depending on our client's needs.



We provide more Specialized Systems, including long and ultra long-range and vertical crawlers. For unscheduled assessments, hazardous interventions, confined space tooling, emergency inspections and more, Arise Provides a full range of Robotic tools and technologies that can be adopted and customized for your specific needs.



HD miniature Magnetic Crawler

This magnetic crawler offers a unique solution for high definition remote visual inspection across a broad range of applications. Perfect for examining steel structures, this modular inspection robot offers the adaptability you can expect from all IM3™ technology.





QSR (Quantitative Short Range) Technique

At ARISE, we are committed to delivering cutting-edge inspection solutions that support operational excellence. Our Quantitative Short Range (QSR) service is the first quantitative guided wave system, providing precise and reliable wall thickness measurements in areas that are typically difficult to access.

The patented QSR technique allows inspectors to measure the average and minimum remaining wall thickness without lifting pipes, removing supports, or disturbing corrosion scabs. This makes it ideal for evaluating corrosion under pipe support (CUPS) and wall penetrations with minimal surface preparation.

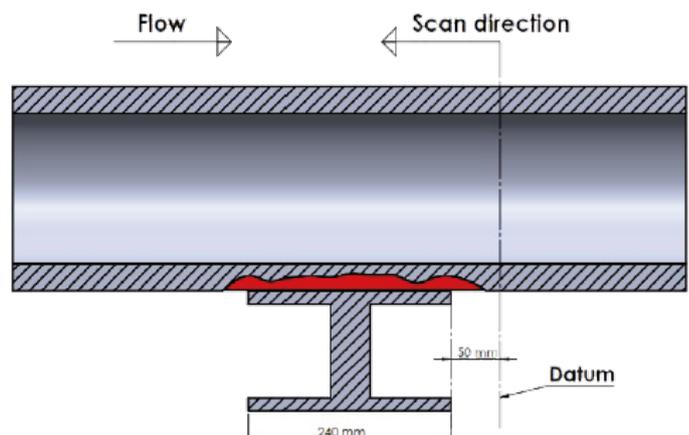
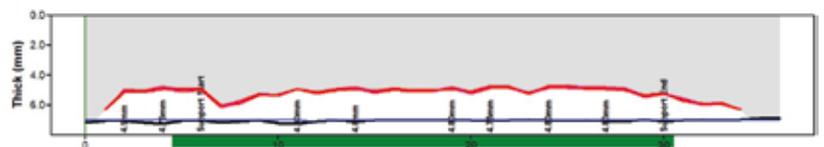
Principle QSR uses guided ultrasonic waves over short ranges to scan beneath supports, providing quantitative data on corrosion depth and extent.

Advantages

- ✓ Non-destructive and quick to deploy
- ✓ No need for pipe lifting or support removal
- ✓ Quantitative wall loss measurement, not just indication
- ✓ Suitable for pipe diameters from 6" to 24"

Applications

- ✓ Detecting localized corrosion under pipe supports
- ✓ Inspecting areas inaccessible to conventional UT
- ✓ Supporting maintenance planning by identifying high-risk support



QSR is a proven technique that improves inspection reliability, enhances safety, and reduces downtime by addressing one of the most critical hidden damage mechanisms in piping systems.



Gamma Scanning

Gamma Scanning is one of the most effective non-invasive methods for diagnosing and solving production issues within the oil and petrochemical industries. Arise can identify problems in your process towers that other scanning techniques can't provide, furnishing your business with detailed and valuable information so you can address and fix any problems safely and quickly.

Arise can also help you avoid unpleasant surprises by bringing issues to light that may become problems in the future, allowing you to schedule maintenance shutdowns when it suits your production timeline best. Integrating Gamma Scanning into your maintenance plan is the best preventative measure you can take to avoid unexpected production delays

