2009 Global NDT Product Line Strategy of the Year Award

Sonotron NDT

The 2009 Frost & Sullivan Award for Product Line Strategy of the Year in the world of nondestructive testing (NDT) equipment market is conferred upon Sonotron NDT for its line of high quality NDT equipment that appeals to a wide variety of customers. Sonotron NDT's ability to provide cost-efficient, high quality products that seamlessly integrate the industry's latest standards and technologies has cemented its position as an innovative solution provider in the NDT equipment market. Headquartered in Israel, the company has a strong global presence and has consistently delivered top-of-the-line products and services used for multiple applications across a wide range of industries including aerospace, oil, gas & petrochemical, power generation, military and nuclear among others.

Product Portfolio

A relatively young company, founded in 1993, Sonotron NDT has grown in stature progressively over the years. Today, through continuous innovation, Sonotron NDT has carved itself a reputation as being a company with superior technological expertise to address the needs of its customers. The Sonotron NDT product line includes high performance yet affordable and easy-to-use NDT equipment to meet the demands of diverse target markets with ease.

The NDT market is a highly mature and fiercely competitive market, dominated by world-class manufacturers. To remain competitive in this market, Sonotron NDT focuses on its core strengths: superior performance, continuous innovation and commitment to product development to meet the current and future needs of its customers. Today's company's product line comprises 10 standard products from simple high-end flaw detectors to complicated automated testing systems. Through 2007 and 2008 Sonotron NDT added seven new products to its portfolio; the most sophisticated of them are ISONIC PA AUT, ISONIC AUT 16/32, ISONIC 2009 UPA Scope, ISONIC 2008, and ISONIC 2006.

ISONIC PA AUT is portable automated ultrasonic inspection system that combines phased array (PA), TOFD, and conventional pulse echo modalities. Originally designed for the rapid automatic inspection of girth welds in the constructed off-shore and on-shore pipelines ISONIC PA AUT is also suitable for other various applications. Standard-configured ISONIC PA AUT carries 128 PA and 16 conventional channels allowing simultaneous use of two 64-elements PA probes and up to 16 regular pulse echo and TOFD probes / probe pairs in any combination. For the inspection of girth welds ISONIC PA AUT weighting 6.5 kilograms only is fitted onto and controls the original orbital scanner. Regular remote PC connected to the instrument through Ethernet provides full control, data acquisition and imaging in

real time, thus no expensive bulky vulnerable umbilical involved – just simple thin light armoured tube carries DC wires and LAN cable, which are connected to the machine through specially designed rotating terminal. Thanks to innovative architecture ISONIC PA AUT has extremely low power consumption and high immunity to industrial noise; it doesn't require any type of external cooling. The ISONIC PA AUT's signal-to-noise ratio and dynamic range is among the best in the industry. It is achieved through avoiding long analogue umbilical and firing probes with unique bi-polar square wave initial pulse reaching up to 300 volt peak to peak for PA and up to 400 volt peak to peak for conventional channels; the analogue gain is controllable over 100 dB range for both modalities. The highest possible speed of data processing is provided for the PA modality thanks to parallel A/D conversion (no multiplexing involved): independently on the desired size of emitting and receiving aperture implementation of every focal law is completed within single pulsing-receiving cycle. Along with real time strip chart data presentation ISONIC PA AUT captures all raw data A-Scans whilst performing automatic inspection making it fully compatible with ASME 2235 code case regulating use of ultrasonic inspection in lieu of radiography.

ISONIC 2009 UPA Scope is portable 64:64 ultrasonic PA flaw detector and recorder. Depending on configuration it may carry 1, 8, or 16 additional conventional channels for regular pulse echo and TOFD probes. High dynamic range and signal-to-noise ratio are achieved through firing probes with bi-polar square wave initial pulse reaching up to 300 volt peak to peak for PA and up to 400 volt peak to peak for conventional channels; the analogue gain is controllable over 100 dB range for both modalities. The low-level power consumption is provided by innovative architecture of the electronics. As for PA modality the highest possible speed of data processing is provided thanks to parallel A/D conversion (no multiplexing involved): independently on the desired size of emitting and receiving aperture implementation of every focal law is completed within single pulsing-receiving cycle. Along with traditional S-Scan and B-Scan ISONIC 2009 UPA Scope is featured with a number of unique modes of operation such as Tandem B-Scan, Lateral CB-Scan, True-to-Object-Geometry S-Scan and B-Scan, C-Scan and P-Scan, 3D-Viewing, etc. For the inspection of various types of welds ISONIC 2009 UP Scope is featured with True-to-Weld-Bevel S-Scan and B-Scan modes of imaging representing probe position and real distribution of ultrasonic beams in the weld and parent material with counting multiple reflections, curvatures, etc. It is another unique feature of ISONIC 2009 UPA Scope the ability of receiving and processing both reflected and diffracted signals from discontinuities simultaneously whilst in PA mode providing single PA probe implementation of Delta-Technique for defects pattern recognition, automatic determining of actual size of cracks, etc. As for conventional channels ISONIC 2009 UPA Scope provides typical industry-accepted TOFD, B-Scan, CB-Scan, strip chart, and C-Scan data presentation. All unprocessed A-Scans are recorded in the ISONIC 2009 UPA Scope for every mode of operation making it fully compatible with key industry standards, codes, and procedures.

