

F R O S T & S U L L I V A N

**SIEMENS**

2015 North American  
Medical Imaging Analytics  
Visionary Innovation Leadership Award



F R O S T & S U L L I V A N

BEST  
*2015* PRACTICES  
AWARD

NORTH AMERICAN  
MEDICAL IMAGING ANALYTICS  
VISIONARY INNOVATION LEADERSHIP AWARD

**Siemens Healthineers**

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### Industry Challenges

*The application of analytics to medical imaging remains very limited today, and this nascent field is still far from delivering on its long-term promise.*

In recent years there has been a considerable push for healthcare providers to increase cost efficiency while also improving patient outcomes. It is imperative for medical imaging in particular, as they are viewed not only as a high profit driver but also as an important cost center, to actively contribute to this system-wide mandate. Working towards these high-level objectives, the medical imaging discipline must be able to measure its own outcomes, and demonstrate the value it brings to the table as part of the broader continuum of patient care.

It is in this context that the field of analytics is starting to gain importance in medical imaging and informatics. Indeed, analytics hold the promise of taking imaging providers out of the dark and allowing them to no longer operate 'in a vacuum'.

Analytics tools may give imaging providers better means to assess, benchmark and improve on their clinical, operational and financial best practices. However, the reality is that the application of analytics to medical imaging remains very limited today, and this emerging field is still far from delivering on its long-term promise.

Clearly, realizing the power of analytics will depend on each health system's and provider's engagement and openness to change. Yet, vendors have an extremely important role to play in this regard. By innovating new tools that help providers experiment with analytics while being proactive through their customer's discovery process, vendors can essentially accelerate the cultural change that is needed to adopt analytics as an integral part of the healthcare practice. Assisting providers in moving past the early challenges associated with new business models will hinge largely on imaging vendors' commitment to innovation and a solid vision for the future.

# Focus on the Future & Best Practices Implementation

## Focus on Unmet Needs

In order to meet multi-faceted objectives aimed at improving outcomes from a clinical, operational and financial standpoint, providers have to prioritize and work through diverse aspects of their operations, one use case at a time. In this context, it is key that providers have the ability to benchmark themselves against other providers. Indeed, comparative analytics capabilities are essential in helping providers assess their strengths and weaknesses.

It also pinpoints the most urgent areas they need to improve on. Siemens Healthineers new teamplay solution is a collaborative tool designed to enable a team effort. Its potential to enhance imaging operations, fine-tune imaging procedures and optimize patient outcomes, makes teamplay extremely well aligned with the unmet needs of the today's medical imaging market.

## Visionary Scenarios through Mega Trends

Siemens Healthineers teamplay marks the beginning of the development of a unified cloud-based analytics platform, which can be transformative for the way imaging providers decide on needed changes, and proceed through implementing and managing these changes. By potentially leveraging information collected through millions of imaging procedures performed by thousands of customers on Siemens Healthineers imaging equipment, teamplay is poised to foster a collaborative spirit at all of the local, regional and national levels.

As such, teamplay perfectly exemplifies the prowess that can be achieved by applying the Internet-of-Things (IoT) concept to the medical imaging field. Siemens Healthineers is excelling with both steps of the two-tiered approach needed to realize an effective IoT: first, building a solid infrastructure for data collection that meets customer's privacy and reliability requirements, and second, designing an easy-to-use and workflow-integrated delivery mechanism for the resulting analytical insights.

## Blue Ocean Strategy

As a technology and market leader in Computed Tomography (CT) imaging and a leading industry force in redefining dose efficiency in CT, Siemens Healthineers has launched its new teamplay technology in the CT area first. However, the concept underlying teamplay is applicable to every other medical imaging modality, being that each modality has room for improvement in one or more aspects such as its workflow productivity, its dose efficiency or its financial profitability.

Siemens Healthineers launch of teamplay comes in at time when the cloud continues to gain acceptance within healthcare and medical imaging, as demonstrated by the uptick in the adoption of cloud storage and image sharing over the last few years. However, with teamplay, Siemens Healthineers is not only building on the cloud momentum but also taking its potential to the next level, to the era of technology-enabled collaboration.



