

Non-Destructive Testing in Oil and Gas Market - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Non-Destructive Testing Market in Oil and Gas Market is expected to register a CAGR of 6.52% during the forecast period.

Key Highlights

- According to the British Institute of Non-Destructive Testing, more than 25,000 inspections are done every day in factories and on-site in the UK to find flaws and damage in a wide range of products, plants, and structures. It is thought that more than 120,000 inspectors are working around the world.

- The NDT market is driven by the increasing complexity of machines, the need for accurate product usage specifications, the strict enforcement of government rules to keep workers safe, and the need for tighter quality control.

- As a result of refinery leaks, pipeline explosions, and refinery explosions in the past, governments around the world have tightened safety rules for NDT, which has helped the market grow.

- Significant growth is expected in ultrasonic testing. This is where the broadcast of low-frequency waves (20 kHz to 100 kHz) can detect and identify changes in material properties, often indicating that the mechanical integrity of the part is compromised. This is frequently used to detect corrosion in underwater or buried pipelines.

- The COVID-19 pandemic outbreak turned out to be unfavorable and unforeseen for almost all industries globally, including automotive, construction, airlines, and manufacturing. As a precaution, many governments around the world put lockdowns in place to stop the spread of the new coronavirus and its bad effects.

- The disrupted global supply chain and decreased industrial productivity strained the global economy. The companies' production and manufacturing capabilities were also disrupted due to the sudden outbreak of the virus.

Non-Destructive Testing in Oil and Gas Market Trends

- Over the last few years, camera-equipped drones have become another commonly used tool in NDTs for collecting visual data. Due to technical limitations, drones could only provide inspectors with supplementary visual data for a short time. Still, they were not a substitute for inspectors who physically collect the visual data themselves. However, as drone technology has improved, inspectors can now use the drone as an RVI tool, eliminating the need to collect visual data manually in some cases.

- Drones improve workplace safety by eliminating the need for inspectors to enter dangerous areas to collect visual data. For outdoor inspections of assets like refineries, pipelines, and oil reserves, drones can collect visual data to reduce the amount of time a person needs to be on a tower or line.

- For indoor inspection of assets such as pressure vessels and boilers, using a drone like the Elios 2 from FlyAbility to collect visual data eliminates the need for inspectors to enter confined spaces and significantly reduces the risk.

- To date, the primary use of drones in NDT has been collecting visual data. However, thermal sensors mounted on drones have allowed inspectors to collect thermal data on a drone-by-drone basis over the past few years. Over time, new sensors developed for drones may emerge to support more NDT technologies.

North America to Remain the Largest Market

- With the rise of oil and gas projects in countries such as the United States, Canada, and Mexico, the region can grow strongly over the next few years. The United States is one of the largest producers of natural gas and crude oil.

- The United States has one of the world's largest technically recoverable shale gas reserves and the second-largest tight oil reserves. New developments in hydraulic fracturing and break-even technology support upstream oil and gas in the onshore region. This means that NDT companies are in high demand.

- Canada is one of the world's largest producers of gas and oil. The oil and gas industry is vital to the country's economy. Oil sands remain a significant source of hydrocarbon production, accounting for more than 90% of total oil reserves. According to the Canadian Oil Producers Association (CAPP), the country's oil production is projected to reach 5.4 billion barrels per day in 2030, with oil sands accounting for 70.7% of the total output.

- The factors mentioned earlier contribute to the increasing demand for Non-Destructive Testing in the oil & gas market in the region during the forecast period.

Non-Destructive Testing in Oil and Gas Industry Overview

The NDT market is competitive. The increasing regulations, which make it mandatory for different organizations to undergo a life assessment procedure as a safety measure, coupled with the regular inspection required to check for any damage in the equipment and take necessary action, create a market for NDT. Thus, companies are entering this market, seeing a huge opportunity. Some key players are Magnaflux Corp., Zetec Inc., YXLON International Gmbh (COMET Group), Fujifilm Corporation, Olympus Corporation, and Bureau Veritas SA, among others. Some recent developments are:

In September 2022, Waygate Technologies teams up with RINA. This collaboration combines digital expertise and data intelligence in non-destructive inspection to create exceptional customer benefits and added value. The joint solution will help detect potential defects during and after welding, optimize production processes, reduce the risk of rework and scrap, and eventually improve the quality of welded joints.

In May 2022, TWI signed an MoU with Tech Eurolab Ltd. for delivering funded projects and non-destructive testing programs across a range of industries and technologies for attaining the highest standards of quality and safety for products and processes.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

- **1 INTRODUCTION**
- 1.1 Study Assumptions and Market Definition
- 1.2 Scope of the Study
- 2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

- **4 MARKET DYNAMICS**
- 4.1 Market Overview
- 4.2 Industry Stakehholder Analysis
- 4.3 Market Drivers
- 4.3.1 Rising need to run refinery assets at full cap
- 4.3.2 Upstream sector expected to gain momentum in key markets
- 4.4 Market Challenges
- 4.4.1 Production cuts and lack of skilled workforce
- 4.5 Assessment of the Impact of COVID-19 on the Market
- 4.6 Comparative Analysis of NDT Equipment VS Service Industry
- 4.7 Market Opportunities

5 MARKET SEGMENTATION

- 5.1 By Type
- 5.1.1 Equipment
- 5.1.2 Services
- 5.2 Ву Туре
- 5.2.1 Upstream
- 5.2.2 Midstream
- 5.2.3 Downstream
- 5.3 By Technique
- 5.3.1 Ultrasonic
- 5.3.2 Radiography
- 5.3.3 Visual Inspection
- 5.3.4 Liquid Penetrant
- 5.3.5 Others (Magnetic Particle & Eddy Current)
- 5.4 By Geography
- 5.4.1 North America
- 5.4.2 Europe
- 5.4.3 Asia-Pacific

5.4.4 Rest of the World

- 6 COMPETITIVE LANDSCAPE
- 6.1 Company Profiles*
- 6.1.1 Magnaflux Corp
- 6.1.2 YXLON International Gmbh (COMET Group)
- 6.1.3 Fujifilm Corporation
- 6.1.4 Olympus Corporation
- 6.1.5 Bureau Veritas SA
- 6.1.6 GE Measurement and Control (Baker Hughes)
- 6.1.7 Karl Storz Ndtec Gmbh
- 6.1.8 Intertek Group PLC
- 6.1.9 Applus Services SA
- 6.1.10 Magnetic Analysis Corporation
- 6.1.11 Zetec Inc

7 INVESTMENT ANALYSIS

8 FUTURE OF THE MARKET



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