ISONIC 2008 is one of the smallest 8-channel digital ultrasonic flaw detectors in the world and ISONIC AUT 16/32 is portable platform 16/32-channel for automatic ultrasonic flaw detection. Both instruments allow typical industry-accepted TOFD, B-

Scan, CB-Scan, strip chart, and C-Scan presentation with 100% raw data capturing whilst implementing multi-channel inspection with use of conventional probes.

ISONIC 2006 is portable ultrasonic flaw detector uniquely allowing mechanics free true-to-location B-, C-, D-, P-Scan, and TOFD data imaging for manual free-hand-scanning. Probe position and orientation on the object under test are determined by unique built-in airborne ultrasound based circuit and sensors. 100% raw data storage is provided including unprocessed A-Scans and scanning coverage (testing integrity) record.

The key features associated with all of Sonotron NDT's instruments are:

- ☑ Intuitive user interface and real time imaging with 100% raw data recording
- ☑ Flexible client-server programmed architecture providing fast implementation of non-typical inspection tasks specified by customers
- ☑ Modern communication protocol allowing control by remote PC through LAN or Internet enabling one person to control multiple inspections from the comfort of an office, trouble shooting, real time second opinion, etc without any limitation on distance

Investment in R&D

Since its inception, the company has consistently expanded its product portfolio through continuous investment in R&D. Sonotron NDT's excellent capabilities to respond to customer needs, striving to offer them the best solution at the right price and in a timely manner, is the direct result of its commitment to R&D. In 2007, the company invested close to 20 percent of its overall revenue in R&D. The company's R&D budgets are based on long-term development programs. As such, despite the global financial crisis, Sonotron NDT continues to invest in R&D to enhance its existing product line and develop new products that incorporate appropriate features and functionality, so as to remain competitive with respect to technology, price, and performance.

Customer-centric Approach

With a keen understanding of the pulse of the market, the company has understood better than most the importance of dedication to customers. While most companies look to develop stronger ties with customers as well as understand their immediate needs through trades shows and exhibitions, Sonotron NDT believes in getting even closer to the customer. The company regularly travels to customer sites, to carry out inspection demonstrations on their samples and in their real working conditions. Apart from this, the company also has representatives across the globe to address the needs of its widespread customer base.

Conclusion

Sonotron NDT has benefited enormously from the guidance and knowledge base of its scientist founders and its products have become synonymous with reliability and great value for money. The company has consistently demonstrated its commitment

towards its customers through its innovative product line and excellence in customer service. In recognition of this fact, the 2009 Frost & Sullivan Award for 2009 Product Line Strategy is presented to Sonotron NDT.

Award Description

The Frost & Sullivan Product Line Strategy of the Year Award is presented each year to the company that has demonstrated the most insight into the needs and product demands of its customers. The recipient company has optimized its product line by leveraging products with the various price, performance, and feature points required by one or more market segments.

Research Methodology

To select the Award recipient, the analyst team tracks end-user requirements and market dynamics within the industry. This process includes interviews with suppliers, end-users, and industry experts. The product lines are compared with customer base demands, and the top-ranking provider is then presented the Award.

Measurement Criteria

In addition to the methodology described below, there are additional criteria used to determine the final competitor rankings in this industry. The recipient of this Award will have excelled in one or more of the following criteria:

- Introduction of new products, strategically positioned to balance the product line
- Ability to accommodate different market segments, or different markets within an industry, by repurposing technology
- Enhancement of product offerings through optimization of packaging, service, delivery, financing, and/or other value-added services
- Strategic technology or marketing acquisitions or alliances

About Best Practices

Frost & Sullivan Best Practices Awards recognize companies in a variety of regional and global markets for demonstrating outstanding achievement and superior performance in areas such as leadership, technological innovation, customer service, and strategic product development. Industry analysts compare market participants and measure performance through in-depth interviews, analysis, and extensive secondary research in order to identify best practices in the industry.

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