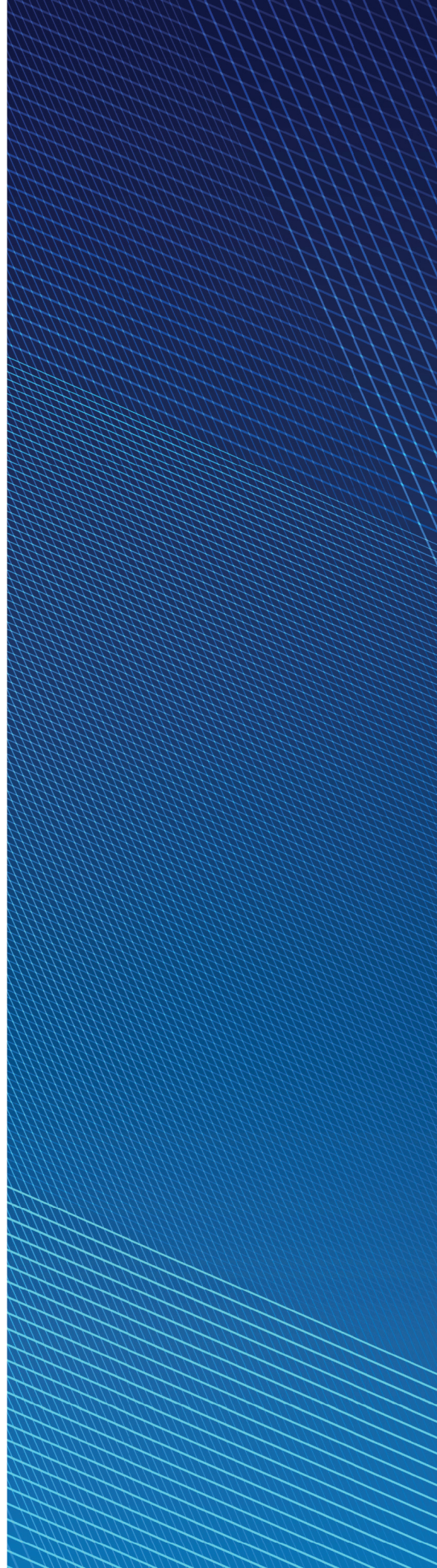# FROST & SULLIVAN

TRIHEDRAL RECEIVES THE 2023 CUSTOMER VALUE LEADERSHIP AWARD

Identified as best in class in the global SCADA solution 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. Trihedral excels in many of the criteria in the SCADA solutions space.

AWARD CRITERIA

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

An Eminence in the SCADA Solutions Market

Founded in 1986 and headquartered in Bedford, Nova Scotia, Canada, Trihedral Engineering Limited (Trihedral) is a Delta Group company that develops monitoring and control software for industrial automation. Its flagship product is VTScada, an Industrial Internet of Things and supervisory control and data acquisition (SCADA) software platform used in various industries such as oil and gas, water and wastewater, power and utilities, manufacturing, and transportation.

> *"Over time, Trihedral expanded its presence to nine offices across Canada, Scotland, and the United States. In 2022, the company experienced significant growth, with a 30% increase in software sales and the addition of skilled professionals to its global team."*
>
> *- Silvana Rulet*
> *Best Practices Research Analyst*

VTScada helps organizations monitor and control their industrial processes in real time, enabling them to optimize operations, improve efficiency, and enhance safety. The software provides a comprehensive set of tools for data acquisition, alarm management, data logging, reporting, and graphical visualization of process data. It also supports integration with various hardware devices, protocols, and databases, allowing seamless connectivity with different industrial equipment and systems.

In 2022, Frost & Sullivan recognized Trihedral for its revolutionary SCADA and Human-Machine Interface software and remains impressed with its continuous innovation and sustained leadership.

Superior Operational Efficiency Attracts Business

One of Trihedral's strongest values is efficiency. VTScada, the company's high-performing software product, aids clients in optimizing business operations and improving process safety. The company's software collects data from industrial devices, visualizes it through graphical displays, manages alarms, logs historical data, allows for custom logic and automation, provides security, and offers scalability and redundancy for industrial process monitoring and control. VTScada is unique in that all its core SCADA functionality is developed and maintained in-house ensuring system longevity, smooth scalability, and simplified licensing.

Below is an overview of its features:

- **Data Acquisition**: It collects data from various sources, such as sensors, programmable logic controllers (PLCs), remote terminal units (RTUs), and other devices, using over a hundred built-in communication protocols, such as Modbus, Open Platform Communications (OPC), and Distributed Network Protocol 3 (DNP3). It can also integrate with databases, historians, and external systems to gather data.
- **Data Processing**: The software processes the data in real time, validating, filtering, and transforming it as per the configured rules and logic. This process may include scaling, unit conversions, and data quality checks.

