FROST & SULLIVAN

2024
COMPANY OF THE YEAR

IN THE GLOBAL AI-BASED STROKE IMAGING SOLUTIONS INDUSTRY

RAPIDAI.

FROST & SULLIVAN

2024 BEST PRACTICES AWARD

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each Award category before determining the final Award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. RapidAI excels in many of the criteria in the AI-based stroke imaging solutions space.

AWARD CRITERIA

Visionary Innovation & Performance	Customer Impact
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Mega Trends	Customer Purchase Experience
Implementation of Best Practices	Customer Ownership Experience
Leadership Focus	Customer Service Experience
Financial Performance	Brand Equity

Challenges and Advancements in Stroke Imaging: An Overview

Stroke is a critical health issue, ranking as the second leading cause of death globally (following heart disease) and a major cause of long-term disability.[1] Prompt and accurate imaging is crucial in stroke management to confirm diagnosis and initiate appropriate therapy. Stroke imaging primarily aims to differentiate between ischemic and hemorrhagic strokes, identify the specific location and volume of infarcted tissue, and detect occluded arteries in ischemic stroke cases. Non-contrast computed tomography (CT) scans are the standard initial modality used for these purposes.[2] Additionally, imaging is essential to exclude other causes of stroke-like symptoms, such as tumors or seizures, which can mimic stroke.[3]

Frost & Sullivan's ongoing research reveals that the stroke imaging industry faces several significant challenges. A primary issue is ensuring rapid access to imaging modalities, which is crucial for timely diagnosis and treatment. The effectiveness of stroke treatment is highly time-sensitive, often with narrow therapeutic windows. Delays in imaging can result in missed opportunities for optimal intervention, potentially leading to worsened patient outcomes. The COVID-19 pandemic further complicated stroke

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[1] https://www.weforum.org/agenda/2023/10/strokes-could-cause-10-million-deaths-by-2050-and-other-health-stories-you-need-to-read-this-week/

[2] https://emedicine.medscape.com/article/338385-overview?form=fpf

[3] https://www.ncbi.nlm.nih.gov/books/NBK546635/#:~:text=Stroke%20imaging%20performs%20in%20patients,%2C%20seizure%2C%20etc.).

diagnostics. The pandemic has had a profound impact on healthcare systems worldwide, affecting the demand and supply sides of the stroke imaging industry.[4] However, it has also heightened awareness of health issues, leading to an increased demand for advanced diagnostic tools and treatments for stroke, emphasizing the need for robust health systems.

Another challenge in stroke imaging is the occurrence of redundant imaging, often due to inefficient cataloging systems, payment models prioritizing volume over quality, and patients consulting multiple physicians. Frost & Sullivan points out that this redundancy represents a substantial cost inefficiency and emphasizes the need for improved imaging practices and better integration of patient care.

Frost & Sullivan analysts monitor how the future of stroke imaging is increasingly linked with advances in artificial intelligence (AI) technologies. AI-based solutions present a promising opportunity to enhance the quality, accuracy, and speed of stroke imaging. Yet AI's potential in stroke imaging extends beyond diagnosis. It can aid in predicting treatment responses and patient outcomes, thus assisting clinicians in making better informed decisions.[5]

Despite the promising prospects, AI adoption in stroke imaging is not without challenges. Ensuring the sensitivity (identifying true cases of stroke) and specificity (correctly ruling out non-stroke cases) of AI triage systems, enhancing the explainability and trustworthiness of AI models, and integrating AI effectively into clinical workflows are all critical hurdles in imaging. Moreover, robust assessment and optimization of AI models using large datasets are essential to ensure their reliability and effectiveness in clinical settings.

Frost & Sullivan anticipates that in the long run, AI and machine learning are likely to provide image analysis capabilities that match or surpass those of experienced neuroradiologists. The highest value of AI lies in its ability to merge, select, and condense a vast amount of clinical and imaging data, supporting clinical decision-making with precision and speed.

