



Value Creation Through **Innovation**



IRTS

International Robotic Tank Solutio

www.irts-global.com



AT THE GLANCE

International Robotic Tank Solutions (IRTS) is an affiliate of **AL Zarah Global**. IRTS is the pioneer in the development of Robotic Tank Inspection in Saudi Arabia and GCC countries. Aligned with its global strategic vision, the company partially acquired a manufacturing facility in the USA to supply potential business partners with cutting-edge solutions. These solutions span the drivers of the hydrocarbon processing & utilities industries: integrity, cost-effectiveness, innovation, and efficiency. From every sector that is experiencing rapid technological change, there is an increased demand for an innovative, safe, cost effective API 653 Tank Inspection service. Our proposed solutions include in-service robotic tank inspection compliant to API 653 and industry latest standards and other innovative solutions.

IRTS is building a manufacturing and assembly facility on a 5000 m² land in Jubail Industrial area to support its vision of iterative development.

IRTS, in association with strategic global partners, is continuously developing technologies and solutions that best meet the requirements of our clients.

Vision:

“To be the prominent Innovative Robotic Tank Solutions provider and the preferred in the in the global industry”

Mission:

"To provide distinctive and quality services as a leading In-service Robotic Tank inspection company in the Saudi Arabia, GCC countries and worldwide"

Values:

“The principal values that will steer the IRTS in pursuit of its vision include Innovation, Integrity, Excellence, Professionalism, and Service.”

Innovation: Fresh thinking that creates value and leads to technological innovations designed to our product and services.

Integrity: We choose our thoughts and actions based on values we believe in.

Excellence: Superiority in the execution of the business process, from product development to projects and operations management.

Professionalism: We provide our services in a framework built on knowledge, quality, teamwork, and competence.

Customer Service: Our products and services are aimed towards receiving our clients' satisfaction and exceed their

Our Services

IRTS is a provider of industrial services in GCC countries and across Asia. Our services consist of:

- In-service Robotic Tank Inspection
- Robotic Tank Surface Preparation
- Robotic Tank Painting and Coating
- Crawler for Tank Shell Inspection
- Out of Service Tank Inspections and Repairs
- Advanced NDT
- Corrosion engineering
- Corrosion under insulation programs
- Mechanical integrity and reliability programs
- Shutdown and turnaround support
- Total Tank Solutions



King Salman and Chairman Zeyad Bin Nasser Al - Zarah during the King's visit to the Eastern Province in 2017.



Industries we serve

We offer services to a variety of industry sectors, including:

- Hydrocarbon Processing Industries
- Petrochemical
- Pipeline
- Offshore
- Terminal storage
- Shutdowns and turnarounds
- Energy



Our Team

An IRTS team is highly trained, highly knowledgeable, and highly qualified. Our inspectors, engineers, and technicians work together closely and understand each other's requirements. The result is solutions that are:

- Comprehensive
- Consistent
- Cost-effective

IRTS has a roster of professionals holding the latest certifications in the relevant industries from the American Petroleum Institute (API) to the recognized NDT disciplines throughout National Association of Corrosion Engineers (NACE) and other internationally recognized bodies of certification.

API 654 In-service Robotic Tank Inspection

With an arrangement of highly skilled personnel and a robotic tank floor inspection system, IRTS provides API 653-compliant inspections of above ground storage tanks without the risk, cost, or hassle of removing tanks from service.

The Robotic Inspector

The key to IRTS's in-service inspections is our robotic inspection system, a remotely controlled hydraulic robot specifically designed to inspect in-service tank floor bottoms. System features include:

- An array of 8 ultrasonic transducers that collects thickness measurements every .1" (2.54 mm)
- A sludge removal vacuum system that cleans the tank floor as the robot inspects
- A video system mounted on the robot that allows for a visual inspection of the internal roof
- A compact design so that the system needs only a 20" (508 mm) portal for deployment.

Safe and Efficient

Benefits to in-service tank inspection consist of:

- No tank interruption
- No pre-inspection cleaning
- No product downgrade due to material transfer
- No safety risk to human inspectors entering the tank
- No environmental risk from discharging tanks

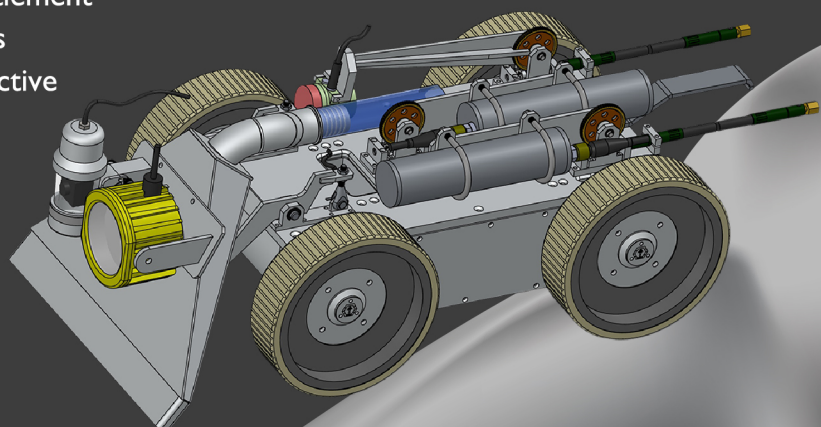
Systematic reports

Our reports provide a complete picture of current tank conditions, as well as condition projections, so you can plan your maintenance schedule with assurance.

