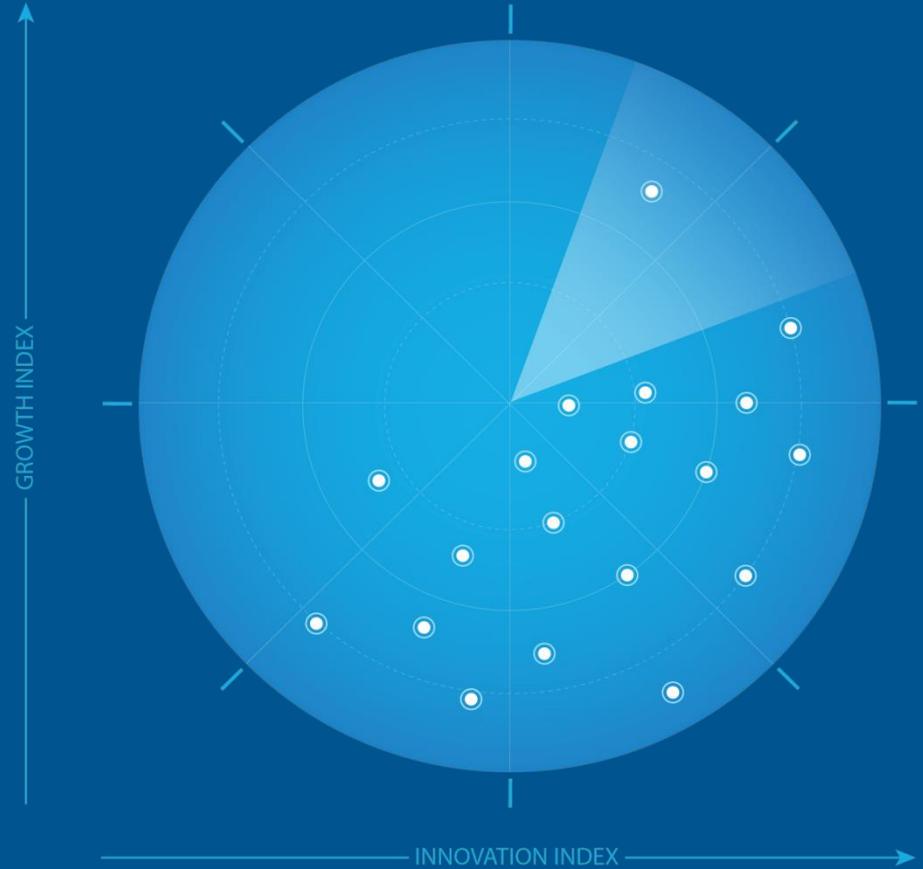


Frost Radar™: Global Digital Signage Solutions, 2023

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



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FROST & SULLIVAN

Strategic Imperative and Growth Environment



Strategic Imperative

Digital signage has become more than presenting information on a screen. It is now about offering engaging content and noteworthy experiences.

- It is now about offering engaging content and noteworthy experiences. Whether offering employees in or out of the office an enriched communication and collaboration experience, making a concert or sports event at a large venue more impressive, or making a museum experience more memorable, digital signage can do much more than simply display a static billboard. The challenge for many organizations using digital signage is how to create and leverage engaging content, and many network users do not have the experience.
- Successful providers in the space will help organizations use content to create engaging experiences by a variety of means, including helping with the content itself, adding personalized or real-time layers to the content, or combining the content with additional visual, auditory, or other interactive elements, sensors, or devices to create something more than the sum of its parts.

Strategic Imperative (continued)

- Software capabilities and even hardware technologies are progressing fast, and customers need measurable returns on investment (ROI). Digital signage systems integrate with a range of parallel systems and technologies to become a more cohesive part of an organization's comprehensive digital strategy, connecting with a spectrum of services from omnichannel marketing to communication and collaboration and cloud-enabled workflows.
- The most traditional elements of digital signage software and services revolve around a CMS, where users can import content or leverage templates, schedule and create playlists, and distribute to devices as intended. This is increasingly a commoditized offering. Under competitive intensity, successful providers are moving to higher-value-added capabilities, developing personal toolsets and/or integrations (such as with external data sources, dynamic content libraries, social media, advanced audience measurement analytics, booking software, conferencing software, QR codes and interactivity features, and the programmatic advertising ecosystem). These integrations enable signage operators to remain on one platform and bring in external resources to keep content fresh, add real-time information, and personalize messaging. The provider must invest in ongoing software development to build these new features and continuously add integrations.