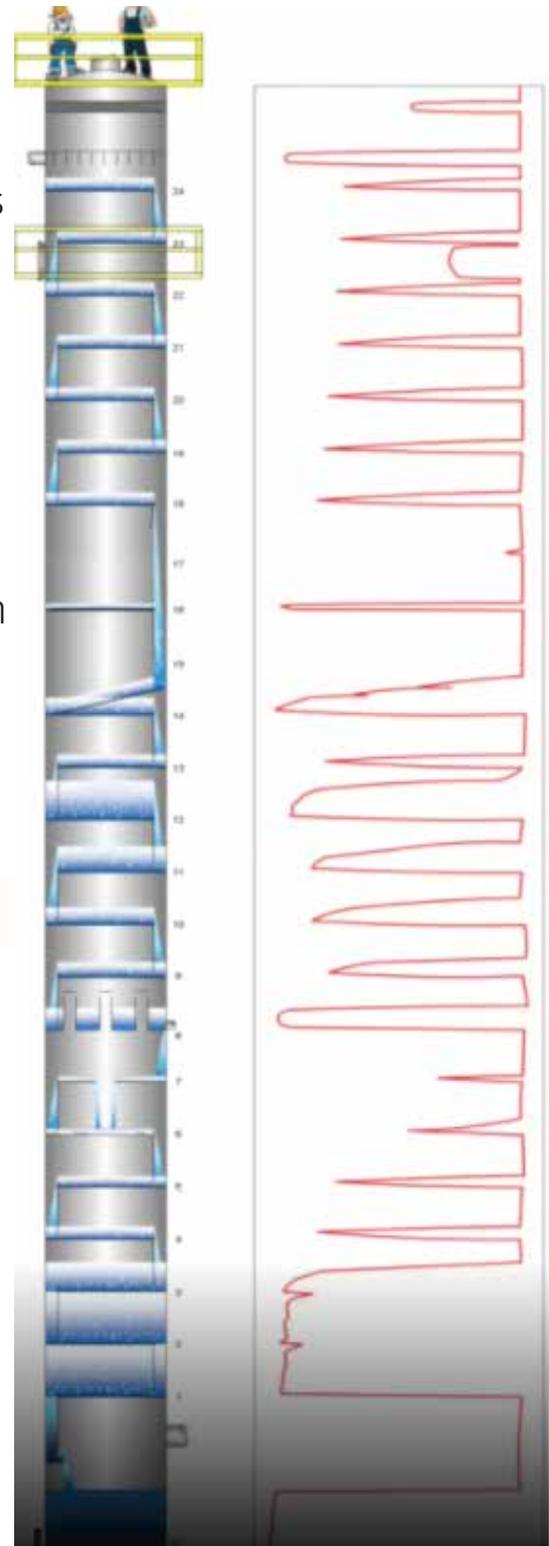
WHAT CAN GAMMA SCANNING DO FOR ME?

Columns with trays can be scanned to determine:

- ✓ The position of production bottlenecks
- ✓ The location of trays that are displaced or have taken damage
- ✓ The amount and spread of entrainment, flooding, weeping, or foaming
- ✓ The accumulation levels of liquid at the base of the tower
- ✓ The density and extent of aerated liquids

Packed columns can be scanned to determine:

- ✓ If damage has occurred with the beds
- ✓ Whether all of the packed beds are in position
- ✓ Any settling of the packing
- ✓ Whether demister pads and distributors are at their required locations
- ✓ Whether beds have experienced fouling or liquid holdup
- ✓ If there are major issues in the liquid-vapour distribution
- ✓ Accurate readings for liquids on chimney and collector trays





02

Lifting Inspection & Certification

Arise Global Provides Testing, Inspection & Certification to all types of cranes, hoisting and lifting equipment and accessories.

Our inspection team members are well trained, fully competent, and up to date with practice code and latest insights.

Through our services, we help our clients comply with statutory requirements, reach maximum efficiency, and cut unnecessary costs.

Lifting Equipment

OPTION

01

TESTING

OPTION

02

INSPECTION

OPTION

03

CERTIFICATION



we can offer you the expertise needed to conduct professional statutory and voluntary crane inspection for:

Material-handling devices: including cranes, derricks, fork-lifts, truck-mounted cranes, shackles, hooks, elevating platforms, and telehandlers

Personnel handling devices: such as elevators, escalators, ski lifts, cable cars and mobile elevating work platforms (MEWPs).

As we are always working towards continually raising our standards for everything we do, Arise Egypt is a member of LEEA (Lifting Equipment Engineers Association).





03 *Third Party & Supply chain inspection*



Key Benefit of Third-Party Inspection

1. Ensure product's needed quality and right quantity.
2. Ensure the marking and packing of material as per buyer specification.
3. Ensure the material is genuine and as per specified standard.
4. Ensure that prohibited goods not used or sent by consignor in any consignment.
5. Ensure HSE standards are met.
6. It Provide Competence engineer team.
7. Minimize the risk of receiving defective products.
8. Minimize the cost to our client.
9. It ensures the activity is Safe and secure.





WHY CHOOSE US?

Oil & Gas



Worldwide presence

offices in 6 countries, affiliates and connections in more than 40 countries that enables us to support you during procure ment through our Vendor inspection and supply chain services anywhere around the globe.



