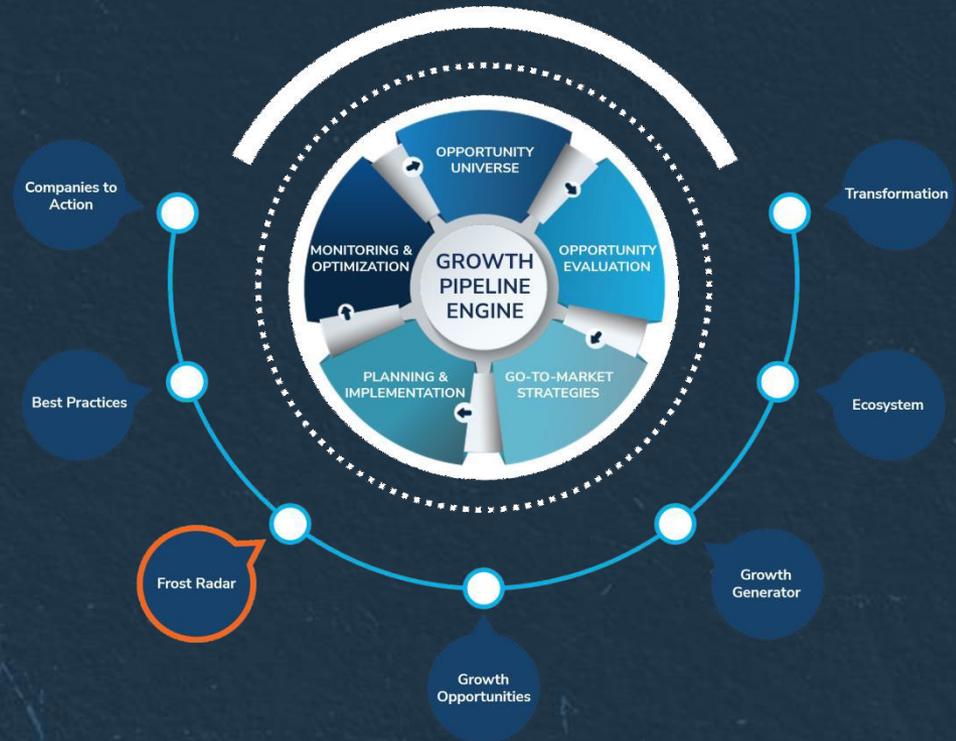


Frost Radar™: Digital Signage Solutions, 2025

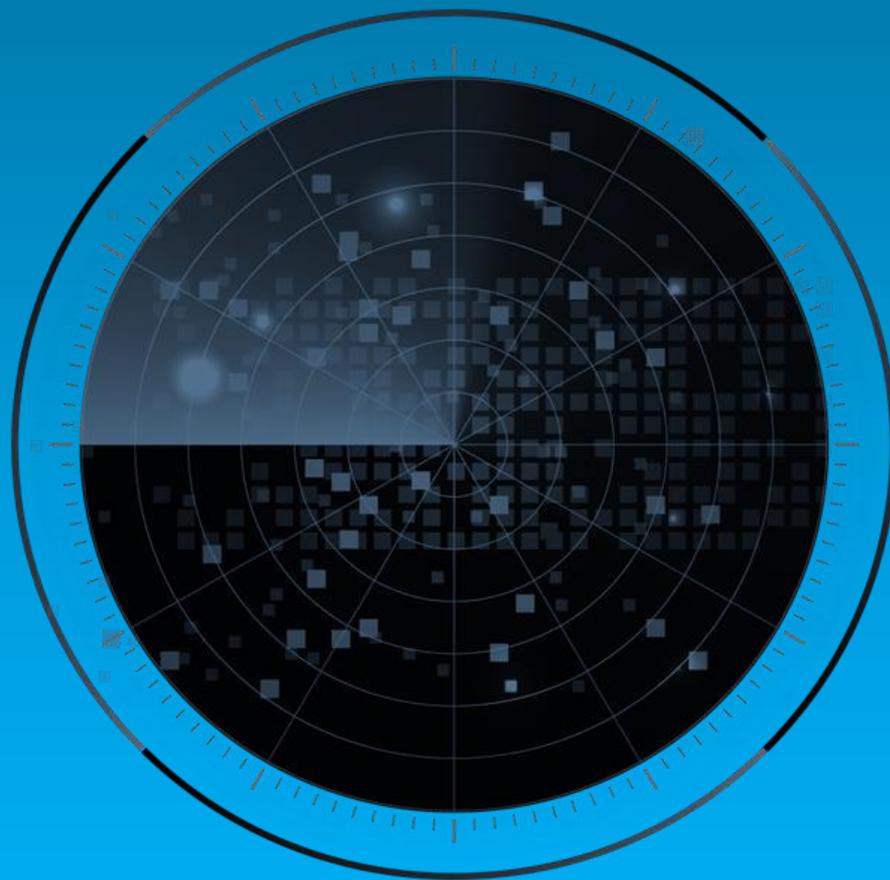
A Benchmarking System to Spark Companies to Action - Innovation that Fuels New Deal Flow and Growth Pipelines

