

**NDT and Inspection Market by Technique (Ultrasonic Testing, Visual, Magnetic Particle, Liquid Penetration, Eddy-Current, Radiographic, Acoustic Emission), Service, Method, Vertical, Application and Region - Global Forecast to 2029**

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**Report description:**

The NDT and inspection market is expected to reach USD 18.4 billion by 2029 from USD 11.6 billion in 2024, at a CAGR of 9.6% during the 2024-2029 period. The adoption of NDT and inspection techniques and services is witnessing widespread acceptance globally, as they prove instrumental in evaluating various components and materials for flaw detection without causing harm. Factors such as the increasing complexity of machinery, a growing need for precise product usage specifications, stringent government regulations to ensure workforce safety, and heightened quality control requirements are pivotal in propelling the NDT and inspection equipment and services market growth. Instances of infrastructure failures, like nuclear refinery leakages and pipeline explosions, have prompted governments worldwide to enforce stringent safety regulations, contributing to the rising demand for NDT and inspection services.

Governments globally endorse using NDT and inspection technologies to manage workforce and manufacturing activities effectively. Notably, regulatory bodies, such as the American Society for Nondestructive Testing (ASNT), the American Society for Testing Material (ASTM) International, the International Organization for Standardization (ISO), and the European Committee for Standardization (CEN), play a significant role in developing and publishing industrial standards. These organizations have introduced various standards, emphasizing the importance of NDT qualification and certification, contributing to the growing prominence of NDT and inspection techniques and services.

In addition, ASTM standards, such as E703-14 for electromagnetic sorting of non-ferrous metals, E213-14e1 for ultrasonic testing of metal pipes and tubing, and E155-15 for reference radiographs for the inspection of aluminum and magnesium castings, guide inspection activities. Regulatory bodies like the Petroleum and Natural Gas Regulatory Board (PNGRB) in India and the Bureau of Ocean Energy Management (BOEM) in the US further oversee and regulate activities related to refining, processing, storage, transportation, and distribution, reinforcing the importance of NDT and inspection in ensuring compliance and safety within these

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sectors

"Emphasis on sustainability and eco-friendly practices leads to increase in the demand of NDT and Inspection market."

In an era where environmental consciousness is paramount, clients are actively seeking non-destructive testing (NDT) methods and equipment with minimal ecological impact. Suppliers embracing sustainability not only address client concerns but also tap into a broader clientele base. The forefront of this movement is marked by the development of green NDT practices.

Utilizing environmentally conscious methods and cutting-edge technologies, the NDT industry is working towards a reduction in the ecological footprint of inspections. Green NDT goes beyond specific techniques; it embodies a philosophy ingrained in the entire inspection process.

Practitioners, guided by sustainability principles, make conscientious choices at every stage, from equipment design to waste disposal. This holistic approach ensures a comprehensive reduction in the environmental impact of NDT practices.

Despite the immense promise that green NDT holds, challenges persist. Developing universally accepted standards for eco-friendly techniques, managing the transition from conventional methods to sustainable alternatives, and raising awareness about the importance of such choices are ongoing endeavors.

However, the commitment of the NDT community to sustainable progress serves as a driving force in finding solutions to these challenges. As the industry strives towards greener practices, it not only contributes to environmental conservation but also sets a precedent for responsible and sustainable advancements in Non-Destructive Testing.

"Services of NDT and Inspection market is expected to have the largest market share from 2024-2029."

NDT inspection and control technology is gaining prominence in various end-user industries due to the rise in NDT service providers and increasing demand for NDT and inspection services, particularly in the manufacturing and power generation sectors. Across industries, the adoption of NDT and inspection technology is crucial during engineering, assembly, and operational phases. The identification of discontinuities, defects, or faults in products, components, or materials is essential to enhance quality and plant reliability.

This chapter encompasses inspection services, equipment rental services, training services, and calibration services. Inspection services include magnetic particle testing, radiographic testing, Eddy-current testing, ultrasonic testing, liquid penetrant testing, and visual testing. These services prove invaluable in rectifying defective components early in the process, preventing the need to address issues at later stages. Conducting defect detection using NDT technology in the initial stages not only saves time and resources but also upholds consistent standards and product quality. Beyond averting potential calamities, it ensures the safety of workers and equipment.

Given the high costs associated with various NDT and inspection tools, purchasing them outright may not be financially viable. Consequently, the market for rental and training services is anticipated to witness significant growth.

"Inspection services of NDT and Inspection market is projected to have the largest market size in the forecast period."

