

Non Destructive Testing (NDT) in Aerospace & Defense Market Trends by Application, Vertical, Region, Forecasts to 2029

The Business Research Company's Non Destructive Testing (NDT) In Aerospace And Defense Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

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/EINPresswire.com/ -- What Is The

Estimated Industry Size Of Non Destructive Testing (NDT) In Aerospace And Defense Market? Recent years have seen significant growth in the market size for non-destructive testing (NDT) in the sectors of aerospace and defense. It's predicted to escalate from a value of \$2.29 billion in 2024 to \$2.59 billion in 2025, boasting a Compound Annual Growth Rate (CAGR) of



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approximately 13.1%. This considerable growth during the historic period is largely due to factors such as aircraft accidents and malfunctions, the requirement for more lightweight materials, extending the lifespan of traditional fleets, global confrontations and the modernization of the military, along with demands from aerospace Original Equipment Manufacturers (OEMs).

In the coming years, the [non destructive testing \(NDT\) market](#) in the aerospace and defense sectors is projected to undergo rapid expansion, with its value expected to

reach \$4.21 billion by 2029, growing at a compound annual growth rate (CAGR) of 12.9%. This anticipated growth over the forecast period can be linked to increased aircraft production, rising global defense expenditure, a shift towards composite materials, the growth of unmanned aerial systems, strict safety and quality regulation enforcement, and the integration of cyber-physical systems (industry 4.0). Throughout the forecast period, significant trends will include the adoption of artificial intelligence (AI) and machine learning for detecting defects, phased array ultrasonic testing, digital radiography and computed tomography (CT), the use of automated robotic NDT systems, and inspections assisted by augmented reality (AR).

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What Are The Major Factors Driving The Non Destructive Testing (NDT) In Aerospace And Defense Global Market Growth?

The increase in defense budgets is projected to fuel the expansion of non-destructive testing (NDT) in the aerospace and defense market. The defense budget denotes the total funds earmarked by a government for the growth and maintenance of its military and defense-related pursuits. The surge in defense budget assignments can be attributed to escalating geopolitical strains and security risks, compelling nations to augment their military prowess, modernize their armaments, and preserve national security in an increasingly volatile global scenario. Non-destructive testing (NDT) in the aerospace and defense industry aids in optimising defense budgets by identifying defects early on without causing harm to parts, thereby curbing expensive malfunctions and reducing the frequency of component replacements. For example, the International Institute for Strategic Studies (IISS), a strategic security research body based in the UK, published a report in February 2025 stating that global defense expenditure climbed to \$2.46 trillion in 2024 from \$2.24 trillion in the preceding year. Consequently, the surge in defense budgets is fostering the growth of non-destructive testing (NDT) in the aerospace and defense market.

Who Are The Leading Companies In The Non Destructive Testing (NDT) In Aerospace And Defense Market?

Major players in the [Non Destructive Testing \(NDT\) In Aerospace And Defense Global Market Report](#) 2025 include:

- Waygate Technologies GmbH
- L3Harris Technologies Inc.
- Testia SAS
- Shimadzu Corporation
- Intertek Group plc
- TWI Ltd
- Applus+ Services S.A.
- Acuren Inspection Inc.
- MISTRAS Group Inc.
- YXLON International GmbH

What Are The Prominent Trends In The Non Destructive Testing (NDT) In Aerospace And Defense Market?

Leading businesses in the aerospace and defense sector that specialize in non-destructive testing (NDT) are prioritizing technological advancements, like cutting-edge x-ray inspection techniques, to boost defect identification, increase safety measures, ensure the reliability of structures, and simplify maintenance protocols for crucial aerospace and defense components.

Advanced X-ray inspection methods are a forefront non-destructive testing (NDT) solution that employs high-resolution imagery to identify minor structural anomalies thereby contributing to the enhancement of the safety and reliability of aerospace and defense systems. For example, Rad Source Technologies Inc., an American company specializing in x-ray and irradiation solutions, launched the NDT 1000 X-ray Inspection System in February 2024. This system is a compact, portable tool designed to provide real-time, high-resolution images for non-destructive testing in industries such as aerospace, defense, electronics, and automotive. Using a standard 120V outlet, it can penetrate materials like steel up to 0.6 inches in less than a second, giving clear digital images that make defect detection quicker and more accurate. The main aim of this system is to improve on-site inspection capabilities, make maintenance processes more efficient, and enhance overall quality control in the evaluation of critical components.

What Are The Primary Segments Covered In The Global Non Destructive Testing (NDT) In Aerospace And Defense Market Report?

The non destructive testing (NDT) in aerospace and defense market covered in this report is segmented –

- 1) By Type: Ultrasonic Testing, Radiography Testing, Magnetic Particle Testing, Eddy-Current Testing, Other Types
- 2) By Product Type: Consumables, Inspection Equipment, Testing Services, Training And Certification Programs, Software Solutions
- 3) By Application: Component Inspection, Weld Inspection, Material Integrity Testing, Structural Health Monitoring, Fatigue And Fracture Detection
- 4) By End User: Aerospace Manufacturers, Defense Contractors, Maintenance, Repair And Overhaul (MRO) Services, Research Institutions, Government Agencies

Subsegments:

- 1) By Ultrasonic Testing: Phased Array Ultrasonic Testing (PAUT), Time of Flight Diffraction (TOFD), Conventional Ultrasonic Testing (UT)
- 2) By Radiography Testing: Digital Radiography (DR), Computed Radiography (CR), Film-Based Radiography
- 3) By Magnetic Particle Testing: Dry Magnetic Particle Testing, Wet Magnetic Particle Testing, Fluorescent Magnetic Particle Testing
- 4) By Eddy-Current Testing: Conventional Eddy Current Testing, Pulsed Eddy Current Testing, Remote Field Testing (RFT)
- 5) By Other Types: Visual Inspection Testing (VT), Acoustic Emission Testing (AET), Liquid Penetrant Testing (LPT), Infrared Thermography Testing

View the full non destructive testing (ndt) in aerospace and defense market report:

<https://www.thebusinessresearchcompany.com/report/non-destructive-testing-ndt-in-aerospace-and-defense-global-market-report>

Which Region Is Forecasted To Grow The Fastest In The Non Destructive Testing (NDT) In

Aerospace And Defense Industry?

For the year covered in the Non Destructive Testing (NDT) In Aerospace And Defense Global Market Report 2025, North America stood as the leading region. Asia-Pacific, on the other hand, is projected to experience the most accelerated growth within the forecast period. The report encompasses several regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa.

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