VTScada's Intuitive Operator Interface

Source: Trihedral

- **Alarm Management**: VTScada monitors the acquired data for abnormal conditions or events and generates alarms or notifications for operators to take appropriate actions. End users can configure alarms based on predefined thresholds or custom logic and prioritize and escalate for effective alarm management.
- **Visualization**: The software provides a graphical user interface (GUI) that allows operators to monitor the processes and equipment through visual displays, such as mimic diagrams, trends, and dashboards. Different industries and processes can tailor the GUI to suit their specific needs, as it is highly customizable.
- **Control**: VTScada allows operators to use the GUI to control processes and equipment either through onsite workstations or remotely using secure Thin Client connections. This includes starting/stopping equipment, adjusting setpoints, and sending commands to actuators. VTScada supports advanced control strategies, such as Proportional-Integral-Derivative control, and can implement complex control logic.
- **Reporting**: The software can generate various reports, including production reports, performance reports, and event logs that clients can use for analysis, auditing, and decision-making purposes. Users can schedule or generate reports on-demand and customize them to meet specific requirements.

- **Integration:** It can integrate with other systems, such as databases, historians, Enterprise Resource Planning systems, and external applications, through standard interfaces - such as OPC, Open Database Connectivity, and web services. This allows for seamless data exchange and interoperability with other systems in the industrial ecosystem.

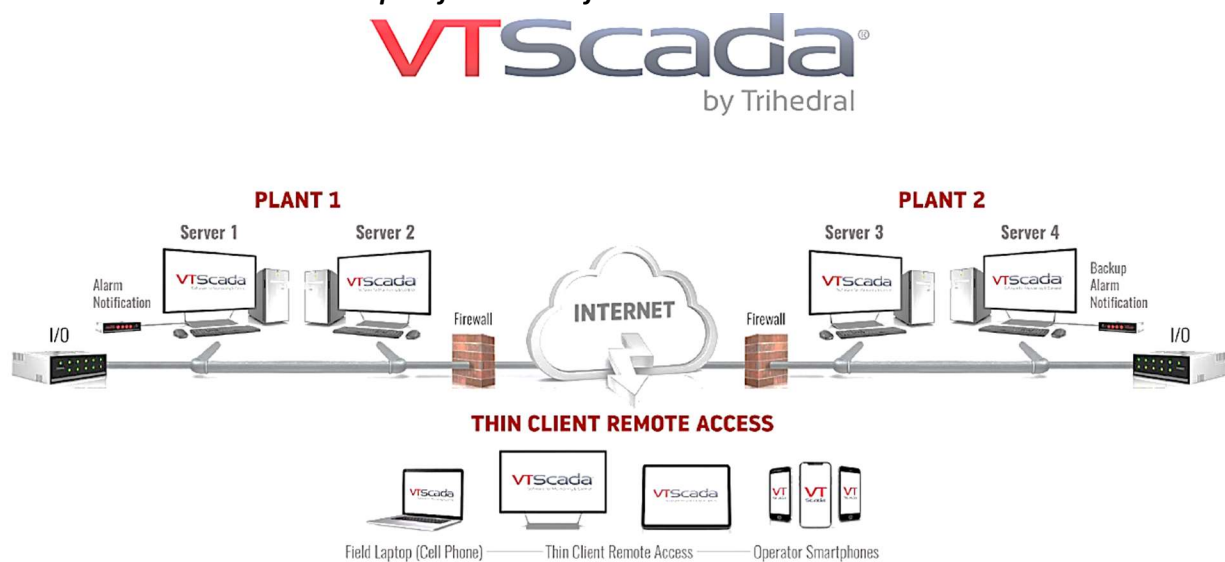### *Driving Unmatched Client Experiences*

Trihedral serves customers across various verticals, including oil and gas, broadcasting, manufacturing, and transportation, to name a few. The company utilizes several key strategies to ensure the best service experience and cultivate a sense of ownership and pride among its customer base.

Trihedral's VTScada software is known for its reliability, performance, and comprehensive features that meet various industries' needs. The company builds customer trust by offering a robust and dependable solution, leading to increased customer loyalty and retention. It also strongly emphasizes exceptional customer support, including timely and responsive technical support, product updates, and maintenance services. The support team is experienced in SCADA and industrial automation and strives to resolve customer inquiries and issues promptly.

