

# 2010 European Digital Radiography New Product Innovation Award







#### Frost & Sullivan's Global Research Platform

Frost & Sullivan is entering its 49<sup>th</sup> year in business with a global research organization of 1,800 analysts and consultants who monitor more than 300 industries and 250,000 companies. The Company's research philosophy originates with the CEO's 360 Degree Perspective,\* which in turn serves as the foundation of its TEAM Research\*\* methodology. This unique approach enables us to determine how best-in-class companies worldwide manage growth, innovation and leadership. Based on the findings of this Best Practices research, Frost & Sullivan is proud to present the "2010 European Digital Radiography New Product Innovation Award", to Carestream Health Inc.

## Significance of the New Product Innovation Award

# Key Industry Challenges Addressed by Developing Innovative Products with Enhanced Features

Radiology has witnessed a technological evolution in the past few decades with the development of newer imaging modalities. The emergence of digital radiography has altered the face of conventional radiography. There has been a transition from film-based systems to film-less system, which is being fuelled by a need for improved workflow, productivity, efficiency and accurate diagnoses. Although DR offers a wide range of applications and is far more superior to CR in terms of image quality and throughput, the cost and flexibility of these systems has slowed the pace of the market's growth. Since 2001, the flexibility of DR systems has vastly improved with the advent of portable systems. Although portable detectors have added a great deal to the flexibility of these systems, there are still a few limitations in terms of the inability to use these systems beyond a certain range and outside the examination area without an additional console. This poses a challenge to the DR market.

#### Development of a new and innovative world's first wireless cassette sized detector

Carestream Health has taken the flexibility of DR systems to another level with its DRX-I system, a breakthrough in digital x-ray imaging. The DRX-I system is the world's first cassette sized wireless detector that is compatible with the existing equipment. Carestream provides end-users with an opportunity to make the transition to digital from existing conventional analog or CR systems. With the Carestream DRX-I system, the conversion to digital has been made easier, fast and cost-effective.

### Key Benchmarking Criteria for New Product Innovation Award

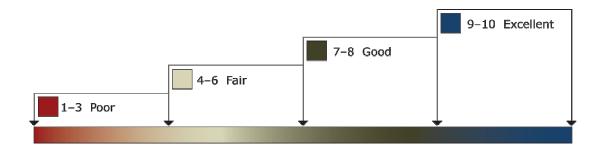
For the New Product Innovation Award, the following criteria were used to benchmark Carestream's performance against key competitors:

- Innovative Element of the Product
- Leverage Leading Edge Technologies in Product
- Value Added Features/Benefits
- Increased Customer ROI (small change)
- Customer Acquisition/Penetration Potential

### **Decision Support Matrix and Measurement Criteria**

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Matrix (DSM). The DSM is an analytical tool that compares companies' performance relative to each other with an integration of quantitative and qualitative metrics. The DSM features criteria unique to each award category and ranks importance by assigning weights to each criterion. The relative weighting reflects current market conditions and illustrates the associated importance of each criterion according to Frost & Sullivan. Fundamentally, each DSM is distinct for each market and award category. The DSM allows our research and consulting teams to objectively analyze each company's performance on each criterion relative to its top competitors and assign performance ratings on that basis. The DSM follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are shown in Chart 2.

Chart 2: Performance-based Ratings for Decision Support Matrix



This exercise encompasses all criteria, leading to a weighted average ranking of each company. Researchers can then easily identify the company with the highest ranking. As a final step, the research team confirms the veracity of the model by ensuring that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

Chart 3: Frost & Sullivan's 10 Step Process for Identifying Award-Recipients



# Best Practice Award Analysis for Carestream Health

The Decision Support Matrix, shown in Chart 4, illustrates the relative importance of each criterion for the New Product Innovation Award and the ratings for each company under evaluation. To remain unbiased while also protecting the interests of the other organizations reviewed, we have chosen to refer to the other key players as Competitor I and Competitor 2.

Chart 4: Decision Support Matrix for New Product Innovation Award

Measurement of $I-10$ ( $I = lowest$ ; $I0 = highest$ )	Award Criteria					
	Innovative Element of the Product	Leverage Leading Edge Technologies in Product	Value Added Features/Benefits	Increased Customer ROI (small change)	Customer Acquisition/Penetration Potential	Weighted Rating
Relative Weight (%)	20%	20%	20%	20%	20%	100%
Carestream Health	9	9	8	9	8	8.6
Competitor I	8	8	8	8	8	8.0
Competitor 2	8	7	7	7	7	7.2

#### Criterion I: Innovative Element of the Product

Carestream's DRX-I panel allows facilities to go digital while still retaining their existing analog system without the need for additional retrofits. Facilities can make the transition to digital by simply inserting the DRX-I panel into their existing old buckys. Many DR retrofits require the bucky to be removed and replaced with a DR bucky or oversized bucky. However, this is not required with Carestream's DRX-I as it can be easily integrated into the existing equipment. The DRX-I offers end users the workflow similar to that of a full DR system.

