Automated Test Equipment - 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 Automated Test Equipment Market is expected to register a CAGR of 4.7% during the forecast period.

Key Highlights
- The ATE market's growth is directly proportional to the increase in demand from the consumer electronics industry. ATE is widely used in consumer electronics to test electronic components and systems after fabrication. It is controlled through a computer, which includes loads of complex test instruments capable of testing and finding faults in the electronic components or integrated circuits.
- The increase in demand for 5G technology adoption worldwide is a prominent element in the telecom sector projected to fuel market expansion. Marvin Test Solutions, Inc., a developer of unique test services for aerospace, military, and industrial enterprises, revealed on April 2021 that their products are TS-900e-5G industrial test equipment for 5G millimeter Wave semiconductor equipment widely utilized by silicon manufacturers.
- These technologies are widely used because they allow manufacturers to satisfy high-throughput manufacturing demands for millimeter Wave semiconductors devices. The TS-900e-5G is perfect for wafer probe and package testing and is compatible with most common manufacturing robotics and handling equipment. Furthermore, developments in semiconductor production processes and the global expansion of mobile networks would substantially influence the growth of the autonomous test tools market.
- The expenses of automated testing technology are a key hindrance to the growth of the global automation test device industry. Expensive material expenditures and difficulties linking the device under test (DUT) to additional systems restrict the targeted market's development.
- Due to the suspension of manufacturing factories, the COVID-19 outbreak has reduced demand for automation test technology from many industries, notably industrial, household electronics, and automotive. Nevertheless, the rise in the number of people

working from home due to the outbreak has increased the demand for laptops, tablets, and desktops. This has raised industry demand for automation test technology from OSATs and household electronics OEMs, allowing the sector to continue growing during the outbreak. The development in electronic infrastructure technologies throughout the household electronics and aviation industries, on the other hand, is likely to boost growth in the automation test equipment industry after the pandemic.

Automated Test Equipment (ATE) Market Trends

Aerospace and Defence is Expected to Hold a Significant Market Share

- The aerospace and defense industry has witnessed a rise in the adoption of intricate devices in the last three decades, owing to increasing government spending in various regions. This has led to technology development at a rapid pace, with innovation leading to improvement in the efficiency of existing tools and further covering the new scope of operations useful for a wide range of functions.
- With more significant revenues, the aerospace industry is expected to spend significantly on automated test equipment. According to U.S. Census Bureau, The revenue of aerospace products and parts manufacturing in the U.S. is increasing Y-O-Y gradually. There is a slight decrease in revenue during a pandemic, and later, it increases gradually. The revenue of aerospace products and parts manufacturing in the U.S. is projected to amount to approximately USD 264,5 billion by the next two years.
- The electronic devices used in the aerospace and military sectors should be of high quality since any fault might result in major accidents. As a result, the manufacture of electronics equipment for the aviation and defense sectors must be extensively checked with the assistance of automation test equipment, driving the market growth over the forecast period.
- With the implementation of new technology, the need for upgrading the test equipment also arises. For instance, U.S. Naval Air Systems Command (NAVAIR) refreshed the technology as they transitioned from the older system to the newer system for testing aircraft and weapons on carriers. The organization maintained backward compatibility as a requirement, enabling the eCASS stations to leverage the test program set from the older CASS program.
- For decades, the aerospace and defense industry has used NI's (National Instruments Corp.) modular instrumentation and application software to reduce the overall cost and risk associated with its products' test and support. NI has worked with thousands of engineers and leadership teams to manage risk and generate a sustainable market advantage through test engineering and operational support advancements.

North America is Expected to Have a Significant Market Share

- The growing demand for low-cost consumer products, coupled with a steady rise in the adoption in the semiconductor industry, has been identified as the major driver for the growth of the ATE market in the North American region, especially the United States. Although ATE is highly expensive, they represent a cost-effective solution in the long term, as they can be used to test large volumes of samples with minimal human intervention.
- Moreover, the region has a strong foothold of vendors, contributing to the market's growth. Some include National Instruments Corporation, Astronics Corporation, and Roos Instruments, Inc.
- Stadler US is a wholly owned subsidiary of Stadler Rail AG, an international designer, and manufacturer of a comprehensive range of trains. Astronics would work with Stadler and its major systems suppliers to design and deploy automatic testers and diagnostics that ensure passenger safety by verifying that critical railcar systems remain in a state of good repair.
- The aerospace sector of the US is considered the global most significant and one of the leading suppliers of military and civil aerospace hardware to the rest of the world. The huge aerospace industry of the United States exports more of all aerospace production. Many foreign firms are attracted to the country's aerospace market as it is the largest in the world, characterized by a

skilled and hospitable workforce, diverse offerings, and extensive distribution systems.
- Automated test equipment further finds its application in the defense sector. The defense industry in the country has a budget allocation that is more than the entire economy of more than half of the existing countries in the world.
- Also, the application of ATE in consumer electronics, such as mobile devices, is prospering to make the release schedules shorter. With growing cybersecurity threats and the rising complexity of applications, organizations are also enhancing the test coverage for their enterprise application suite with the help of ATE throughout the region.

Automated Test Equipment (ATE) Industry Overview

The automated test equipment market is highly fragmented, with major players like Virginia Panel Corporation, MAC Panel Company, Xcerra Corporation, National Instruments Corporation, and SPEA SpA, among others. Moreover, automated test equipment is used in various industries to provide vendors with growth opportunities. Players in the market are adopting strategies such as partnerships and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

In December 2022, Cohu, Inc., a global equipment and service supplier that improves semiconductor manufacturing yield and productivity, announced a strategic partnership with Chunghwa Precision Test Tech. Co., Ltd. is a leading test interface solution provider that delivers advanced probe card and interface products to the semiconductor test market. Cohu's mmWave RF probe head and socket technology, together with CHPT's sophisticated substrate and load boards, would result in an optimized turnkey interface solution for probe and final test, reducing client costs and increasing time to market.

In April 2022, National Instruments Corporation (NI) acquired Kratzer Automation. With the acquisition of Kratzer Automation, NI expands its EV test capabilities. The company could test all important components of EVs, such as the battery, inverter, and engine control, by supplying EV testing software and fully integrated test equipment. The combination of NI's flexible EV hardware and software test platform and Kratzer Automation's application-specific EV software and integration capabilities, according to NI, would enable faster responses to change test needs, faster time to market, and lower total cost of test for a broader range of customers.

Additional Benefits:

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

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