## Vision Alignment

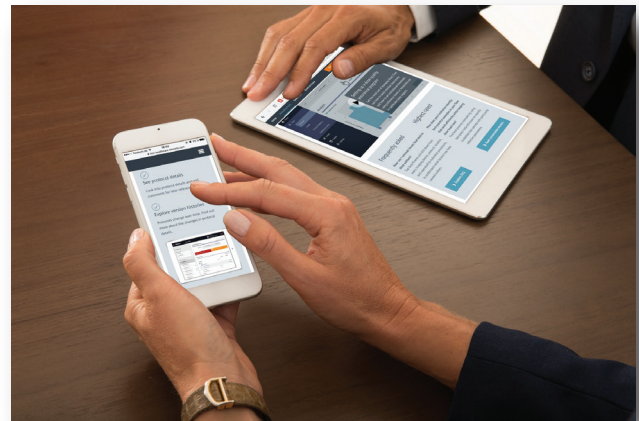
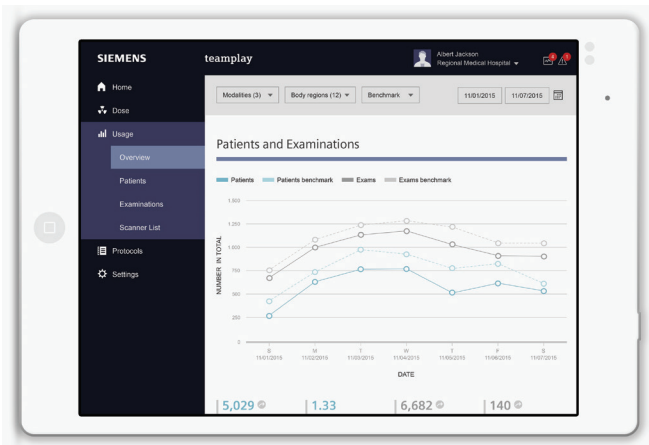
Similar to the area of clinical decision support, where computerized mechanisms are bound to become the norm for the delivery of evidence based guidelines and order appropriateness criteria to imaging stakeholders, the advent of teamplay enables a similar evolution in various areas within imaging operations.

Realizing the changing realities of the medical imaging field over the last several years, Siemens Healthineers has thrived in evolving from being a technology vendor to becoming a true partner for its imaging customers. The collaborative potential and deep clinical insights embodied by teamplay are great examples of the types of value-add services that differentiate Siemens Healthineers in the medical imaging market today.

## Operational Efficiency

Siemens Healthineers teamplay solution is delivered as a user-friendly cloud-based service that integrates well into the day-to-day imaging workflow, without the penalty of workflow disruption or a negative impact on workflow efficiency. As such, teamplay has the potential to make analytics an integral part of daily imaging operations in a seamless manner, which is the ideal scenario for this type of analytics solution.

In addition to serving the needs of imaging equipment end-users, teamplay is designed to also support imaging department managers in conducting the retrospective studies that are necessary to implement new best practices across the imaging service line, starting with CT.



## Technological Sophistication

This operational efficiency for imaging providers is mirrored by a similar efficiency for Siemens Healthineers, as the service provider for the teamplay cloud services. Indeed, Siemens Healthineers is leveraging teamplay as a tried-and-tested technology that they have invested in and enhanced over more than a decade, as part of its equipment servicing group. In fact, the technology behind teamplay also serves in the remote monitoring imaging equipment, and can be credited for implementing a preventative approach to maintenance services, and supplanting the inefficient break-fix approach.

As such, teamplay leverages state-of-the-art networking and cloud technologies with the end-goal of optimizing interconnectivity, collaboration and benchmarking mechanisms for end-customers. The same sophisticated technology has been applied to the Collector, which provides the collection of end-user data upstream, as well as the delivery of analytical insights downstream.

# CONCLUSION

As a recognized technology leader in medical imaging, with new value-adding services such as teamplay, Siemens Healthineers is effectively taking its value proposition to the next level. The company is leveraging its deep clinical expertise and consulting excellence to allow taking the vendor-customer relationship to a whole new level of partnership with healthcare providers. This approach centered on customer value reinforces Siemens Healthineers position as a true market leader, and opens the opportunity for providers to effectively tap into their vendor partner's expertise.

In recognition of the innovative spirit and vision underlying teamplay, as well as its potential to contribute to dissemination of value in the medical imaging field, Frost & Sullivan is proud to present Siemens Healthineers with the 2015 Visionary Innovation Leadership Award in Medical Imaging Analytics.



To receive the Frost & Sullivan North American Visionary Innovation Leadership Award requires a company to demonstrate excellence in growth, innovation, and leadership. This kind of excellence typically translates into superior performance in three key areas: demand generation, brand development, and competitive positioning.

These areas serve as the foundation of a company's future success and prepare it to deliver on the two criteria that define the Frost & Sullivan North American Visionary Innovation Leadership Award (Focus on the Future & Best Practices Implementation). The concept is explored further below.