Leveraging an AI-powered Platform to Diagnose Stroke Timely and Accurately

Founded in 2011 and headquartered in San Mateo, California, RapidAI has established itself as a leader in the AI-based stroke imaging solutions market. Its advanced imaging and workflow solutions enable physicians to make faster, more accurate triage and transfer decisions. The company provides the most widely used advanced cerebrovascular imaging products for patient care, research, and clinical trials. RapidAI offers an end-to-end portfolio of stroke imaging and assessment products for hospitals of all sizes. The Rapid® platform leverages AI to generate high-quality, advanced images from non-contrast CT, CT angiography, CT perfusion, and magnetic resonance imaging diffusion and perfusion scans. This capability significantly enhances the speed and accuracy of time-critical triage or transfer decisions, leading to better patient outcomes.

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[4] https://pubs.rsna.org/doi/10.1148/radiol.2020201495

[5] https://www.tandfonline.com/doi/full/10.1080/14737175.2021.1951234

> *"Unlike many imaging AI solutions that primarily focus on triage and often result in false positives, the company has developed algorithms with high sensitivity and specificity, significantly reducing false positives and physician frustration. Its technology goes beyond simple alerts; it offers deep clinical AI that enhances physician decision-making through precise localization, visualization, characterization, and tracking over time."*
>
> *- Rabin Dhakal*
> *Best Practices Research Analyst*

RapidAI's vision to improve stroke and other cerebrovascular care through AI and medical imaging innovations has brought measurable improvements to patient care globally. By empowering clinicians with proven, data-driven technology, the company enables faster and more accurate diagnostic and treatment decisions for stroke, aneurysm, and pulmonary embolism patients. Its advanced imaging and workflow solutions put AI integration into clinical practice, facilitating better patient outcomes. Through its commitment to innovation, scalability, and customization, RapidAI shapes the future of stroke imaging, making a significant impact on global healthcare.

RapidAI began with the goal of improving the stroke patients' selection for mechanical thrombectomy, a critical intervention for ischemic stroke. Unlike many imaging AI solutions that primarily focus on triage and often result in false positives, the company has developed algorithms with high sensitivity and specificity, significantly reducing false positives and physician frustration. Its technology goes beyond simple alerts; it offers deep clinical AI that enhances physician decision-making through precise localization, visualization, characterization, and tracking over time.

A significant example of RapidAI's innovative acumen is its AngioFlow™ technology, which provides qualitative perfusion imaging in the angiography suite. AngioFlow, recently granted 510(k) clearance by the United States Food and Drug Administration (FDA), delivers detailed, color-coded reperfusion results within two minutes, allowing physicians to assess immediately the need for further imaging in the interventional suite. This innovation reduces redundant imaging, saves time, and enhances operational efficiency. It is particularly beneficial in rural facilities and large hospital networks where patient transfers can be time-consuming as going directly to the interventional suite instead of waiting on additional imaging can significantly improve patient outcomes. By integrating its AI solutions seamlessly into existing workflows and providing on-site experts to assist hospitals in redesigning processes, RapidAI ensures that its products meet and exceed clinical needs, ultimately leading to better patient outcomes and more efficient care delivery.

RapidAI's innovation strategy involves leveraging long-range, macro-level scenarios, or megatrends, to pioneer first-to-market solutions and explore new growth opportunities. Its Insights solution provides multi-site systems and referral networks with robust reporting capabilities, combining operational, clinical, and imaging data to monitor and standardize patient care processes. This solution reduces costs across sites and ensures the consistent use of RapidAI products, saving more lives by reducing time to treatment and enhancing care team coordination.

