

DEFINIENS®

Understanding Images

Definiens: Recipient of the
2007 United States Frost & Sullivan Award for
Technology Leadership



*From left to right, Greg Calaman, Definiens, Vice President North American Operations
Monique Gibelli, Frost & Sullivan, Global Vice President, Best Practices*

“Partnering with clients to create innovative growth strategies”



2007 United States Frost & Sullivan Award for Technology Leadership

Award Description

The Frost & Sullivan Technology Leadership Award is bestowed each year upon the company that has demonstrated excellence in technology leadership within their industry. The recipient company has demonstrated technology leadership by excelling in all stages of the technology life cycle-incubation, adaptation, take-up, and maturity-to ensure a continuous flow of improvements. By innovating leading-edge concepts, the company has pioneered client applications.

Research Methodology

To choose the recipient of this Award, the analyst team tracks all emerging technologies and ongoing research and development projects within the industry. This process includes interviews with all the market participants and extensive secondary and technology research. The technologies and research projects are then compared according to customer base demands. Also considered are elements such as feasibility of product launch, likelihood of customer acceptance and acceptance rates, and estimated time to market. Competitors are then compared and ranked for relative position. The company chosen to receive the Award received the number one industry ranking.

Measurement Criteria

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

- Significance of the technology in the industry
- Number of competitors having similar industry technology (competitive factor)
- The technology refinement process meets changing end-user needs (addresses research and development efforts by vendors)
- Value-added technology and services to the customers
- Adoption rate by each of the industry participants (denotes responsiveness of the vendors)
- New product innovation
- Time to market

Award Recipient: Definiens

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Definiens is the recipient of the 2007 Frost & Sullivan Technology Leadership Award in the U.S. High Content Screening Market. The company is rewarded for its high content image analysis framework Definiens Cellenger®, for handling 3D and 4D data, which is based on Definiens Cognition Network Technology®. With its strong expertise in Enterprise Image Intelligence™, Definiens strategically builds on its strengths with Definiens Cellenger®. Moreover, by forming strategic collaborations to deliver tailored applications to the high content screening market, Definiens is likely to maintain its technology leadership position with regards to high content screening informatics.

One of the greatest restraints to high content screening market growth is the lack of effective technologies for data analysis. The vast amount of data generated by high content screening has led to a huge amount of data that needs to be analyzed. Data interpretation technology allows researchers to more efficiently identify and understand the interesting pathways and mechanisms that give rise to the screening responses. It is, therefore, critical to be able to analyze the data generated during the high content screening process. The lack of validated statistical methods to ensure the integrity of the data obtained during the screening is becoming challenging for most companies involved in drug discovery. Data storage and interpretation are key to be able to evaluate future drug candidates.

The wealth of data provided by high content screens creates significant information management challenges. With currently available informatics tools, it is considered to be extremely difficult to track the amount of data from screens that involve more than a couple of hundred genes. Data management solutions are first expected to be able to manage higher volumes of data, and analyze and visualize those data, before high-content screens can be more effectively employed. Researchers are currently putting pressure on high content screening vendors to provide the informatics tools necessary to support available instrumentation.

Definiens has clearly responded to the market demand with informatics tools that are capable of providing detailed, reliable, and fully automated image analysis. Definiens Cognition Network Technology® uses objects' color, shape and size, as well as their specific context and relationships, to understand how cells work. Based on this technology, Definiens Cellenger® provides researchers with a powerful tool for the tracking of cells in 3D over time. Definiens Cellenger® provides useful data regarding cell morphology and structure, including correlating cell speed changes and persistence of movement. Unlike convention analysis tools, which provide a 2D snapshot, 3D and 4D capability enables researchers to analyze cellular processes over time, dramatically increasing their insights into cellular biology. As a result, the Definiens technology will drastically impact the drug discovery process by accelerating screening.

Belonging to the Definiens Enterprise Image Intelligence™ Suite, Definiens Cellenger® is a highly flexible application that seamlessly integrates and complements existing workflows, whether they involve assay development, screening or informatics. The company's technology leadership is exemplified by the innovative Definiens Cellenger® algorithms that provide accurate multi-dimensional segmentation of objects, even with heterogeneous cell populations or imperfect images that were taken under poor conditions.

Definiens is able to add value to its technology leadership position by forming a strategic worldwide, non-exclusive co-development and marketing agreement to deliver tailored applications to the high content screening market. In December 2004, Definiens announced its collaboration with BioImage whereby Definiens provides its Definiens Cellenger® application as a complementary technology to BioImage's Redistribution® technology-based cell-based pathway screening assays. The collaboration empowers researchers with the technologies necessary to perform robust data extraction from high content cell-based assays with a flexibility and throughput not previously available.

Definiens Cellenger® high content image analysis application is a truly innovative and enabling technology for handling 3D and 4D high content screening image data. For strategic marketing and the significance and uniqueness of the technology in the high content screening market, Frost & Sullivan is proud to recognize Definiens with the 2007 Technology Leadership Award in the U.S. High Content Screening Markets for its Cognition Network Technology® and Cellenger® high-content image analysis application.



About Frost & Sullivan

Frost & Sullivan, a global growth consulting company founded in 1961, partners with clients to create value through innovative growth strategies. The foundation of this partnership approach is our Growth Partnership Services platform, whereby we provide industry research, marketing strategies, consulting and training to our clients to help grow their business. A key benefit that Frost & Sullivan brings to its clients is a global perspective on a broad range of industries, markets, technologies, econometrics, and demographics. With a client list that includes Global 1000 companies, emerging companies, as well as the investment community, Frost & Sullivan has evolved into one of the premier growth consulting companies in the world.

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