### Demand

- Stimulate interest
- Anticipate changing needs
- Respond to emerging needs
- Increase share of wallet
- Build long-term relationships

### Brand

- Inspire customers
- Establish long-term relevance
- Occupy an uncontested space
- Improve equity
- Build a reputation for innovation

### Competitive Positioning

- Clarify superior positioning
- Deliver superior value to customers
- Lead through innovation
- Differentiate from the competition
- Take market share

## Understanding Visionary Innovation Leadership Award



A visionary innovation leadership position enables a market participant to deliver highly competitive products and solutions that transform the way individuals and businesses perform their daily activities. Such products and solutions set new, long-lasting trends in how technologies are deployed and consumed by businesses and end users. Most important, they deliver unique and differentiated benefits that can greatly improve business performance as well as individuals' work and personal lives.

## Key Benchmarking Criteria

For the North American Visionary Innovation Leadership Award, Frost & Sullivan analysts independently evaluated two key factors — Focus on the Future & Best Practices Implementation — according to the criteria identified below.

### Focus on the Future

- Criterion 1:* Focus On Unmet Needs
- Criterion 2:* Visionary Scenarios through Mega Trends
- Criterion 3:* Growth Pipeline
- Criterion 4:* Blue Ocean Strategy
- Criterion 5:* Growth Performance

### Best Practices Implementation

- Criterion 1:* Vision Alignment
- Criterion 2:* Process Design
- Criterion 3:* Operational Efficiency
- Criterion 4:* Technological Sophistication
- Criterion 5:* Company Culture

# Decision Support Scorecard



To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows our research and consulting teams to objectively analyze performance, according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are illustrated below.

The Decision Support Scorecard is organized by Focus on the Future and Best Practice Implementation (i.e., the overarching categories for all 10 benchmarking criteria; the definitions for each criteria are provided beneath the scorecard). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms 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.

The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, we have chosen to refer to the other key players in as Competitor 2 and Competitor 3.

Measurement of 1–10 (1 = poor; 10 = excellent)

Visionary Innovation Leadership	Focus on the Future	Best Practices Implementation	Average Rating
<b>Siemens Healthineers</b>	<b>10</b>	<b>9</b>	<b>9.5</b>
Competitor 2	9	7	8.0
Competitor 3	8	7	7.5



# Focus on the Future

## Criterion 1: Focus on Unmet Needs

Requirement: Implementing a robust process to continuously unearth customers' unmet or under-served needs, and creating the products or solutions to address them effectively

## Criterion 2: Visionary Scenarios through Mega Trends

Requirement: Incorporating long-range, macro-level scenarios into the innovation strategy, thereby enabling "first to market" growth opportunities solutions

## Criterion 3: Growth Pipeline

Requirement: Best-in-class process to continuously identify and prioritize future growth opportunities leveraging both internal and external sources

## Criterion 4: Blue Ocean Strategy

Requirement: Strategic focus in creating a leadership position in a potentially "uncontested" market space, manifested by stiff barriers to entry for competitors

## Criterion 5: Financial Performance

Requirement: Growth success linked tangibly to new growth opportunities identified through visionary innovation

# Best Practices Implementation

## Criterion 1: Vision Alignment

Requirement: The executive team is aligned on the organization's mission, vision, strategy and execution

## Criterion 2: Process Design

Requirement: Processes support the efficient and consistent implementation of tactics designed to implement the strategy

## Criterion 3: Operational Efficiency

Requirement: Staff performs assigned tactics seamlessly, quickly, and to a high quality standard

## Criterion 4: Technological Sophistication

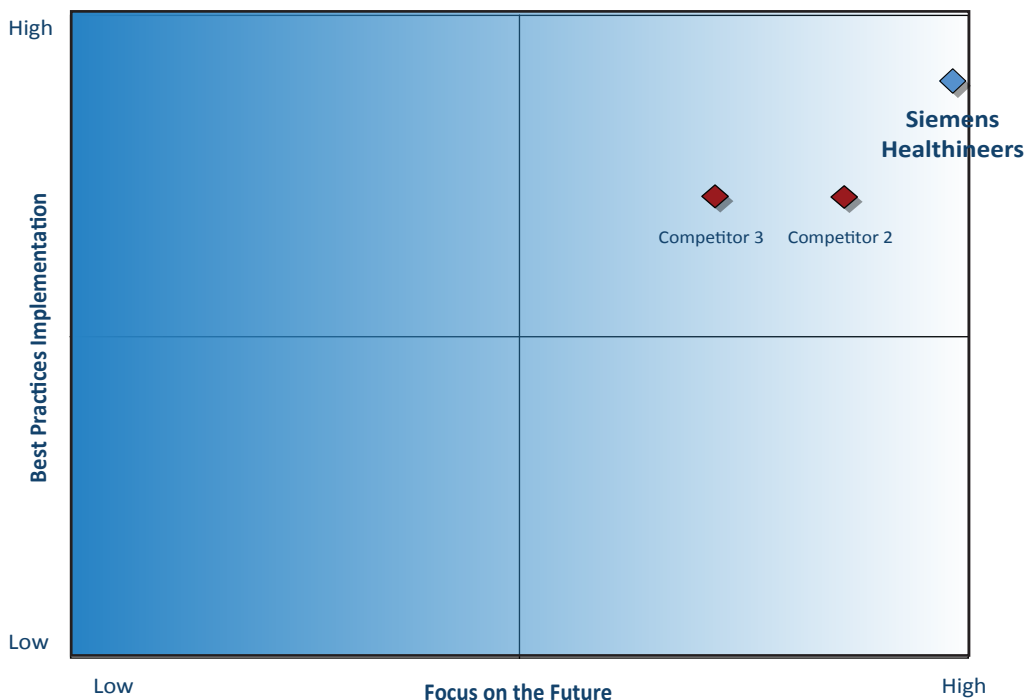
Requirements: Systems enable companywide transparency, communication, and efficiency