#### Criterion 2: Leverage Leading Edge Technologies in Product

The DRX-I system consists of a console and a wireless cassette sized DR detector, which provides a rapid transition to digital for users of CR or conventional analog system. The system requires no modification to existing analog or CR equipment. The DRX-I system offers excellent image quality and improved workflow as it incorporates similar imaging software and image processing capability as that of Carestream's DR and CR systems. The DRX-I fits conveniently into a conventional (35 x 43 cm) cassette bucky. Owing to its wireless capability, images can be transmitted to the PACS network without the need for cables. The DRX-I panel can be used on a bucky, wall stand and table top configurations. Images can be previewed within 5 seconds and processed at the quality control console with a touch screen monitor. The detector can retain up to 90 images with a battery that holds charge up to 4 hours and therefore, a busy facility might require to recharge the battery just twice during which the facility can simply revert to CR or film-based operation to maintain productivity levels.

#### Criterion 3: Value Added Features/Benefits

Price has always been a retardant factor for the DR market, slowing the pace of growth. On the contrary, CR has enabled facilities to go digital at low costs but with the DRX-I system, Carestream believes that the benefits are greater. DRX-I is not only compatible with existing equipment but also is cost effective with the panel carrying a list price of \$125,000 as opposed to DR list price ranging from \$250,000 to \$650,000.

#### **Criterion 4: Increased Customer ROI**

The DRX-I system will prove beneficial to end users who have recently purchased conventional systems and are yet keen on making the transition to digital. In that case, they need not do away with the existing equipment. Instead, they can upgrade to digital with the simple addition of the DRX-I panel. Carestream offers the opportunity to acquire workflow similar to that of a DR system with the DRX-I system, thereby providing greater productivity.

#### **Criterion 5: Customer Acquisition/Penetration Potential**

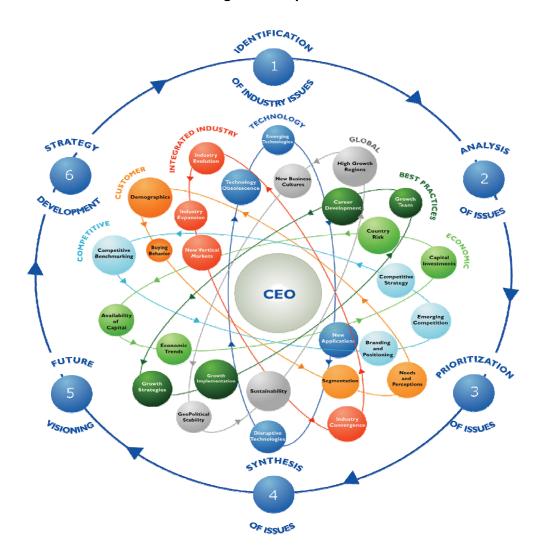
Carestream's DRX-I is designed for general radiography procedures, trauma and orthopedics. Since its launch in mid-2009, the response from end users to the innovative wireless detector has been outstanding. Carestream has received orders from healthcare facilities all over the world and has already begun catering to customers in the U.K, Germany, France, Denmark, Sweden, Finland, Austria, Canada, Czech Republic and the United states. Healthcare providers have shown keen interest in the system as it offers affordable and rapid conversion for facilities still using film or CR systems. It also provides an opportunity to improve workflow, productivity and image quality while still retaining existing equipment.

# The CEO 360 Degree Perspective<sup>™</sup> - Visionary Platform for Growth Strategies

The CEO 360 Degree Perspective model provides a clear illustration of the complex business universe in which CEOs and their management teams live today. It represents the foundation of Frost & Sullivan's global research organization and provides the basis on which companies can gain a visionary and strategic understanding of the market. The 360 degree perspective is also a "must-have" requirement for the identification and analysis of best-practice performance by industry leaders.

The 360 degree model enables our clients to gain a comprehensive, action-oriented understanding of market evolution and its implications for their companies' growth strategies. As illustrated in Chart 5 below, the following six-step process outlines how our researchers and consultants embed the 360 degree perspective into their analyses and recommendations:

Chart 5: How the CEO's 360 Degree Perspective Model Direct Our Research?



# Critical Importance of TEAM Research

Frost & Sullivan's TEAM Research methodology represents the analytical rigor of our research process: it offers a 360 degree view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Our experience has shown over the years that companies too often make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Frost & Sullivan contends that the successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices and demographic analyses. In that vein, the letters T, E, A and M reflect our core technical, economic, applied (financial and best practices) and market analyses. The integration of these research disciplines into the TEAM Research methodology provides an evaluation platform for benchmarking industry players and for creating high-potential growth strategies for our clients.

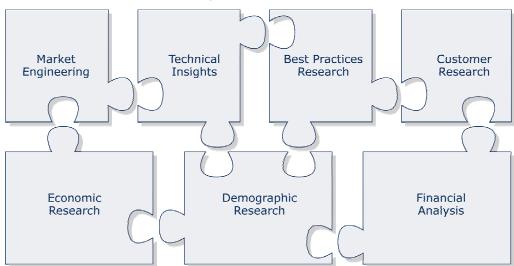


Chart 6: Benchmarking Performance with TEAM Research

# About Carestream Health, Inc.

Carestream Health, Inc. was formed in 2007 when Eastman Kodak Company was purchased by Onex Corporation. Carestream Health is a leading provider of dental and medical imaging systems and healthcare IT solutions; molecular imaging systems for the life science research and drug discovery/development market segments; and x-ray film and digital x-ray products for the non-destructive testing market. More information is available on <a href="https://www.carestreamhealth.com">www.carestreamhealth.com</a>



#### About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best in class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages almost 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 31 offices on six continents. To join our Growth Partnership, please visit <a href="http://www.frost.com">http://www.frost.com</a>.

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