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Teradyne Analytics Solution Brings Real-Time Analysis to Semiconductor Test Flow

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Secure edge platform integrates with leading data analytics solutions, optimizing test processes

NORTH READING, Mass., July 11, 2023 (GLOBE NEWSWIRE) -- Teradyne, (NASDAQ:TER), a leading supplier of automated test solutions, today launched Teradyne Archimedes analytics solution, an open architecture that brings real-time analytics to semiconductor test, optimizing test flow and yield, and lowering costs—while reducing the security risks present with cloud-based solutions.

"Demand for higher-quality semiconductor devices that use advanced processes is increasing the complexity of semiconductor manufacturing—and only comprehensive test and analytics solutions can help address this," said Regan Mills, vice president of marketing and general manager, Semiconductor Test Division, Teradyne. "Offering an open architecture that lets our customers choose the most effective data analytics solutions for their environment, Teradyne Archimedes helps identify failures and their root causes, allowing corrective actions to be taken, both before and during high-volume manufacturing."

As part of a greater technology ecosystem, Teradyne Archimedes integrates seamlessly with leading data analytics platforms, speeding time to analysis.

"Exensio Advanced Insights for Manufacturing is a secure, scalable, configurable, analytics and AI platform specifically designed to handle rapid decision-making in a high-volume production environment, including the edge deployment of Exensio AI inference engine," said Said Akar, general manager, Exensio, PDF Solutions. "Teradyne Archimedes analytics solution extends the benefits of our system's data and machine learning capabilities to Teradyne's global customer base in automated semiconductor test."

"The challenge of maintaining security and data integrity has never been more critical," said Uzi Baruch, chief strategy officer, proteanTecs. "The combination of Teradyne Archimedes analytics solution with proteanTecs deep data analytics enables telemetry-based insights that add immeasurable value to semiconductor test. The integration of our ML-driven cloud and edge software into Teradyne's open analytics development environment delivers a new level of device visibility to meet the surging performance, power and reliability requirements of advanced systems."

Secure Edge Solution

While rich in functionality, today's analytics solutions employ diverse data formats, specifications, and interface requirements. Consequently, they require on-tester agents to achieve compatibility with automated test solutions, a paradigm that significantly increases support and application-engineering costs. Overhead from this approach, coupled with analytics solutions that also rely on the cloud, may slow down tester operations and expose critical test data. Moving data analytics to the system edge mitigates these vulnerabilities.

Teradyne UltraEdge2000, an integral part of the Archimedes analytics solution, is a secure, high-performance, parallel-compute platform that executes real-time analytics solutions with millisecond latency. It delivers a natively secure environment that performs data consumption and heavy computational processes in real-time at the edge of the network—reducing exposure to the security risks present with cloud-based solutions and on-tester agents. This approach ensures the safety of data, analytic models, and rule sets.

Support for Teradyne Testers

Semiconductor test operations on automated test equipment (ATE) have long produced large amounts of data for use during the validation and high-volume manufacturing test processes. Analytics solutions increasingly use this data for real-time analysis on the system edge, ultimately driving real-time ATE input and control to improve test yield, throughput, efficiency, and product quality.

Teradyne Archimedes analytics solution:

- is a real-time, open architecture that ensures best-in-class solutions are easy to deploy;

- provides access to a larger set of trusted and consistently structured data types, providing greater flexibility and ensuring data integrity;

- delivers a bi-directional data stream that enables in-situ, real-time data analytics, pushing learnings back to the tester for immediate test program optimizations that improve quality and yield; and

- is a natively secure environment that eliminates the need for on-tester agents and their accompanying security risks, enabling test engineers and their analytics solution partners to focus on improvements and optimizations, not on tester-infrastructure maintenance.

"Teradyne Archimedes analytics solution combines Teradyne's expertise in rigorously testing the vast number of semiconductor devices that power today's digital devices with the benefits of deep-learning data analytics at the platform edge," added Mills. "The result saves our customers time and money with total manufacturing-level enhancements."

For More Information

For more information on the Teradyne Archimedes analytics solution, and how it can improve business results, please visit https://www.teradyne.com/analytics/.

About Teradyne

Teradyne (NASDAQ:TER) test technology helps bring high-quality innovations such as smart devices, life-saving medical equipment and data storage

systems to market, faster. Its advanced test solutions for semiconductors, electronic systems, wireless devices and more ensure that products perform as they were designed. Its robotics offerings include collaborative and mobile robots that help manufacturers of all sizes increase productivity, improve safety, and lower costs. In 2022, Teradyne had revenue of $3.2 billion and today employs over 6,600 people worldwide. For more information, visit teradyne.com. Teradyne® is a registered trademark of Teradyne, Inc., in the U.S. and other countries.

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