# NDT In The Aerospace And Defense - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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**Report description:**

The NDT In The Aerospace And Defense Market size is estimated at USD 10.54 billion in 2025, and is expected to reach USD 21.90 billion by 2030, at a CAGR of 15.74% during the forecast period (2025-2030).

Non-destructive testing tools also lower production costs while preserving a constant level of quality. The main drivers of the growth of the non-destructive testing equipment market globally are strict government safety regulations for quality control, ensuring machine safety and reliability, and rising demand to improve the quality and longevity of the machines. The aerospace and aviation industries depend heavily on non-destructive testing.

Key Highlights
- Non-destructive testing is a crucial step in the process because aerospace components are made to be as light as possible while still performing their function. These components frequently handle heavy loads in their tasks, and even a small flaw can cause complete failure if it goes undetected, endangering lives. Large-scale aerospace projects in the Asia-Pacific and European regions, as well as the rising demand for sophisticated and automated non-destructive testing solutions, are just a few of the growth prospects that are anticipated to contribute to the market's future expansion.
- NDT is a significant component in the aerospace industry to ensure aircraft safety by deploying accurate and efficient methods. Aerospace companies such as The Airbus, Boeing Company, GE Aviation, and Rolls-Royce work together with suppliers to form a standard that a supplier must attain to become and remain NADCAP approved. Digital Radiography is poised to become the preferred industrial imaging method due to ongoing technological advancements and the considerable price reduction.
- According to Lockheed Martin, autonomous metrology and NDT operations will be tested on an F-35 assembly line starting in August 2022. The system being created for the program may take the place of the manual inspections currently carried out by gantry workers. The technology uses a combination of ground and aerial robots to conduct surface metrology and NDT in order to

increase accuracy, safety, and efficiency.
- Moreover, effective non-destructive testing (NDT) helps the defense industry ensure the safe operation of military assets to serve and protect. Each must be regularly checked to ensure that they are fit for purpose from military aircraft to naval ships, because of their essential role. There's not room for error; it's imperative that integrity engineers have the full set of data, so they can make informed decisions. Advancements in phased array ultrasonic testing technology (PAUT) continue to provide robust testing for military and defense stakeholders.
- As non-destructive testing and inspection, services are in greater demand. However, it has also become crucial for players to increase their global presence while also creating a workforce with a high level of expertise. The market is facing a number of challenges brought on by a skilled labor shortage, which will restrain market expansion. Therefore, it is crucial for a business strategy to have a skilled workforce with the required non-destructive testing and inspection skillset.

NDT in Aerospace and Defense Market Trends

Radiography Testing Technology to Account for the Largest Share

- Radiography is one of the versatile testing methods in non-destructive testing, which is used to detect surface and subsurface features in welded parts and castings. Radiography employs highly penetrating X-rays produced by an X-ray tube, gamma rays by a radioactive isotope, and other forms of radiation for testing without causing any damage to the product.
- It enables product reliability, providing the information to prevent accidents and saves lives in industries. It is also used for corrosion mapping, detection of blockages inside sealed equipment, testing of semiconductor devices for cracks, broken wires, and unsoldered connections, detecting reinforcing material in concrete slabs, and measuring the bulk density of materials.
- Radiography test equipment such as computed radiography is mainly used to manufacture and maintain military and civil aircraft and is considered under the aerospace segment's scope. Radiography applications in aerospace include detecting internal defects in thick and complex shapes, metallic and non-metallic bodies, and the quality of critical aerospace components, structures, and assemblies.?
- Further, Conventional radiography is being increasingly replaced with digital radiography in aerospace, and the latter is anticipated to completely overshadow the market, except for some critical high-resolution imaging applications. This shift has also been fueled by the advent of common binding standards for joint accreditation, following the National Aerospace and Defense Contractors Accreditation Program (NADCAP).?
- Due to digital radiography systems' automation and digital factors, scan times are drastically decreased by up to 90%. This time saving contributes to significantly lower labor requirements and increases the capacity of a single system, so more parts can be inspected.

Europe to Account for Significant Share

- NDT plays a major role in all life phases of an aircraft structure in order to ensure the defined quality level in the production of the components and also of structural integrity in the service phase. The region showcases demand for NDT, such as radiography and ultrasonic test equipment, majorly due to high uptake by industries such as the aerospace sector due to growing concerns towards safety.
- Moreover, the region is witnessing increased investment, owing to the huge potential, especially in the aerospace sector, which is constantly growing. For instance, In August 2022, Godrej Aerospace plans to grow 3X over the next three years. Critical sheet metal brackets, intricate fabrications, and hydraulic aggregates are just a few of the complex airworthy systems that Godrej Aerospace manufactures and supplies for aircraft applications in the United Kingdom Market. Godrej Aerospace has received

NADCAP approval and AS9100 certification for unique procedures like non-destructive testing.
- Furthermore, the United Kingdom's super-deduction tax relief is expected to boost post-covid business recovery due to offered benefits. For example, companies are investing in qualifying new plant and machinery assets and will be able to claim a 130% capital allowance on their new plant and machinery investments and a 50% first-year allowance for qualifying special rate assets.
- Moreover, ultrasonics are able inspect and detect damage which are too small to be discovered by visual means. This makes ultrasonic NDT Equipment testing an essential part of the process in European countries.? For instance, Testia, an Airbus company, launched the latest version of its ultrasonic, eddy current, and resonance non-destructive testing device, the Smart UE1. The Smart UE1 testing device is designed for aerospace use, and certified NDT inspectors or B1 mechanics can use it.?
- Further, organizations based in the United Kingdom are likely to be faced with changed rules regarding activities in the area of testing and inspection. The United Kingdom is an important trading partner for many European countries. As the services are subject to testing, inspection and certification under EU regulations, it is likely that Brexit will might have a negative impact on businesses exporting products or services from Europe to the United Kingdom.

NDT in Aerospace and Defense Industry Overview

The NDT in the Aerospace and Defense Market is quite competitive and fragmented. This is due to the presence of significant players such as Mistras Group, Fujifilm NDT Systems, GE Measurement and Control, NikonMetrology Inc., Magnaflux Corporation, etc. Prominent companies are entering into collaborations and launching innovative solutions to increase their market share.

- December 2022 - Theta Technologies of Exeter, UK, and BAE Systems of London have announced a partnership in the field of aerospace and defense. Theta's RD1-TT will presumably test a variety of BAE Systems components, both composite and additively manufactured, as a result of the partnership. Theta Technologies unveiled RD1-TT, its first non-destructive testing (NDT) product for sale.
- March 2022 - Nasmyth TMF, a pioneer in metal finishing, painting, and non-destructive testing (NDT) for the aerospace and defense industries, has received NADCAP accreditation for its NDT services. Due to the company's ongoing full Nadcap accreditation, it is well-positioned to continue serving the aerospace and defense supply chains in the USA and Canada.

Additional Benefits:

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

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