Mitigating Procurement risks

During procurement, predicting and avoiding risk are hallmarks of an effective and successful organization. We ensure that purchased items reach our clients expressed needs and comply to quality standards.



Wide range of Supply Chain Services

offices in 6 countries, affiliates and connections in more than 40 countries that enables us to support you during procure ment through our Vendor inspection and supply chain services anywhere around the globe.



Manufacturing - Vendor Inspections

We inspect items at their place of manufacture before delivery, whether a product, process, equipment or material, Vendor Inspection may include design review, review of material certificates, visual inspection, Non-Destructive Testing, supervision, or performance of mechanical or functional tests.



Pre-Shipment Inspection

The purposes of a pre-shipment inspection are to:

- » Check the quantity and quality of the merchandise.
- » Check products for any defects.
- » Ensure products meet safety requirements.
- » Issue report for import and billing



Supplier Evaluation

The process of evaluating and approving potential suppliers. The aim of the process is to ensure a portfolio of best-in-class suppliers is available for use



Site Inspection

Once the equipment is delivered to site, we supervise the different construction, installation, and commissioning aspects to ensure that the asset is properly installed and meet client's specifications, local and international codes.



INSPECT WHAT MATTERS, WHEN IT MATTERS

Risk Based Inspection (RBI)

Risk Based Inspection (RBI)

- ✓ Optimize inspection intervals and reduce downtime
- ✓ Prioritize inspection resources based on risk ranking
- ✓ Integrate equipment history, failure modes, and process conditions
- ✓ Compliant with API 580 / 581 standards
- ✓ Deliver actionable inspection plans for safer, more efficient operations

INDUSTRIES SERVED:

- ✓ Oil & Gas and Petrochemical reliability
- ✓ Power Generation & Utilities
- ✓ Heavy Industry & Manufacturing

Our Values

Risk Based Inspection (RBI)

- ✓ Smarter inspections, less downtime
- ✓ Data-driven risk prioritization
- ✓ Stay compliant and safe

WHY IT MATTERS:

- ✓ Reduce inspection costs without compromising safety
- ✓ Focus on high-risk equipment first
- ✓ Comply with global standards (API 580/581)
- ✓ Improve operational reliability



KNOW THE DAMAGE, CONTROL THE RISK.

Corrosion Studies



Corrosion Studies

- ✓ Understand and predict material degradation in real environments
- ✓ Identify failure mechanisms (pitting, stress cracking, galvanic, erosion-corrosion)
- ✓ Optimize maintenance schedules through datadriven corrosion assessments
- ✓ Integrate lab results, field data, and inspection history for accurate risk evaluation
- ✓ Compliant with global corrosion standards and best practices
- ✓ Deliver actionable corrosion management strategies for safer, longer-lasting operations

INDUSTRIES SERVED:

- ✓ Oil & Gas and Petrochemical
- ✓ Power Generation & Utilities
- ✓ Chemical Processing
- ✓ Marine & Offshore

Our Values

Corrosion Studies

- ✓ Scientific, data-backed insights
- ✓ Early detection = reduced failures
- ✓ Stay compliant and extend asset life

WHY IT MATTERS:

- ✓ Reduce unplanned shutdowns and repair costs
- ✓ Prioritize critical assets most at risk
- ✓ Increase operational reliability and safety
- ✓ Protect investments and extend equipment lifespan



CLEAR DRAWINGS, SAFER DECISIONS

Drafting – P&ID, PFD, and As-Built Isometrics

Drafting – P&ID, PFD, and As-Built Isometrics

- ✓ Develop accurate Piping & Instrumentation Diagrams (P&IDs)
- ✓ Create clear Process Flow Diagrams (PFDs)
- ✓ Produce piping isometrics and as-built documentation
- ✓ Ensure compliance with engineering standards

INDUSTRIES SERVED:

- ✓ Oil & Gas and Petrochemical
- ✓ Power Generation & Utilities
- ✓ Food & Beverage
- ✓ Heavy Manufacturing