Furthermore, RapidAI's focus on continuous improvement and time-saving innovations highlights its visionary approach. The company's diagnostic tool for large vessel occlusion using non-contrast CT significantly reduces transfer or diagnostic times, while AngioFlow avoids redundant imaging, further cutting down on delays. This emphasis on reducing time at multiple stages of stroke care is crucial, given that every two minutes of delay can destroy over four million neurons during a stroke.[6]

RapidAI's commitment to enhancing post-operative care is also forward-thinking. Its solutions provide critical insights for post-intervention validation of mechanical thrombectomy procedures, addressing the need for continued monitoring and management post-procedure. By incorporating these megatrends into its innovation strategy, the company extends its expertise to neurology, cardiovascular, and in the near term, oncology domains, ensuring its solutions remain at the forefront of medical technology advancements.

Frost & Sullivan commends RapidAI for its exceptional ability to address unmet needs in stroke patient management through innovative AI solutions that enhance diagnostic accuracy and streamline workflows. The company pioneers first-to-market solutions and continuously enhances operational efficiencies and patient outcomes.

Pioneering Leadership through Significant Investments and Continuous Innovation

RapidAI's team, boasting deep expertise across clinical and imaging disciplines, transformative technology, and extensive management and investor experience, redefines the intersection of technology and medicine to address healthcare challenges in unprecedented ways. From the inception of its groundbreaking RAPID® solution, the company consistently challenges conventional thinking about stroke treatment windows, demonstrating how technology can significantly reduce the timeframe for effective early intervention. RapidAI validates this visionary approach through numerous clinical trials, leading to the deployment of proven software tools that enable healthcare professionals globally to identify and diagnose a broader spectrum of cerebrovascular disorders more accurately and efficiently.

RapidAI strengthens its strategic growth with substantial financial investments, including $25 million in Series B funding in 2020 to accelerate its growth initiatives[7] and $75 million in Series C funding in 2023 to drive platform innovation and expand its market reach.[8] With the largest installed base among independent AI companies, the company serves over 2,200 hospitals in more than 100 countries, emphasizing its significant global presence.

RapidAI validates its leadership position with several key milestones: surpassing 14 million scans analyzed on its platform, being featured in over 400 peer-reviewed publications and being leveraged in over 25 clinical trials. Its regulatory achievements, such as 14 FDA Clearances and obtaining Class III Shonin clearance in Japan (the second-largest stroke market globally) demonstrate the company's ability to navigate complex regulatory environments and secure endorsements from prestigious bodies like the

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[6]https://www.dignityhealth.org/articles/whyminutesmatter#:~:text=Time%20elapsed%20is%20one%20of,urgency%20as%20a%20heart%20attack.

[7] https://www.rapidai.com/press-release/rapidai-series-b-funding#:~:text=%E2%80%94%20September%2017%2C%202020%20%E2%80%93%20RapidAI,growth%20initiatives%20around%20the%20world.

[8] https://www.rapidai.com/press-release/rapid-announces-investment-led-by-vista-credit-partners

Japanese Stroke Society.[9]

RapidAI marks its leadership in Europe by rapid adoption nearing standard of care status, and is making significant inroads in other regions, including early adoption in advanced centers in India and ongoing negotiations with the State Food and Drug Administration in China. The company's continuous innovation is driven by its support for hospitals in discovering new applications for its AI solutions, reinforcing its commitment to maintaining its leadership in stroke imaging while extending its AI capabilities to other disease states.

Frost & Sullivan praises RapidAI for its strategic focus on leadership, evident in its expansive global presence, pioneering regulatory achievements, and continuous innovation, ensuring the company remains at the forefront of AI-based stroke imaging solutions.