Source: Frost & Sullivan

Strategic Imperative (continued)

- Many companies benchmarked in this Frost Radar™ are embracing the Mega Trend of industry convergence, supporting customer organizations with systems beyond single-use cases to support or integrate additional components and enterprise solutions. The most successful companies in the space are those pushing the boundaries of innovation and incorporating disruptive technologies into their platforms or feature sets, such as artificial intelligence (AI), machine learning (ML), generative AI, and no- or low-code development.

Growth Environment

Growth Prospects

- Digital signage systems are experiencing strong growth, bouncing back in 2021 and 2022 from a slump in 2020 and continuing to find opportunities in the post-pandemic environment. 2022 was a banner year for many in the digital signage landscape, with many integrators catching up with pent-up demand and warehouses filling up as supply issues eased. While 2023 was a flat or low year for hardware-oriented providers, the software and service segments will likely continue to grow at a decent pace as subscriptions deliver recurring revenue and new buyers enter the scene after deferring purchases. Frost & Sullivan forecasts that the software and media players segment will see growth rates rising until 2028 and then slowing until the end of the forecast period in 2030 at a compound annual growth rate (CAGR) of 3.9% to achieve approximately \$3.85 billion in total revenues. Frost & Sullivan also forecasts that the services segment will witness an optimistic 5.4% CAGR between 2023 and 2030, achieving a \$2.34 billion total by the end of the forecast period.



Source: Frost & Sullivan

Growth Environment (continued)

Compression in the Market

- The market is mature in that expected growth rates remain in the single digits. However, it is also fragmented, with dozens of providers across the global landscape. In 2023, capital markets have been pulling back, and tech companies have been struggling. The impact on digital signage will likely be increased pressure to produce profits and then consolidation. Budgetary constraints may hinder the innovation and growth plans for individual providers in the next 2 to 3 years, creating conditions for the more prominent players to witness further growth through acquisitions and enhanced offerings. Many smaller, single-purpose providers (that is, with revenues below \$10 million) may not live to see the end of the forecast period as the traditional elements of digital signage management move toward commoditization.
- Some opportunities remain for small and mid-sized systems and service providers to support similarly sized businesses. In developed and developing markets, businesses are just now adopting digital signage. However, the largest, most repeatable, and most lucrative opportunities will be swallowed up by the most prominent digital signage providers that can offer the scale and reliability needed by large, distributed organizations that have hundreds of locations and thousands of screens to be managed.