Included in our reports are:

- Photos and layout diagrams detailing problem areas
- Summaries highlighting significant findings
- Checklists detailing the inspection findings
- Detailed explanations of calculations
- Tables and graphs indicating foundation settlement
- Raw data from ultrasonic thickness readings
- Complete documentation on all non-destructive examinations (NDE)
- Extreme Value Analysis

IRTS Robotic System





Comprehensive & Solutions Analysis

Following API 653 guidelines, our inspections include detailed analysis of all aspects of the tanks:

- Foundation
- Internal floorsign and reconstruction of out-of-service storage tanks.
- Tank shell
- Nozzles and accessories
- Fixed roof

Additionally, our analysts provide calculations for the:

- Safe-fill height
- Hydrostatic test height
- Time frame for subsequent inspections
- Extreme value analysis for all types of liners inclusive fiberglass

Other Services

IRTS provides other services compliant with API 653 standards including repair, cleaning, design and reconstruction of out-of-service storage tanks.



VAROCOR: Robotic Manufacturing Facility in USA

IRTS Global has acquired 30% of Varocor Inc. USA, a robotic manufacturing facility in Virginia, to continuously research and develop robotics in order to meet the increasing requirements for innovation by the Oil & Gas, Petrochemical and Energy sectors.

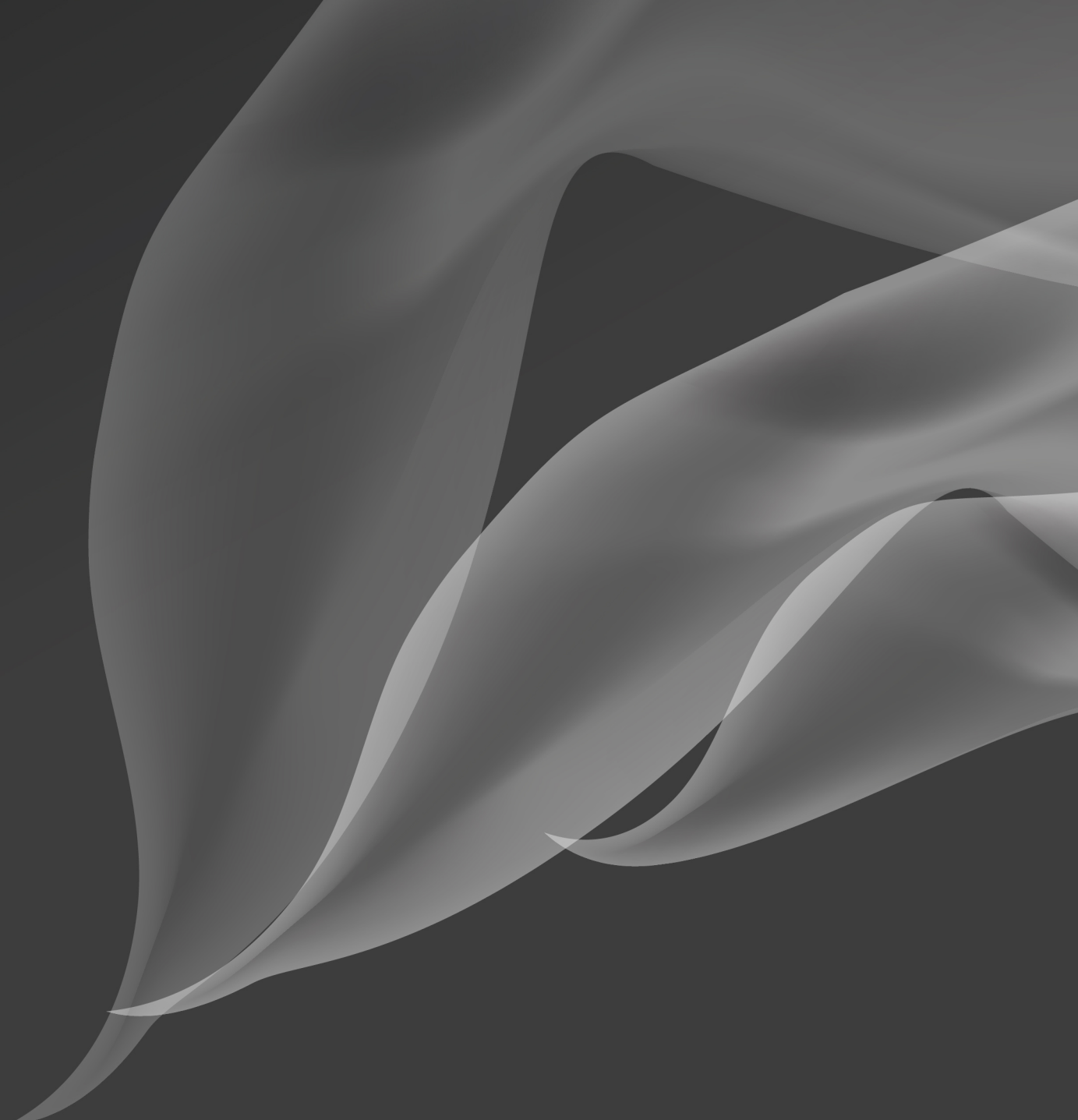
American Petroleum Institute (API) Guidelines

API 653 Standard Fifth Edition incorporates in-service \ online tank inspection as one of the inspection methods for above ground storage tanks.

Reference from API 653: “...If the internal inspection is required solely for the purpose of determining the condition and integrity of the tank bottom, the internal inspection may be accomplished with the tank in-service utilizing various robotic thickness of the tank bottom..”

API RP 575 incorporates also in-service robotic tank inspection in section 7.1 page 30.





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