FROST & SULLIVAN

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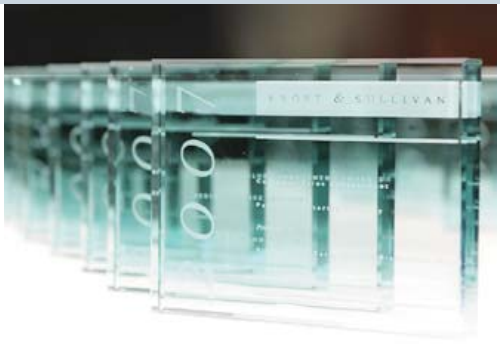
# Hie Electronics, Inc: Recipient of the 2007 North American Video Surveillance Product Innovation of the Year Award




*From left to right: Sandeep Maheshwari, Frost & Sullivan, Vice President Automation & Electronics; Richard Poole, Hie Electronics, Inc., Systems Architect*

*"Partnering with clients to create innovative growth strategies"*

## 2007 North American Video Surveillance Product Innovation of the Year Award

### Award Description

The Frost & Sullivan Award for Product Innovation of the Year Award is presented each year to the company that has demonstrated excellence in new products and technologies within its industry. The recipient company has shown innovation by launching a broad line of emerging products and technologies.

### Research Methodology

To choose a recipient of this Award, the analyst team tracks all new product launches, R&D spending, products in development, and new product features and modifications. This is accomplished through interviews with the market participants and extensive secondary and technology research. All new product launches and new products in development in each company are compared and evaluated based on degree of innovation and customer satisfaction. Companies are then ranked by number of new product launches and new products in development.

### Measurement Criteria

In addition to the methodology described above, there are specific criteria used to determine final competitor rankings in this industry. The recipient of this Award has excelled based on one or more of the following criteria:

- Significance of new product(s) in its industry
- Competitive advantage of new product(s) in its industry
- Product innovation in terms of unique or revolutionary technology
- Product acceptance in the marketplace
- New products value-added services provided to customers
- Number of competitors with similar product(s)



Hie Electronics, Inc. is the recipient of the 2007 Frost & Sullivan Award for Product Innovation of the Year in the North American video surveillance market. The company has been recognized for its product innovation capabilities in reducing the total cost of ownership in video surveillance applications with deep archive requirements.
Company Overview

Founded in 2004, the company aims at developing, manufacturing, and selling dense optical recording solutions to meet the government and corporate security needs. Powered by a workforce with an established background in information technology, networking, and software, the company has made an ambitious foray into long-term permanent storage. Its breakthrough solutions offer low-cost advanced optical storage integrated with patented software on a PC platform. With a relatively low-priced product line that offers very high storage capacity when compared to DVR systems, it caters to both wired and wireless systems. Its products find applications in homeland and corporate asset security. In addition, due to their requirement for huge data storage, the company also caters to casinos, large multi-store chains and convenience stores, and the medical industry.

## Overcoming the Cost Barrier

The main concern in the storage space is the extremely high cost that one has to incur while archiving data for more than 30 days. The usual digital hard-drive based solutions become increasingly ineffective in terms of cost and reliability in case of storage requirements in terabyte levels. At an enterprise level implementation, it is also necessary to look at the total cost of ownership of the system. This amounts to addressing a wide range factors encompassing operating costs, hardware and software costs, and personnel to manage the system.

Hie Electronics' TeraStack® solution and TBYTe® series, in addition to being easy to use and compatible across video surveillance systems have been designed and developed to address these concerns. The company offers a definite overall cost advantage through its systems designed for data storage capabilities beyond terabytes, in the petabyte range. The cost of a 50 terabyte system is about $245,000 which includes the fee for the licensed software. When this is benchmarked with a characteristic hard-drive-based system with similar data storage capabilities, which costs millions of dollars, it offers a clear cost advantage.

## The TeraStack/TBYTe Solution

The TBYTe® series offers a hybrid flash, hard disk drive (HDD) and Blu-ray dense optical storage with read-write and write-once options. The TBYTe® 25 or 50 (named based on the terabytes of storage space available) is 30 inches tall and fits into a 19-inch rack-mounted model, giving it a distinct size-to-storage space advantage over other RAID array-based storage systems. It contains eight TeraStack® storage stacks with a capacity of 6.25 terabytes each. At present, each TeraStack® can store up to 125 optical media. The TBYTe®, in its 8 TeraStacks, can randomly access up to 1000 Blu-Ray discs and can simultaneously record, store and replay data to remote clients.

One of the many diverse features of the TeraStack® solution is its ability to be remounted into a different TBYTe® unit after a period of time with the file structure intact.

This system, with the ability to archive and retrieve such vast amounts of data, operates with the same amount of power as consumed by a single PC, which is close to 800 Watts. Consequently, the amount of heat generated when compared to hard-drive based solutions is very low, which dispenses the rigorous data management environment of large data storage systems. In addition, the system is also energy-passive even as it is scaled to higher levels of data storage. Furthermore, with advanced alarm systems and enabled forensic analysis embedded within the system, the product has an unequivocal competitive advantage.

## The Total System Standpoint: Operation, Scalability and Compatibility

Designing a long term storage system is a combination of factors that determine its regular operation, scalability, and compatibility.

Several applications in video surveillance such as medical data storage need non-volatile data to be stored for a period of more than 20 years. In these situations, if the data storage system is unreliable, it can involve migrating huge amount of data across the network.

On the other hand, the TeraStack® solution offers the unique option of storing the data for the entire period and then destroying it when needed.

Hie Electronics has developed unique software which monitors any data generating application real time. This powerful product element is a key component of the Hie Electronics TBYTe® and TeraStack® solution. A wide variety of data generation applications can run on this platform, as it offers a clear demarcation at the kernel level between application and TeraStack® solution storage extension. Using ISO-grade software development tools based

upon JAVA, JBOSS, J2ee, and Oracle, the Hie Electronics TBYTe® is compatible with a large number of presently available applications including many different video surveillance system platforms.
The compatibility of the software gives the TBYTe® a distinctive capability to provide extended data storage to any data generating applications and especially DVR systems within the TBYTe® platform. On the other hand, the TeraStack® solution can also provide existing legacy, network centric and or analog systems the advantage of long-term data storage.

### Network Data Access

With limited bandwidth capacities of existing networks, accessing large amounts of data across them can become very challenging. In large systems that could have thousands of security cameras, this can result in bandwidth usage. Network-based systems are moving toward edge-of-network data compression techniques to limit bandwidth usage. The TBYTe® series employs the H.264, MPEG4 Part-10 compression to limit the bandwidth consumed by the streamed video. Furthermore, query-based data retrieval from the host system to the client system reduces network traffic.

### Summary of Best Practices

Hie Electronics, Inc. has a strong product development competence oriented toward long-term data storage, which is expected to ensure the company's technical leadership in this industry. With a cost-effective product with unique physical and software characteristics, it has obtained a definite edge over its immediate competitors within this product region. Patented kernel-level software provides it with the critical lead of a couple of years to enhance its product line. Frost & Sullivan expects that this lead coupled with its engineering force will propel it toward further product innovation in the optical data storage arena. Hence, Frost & Sullivan presents Hie Electronics, Inc. with the 2007 Product Innovation of the Year Award for the video surveillance market in North America.



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