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Strategic Imperative and Growth Environment



Strategic Imperative

- The digital signage industry faces a fundamental challenge: transforming from passive displays into intelligent systems that deliver measurable business value while overcoming implementation barriers. This also presents a significant opportunity as organizations demand solutions that combine advanced functionality with operational simplicity.
- Organizations want to deliver personalized, context-aware content but are concerned about high implementation costs, integration complexities, and increasing security requirements. Providers must focus on three areas to remain competitive: leveraging artificial intelligence (AI) for simplification, creating seamless ecosystem integrations, and clearly demonstrating measurable return on investment (ROI) to customers.
- AI is revolutionizing how digital signage operates, moving the industry away from manual processes toward automated systems. Leading implementations handle content creation tasks, such as automatic photo editing, real-time language translation, and dynamic social media feed integration. Advanced network monitoring prevents downtime by identifying and resolving technical issues before they affect operations. These innovations are crucial for making digital signage accessible to non-technical users while maintaining sophisticated capabilities that meet modern needs.
- The modern digital signage solutions environment no longer functions as an isolated system but as an integrated component of broader technological ecosystems. Today's solutions connect seamlessly with internet of things (IoT) devices, point-of-sale systems, mobile applications, and digital advertising networks. The emergence of retail media networks has created new revenue opportunities by transforming screens into programmable advertising spaces.

Strategic Imperative (continued)

- Workplace integrations with common office platforms ensure consistent messaging across all employee touchpoints, addressing the challenges of distributed work environments. Providers that fail to prioritize these integrations risk being left behind as the market demands increasingly connected solutions.
- A clear ROI is essential for overcoming customer hesitation. Forward-thinking providers are quantifying value through multiple avenues, including advertising revenue generation, operational efficiency improvements, and detailed engagement analytics. Cost transparency initiatives, such as support for affordable hardware options and scalable cloud-based management systems, help address budget concerns. Energy-saving features and sustainable technology implementations provide additional measurable benefits that appeal to environmentally conscious organizations.
- What makes this transformation particularly compelling is how it addresses the core tension between technological potential and practical adoption. For years, digital signage solutions promised more than they could deliver due to technical limitations and implementation hurdles. Now, the convergence of cloud computing, AI, and standardized application programming interfaces (APIs) is finally enabling solutions that are powerful enough to handle complex use cases yet simple enough for widespread deployment.
- Several developments have accelerated this shift. The standardization of content management interfaces has reduced integration timelines from months to weeks, while edge computing capabilities enable real-time responsiveness at scale. Perhaps most significantly, the recognition of digital signage solutions as a data platform rather than just a display medium has opened possibilities for audience analytics and content optimization, though this also raises important considerations around data privacy and security.

Strategic Imperative (continued)

- Successful providers distinguish themselves through vertical specialization rather than generic solutions. They develop deep understanding of specific operational environments, recognizing that a hospital's patient communication needs differ fundamentally from a retailer's promotional requirements or a corporate campus's internal messaging challenges. This focus on solving concrete business problems rather than simply deploying technology leads to implementations that demonstrate clear value through metrics such as fewer service inquiries, more sales conversions, or workplace efficiency.
- The path forward will be defined by adaptive architectures that balance current needs with future flexibility. Solutions must accommodate unanticipated use cases through modular design while maintaining intuitive interfaces for non-technical users. The emphasis will be on implementations that deliver immediate usability while scaling to meet evolving requirements, particularly through cloud-based management and hardware-agnostic platforms. This approach ensures that organizations can start small and expand capabilities as needs grow.
- Ultimately, the most successful providers will be those that view digital signage solutions not as an end product but as a platform for continuous innovation. By concentrating on solving real business problems—whether boosting retail revenue, streamlining corporate communications, or improving healthcare navigation—they will lead the industry's transition from display technology to intelligent communication infrastructure. This is the exciting promise of digital signage's next chapter: not just showing content but actively enhancing how organizations operate and engage their audiences.

