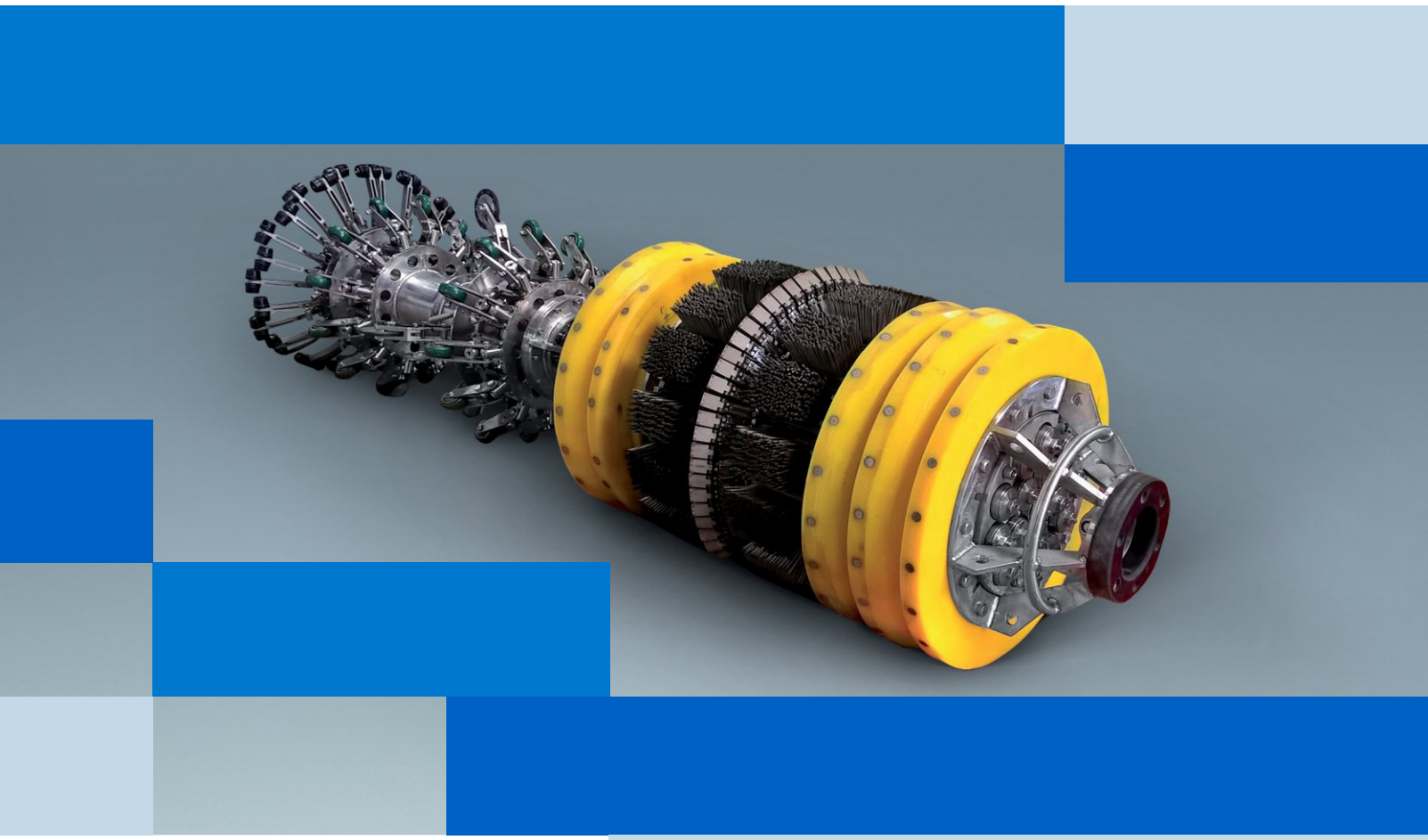
LiN SCAN
committed to excellence



PIPELINE INSPECTION AND INTEGRITY SOLUTIONS

linscaninspection.com

MESSAGE FROM FOUNDER AND MANAGING DIRECTOR

01

IN OUR ERA OF ACCELERATING PROGRESS, WE ALL STRIVE FOR TIMELY AND SAFE DELIVERY OF ENERGY SOURCES.

Pipelines are the safest and most efficient means to deliver oil and gas. LIN SCAN has contributed to this achievement with almost 20 years of hard and smart work.

In 2000, a team of dedicated professionals launched the first MFL tool. That marked the start of LIN SCAN serving the oil & gas pipeline industry with inspection and integrity support services.

Since then, a small enthusiastic team grew into a globally operating inline inspection company with over 300 staff members, providing top quality services of high resolution Geometry inspection, MFL, TFI, UT, UTCD, Eddy Current, data loggers, etc... that now fully serve your requirements. Our dedicated LIN SCAN professionals gained unique experiences in pigging which enables us to provide, over and above the normal routine inspections, also really challenging non-standard inspection tasks for pipelines with operational conditions and geometry that does not suit regular intelligent pigging tools.

With pride, we state that LIN SCAN is one of the World's Leaders in inline inspection.