> *"Frost & Sullivan admires RapidAI for offering unparalleled value with its AI-driven solutions, ensuring superior performance and cost-efficiency across the stroke care spectrum. The company's exceptional customer service, involving accessible, expert support and comprehensive training, sets a high standard for customer satisfaction and operational excellence in the healthcare industry."*
>
> *- Rabin Dhakal*
> ***Best Practices Research Analyst***

Maximizing Stroke Care Value with AI Solutions and Exceptional Customer Experience

RapidAI offers exceptional value by providing a comprehensive suite of AI solutions that span the entire stroke care continuum, from initial diagnosis to interventional procedures. These solutions integrate seamlessly into existing hospital workflows, enhancing overall productivity. The company's advanced AI portfolio supports emergency department physicians, radiologists, interventionalists, bedside providers, nurses, and technicians, ensuring that every member of the healthcare team benefits from its robust capabilities. By addressing the critical shortage of radiologists and boosting overall efficiency, Frost & Sullivan firmly believes that RapidAI stands out in the market as a cost-effective solution that does not compromise performance.

One of the key features that underline RapidAI's value proposition is the Rapid Workflow solution. This solution facilitates smooth communication and coordination among stroke team members at every stage of patient care, from pre-diagnosis to treatment. The platform allows healthcare professionals to access and share critical information via mobile devices or web browsers, significantly enhancing their ability to make informed decisions promptly. Additionally, integrating Rapid with electronic medical records ensures secure data flow, providing improved decision support and confidence in patient data management. This seamless integration and the accompanying value-add enhancements, such as workflow optimization and training programs, further enhance the performance and cost-effectiveness of RapidAI's offerings. Likewise, to extend its benefits to a broader patient base, the company collaborates with leading technology partners such as Penumbra, Pulsara, Siemens Healthineers, and Samsung Neurologica through the RapidAI Technology Partner Program. This initiative expands its presence in more hospital environments, offering the flexibility to meet customer's unique needs and ensuring widespread

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[9] https://www.rapidai.com/press-release/rapidai-premieres-edge-cloud-platform

access to its innovative solutions.

RapidAI places a high premium on delivering top-notch customer experience, ensuring that its clients receive accessible, fast, stress-free, and high-quality support. The company's 24/7 helplines demonstrate this commitment, providing immediate access to trained technicians who can handle issues ranging from level one (simple customer requests) to level three (utilizing subject matter experts to address major customer needs) on the first call. In cases requiring further escalation, RapidAI promptly involves engineers to resolve the problem, showcasing its dedication to swift and effective support for clinicians.

Furthermore, RapidAI pioneered "Rapid U," an on-demand training platform that covers modules, including learning resources, instructor-led courses, and onsite workflow training. The company designed Rapid U to help customers become more proficient in integrating its technologies into their roles, ultimately improving patient outcomes. RapidAI complements this platform with monthly live webinars with physicians, offering real-time question-and-answer sessions and additional training opportunities. During the initial launch phase, the company invests significant resources in training hospital staff, including technicians, nurses, and physicians. This comprehensive training covers using the mobile application, picture archiving and communication system integration, and optimizing communication for maximum efficiency. The mobile training component ensures that all users are proficient with the tools provided, emphasizing the importance of utilizing RapidAI's innovative algorithms. This extensive training and support highlight its focus on innovation and user support, ensuring that clients benefit fully from its AI solutions.

Frost & Sullivan admires RapidAI for offering unparalleled value with its AI-driven solutions, ensuring superior performance and cost-efficiency across the stroke care spectrum. The company's exceptional customer service, involving accessible, expert support and comprehensive training, sets a high standard for customer satisfaction and operational excellence in the healthcare industry.

Building Trust and Loyalty with Equitable and High-quality Stroke Imaging Solutions

RapidAI has established robust brand equity by consistently delivering high-performance AI solutions that revolutionize stroke care. The company's innovations, such as AngioFlow, highlight its commitment to comprehensive stroke management, ensuring high sensitivity and specificity rates well above FDA minimums. This reliability and effectiveness foster trust and loyalty among healthcare providers and patients.

RapidAI's dedication to "quintuple aim" further solidifies its positive brand perception. By focusing on better outcomes, financial viability, reduced operating costs, improved physician efficiency, enhanced patient satisfaction, and equity of care, the company addresses the critical needs of modern healthcare. RapidAI's solutions ensure that patients in remote or underserved areas receive the same high-quality care as those in top-tier academic centers, enhancing patient satisfaction and loyalty.