Growth Environment

- The digital signage market continues to expand, driven by automation, AI, and the adoption of cloud-based models. While initial post-pandemic growth was fueled by pent-up demand, the current evolution is shaped by the integration of smarter, more flexible solutions.
- Competition has become more intense, and differentiation is harder than ever. Content management systems (CMS), once a key selling point, are now a basic feature with little competitive edge. The real battleground now lies in integrated, intelligent, and automated solutions that go beyond simple screen management.
- The software and media player segment of digital signage solutions is expected to reach \$1 billion in 2025, with a projected compound annual growth rate (CAGR) of 8.5% between 2025 and 2030.
- Software-based solutions are displacing traditional hardware-centric models, allowing businesses to deploy digital signage at scale without relying on expensive infrastructure. The rise of programmatic digital out-of-home (DOOH) advertising is creating monetization opportunities for digital signage network operators, while sustainability initiatives are accelerating the adoption of energy-efficient screens.
- At the same time, hardware is still essential in market expansion. Some providers are moving toward an all-in-one approach, combining hardware and software into a seamless package to simplify deployment and improve user experience. Others are developing flexible, hardware-agnostic platforms, ensuring that the wide variety of devices on the market does not limit their software's functionality or performance. The ability to adapt to different hardware environments without sacrificing features is crucial to maintaining growth.

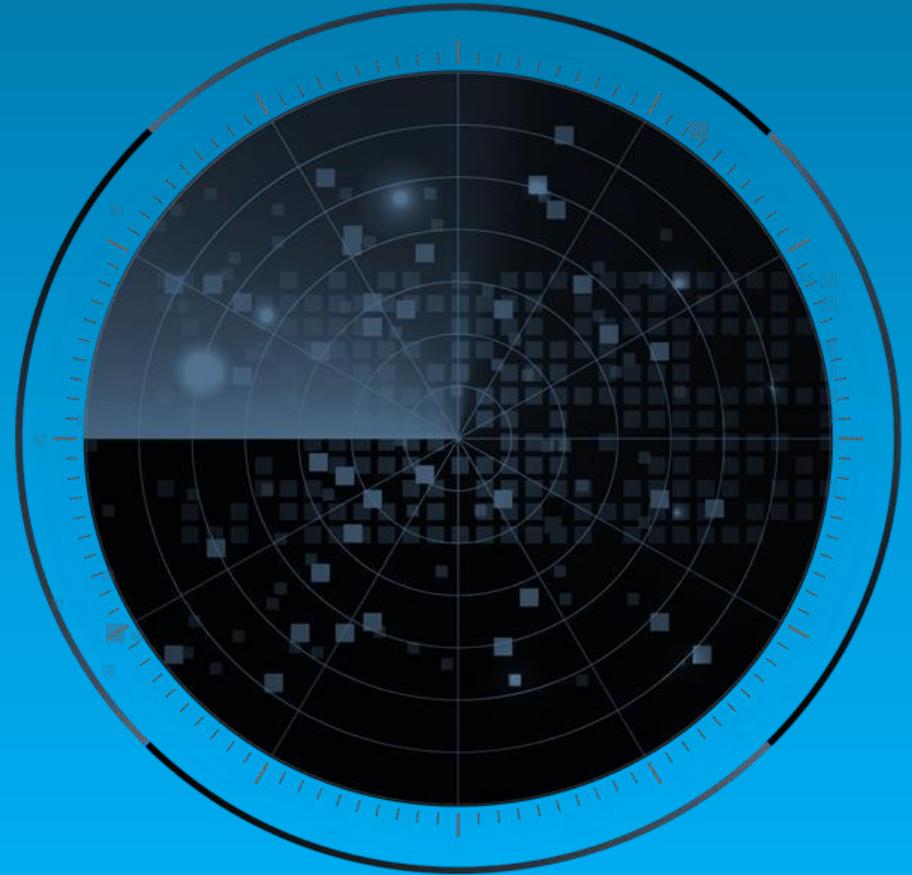
Growth Environment (continued)

- Industry-defining trends in 2025:
 - AI is revolutionizing content management by automating campaigns, personalizing messaging in real time, and optimizing content based on audience behavior. Generative AI models are starting to play a key role in the automated creation of dynamic content.
 - Digital signage can no longer be limited to static information displays. It must now integrate with corporate communication platforms, collaboration tools, digital asset management systems, audience measurement technologies, and real-time analytics.
 - Brands are looking for more efficient ways to reach consumers in physical spaces, and programmatic digital signage is enabling more dynamic, segmented campaigns with better ROI.
 - Digital signage is becoming a two-way engagement channel. Sensors, computer vision, and mobile device integration allow for more personalized, context-aware experiences, from smart storefronts to more effective corporate communication strategies.
 - Regulatory pressure and environmental, social, and governance (ESG) strategies are pushing businesses to rethink their digital signage investments. The most innovative solutions reduce energy consumption, extend hardware lifespan, and optimize resource use based on audience behavior.
 - Businesses want solutions with intuitive workflows that allow non-technical users to manage content with ease.
 - Leading companies are forging partnerships with AI firms, data analytics providers, and programmatic advertising platforms to accelerate innovation and improve solution integration.