Source: Frost & Sullivan

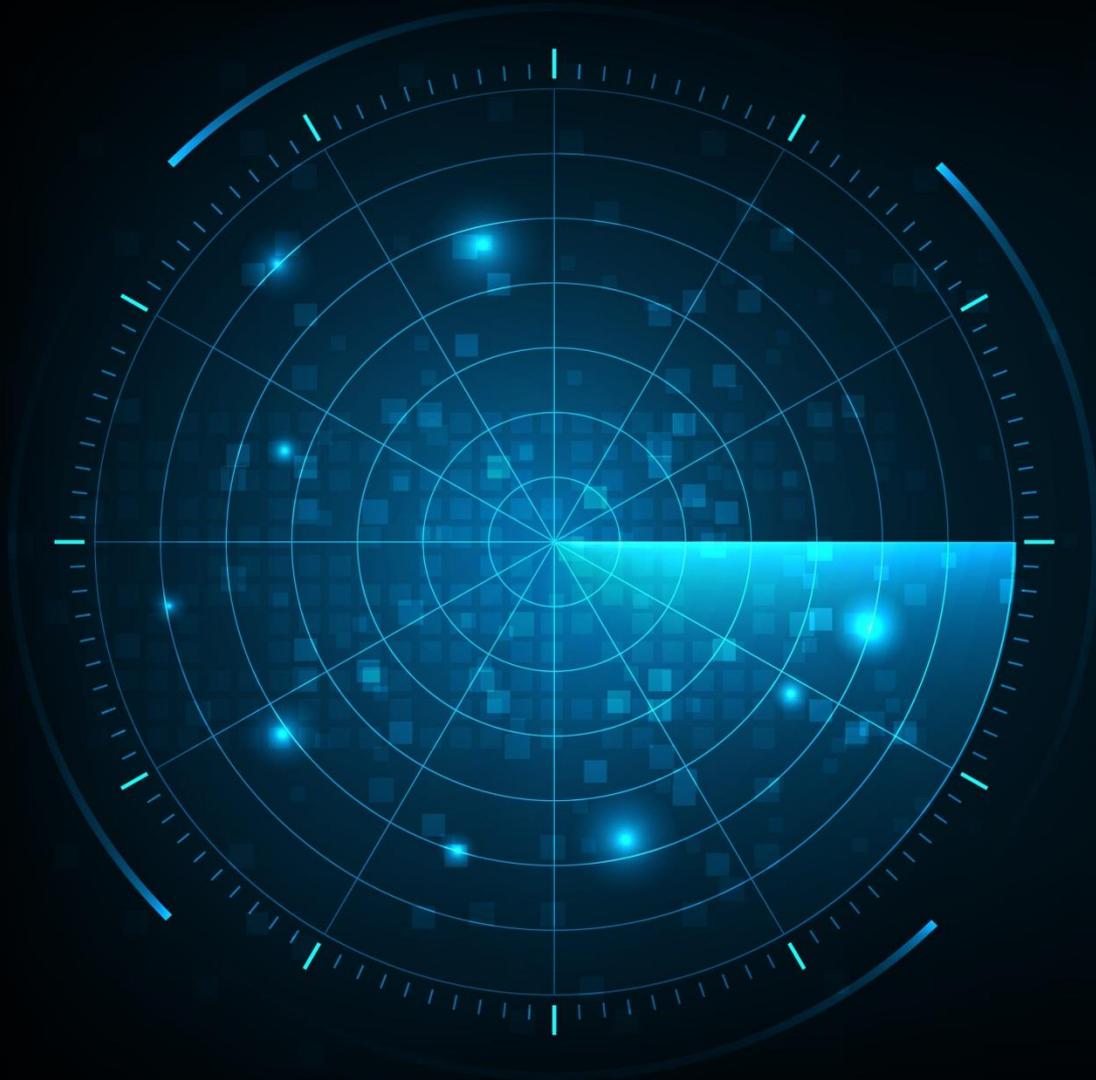
Growth Environment (continued)

Transformative Elements

- For buyers, the usability and ease of management and deployment of a digital signage system remain top priorities. Similarly, the infrastructure of the system and its scalability to support large and dispersed deployments are consistent points of concern for customers. The system should be easy to use with little to no training, as day-to-day operators are often marketing, communications, human resources, IT teams, or a single proprietor.
- At present, the following are beginning to transform digital signage:
 - **AI:** AI and generative AI are gaining attention across enterprise systems, and digital signage is no exception. The capability of AI to make it easier to manage campaigns and monitor deployments is already gaining traction. Most notably, though, the potential for generative AI to help create and optimize content is capturing the imagination of buyers and providers and should be making concrete contributions in short order.
 - **Horizontal Integrations:** Digital signage systems are adding value by combining with complementary systems for audience measurement and engagement, computer vision, interactivity, and extended realities, as well as enterprise communication and collaboration systems and enterprise asset and media management systems.