We are a client-oriented company and we endeavor to present our inspection findings to fit into methodology of our Clients.

The main objective of the pipeline industry is to move large amounts of oil and gas safely, reliably, economically and LIN SCAN supports this objective whole-heartedly.

Dr. Khaled El Shami
Founder and Managing Director

HISTORY OF DEVELOPMENT

1999
LIN SCAN founded

2000
Test of first Caliper and MFL tools for 18”

2001
First MFL inspections in UAE and India

2008
Test of UT tool for 12” pipelines

02 ABOUT LIN SCAN

Inspecting pipelines since
2000

Inspecting pipelines
3″-56″

Pipelines pigged
150,000 km

Team
>300 experts

Onshore and offshore projects in
52 countries

Fleet
>1000 pigging tools

Locations around the globe
6 workshops

Hi-Resolution
MFL, TFI, UT (WM/CD), Caliper technology

2009
Development of TFI tool for 14″ pipeline

2010
Signed 21 MLN USD inspection contract in Middle East

2012
Ongoing projects on 5 continents

2016
1000th pigging tool in the fleet

PIPELINE INSPECTION SERVICES

03

MFL (Magnetic Flux Leakage) Inspection Services

Most widely used in the pipeline inspection technology. LIN SCAN MFL tools are superior due to: high resolution measurements (circumferential & axial); excellent differentiation between internal and external wall surface anomalies; determination of mid wall anomalies; identification of anomalies (corrosion, mechanical damage, manufacturing defects and etc...). Our high-resolution MFL tools are the best solution for inspection of most types of pipeline defects and features. Extra small sensor spacing provides improved detection, sizing and identification of pipeline anomalies of different origin, both internal and external. High performance of our MFL inspection tools is less sensitive to reduced pipeline cleanness and difficult operation conditions.

AVAILABLE PIPELINE DIAMETERS: 3”-56” / PIPELINE MEDIUM: GAS/LIQUID

TFI (Transverse Field) Inspection Services

Excellent addition to MFL type pipeline inspection for axially shaped narrow anomalies. LIN SCAN TFI inspection services are superior due to: excellent integration with MFL data; high resolution. 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 slotting, axial grooving, axial cracks). Combined inspection using MFL and TFI tools provides you with a complete 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”-56” / PIPELINE MEDIUM: GAS/LIQUID

Caliper (Geometry) Inspection Services

Important inspection technology for identifying and sizing of geometrical deviations from the circular pipe shape (Pipeline dents & buckles are detrimental to pipeline integrity due to stress concentration that may ultimately lead to fatigue cracking). 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 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”-56” / PIPELINE MEDIUM: GAS/LIQUID

04 PIPELINE INSPECTION SERVICES

UT (Ultrasonic) Inspection Services

Ultrasonic inspection provides a direct measurement that is however limited in application due to its sensitivity to clean liquids only (UT Technology excels in detection of mid wall lamination). LIN SCAN provides state of the art UT inspection services for both wall thickness measurements as well as for crack detection and sizing. 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/GAS WITH LIQUID BATCH

XYZ (pipeline 3D mapping) inspection services

XYZ mapping determines the routing of the pipeline in XYZ coordinates so that it can be integrated into digital maps and satellite pictures (The digital information format allows integration into many software programs in the range from pipeline integrity management to civil defense and other authorities). 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 XYZ 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: 4”-56” / PIPELINE MEDIUM: GAS/LIQUID

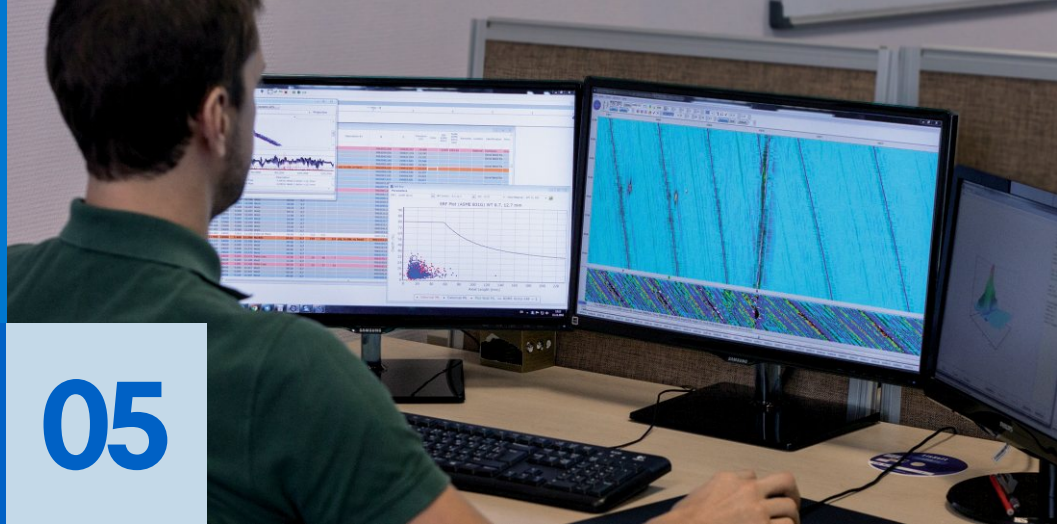
COMBO-Inspection (All-In-One)

In most cases, an inspection campaign 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 united set of inspection data, overlapping geometry data with metal loss and GPS locating. Such Combo tools are available with LIN SCAN starting from 3 inch dia only.