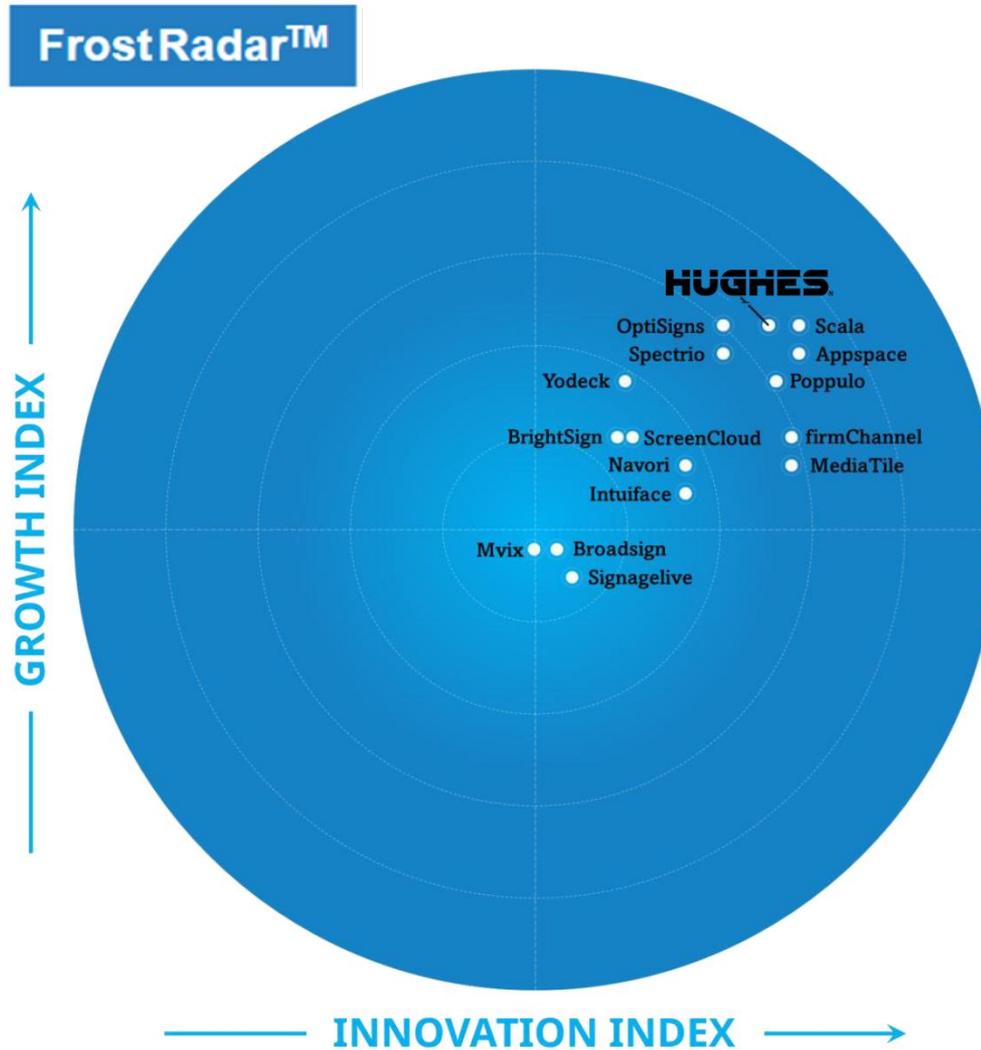
Growth Environment (continued)

- The most scalable and innovative companies are capturing the most profitable opportunities, particularly those involving large-scale networks with thousands of devices and dynamic content across multiple locations. However, market consolidation will not be just about size; the true leaders will be those that successfully merge digital signage with AI, campaign automation, and value-driven business models.
- For smaller and more specialized providers, finding niche markets with differentiated experiences remains essential. Internal corporate communication, retail media, and programmatic advertising still offer room for innovation. However, the speed of technological change and rising development costs will challenge many providers, likely accelerating mergers and acquisitions in the coming years.
- Competition now extends to marketing automation platforms, customer experience management tools, and advanced analytics solutions. In this new landscape, companies that position digital signage solutions as part of a broader technology ecosystem will truly stand out.