Additionally, it provides training and educational resources to help clients maximize the VTScada software's value. This strategy includes providing comprehensive training programs, documentation, online resources, and webinars to assist customers in effectively using and optimizing their software. VTScada recently released VTScada Academy, a no cost online training utility that allows first-time and experienced users to opportunity to learn topics at their own pace.

VTScada is highly customizable and flexible, allowing clients to tailor the solution to their needs. The ability to adapt the software to different industries, processes, and requirements provides customers with a personalized experience and enables them to achieve their unique automation goals.

An example of VTScada's flexible distributed Architecture

Frost & Sullivan appreciates how the company is committed to continuous innovation and regularly updates its software with new features, enhancements, and performance improvements. For example, in

addition to VTScada's unique and powerful reactive programming language its most recent update includes additional performance enhancing features to continue to meet the needs of ever-growing industrial systems. Frost & Sullivan believes that this innovative focus truly demonstrates Trihedral's dedication to delivering cutting-edge technology and ensuring its software remains relevant and up-to-date in the rapidly evolving industrial automation landscape.

Furthermore, the company accommodates unique budgetary and operational requirements by offering competitive pricing and flexible licensing options for the VTScada software. This way, clients can select the pricing and licensing model most suitable for their needs, guaranteeing a positive purchase experience.

VTScada's Thin Client

Source: Trihedral

Another way Trihedral provides a best-in-class service experience is by building strong, long-lasting customer relationships. To achieve this, it maintains regular communication, seeks feedback, and understands client needs. A customer-centric approach allows the company to establish trust and loyalty and ensures repeat business.

By combining reliable software, excellent customer support, training and education, customization, innovation, competitive pricing, and strong customer relations, Trihedral strives to offer the best purchase experience and retain satisfied customers in the industrial automation and SCADA software market.

A Promising Outlook for 2023 and Beyond

"Trihedral's VTScada software is known for its reliability, performance, and comprehensive features that meet various industries' needs. The company builds customer trust by offering a robust and dependable solution, leading to increased customer loyalty and retention. It also strongly emphasizes exceptional customer support, including timely and responsive technical support, product updates, and maintenance services."

- Sebastian Trolli
Senior Industry Analyst, Industrial Technologies

Since its inception, Trihedral's sterling reputation and customer-centric framework have led to its coveted preferred partner status. It collaborates with esteemed companies and government institutions, such as Crystal Clear Water Supply Corporation in Texas, Affinity Energy, and the Georgetown Municipal Water and Sewer Service. Additionally, the International Gemini Observatory operated by NOIRLab recently adopted VTScada to improve efficiency and flexibility using augmented reality[1].

Over time, Trihedral expanded its presence to nine offices across Canada, Scotland, and the United States. In 2022, the company experienced significant growth, with a 30% increase in software sales and the addition of skilled professionals to its global team[2].

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[1] Discussed in the recorded Frost & Sullivan and Trihedral interview on March 27, 2023.
[2] Also mentioned during the March 27, 2023 interview.

Moreover, the VTScada 12.1 release included the achievement of cyber security certification for safe product development under IEC 62443-1 ML 2.

Frost & Sullivan analysts firmly believe that the company is well-positioned to drive the SCADA solutions space into its next growth phase, capturing market share and sustaining leadership in the coming years.

Conclusion

Customer-centric strategies help companies safeguard leading positions in markets, but only if the approach is authentic - and the implementation is seamless. Trihedral Engineering Limited (Trihedral) incorporates client-focused strategies and exemplifies best practices implementation. The company offers an all-in-one solution with VTScada, an adaptable software that connects to and integrates with clients' existing systems. Moreover, it features a comprehensive set of tools for acquiring, managing, and visualizing process data, including data logging, reporting, and graphical visualization. These capabilities provide flexibility, scalability, and safety while optimizing business processes.

In addition to product reliability, Trihedral implements several strategies to deliver outstanding customer service. The company offers customer support and educational resources like webinars and training programs. It allows customization and offers consistent innovation-focused software updates. Furthermore, the company provides competitive pricing and flexible licensing options tailored to clients' unique price points and use cases. It also builds long-term relationships with them by proactively soliciting feedback and maintaining continuous communication.

To ensure a strong bond with its users, Trihedral hosts an annual week long VTScada Users' Conference and training even in Orlando, Florida bringing SCADA and industry best practices to hundreds of customers, consultants, and partners from around the world.

Frost & Sullivan analysts conclude that this overall customer-first approach offers immense value to existing and new customers and solidifies Trihedral's reputation in the market.

With its strong overall performance, Trihedral earns the 2023 Frost & Sullivan Global Customer Value Leadership Award in the SCADA solutions 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

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

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™.
Learn more.

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)**