IN OUR ERA OF ACCELERATING PROGRESS WE ALL MORE AND MORE DEPEND ON TIMELY AND SAFE DELIVERY OF ENERGY SOURCES.

Pipeline transport till now remains the fastest and most efficient means to deliver oil and gas. And in LIN SCAN we dedicated our last 17 years of efforts and hard work to make it as well the safest way of energy delivery.

We started serving oil and gas pipeline integrity in 2000, when with a group of dedicated professionals launched our first MFL tool. Since then we grew from a small enthusiastic team into a worldwide operating inline inspection company with over 300 staff members, providing top level services of high-resolution MFL, UT, TFI and Geometry inspection in any corner of the Earth.

Having brought together top professionals from the industry, LIN SCAN gained a unique experience in pigging. This enabled us to offer not only normal routine diagnostics campaigns, but also develop solutions to really challenging non-standard inspection tasks with operational conditions and geometry not suitable for regular intelligent pigging tools.

Today we are proud to state: LIN SCAN is one of the world’s leaders in inline inspection area. At the same time our policy is to respect experience of our customers, and fit each our project into pigging culture of a Client company instead of imposing our vision.

All in all our main targets are pipeline integrity and maximum throughput, safe environment and our clients’ perfect experience from cooperation with LIN SCAN.

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**Dr. Khaled El Shami**  
Founder and Managing Director

<table>
<thead>
<tr>
<th>Year</th>
<th>Achievement</th>
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<tbody>
<tr>
<td>1999</td>
<td>LIN SCAN founded</td>
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<tr>
<td>2000</td>
<td>Test of first Caliper and MFL tools for 18”</td>
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<tr>
<td>2001</td>
<td>First MFL inspections in UAE and India</td>
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<tr>
<td>2008</td>
<td>Test of UT tool for 12” pipelines</td>
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<tr>
<td>2009</td>
<td>Development of TFI tool for 14” pipeline</td>
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<td>2010</td>
<td>Signing 21mln USD inspection contract in Iraq</td>
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<tr>
<td>2012</td>
<td>Ongoing projects on 5 continents</td>
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<tr>
<td>2016</td>
<td>1000th pigging tool in the fleet</td>
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MFL (Magnetic Flux Leakage) Inspection Services
Our high-resolution MFL tools are the best solution for inspection of most types of circumferentially oriented pipeline defects and features. Extra small sensor spacing provides improved detection, sizing and identification of pipeline anomalies of different origin, both internal and external. Remaining wall thickness is measured in % of nominal thickness. High performance of our MFL inspection tools is less sensitive to reduced pipeline cleanliness and difficult operation conditions.
AVAILABLE PIPELINE DIAMETERS: 4.5”-56” / PIPELINE MEDIUM: GAS/LIQUID / FLOW SPEED: 0.2 - 8 M/S
PIPELINES BEND RADIUS: FROM 1.5D

TFI (Transverse Field) Inspection Services
In TFI series of tools we use transverse magnetic field technology, in combination with one of the smallest sensor spacing in the industry for high-resolution inspection. TFI is a perfect solution for identification of pipeline anomalies which are axially oriented, and which cannot be identified with MFL (e.g. axial slating, axial grooving, axial cracks). Combined inspection using MFL and TFI tools gives a complex view on integrity of pipelines and provides even more accurate sizing of anomalies, as they are scanned in two different directions of magnetic field.
AVAILABLE PIPELINE DIAMETERS: 4.5”-56” / PIPELINE MEDIUM: GAS/LIQUID / FLOW SPEED: 0.2 - 8 M/S
PIPELINES BEND RADIUS: FROM 1.5D

GEO (Geometry) Inspection Services
Inspection of inner geometry of pipelines not only provides important data on minimal bore, but also gives full detection and sizing of geometry anomalies and mechanical damage, such as ovality, dents, buckles, which may cause stress concentration in pipeline wall, leading to pipeline failure. LIN SCAN Caliper GEO tools use highly sensitive mechanical measurement arms being in direct contact with pipe wall and covering 360° of pipe circumference. Our Caliper tools are multichannel, meaning that each measurement arm is equipped with individual sensor independent from others and each having a separate signal channel, providing high measurement resolution.
AVAILABLE PIPELINE DIAMETERS: 3”-36” / PIPELINE MEDIUM: GAS/LIQUID / FLOW SPEED: 0.2 - 8 M/S
PIPELINES BEND RADIUS: FROM 1.5D