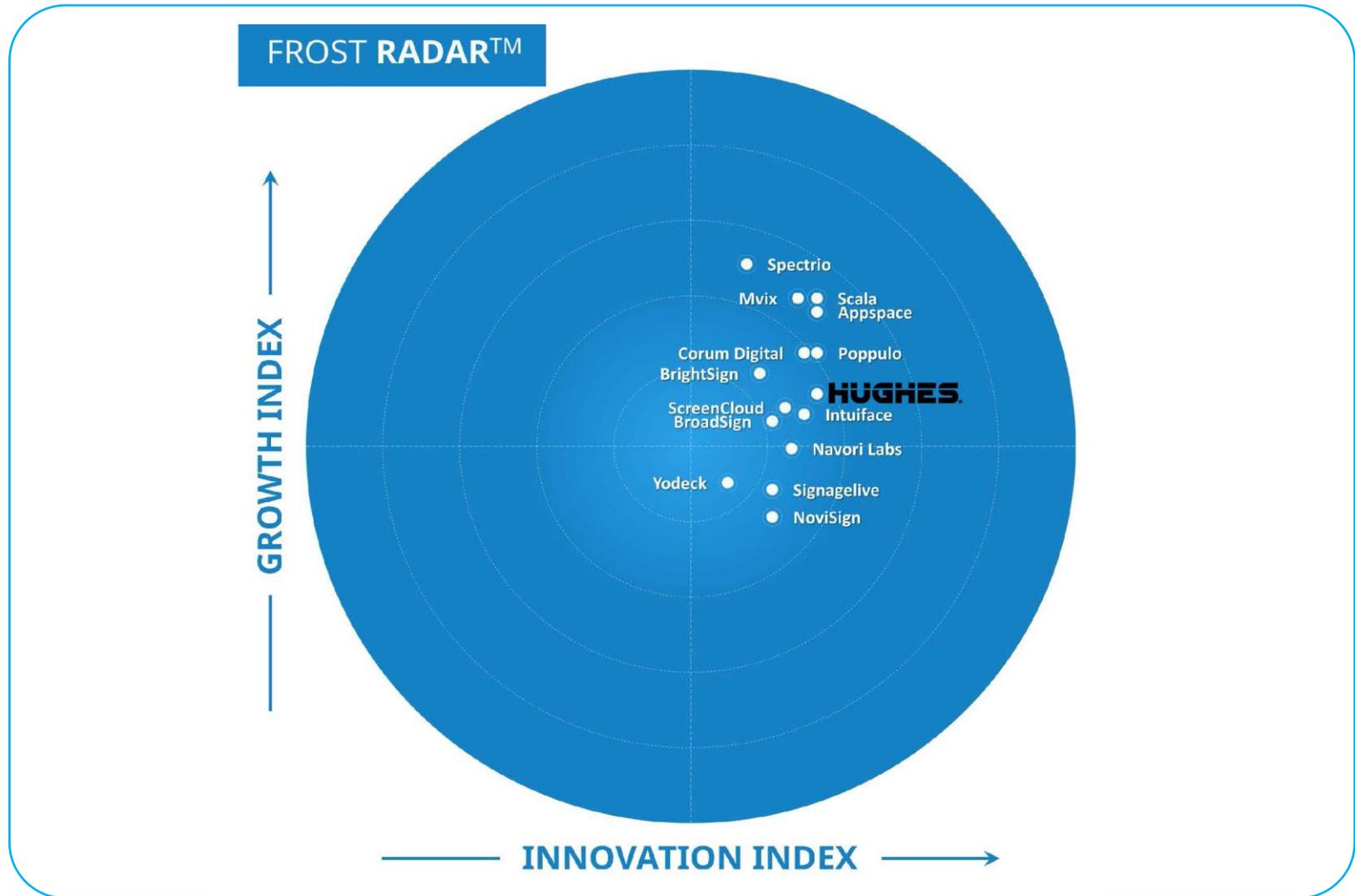
Source: Frost & Sullivan



Frost Radar™

**Global Hiring
Platform Market**

Frost Radar™: Digital Signage Solutions, 2023



Source: Frost & Sullivan

Competitive Environment

- In a field of more than 100 digital signage solutions providers, Frost & Sullivan has independently plotted 15 Growth and Innovation Leaders in this Frost Radar™ Analysis.
- Digital signage system providers are under increasing competitive pressure, making differentiation difficult. Thus, providers focus on developing software innovations and growing rapidly through acquisitions or different iterations. The go-to-market strategy of many providers is changing as well, and they are directing their energy to specific vertical segments of customers or positioning digital signage as the logical complement to parallel enterprise systems.
- For providers, cloud-based deployment and centralized management have become essential, and features such as automated content feeds and system monitoring, as well as integrations with AI, computer vision, and other sensors, add value.
- Hughes, which has experienced a rapid bounce-back from the pandemic and expanded their reach, is primed for further growth with a coherent vision for the market's future.



Competitive Environment (continued)

- Digital signage providers will compete to gain businesses from growth areas such as retail, hospitality, and corporate environments. Competitors will be measured for cost, performance, reliability, network availability, system scalability, technology stack, ease of management and administration, third-party integrations, partnerships, dynamic content updates, visibility and analytics tools, interactivity features, rich media playback, customer support, and international presence.
- Many more prominent companies are expanding their footprint and breadth of services by acquiring other providers. Frost & Sullivan expects this will continue and intensify for 2 to 4 years. Concurrently, large hardware brands are moving into the software and services arenas. These giants may be able to leverage their more considerable investment capabilities and brand recognition to squeeze smaller vendors out. However, in the past, customers have preferred buying from providers that focus on digital signage software and services, which has made it challenging for companies from other sectors to swoop into this space. Buyers prioritize dedicated services and market experience.