AVAILABLE PIPELINE DIAMETERS: 3”-56” / PIPELINE MEDIUM: GAS/LIQUID

DATA ANALYSIS
AND REPORTING

05

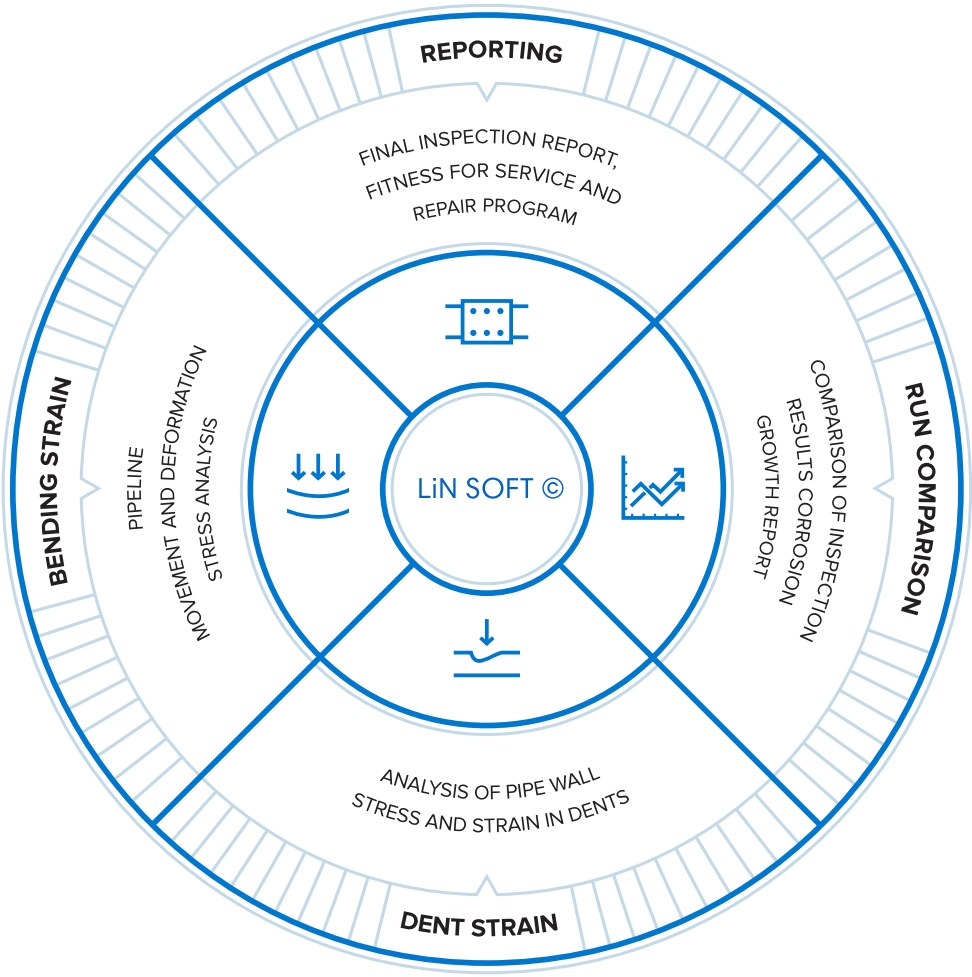


LiN SOFT © - INTERACTIVE DATA VIEWING SOFTWARE

For convenient and efficient work with inspection results we provide an interactive software package, LiN SOFT. 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 during the inspection campaign are reviewed and interpreted by ANSI-ASNT certified Data Analysts. Final Inspection reports are produced according to Pipeline Operators Forum requirements, and can be prepared in various languages and formats. LIN SCAN can suit the format of the inspection report to meet client's requirements for both the hard copy as well as the soft copy.



06

INNOVATIONS AND SPECIAL SOLUTIONS

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 continuously working to increase resolution of tools, improve detection capabilities and accuracy to even higher levels 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 extending of fleet of equipment for piggable and unpiggalbe pipelines including 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
- High temperature pipelines
- With special tools design for particular task
- Pipelines not equipped with launching and receiving traps
- For bi-directional flow in offshore loading lines
- With extended tool run time
- Dual diameter pipelines
- UT inspection in gas pipelines (batching)
- High H_2S pipelines
- With development of tools for pipelines with special geometry
- Three-way ball valve type pig traps (extra short inspection tools)

MORE INFORMATION IS AVALAIBLE ON OUR WEBSITE LINSCANINSPECTION.COM

LIN SCAN, P.O. Box 62159, Dubai, UAE
www.linkedin.com/company/linscan

Tel.: + 971 6 52 62 042
Fax: + 971 6 52 62 043

info@linscaninspection.com
www.linscaninspection.com