UT (Ultrasonic) Inspection Services
We offer our state-of-art Ultrasonic Inspection Technology for liquid product lines (or gas pipelines using liquid batch). Benefit of UT is direct measurement of remaining pipe wall thickness, giving accurate readings in mm. UT tools can detect, size and identify most types of anomalies MFL can, and in addition to that UT is able to detect mid-wall anomalies, such as laminations.
AVAILABLE PIPELINE DIAMETERS: 3”-48” / PIPELINE MEDIUM: LIQUID/LIQUID BATCH
FLOW SPEED: 0.2 - 6 M/S / PIPELINES BEND RADIUS: FROM 1.5D

XYZ (pipeline 3D mapping) Inspection Services
Purpose of three dimensional or XYZ pipeline mapping is building pipeline profile with binding it to GPS coordinates, enabling pipeline operator to locate reported pipeline anomalies and other features. Besides that, XYZ mapping data are crucial part of integrity evaluation, as they are used to detect pipeline movement and calculate bending strain and points of risk to a pipeline. LIN SCAN developed IMU inspection tools, which can be used both as a separate vehicle or combined with Caliper, MFL or other tool. Acquired pipeline profile can be then laid over any online map system.
AVAILABLE PIPELINE DIAMETERS: 6”-56” / PIPELINE MEDIUM: GAS/LIQUID / FLOW SPEED: 0.2 - 6 M/S
PIPELINES BEND RADIUS: FROM 1.5D

COMBO-Inspection (All-In-One)
In most cases inspection campaigns consists of multiple types of inspection. Design of LIN SCAN tools allows performing two or more inspection tasks in one tool run, using a combo inspection vehicle. Such solution helps to reduce number of runs, and therefore inspection cost to pipeline operator, as well as risks. Combo tool is not just two or three tools mechanically joined together. Generation 4 of Electronic Tool Control supports synchronization of signals coming from different units of a combo tool (e.g. from MFL, Caliper and XYZ mapping) into one unified set of inspection data, overlapping geometry data with metal loss and GPS locating.
AVAILABLE PIPELINE DIAMETERS: 10”-36” / PIPELINE MEDIUM: GAS/LIQUID / FLOW SPEED: 0.2 - 6 M/S
PIPELINES BEND RADIUS: FROM 1.5D
LINSOFT® - INTERACTIVE DATA VIEWING SOFTWARE

For convenient and efficient work with inspection results we provide an interactive software package LINSOFT. Its user-friendly interface allows customizing data view using filters, data export, building diagrams and plots, calculation of ERF according to various assessment codes, including client’s own evaluation formula. Package contains DGPS module, building pipeline 2D and 3D profile using mapping data and overlaying inspection data with any mapping system.

CERTIFIED DATA EVALUATION AND REPORTING. COMPLEX INTEGRITY ANALYSIS

Inspection Data acquired in course of inspection campaign are reviewed and interpreted by ANSI-ASNT certified Data Analysts. Final Inspection reports are according to Pipeline Operators Forum requirements, and can be prepared in various languages and in other formats.

RESEARCH AND DEVELOPMENT

REALIZING THAT A HI-TECH COMPANY CANNOT REST ON EXISTING TECHNICAL ACHIEVEMENTS, WE INVEST OUR RESOURCES INTO INNOVATIONS.

Our R&D experts are working to increase resolution of tools, to improve detection capabilities and accuracy to even higher level than the industry today requires, and develop new types of tools and their combinations, offering solution to challenges in inspection industry that are not yet covered. All inspection technologies used by LIN SCAN are the result of development work of engineers of our R&D laboratory. Today they are implementing research work for development of equipment detecting crack defects in gas pipelines, extending fleet of self-moving and umbilical tools.

SPECIAL INSPECTION SOLUTIONS

THANKS TO OUR WIDE EXPERIENCE IN INLINE INSPECTION AND EFFICIENT COOPERATION OF OUR R&D LABORATORY, TOOL PRODUCTION DEPARTMENT AND OPERATIONS DEPARTMENT OUR COMPANY OFFERS SOLUTIONS FOR INTELLIGENT PIGGING OF PIPELINES WITH OPERATING CONDITIONS AND TECHNICAL SPECIFICATIONS UNSUITABLE FOR STANDARD TOOLS.

Our professionals successfully execute projects:

- With excessive or insufficient speed
- High/Low pressure pipelines
- With special tools design for particular task
- Pipelines not equipped with launching and receiving traps
- With extended tool run time
- Dual diameter pipelines
- Offshore pipelines with reverse flow of product
- With development of extra-short tools for pipelines with special geometry

MORE INFORMATION IS AVAILABLE ON OUR WEBSITE LINSCANINSPECTION.COM