Significance of Being on the Frost Radar™

Companies plotted on the Frost Radar™ are the leaders in the industry for growth, innovation, or both. They are instrumental in advancing the industry into the future.

GROWTH POTENTIAL

Your organization has significant future growth potential, which makes it a Company to Action.

BEST PRACTICES

Your organization is well positioned to shape Growth Pipeline™ best practices in your industry.

COMPETITIVE INTENSITY

Your organization is one of the key drivers of competitive intensity in the growth environment.

CUSTOMER VALUE

Your organization has demonstrated the ability to significantly enhance its customer value proposition.

PARTNER POTENTIAL

Your organization is top of mind for customers, investors, value chain partners, and future talent as a significant value provider.

Source: Frost & Sullivan

**Companies to Action:
Companies to Be Considered First for
Investment, Partnerships, or Benchmarking**

Company to Action: Hughes Network

Innovation

- In its role as a global managed services provider delivering communications and connectivity across industries, Hughes equips organizations with dynamic digital signage solutions and focuses on integrating digital signage as an essential part of an omnichannel strategy.
- In practice, this vision translates to cloud-first flexibility and adaptability with its MediaSignage CMS, which allows organizations to synchronize, update, and propagate changes across all displays in real-time. Additionally, the menu board display system includes a robust application programming interface (API) set that integrates with numerous point-of-sale (POS) systems to deliver real-time inventory updates, promotions, and updated pricing and menu composition.
- Recent innovations include expanding the API data ingest integrations, improving content templates, zero-touch provisioning, and a SmartScan tool to monitor screen performance.
- Notably, the company shapes its R&D efforts around defined themes representing data-driven goals informed by client experiences and needs: Pilot New Technology, Understanding Retail Trends, Customer Engagement, and Enhancing Static Signs with Digital Signage.

Source: Frost & Sullivan

Company to Action: Hughes Network (continued)

Innovation

- Hughes has an excellent record of recognizing and harnessing emerging technology trends. Examples include incorporating AI tools to optimize operations, using automation to streamline content management, incorporating a range of integrations with external and internal systems and data platforms, and offering interactive features to create dynamic experiences.

Company to Action: Hughes Network (continued)

Growth

- The company has recovered from the pandemic-induced downturn in the industry. It experienced steady growth in 2022 and 2023 in customer base and the number of signs and screens under management, showcasing strength in retail, quick service restaurants, and grocery stores, in particular.
- Hughes is a single vendor and provider of end-to-end solutions (including software, hardware, installation, and field maintenance).
- Demonstrating ample customer satisfaction, Hughes says it gains a fair amount of business by reference and word of mouth.
- The company's MediaSignage software features the flexibility and scalability required to suit business needs across the board, enabling its growth. The software brings device management, screen management, and content management together in a single solution. Rather than offer separate systems for each feature or use case, MediaSignage allows for efficiency and ease of use by managing playback and scheduling, overseeing device status and performance, and enabling content creation and editing on one platform.

Source: Frost & Sullivan

Company to Action: Hughes Network (continued)

Frost Perspective

- Hughes successfully positions its solutions as part of a complete omnichannel communications strategy. To maintain relevance, it must listen closely to customer needs to inform rapid software development and innovation. Hughes should leverage its connections with the parent company, Hughes Networks Systems, to create value-adding packages for customers with distributed operations.
- The company still has plenty of runway with its core customer set, enterprises with a distributed footprint of more than 50 locations. While customer referrals are top-quality leads, Hughes will need to elaborate upon its marketing and sales efforts to springboard its growth ambitions truly.
- The company is expanding beyond North America, targeting Western Europe and Brazil, which are ripe with opportunities. Recent moves to support self-installation may prove an attractive option to smaller organizations and open up a large addressable market. Hughes must customize its offerings, managed services, and approach to these new (and sometimes highly price-sensitive) markets.

Source: Frost & Sullivan

FROST & SULLIVAN

Frost Radar™ Analytics



Frost Radar™: Benchmarking Future Growth Potential

2 Major Indices, 10 Analytical Ingredients, 1 Platform

VERTICAL AXIS

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.

GROWTH INDEX ELEMENTS

- **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

HORIZONTAL AXIS

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

INNOVATION INDEX ELEMENTS

- **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: MEGA TRENDS 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 Mega Trends 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.

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