Frost Radar™: Digital Signage Solutions



Frost Radar™: Digital Signage Solutions



Frost Radar™ Competitive Environment

- Frost & Sullivan analyzes numerous companies in an industry. Those selected for further analysis based on their leadership or other distinctions are benchmarked across 10 Growth and Innovation criteria to reveal their position on the Frost Radar™.
- Frost & Sullivan divides the landscape of digital signage companies into segments covering display hardware, software/players, and services. This Frost Radar™ does not examine the hardware display grouping and instead focuses on the providers that primarily deliver software/players and services, equipping customers with the essential tools for leveraging digital content in networked systems of displays across a spectrum of use cases, ranging from deployments of a few to thousands of screens.
- The competitive landscape reflects a dynamic ecosystem of more than 100 providers. The Frost Radar™ identifies 16 standout companies that excel in growth and innovation, selected through a rigorous evaluation of quantitative and qualitative criteria. These companies represent the core of the market. Frost & Sullivan believes that these 16 companies are already winners and applauds each one for achieving a position on the Frost Radar™.
- Frost & Sullivan selected the 16 companies profiled in this Frost Radar™ analysis based on their ability to meet a set of specific criteria, including offering comprehensive software to manage and distribute digital content to networked display screens, providing cloud-based capabilities, integrating display management features, offering robust analytics and reporting tools, maintaining a strong support and maintenance structure, and demonstrating the ability to support customers internationally with a significant quantity of displays under management.

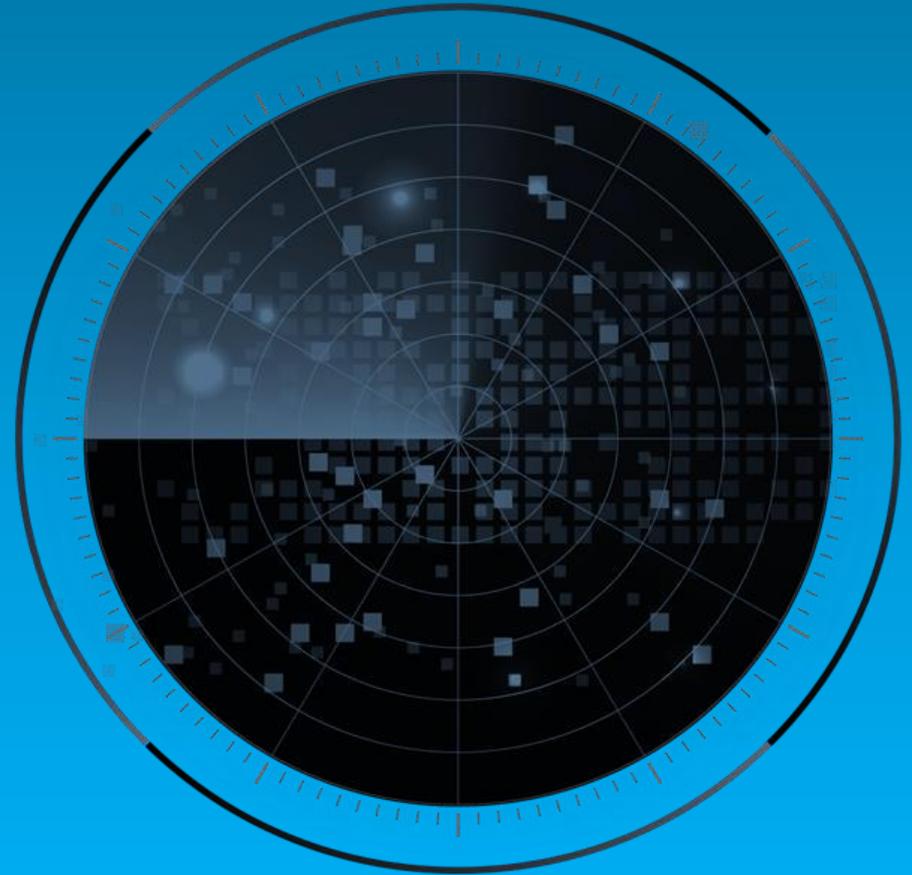
Frost Radar™ Competitive Environment (continued)

