

North America In-Circuit Tester Market Forecast to 2030 - Regional Analysis - by Type (Analog and Mixed), Product (Multimode Flying Probe Tester and In-Line Tester), Portability (Portable and Non-Portable), and Industry (Consumer Electronics, Automotive, Medical Equipment, Aerospace & Defense, Others)

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Abstracts

The North America in-circuit tester market is expected to grow from US\$ 286.16 million in 2022 to US\$ 388.24 million by 2030. It is estimated to grow at a CAGR of 3.9% from 2022 to 2030.

Use of Artificial Intelligence and Machine Learning Fuels North America In-Circuit Tester Market

Artificial intelligence (AI) and machine learning (ML) algorithms can analyse large amounts of data from ICT machines to identify patterns and anomalies that may indicate defects in printed circuit boards (PCBs). This can help enhance the accuracy and speed of defect detection, which can lead to a reduction in the number of defective PCBs that are shipped to customers. AI and ML can also be used to predict when ICT machines are likely to fail, which can help prevent interruption and reduce maintenance costs. This is particularly important for ICT machines that are used in high-volume manufacturing environments. Further, smart devices using AI need PCBs to make them functional, PCB designers and manufacturers are also utilizing AI. Artificial intelligence is assisting PCBs in developing newer and more efficient methods of PCB fabrication, optimizing costs, reducing scrap and turn-around times, and improving the utilization of supply chains, inventory, and assets. AI helps in two ways: it helps systems communicate with each other, and it helps systems communicate with operators. For

instance, during PCB assembly, AI helps determine the precise placement of SMD components. This not only reduces the assembly time but also improves the quality of the board significantly. With the electronics industry moving rapidly toward form-factor miniaturization, fast and accurate placement of components prior to soldering is a huge advantage. Therefore, the increasing use of AI and ML is expected to have a significant positive impact on the in-circuit tester market. These technologies can help improve the accuracy, speed, and efficiency of ICT testing, which can lead to improved product quality, reduced costs, and increased customer satisfaction.

North America In-Circuit Tester Market Overview

The North America market is segmented into the US, Canada, and Mexico. The market in the region is booming in terms of technology and manufacturing. The North America manufacturing market has a strong focus on high-tech industries. The region also has several major automotive manufacturers, such as General Motors and Ford. As per the International Energy Agency, in the US, electric car sales boosted by 55% in 2022 compared to 2021, led by battery electric vehicles (BEVs). Sales of BEVs increased by 70%, reaching nearly 800,000 and confirming a second consecutive year of strong growth after the 2019-2020 dip. In-circuit testers are used in BEVs for several applications, including transmission or safety electronics and entertainment systems. Thus, the rise in the number of BEVs propels the demand for in-circuit testers. Various in-circuit testers, including Keysight and Seica, operate in the market. For instance, Keysight provides Keysight's x1149 boundary scan analyzer, which is a powerful tool for structural tests, such as open and short tests on their printed circuit board assembly (PCBA). It also performs in-system programming for devices such as field programmable gate arrays (FPGAs) and complex programmable logic devices (CPLDs) for testing interconnects between ICs, eliminating the need for physical probes. Thus, the rise in automotive manufacturing and the presence of in-circuit tester providers propel the growth of the in-circuit tester market in the region.

North America In-Circuit Tester Market Revenue and Forecast to 2030 (US\$ Million)

North America In-Circuit Tester Market Segmentation

The North America in-circuit tester market is segmented into type, product, portability, industry, and country.

Based on type, the North America in-circuit tester market is bifurcated into analog and mixed. The analog segment held a larger share of the North America in-circuit tester

market in 2022.

In terms of product, the North America in-circuit tester market is bifurcated into in-line tester and multimode flying probe tester. The in-line tester segment held a larger share of the North America in-circuit tester market in 2022.

Based on portability, the North America in-circuit tester market is bifurcated into non-portable and portable. The non-portable segment held a larger share of the North America in-circuit tester market in 2022.

Based on industry, the North America in-circuit tester market is segmented into consumer electronics, automotive, medical equipment, aerospace & defense, and others. The consumer electronics segment held the largest share of the North America in-circuit tester market in 2022.

Based on country, the North America in-circuit tester market is segmented into the US, Canada, and Mexico. The US dominated the North America in-circuit tester market in 2022.

Teradyne Inc; inTEST Corporation; HIOKI E.E. CORPORATION; Keysight Technologies Inc; Konrad GmbH; Kyoritsu Test System Co Ltd; SEICA SPA; SPEA S.p.A.; and Test Research, Inc; are some of the leading companies operating in the North America in-circuit tester market.

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