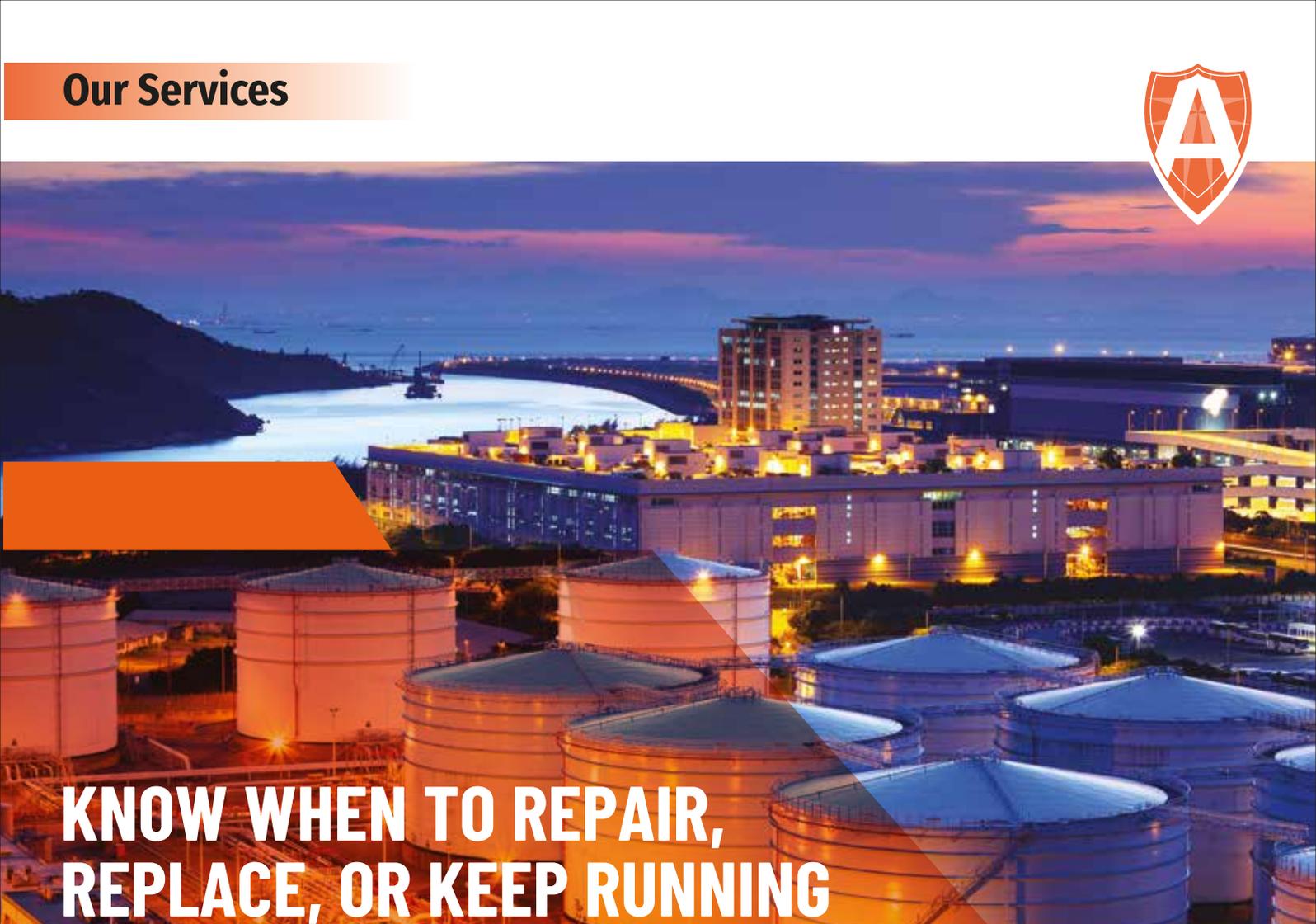
Our Values

Drafting – P&ID, PFD, and As-Built Isometrics

- ✓ Precision and accuracy in documentation
- ✓ Alignment with international codes
- ✓ Reliable references for the plant lifecycle

WHY IT MATTERS:

- ✓ Support safe and efficient plant operations
- ✓ Enable accurate maintenance and modifications
- ✓ Ensure regulatory and audit compliance



KNOW WHEN TO REPAIR, REPLACE, OR KEEP RUNNING

LIFE TIME ASSESSMENT (LTA) + FEA VERIFICATION

Life Time Assessment (LTA)

- ✓ Evaluate remaining life of pressure vessels, piping, tanks, and rotating equipment
- ✓ Analyze fatigue, creep, corrosion, and mechanical degradation
- ✓ Compliant with ASME/API/NDT standards
- ✓ Decision-ready reports for maintenance, replacement, or continued operation

Finite Element Analysis (FEA) Verification

- ✓ Validate structural integrity under real-world load conditions
- ✓ Simulate thermal, static, dynamic, fatigue, and buckling behavior
- ✓ Tools: ANSYS, SolidWorks Simulation
- ✓ Ensure design safety, reduce repair costs, support RBI strategy

Our Values

LIFE TIME ASSESSMENT (LTA) + FEA VERIFICATION

- ✓ Extend Equipment Life
- ✓ Predict Failures Before They Happen
- ✓ Stay Compliant. Stay Safe.

