

FROST & SULLIVAN



2022
CUSTOMER
VALUE
LEADER

GLOBAL ELECTRONICS
MANUFACTURING TEST DATA
MANAGEMENT INDUSTRY

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Virinco excels in many of the criteria in the electronics manufacturing test data management space.

AWARD CRITERIA	
<i>Business Impact</i>	<i>Customer Impact</i>
Financial Performance	Price/Performance Value
Customer Acquisition	Customer Purchase Experience
Operational Efficiency	Customer Ownership Experience
Growth Potential	Customer Service Experience
Human Capital	Brand Equity

A Market Snapshot

Digital transformation continues to invigorate every industry with software solutions that are geared toward data efficiency, transparency, and virtualization. In the Electronics Test and Measurement (T&M) sector, the role of software is gaining significance to manage the complex testing requirements while

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**- Samantha Fisher,
Best Practices Research Analyst**

adding value to customers. As technologies, such as fifth-generation communication technology (5G), Big Data, the Internet of Things, and Industry 4.0, continue to evolve the testing requirements become increasingly comprehensive and complex. Besides an increase in number of testing parameters, and a higher accuracy and reliability requirements, the number of electronic device types and the volume of testing also continue to increase. Given that end-users face shorter product lifecycle and a

need to integrate more electronics, the need to design test requirements and manage them effectively becomes of paramount importance. To meet these requirements, product original equipment manufacturers (OEMs) and test equipment suppliers are relying on software solutions to overcome these challenges. Overall, Frost & Sullivan estimates the global T&M software market will reach \$3,064.6 million in 2027, with a compound annual growth rate of about 4.2% from 2020 to 2027.¹

¹ Global Electronics Test and Measurement Software Growth Opportunities, (Frost & Sullivan September 2021)

A Customer-centric Approach Driving Unmatched Client Experiences

Founded in 1998 and headquartered in Drammen, Norway, Virinco develops test data management software solutions for electronic OEMs to manage their product quality. Virinco's approach to technology goes beyond its extensive expertise and best-in-class capabilities, with customer value as a strategic imperative. Through the years, the company has earned a sterling reputation supporting its customers' path toward optimized and lean electronics manufacturing activities.

Unlike competitors, Virinco builds its solution, collaborating closely with a range of stakeholders and partners to evolve alongside market needs and trends. As of 2022, test system data is highly fragmented as every machine has its own data format, which means comparing results often leads to high workforce costs. Virinco well-defines its innovation strength through its best-in-class product, WATS Test Data Management System (WATS), which the company designed to standardize how data looks. The system takes any format and creates a converter, slicing and dicing the data, unearthing the Meta information required for a test report, and delivering it in an easy-to-understand format. The off-the-shelf software cleans up the fragmented data in file formats; traditionally, this process could take hours and was cumbersome and expensive. WATS automates real-time data collection and streamlines access to data and visibility in a price-conscious manner with full traceability. Operators can see quality concerns of all levels in less than a minute. Virinco also outfits WATS with technology geared toward asset management and repairs, as operators can report issues, such as burned or defective components and troubleshoot rapidly. More importantly, WATS comes with pre-built features that allow customers to easily integrate to their existing test stations and enable digital transformation regardless of geographic location. This solution is hosted on a physical server on the customer floor or in the cloud via WATS, hence customers get real-time analysis in a secured manner. Frost & Sullivan finds Virinco's seamless and frictionless approach and close customer relationships position it as a partner of choice to automate and digitalize the electronics manufacturing test with WATS.

Virinco: Maintaining and Expanding its Customer Base

WATS helps to solve one of the key issues in electronics manufacturing: cost inefficiency stemming from poor product quality. Virinco's fundamental value proposition targets these challenges as its best-in-class technology enables Industry 4.0 compliance by collecting, analyzing, integrating, and making test data visible and insightful to all stakeholders, from contract manufacturers to OEMs. WATS generates aggregated statistics from test equipment, which allows users to analyze performance by various metrics, including products, test stations, and test processes. The data is updated in real-time, providing users with a comprehensive analysis for root cause analysis identification. Going one step further, WATS helps customers to manage their test assets for calibration and repair through notifications that report upcoming scheduled maintenance activities. Moreover, WATS allows for low-cost installation; for example, a deployment into entry-level systems costs roughly \$10,000. Noticeable, customers find the implementation and usability simple, enabling the company to secure more customers in the Test Data Management market.

Secondly, with its customer-focused strategy, Virinco consistently invests in enhancing its product features to best suit the customer requirements and retain its customer base. The company upgrades

the WATS solution with key features to reinforce its strength and performance, such as true first-pass yield analysis, step-fail Pareto, rolling yield, process capability analysis, test station report, and real-time alarms and notifications on out of spec measurements. Thirdly, users can leverage WATS to implement the principles of Lean Six Sigma and build a culture of continuous improvement in the customer organizations by leveraging the comprehensive data collection and insightful test analysis and reports generated by the tool. As several customers witness rapid returns from WATS due to the comprehensive capability of its ability to reduce cost, increase test speed and flexibility, and integrate a culture of continuous improvement, Virinco sees high customer retention numbers.

At the same time, Virinco incorporates client feedback into its strategic decisions and implementation plans to maximize short-term growth opportunities while providing a path to future revenues. In March 2021, the company streamlined its business areas and corporate structure to support its growth strategy in the rapidly growing research and development services market for the electronics design, software, and firmware segment. Additionally, Virinco leverages its partnerships as enablers for ongoing improvement and innovation. For example, the company's collaboration with Eltek, a global power solution and service provider and a Virinco customer, was instrumental in developing WATS in 2003. Frost & Sullivan commends Virinco for its strategic approach to innovation and the market and believes the company is well-positioned for the future.

Positioned for Growth

Since its inception, Virinco's sterling reputation and customer-centric framework led to its coveted preferred partner status. Over the years, it added a range of new customers to its established base. In

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***- Prabhu Karunakaran,
Industry Principal, Industrial Technologies***

service of its expansion strategy, the company announced in February 2022 the opening of their US -based Office to facilitate local sales and support for the American market. This move represents another step in Virinco's land-and-expand approach to the North American space. Finally, the company continues to expand its staff with experienced talent in

areas such as front-end development, testing development, and operations management.

Frost & Sullivan believes the company is well-positioned to drive the electronics manufacturing test data management space into its next growth phase, capturing market share and sustaining its leadership in the coming years.

Conclusion

Customer-centric strategies help companies safeguard leading positions in the markets, but only if the approach is authentic and the implementation seamless. Virinco incorporates customer-focused strategies and exemplifies best practice implementation. Customers can leverage Lean Six Sigma practices to ensure that the technology encourages continuous improvement and best-in-class quality. This approach bolsters Virinco's robust WATS solution and delivers unmitigated end-to-end customer value throughout the entire lifecycle. Moreover, the company's ongoing commitment to its clients drives its retention numbers, well-positioning it for future growth. This overall customer-first approach offers immense value to existing and new customers and solidifies Virinco's reputation in the market.

For its strong overall performance, Virinco is recognized with Frost & Sullivan's 2022 Global Customer Value Leadership Award in the electronics manufacturing test data management industry.

What You Need to Know about the Customer Value Leadership Recognition

Frost & Sullivan's Customer Value Leadership Award recognizes the company that offers products or services customers find superior for the overall price, performance, and quality.

Best Practices Award Analysis

For the Customer Value Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Business Impact

Financial Performance: Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

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The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

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Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Mega Trend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