- The market blends established leaders with agile innovators, where differentiation increasingly hinges on AI-driven automation, omnichannel integration, and vertical-specific specialization.
- Some of the largest players in the space have leveraged their scale to expand their service offerings and grow. Together, they highlight how digital signage has evolved into a strategic business platform. Scala (4.75 Innovation, 4.40 Growth) and Appspace (4.75 Innovation, 4.20 Growth) lead in combining technical excellence with enterprise-grade scalability. Scala continues to define vertical-specific solutions in retail and transportation, while Appspace has reshaped workplace communication through deep integrations with Microsoft Teams and Google Workspace. Poppulo (4.60 Innovation, 4.00 Growth) excels in unifying employee communications across multiple channels, and Spectrio (4.25 Innovation, 4.20 Growth) drives monetization through its advanced retail media networks.
- Dynamic technology leaders are driving accessibility and scalability for businesses of all sizes. Hughes (4.55 Innovation, 4.40 Growth) and OptiSigns (4.25 Innovation, 4.40 Growth) stand out for their cloud-native platforms and flexibility, enabling seamless digital signage adoption. firmChannel (4.70 Innovation, 3.60 Growth) and MediaTile (4.70 Innovation, 3.40 Growth)—both part of the Corum family—are setting new standards with AI-driven automation and hardware-agnostic designs.

Frost Radar™ Competitive Environment (continued)

- Specialized providers are expanding interactive capabilities and content management sophistication. Intuiface (4.00 Innovation, 3.20 Growth) continues to redefine interactive engagement through its intuitive, no-code platform. Navori Labs (4.00 Innovation, 3.40 Growth) maintains robust security and compatibility across diverse platforms, addressing comprehensive enterprise requirements. BrightSign (3.55 Innovation, 3.60 Growth) remains a trusted provider known for reliable media playback solutions in its hybrid OS ecosystem. Mvix (3.00 Innovation, 2.80 Growth) emphasizes secure, scalable content delivery across sectors such as education, healthcare, and government, supported by its flexible CMS and device management capabilities.
- Providers emphasizing affordability and usability have solidified their market positions. Yodeck (3.60 Innovation, 4.00 Growth) and ScreenCloud (3.65 Innovation, 3.60 Growth) deliver notable value, with Yodeck's strong growth trajectory and accessible freemium model and ScreenCloud's intuitive user interfaces reaching wider audiences. Broadsign (3.15 Innovation, 2.80 Growth) and Signagelive (3.25 Innovation, 2.60 Growth) continue to support niche segments, such as programmatic advertising and secure content deployments, demonstrating the diversity in digital signage applications.
- Each of these 16 companies has a commitment to advancing digital signage solutions, whether through technological breakthroughs, specialized market expertise, or strong customer focus. Frost & Sullivan acknowledges their distinct strengths and encourages businesses to explore these profiles when selecting partners for their digital signage strategies. As the market continues to evolve, these vendors are well-positioned to support the demand for more engaging, integrated, and efficient signage solutions.

Frost Radar™: Companies to Action



Hughes

INNOVATION

- Founded in 1971 and headquartered in Germantown, Maryland, Hughes Network Systems has solidified its presence in the digital signage market with Hughes MediaSignage, a platform that stands out by integrating software, hardware, and managed services in a single ecosystem. Unlike other cloud-only digital signage solutions, Hughes MediaSignage leverages the company's deep expertise in telecommunications and distributed networks, providing a robust, adaptable infrastructure suited for various environments, from internal communications to commercial signage in retail and quick-service restaurants (RRs).
- Hughes MediaSignage operates as a cloud-based CMS, available in both self-service and fully managed versions. The platform's versatile hardware includes media players and smart TV applications compatible with commercial displays from LG and Samsung.
- One of its most significant competitive advantages lies in its proprietary hardware development, featuring the Hughes HS600 and HS1160 media players, designed to maximize platform performance. This native hardware-software integration enhances operational stability and scalability and reduces third-party dependencies, setting Hughes apart from digital signage solutions that rely exclusively on hardware-agnostic models.
- Among its key differentiators, Hughes has developed a customizable template system, allowing users to create dynamic content without requiring advanced design skills. The platform supports third-party API integrations, allowing businesses to synchronize digital signage with enterprise systems, optimizing content automation and management across signage networks.

Hughes (continued)

INNOVATION

- Over the past two years, Hughes MediaSignage has rolled out a series of major updates that have significantly enhanced platform functionality and broadened its market reach. The addition of Azure GovCloud support expanded its presence in the government sector, reinforcing its security and compliance infrastructure. Integration with QuBeyond enabled real-time order confirmation displays and out-of-stock notifications—especially beneficial for retail and restaurant environments.
- To improve user management and internal communications, Hughes introduced a streamlined single sign-on system and automation features for recurring announcements, employee recognition, and other internal messages. These updates reduce manual tasks across multi-brand and franchise organizations, enhancing operational efficiency at scale.
- The company also expanded its capabilities for outdoor environments, with a focus on drive-thru service in quick-service restaurants (QSRs)—an increasingly strategic area for digital signage. As part of this initiative, Hughes integrated with SoundHound AI to enable voice-assisted ordering, streamlining interactions between customers and service points.
- Hardware optimization has remained a key focus. The introduction of the HS600 and HS1160 media players improved performance and scalability for complex deployments. The company also expanded its role-based access control system, providing more granular user permission settings and reinforcing security and content customization across diverse enterprise environments.
- Through its AI-driven SmartScan system, the company has implemented a mechanism to detect content playback inconsistencies and issue real-time alerts, simplifying digital campaign execution and minimizing signage errors.