## Criterion 5: Company Culture

Requirement: The executive team sets the standard for commitment to customers, quality, and staff, which translates directly into front-line performance excellence

# Decision Support Matrix

Once all companies have been evaluated according to the Decision Support Scorecard, analysts can then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.



# The Intersection Between 360-degree Research and Best Practices Awards



Frost & Sullivan's 360-degree 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. Too often, companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission.

Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry players and for identifying those performing at best-in-class levels.

## Best Practices Recognition: 10 Steps To Researching, Identifying, And Recognizing Best Practices

Frost & Sullivan Awards follow a 10-step process to evaluate Award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
 Monitor, target, and screen	Identify award recipient candidates from around the globe	<ul style="list-style-type: none"> <li>• Conduct in-depth industry research</li> <li>• Identify emerging sectors</li> <li>• Scan multiple geographies</li> </ul>	Pipeline of candidates who potentially meet all best-practice criteria
 Perform 360-degree research	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> <li>• Interview thought leaders and industry practitioners</li> <li>• Assess candidates' fit with best-practice criteria</li> <li>• Rank all candidates</li> </ul>	Matrix positioning all candidates' performance relative to one another
 Invite thought leadership in best practices	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> <li>• Confirm best-practice criteria</li> <li>• Examine eligibility of all candidates</li> <li>• Identify any information gaps</li> </ul>	Detailed profiles of all ranked candidates
 Initiate research director review	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> <li>• Brainstorm ranking options</li> <li>• Invite multiple perspectives on candidates' performance</li> <li>• Update candidate profiles</li> </ul>	Final prioritization of all eligible candidates and companion best-practice positioning paper
 Assemble panel of industry experts	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> <li>• Share findings</li> <li>• Strengthen cases for candidate eligibility</li> <li>• Prioritize candidates</li> </ul>	Refined list of prioritized award candidates
 Conduct global industry review	Build consensus on award candidates' eligibility	<ul style="list-style-type: none"> <li>• Hold global team meeting to review all candidates</li> <li>• Pressure-test fit with criteria</li> <li>• Confirm inclusion of all eligible candidates</li> </ul>	Final list of eligible award candidates, representing success stories worldwide
 Perform quality check	Develop official award consideration materials	<ul style="list-style-type: none"> <li>• Perform final performance benchmarking activities</li> <li>• Write nominations</li> <li>• Perform quality review</li> </ul>	High-quality, accurate, and creative presentation of nominees' successes
 Assemble board of advisors	Finalize the selection of the best-practice award recipient	<ul style="list-style-type: none"> <li>• Present candidates to a Board of Advisors</li> <li>• Build consensus</li> <li>• Select winner</li> </ul>	Decision on which company performs best against all best-practice criteria
 Communicate recognition	Inform award recipient of award recognition	<ul style="list-style-type: none"> <li>• Present award to the CEO</li> <li>• Inspire the organization for continued success</li> <li>• Celebrate the recipient's performance</li> </ul>	Announcement of award and plan for how recipient can use the award to enhance the brand
 Take strategic action	Share award news with stakeholders and customers	<ul style="list-style-type: none"> <li>• Coordinate media outreach</li> <li>• Design a marketing plan</li> <li>• Assess award's role in future strategic planning</li> </ul>	Widespread awareness of recipient's award status among investors, media personnel, and employees

The logo graphic features the company name 'FROST & SULLIVAN' in white, uppercase letters. The ampersand is a stylized, circular symbol. Below the text is a large, abstract graphic composed of overlapping, rounded rectangular shapes in various shades of blue and teal, creating a sense of depth and movement.

FROST & SULLIVAN

#### About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the global 1000, emerging businesses, the public sector and the investment community. Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies?

Contact us: Start the discussion [www.frost.com](http://www.frost.com)