Moreover, RapidAI's solutions reduce unnecessary patient transfers, allowing patients to stay in their local environments. This approach maintains family support and contributes to a more positive healthcare experience, reinforcing the company's reputation for patient-centric innovation. By prioritizing equitable access and superior healthcare delivery, RapidAI has built a loyal customer base that values the brand's quality and technology.

RapidAI demonstrates its brand strength through real-world success stories. For instance, a patient at Leeds General Infirmary, suffering from a severe stroke, was diagnosed rapidly using the company's technology, allowing for timely intervention and significant recovery within days.[10] Similarly, an 87-year-old stroke patient in Wisconsin received life-saving treatment thanks to RapidAI's imaging capabilities, which provided critical information for a successful thrombectomy despite guideline challenges.[11] These hero stories characterize RapidAI's focus on patient care and reinforce the brand's reputation for stroke care excellence.

Frost & Sullivan appreciates RapidAI for advancing stroke care through innovative AI solutions and comprehensive patient management. This dedication fosters high brand loyalty among healthcare providers and establishes the company as a trusted and indispensable partner in delivering equitable, high-quality care worldwide.

Conclusion

With the global burden of stroke as the second leading cause of death and a key contributor to long-term disability, RapidAI's innovative technologies provide crucial support in timely and accurate stroke diagnosis and treatment. Its end-to-end imaging platform and standout AngioFlow™ technology nicely demonstrate the company's commitment to enhancing clinical outcomes. Surpassing 14 million scans, featuring in over 400 peer-reviewed publications, and being utilized in over 25 clinical trials, RapidAI has solidified its leadership with a significant global presence, serving over 2,200 hospitals in more than 100 countries.

Frost & Sullivan appreciates how RapidAI's solutions address the critical shortage of radiologists and enhance overall healthcare efficiency, offering high sensitivity and specificity that significantly reduce false positives. The company's dedication to exceptional customer service is evident through its 24/7 helplines and immediate technical support, ensuring seamless and stress-free client experience. By minimizing unnecessary patient transfers and enabling care in local environments, RapidAI fosters better patient outcomes and maintains family support, reinforcing its reputation for patient-centric innovation. The company's comprehensive artificial intelligence (AI) portfolio supports a wide range of healthcare professionals, highlighting its cost-effectiveness, robust performance, and solidifying its brand equity and high customer loyalty.

With its strong overall performance, RapidAI earns the 2024 Frost & Sullivan Global Company of the Year Award in the AI-based stroke imaging solutions industry.

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[10] https://www.rapidai.com/rapid-hero-story-leeds-uk

[11] https://www.rapidai.com/87-year-old-wisconsin-man

What You Need to Know about the Company of the Year Recognition

Frost & Sullivan's Company of the Year Award is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Award Analysis

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Visionary Innovation & Performance

Addressing Unmet Needs: Customers' unmet or under-served needs are unearthed and addressed by a robust solution development process

Visionary Scenarios Through Mega Trends: Long-range, macro-level scenarios are incorporated into the innovation strategy through the use of Mega Trends, thereby enabling first-to-market solutions and new growth opportunities

Leadership Focus: Company focuses on building a leadership position in core markets and on creating stiff barriers to entry for new competitors

Best Practices Implementation: Best-in-class implementation is characterized by processes, tools, or activities that generate a consistent and repeatable level of success

Financial Performance: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

Learn more.

Key Impacts:

- **Growth Pipeline:** *Continuous Flow of Growth Opportunities*
- **Growth Strategies:** *Proven Best Practices*
- **Innovation Culture:** *Optimized Customer Experience*
- **ROI & Margin:** *Implementation Excellence*
- **Transformational Growth:** *Industry Leadership*

The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Mega Trend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)