Hughes (continued)

GROWTH

- Hughes MediaSignage has experienced steady growth in recent years, with a particularly strong presence in retail, QSRs, and supermarket chains—three of its primary focus sectors. Its emphasis on distributed enterprises has been pivotal to its expansion, particularly among organizations with more than 50 locations, where digital signage has become an essential tool for improving communication and customer experience.
- Between 2021 and 2024, the company recorded a 30% increase in the number of screens under management, rising from 22,000 to approximately 28,500. Its customer base increased by 30% over the same period, prompting Hughes to expand its infrastructure and strengthen technical support to meet demand. MediaSignage deployments increased from 14,500 in 2021 to 17,250 in 2024.
- Currently, 98% of the Hughes's market is in North America, but the company has identified expansion opportunities in Western Europe and Brazil—locations where digital signage adoption is rising and where its automation and flexibility could serve as a competitive advantage.
- Hughes is betting on expansion in the retail media segment, where demand from retailers looking to monetize their digital signage through Vistar Media integrations has increased. The digitalization of menus in QSRs has created a new revenue stream, enabling chains to optimize order management and personalize promotions.

Hughes (continued)

FROST PERSPECTIVE

- Hughes MediaSignage has firmly positioned itself as a scalable and flexible digital signage solution, leveraging its cloud infrastructure and hardware adaptability. Its focus on intelligent automation and managed services has enabled multilocation businesses to optimize their digital signage operations without requiring extensive IT resources.
- While Hughes has made significant strides in lowering adoption barriers through self-installation options and phased implementation models, there is still an opportunity to further educate the market on the ROI these solutions offer. Enhancing content management tools to be even more intuitive and automated can help businesses ensure efficient and engaging signage updates.
- As Hughes expands beyond North America, adjusting its offerings and business model to suit price-sensitive markets will be important. Customization of managed services and cost optimization will be key factors in achieving effective market penetration.
- Another growth driver for Hughes will be strengthening its long-term marketing and sales efforts. With a solid customer base, the company can focus on more proactive customer acquisition strategies, leveraging the ecosystem of the Hughes parent company, EchoStar—a global provider of satellite communication and broadband solutions—to develop value-added bundles that maximize its reach in distributed enterprises.

Best Practices & Growth Opportunities



Best Practices

1

Implement AI-driven content automation and personalization to deliver dynamic, relevant content based on audience demographics and behavior, enhancing engagement and ROI.

2

Utilize a cloud-based CMS for scalable, real-time updates and seamless integration with other enterprise systems, ensuring efficient and flexible operations.

3

Prioritize security with features such as end-to-end encryption, two-factor authentication, and compliance with industry standards (e.g., ISO 27001 and the General Data Protection Regulation) to protect data and build customer trust.

Growth Opportunities

1

Leverage programmatic advertising to monetize digital signage networks by selling ad space and targeting audiences based on demographics and location, turning screens into revenue-generating assets.