NDT inspection services leverage advanced NDT equipment to scrutinize new infrastructures and conduct proactive maintenance activities on existing structures. This technique proves invaluable in affirming the robustness of materials, identifying potential instabilities, evaluating performance, and pinpointing defective components. The spectrum of NDT inspection services primarily encompasses ultrasonic inspection, radiographic inspection, visual inspection, surface inspection, advanced Eddy-current inspection, and liquid penetrant testing. Leading the domain of NDT inspection services are prominent entities such as Olympus Corporation (Japan), Sonatest (UK), and MISTRAS Group (US). Additionally, NDT Global (UK) specializes in providing comprehensive inline inspection services (ILI) tailored for onshore and offshore pipelines globally, aligning seamlessly with the diverse requirements of their clients.

"China is expected to have the largest market share in the Asia Pacific region for NDT and Inspection from 2024-2029."

China is poised to maintain its dominance in the Asia Pacific NDT and inspection market, holding the largest market share in the coming years. Despite having well-established in-house inspection facilities, there is a persistent high demand for NDT and inspection techniques in China, particularly within the manufacturing and oil & gas sectors. The ongoing exploration of shale gas sites in the country is anticipated to further drive the demand for NDT and inspection technology during the forecast period.

China's government approval for the production of commercial aircraft, including large passenger planes, presents a significant opportunity for domestic manufacturing. The country is also actively engaged in designing and constructing jets, offering substantial potential for players in the NDT and inspection market. Various projects, such as the development of aircraft, nuclear

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power plants, and new airports, generate demand for NDT and inspection techniques, particularly from the defense and power generation industries.

The rapid infrastructural development in China emerges as a notable opportunity for the NDT and inspection market, with the automotive production sector expected to experience substantial growth in the forecast period, further boosting the demand for NDT and inspection equipment and services within the automotive vertical. China's robust economic growth has fueled expansions in energy, infrastructure, manufacturing, construction, and transportation industries. As China solidifies its global standing, the government is adapting its NDT and inspection equipment procurement policy, especially for military and aerospace applications, to align with international standards for quality and safety. Soundwel, a key player in the country, actively contributes to the NDT and inspection market.

In October 2019, Intertek expanded its service offerings for products intended for use in hazardous locations or explosive atmospheres through a collaboration with the National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI) in China

The break-up of the profile of primary participants in the NDT and Inspection market-

□□By Company Type: Tier 1 □ 26%, Tier 2 □ 32%, Tier 3 □ 42%

□□By Designation Type: C Level □ 52%, Director Level □ 23%, Others □ 25%

□□By Region Type: North America □ 44%, Europe □ 29 %, Asia Pacific □ 23%, RoW □ 4%,

The major players in the NDT and Inspection market are General Electric (US), MISTRAS Group (US), Olympus Corporation (Japan), Ashtead Technology (Scotland), Nikon Metrology NV (UK), SGS Societe Generale De Surveillance SA, (Switzerland), Magnaflux (US), Eddyfi Technologies (Canada), Sonatest (UK), Intertek Group plc (UK), Applus+ (Spain), Bureau Veritas (France), Comet Group (Switzerland), TUV Rheinland (Germany), FISCHER TECHNOLOGY INC. (US), Acuren (US), CREAFORM (Canada), Vidisco Ltd. (Israel), DEKRA (Germany), Team, Inc. (US), Labquip NDT (US), Cygnus Instruments Ltd. (UK), FPrimeC Solutions Inc. (Canada), Carestream Health (US), and Element Materials Technology (UK).

#### Research Coverage

The report segments the NDT and Inspection market and forecasts its size based on region. The report also provides a comprehensive review of drivers, restraints, opportunities, and challenges influencing market growth. The report also covers qualitative aspects in addition to the quantitative aspects of the market.

Reasons to buy the report:

The report will help the market leaders/new entrants in this market with information on the closest approximate revenues for the overall NDT and Inspection market and related segments. This report will help stakeholders understand the competitive landscape and gain more insights to strengthen their position in the market and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

□□Analysis of key drivers (Surge in demand for structural health monitoring of infrastructure and maintenance needs), restraints (Lack of proficient and qualified personnel for conducting NDT and inspection services), opportunities (Extensive infrastructure advancements in Asia Pacific, Europe, and South America), and challenges (Growing complexity of industrial structure and machines)

□□Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the NDT and Inspection market

□□Market Development: Comprehensive information about lucrative markets □ the report analyses the NDT and Inspection market across varied regions.

□□Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the NDT and Inspection market

□□Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players like SGS Societe Generale De Surveillance SA (Switzerland), Intertek Group plc (UK), General Electric (US), Applus+ (Spain), and Olympus Corporation (Japan).

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## NDT and Inspection Market by Technique (Ultrasonic Testing, Visual, Magnetic Particle, Liquid Penetration, Eddy-Current, Radiographic, Acoustic Emission), Service, Method, Vertical, Application and Region - Global Forecast to 2029

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