WHY IT MATTERS:

- ✓ Avoid unplanned shutdowns
- ✓ Justify repair vs. replacement
- ✓ Comply with international standards (ASME, API 579, EN 13445)
- ✓ Increase operational safety and asset value

INDUSTRIES SERVED:

- ✓ Oil & Gas and Petrochemical reliability
- ✓ Power Generation & Utilities
- ✓ Heavy Industry & Manufacturing



STRESS TEST YOUR DESIGN BEFORE REALITY DOES

Finite Element Analysis (FEA) for Tanks

Finite Element Analysis (FEA) for Tanks

- ✓ Validate tank performance under real-world loads
- ✓ Analyze stresses, deformations, buckling, and fatigue
- ✓ Simulate internal pressure, wind, and seismic effects
- ✓ Assess nozzles, pad eyes, lifting lugs, and reinforcements
- ✓ Support compliance with API 650 / ASME VIII

INDUSTRIES SERVED:

- ✓ Oil & Gas and Petrochemical
- ✓ Power Generation & Utilities
- ✓ Food & Beverage
- ✓ Heavy Manufacturing

Our Values

Finite Element Analysis (FEA) for Tanks

- ✓ Accurate simulation, safer designs
- ✓ Predict failures before they happen
- ✓ Cost-effective repair or redesign options

WHY IT MATTERS:

- ✓ Prevent catastrophic tank failures
- ✓ Justify repair vs replacement decisions
- ✓ Ensure compliance with international codes
- ✓ Increase safety and extend asset life



CATCH THE FAULTS BEFORE THE FAILURE

Vibration Analysis

Vibration Analysis

- ✓ Real-time condition monitoring
- ✓ Predictive insights for rotating machinery
- ✓ Reduce unplanned downtime

INDUSTRIES SERVED:

- ✓ Steel Manufacturing
- ✓ Oil & Gas
- ✓ Power Generation
- ✓ Cement & Heavy Industry

Our Values

Vibration Analysis

- ✓ Detect imbalance, misalignment, and bearing wear early
- ✓ Extend equipment service life
- ✓ Optimize maintenance schedules
- ✓ Increase plant availability and safety

WHY IT MATTERS:

- ✓ Prevent catastrophic tank failures
- ✓ Justify repair vs replacement decisions
- ✓ Ensure compliance with international codes
- ✓ Increase safety and extend asset life



Electrical Inspection & Audits

Over 50% of rotating equipment failures are directly related to misalignment and unbalance, Misaligned or unbalanced equipment are subjected to higher vibration levels significantly reducing the service life of bearings, seals, shafts and couplings. Arise can help reduce overall operating costs and increase equipment reliability, efficiency, productivity and uptime with our precision balancing and expert laser alignment services.



Inspection and Audit on Electrical Installations including:

- ✓ Power Distribution and Protection Scheme
- ✓ Field Distribution Boards (DBs) / Machine Control Centers (MCCs).
- ✓ Earthing.
- ✓ Earth Leakage Circuit Breaker (ELCB) Protection against Electrical Shock.
- ✓ Lightning Protection.
- ✓ Maintenance Practices and Record.
- ✓ Onsite Electrical Safety.
- ✓ Statutory Approvals / Compliance.
- ✓ Evaluation Safety.



Engineering Activities to implement Arc Flash study including:

- ✓ Site verification for the electrical system parameters provided by the client.
- ✓ Modelling the factory electrical power system using ETAP software.
- ✓ Upload all electrical system parameters to the software.
- ✓ Perform a Short Circuit Calculation.
- ✓ Review the protection relay coordination.
- ✓ Generate the Arc Flash labels for the electrical equipment based on the risk categories.

Infrared Electrical Safety Inspections

Annual or more frequently to ensure safe and continuous operations, IR Electrical Safety Inspections prevent injuries, increase uptime and reduce unscheduled outages and overall maintenance costs. IR Safety Inspections of electrical equipment identify excess heat on apparatus and detect electrical issues such as loose connections, faulty fuses, defective breakers, damaged switches, overloaded or imbalanced circuits and a myriad of other problematic electrical conditions.



05

HSE Monitoring & supervision

Health

Prepare and ensure the quality of HSE plan.

Safety

Define all the qualifications required to manage HSE, Nominate the appropriate personnel to oversee all HSE Aspects.

Provide resources to implement any corrective actions listed in audits.

Environment

Provide information on the progress and status of the strategies, processes and activities used by an organization to control risks to health and safety.



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