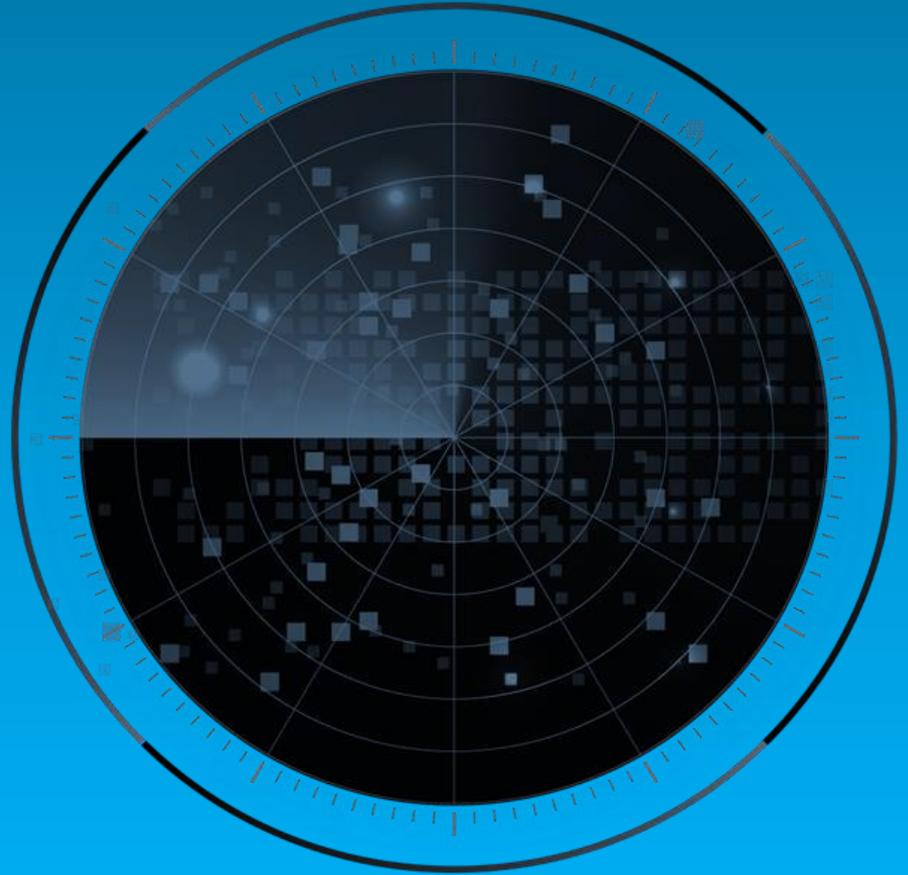
2

Develop interactive digital signage solutions that enhance customer experiences through touchscreens, QR codes, and IoT integrations, driving higher engagement and satisfaction.

3

Focus on sustainability by incorporating energy-efficient hardware, scheduled power-off features, and adaptive brightness controls, aligning with corporate ESG goals and reducing operational costs.

Frost Radar™ Analytics



Frost Radar™: Benchmarking Future Growth Potential

2 Major Indices, 10 Analytical Ingredients, 1 Platform

Growth Index

Growth Index (GI) is a measure of a company's growth performance and track record, along with its ability to develop and execute a fully aligned growth strategy and vision; a robust growth pipeline system; and effective market, competitor, and end-user focused sales and marketing strategies.

GI1

MARKET SHARE (PREVIOUS 3 YEARS)

This is a comparison of a company's market share relative to its competitors in a given market space for the previous 3 years.

GI2

REVENUE GROWTH (PREVIOUS 3 YEARS)

This is a look at a company's revenue growth rate for the previous 3 years in the market/industry/category that forms the context for the given Frost Radar™.

GI3

GROWTH PIPELINE

This is an evaluation of the strength and leverage of a company's growth pipeline system to continuously capture, analyze, and prioritize its universe of growth opportunities.

GI4

VISION AND STRATEGY

This is an assessment of how well a company's growth strategy is aligned with its vision. Are the investments that a company is making in new products and markets consistent with the stated vision?

GI5

SALES AND MARKETING

This is a measure of the effectiveness of a company's sales and marketing efforts in helping it drive demand and achieve its growth objectives.

Frost Radar™: Benchmarking Future Growth Potential

2 Major Indices, 10 Analytical Ingredients, 1 Platform (continued)

Innovation Index

Innovation Index (II) is a measure of a company's ability to develop products/ services/ solutions (with a clear understanding of disruptive megatrends) that are globally applicable, are able to evolve and expand to serve multiple markets and are aligned to customers' changing needs.



II1

INNOVATION SCALABILITY

This determines whether an organization's innovations are globally scalable and applicable in both developing and mature markets, and also in adjacent and non-adjacent industry verticals.

II2

RESEARCH AND DEVELOPMENT

This is a measure of the efficacy of a company's R&D strategy, as determined by the size of its R&D investment and how it feeds the innovation pipeline.

II3

PRODUCT PORTFOLIO

This is a measure of a company's product portfolio, focusing on the relative contribution of new products to its annual revenue.

II4

MEGATRENDS LEVERAGE

This is an assessment of a company's proactive leverage of evolving, long-term opportunities and new business models, as the foundation of its innovation pipeline. An explanation of megatrends can be found [here](#).

II5

CUSTOMER ALIGNMENT

This evaluates the applicability of a company's products/services/solutions to current and potential customers, as well as how its innovation strategy is influenced by evolving customer needs.

Next Steps



JOIN:
Growth Council

APPLY:
Companies to Action

ENGAGE:
Growth Dialog

PARTICIPATE:
Growth Council Think Tank

Does your current system support rapid adaptation to emerging opportunities?

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