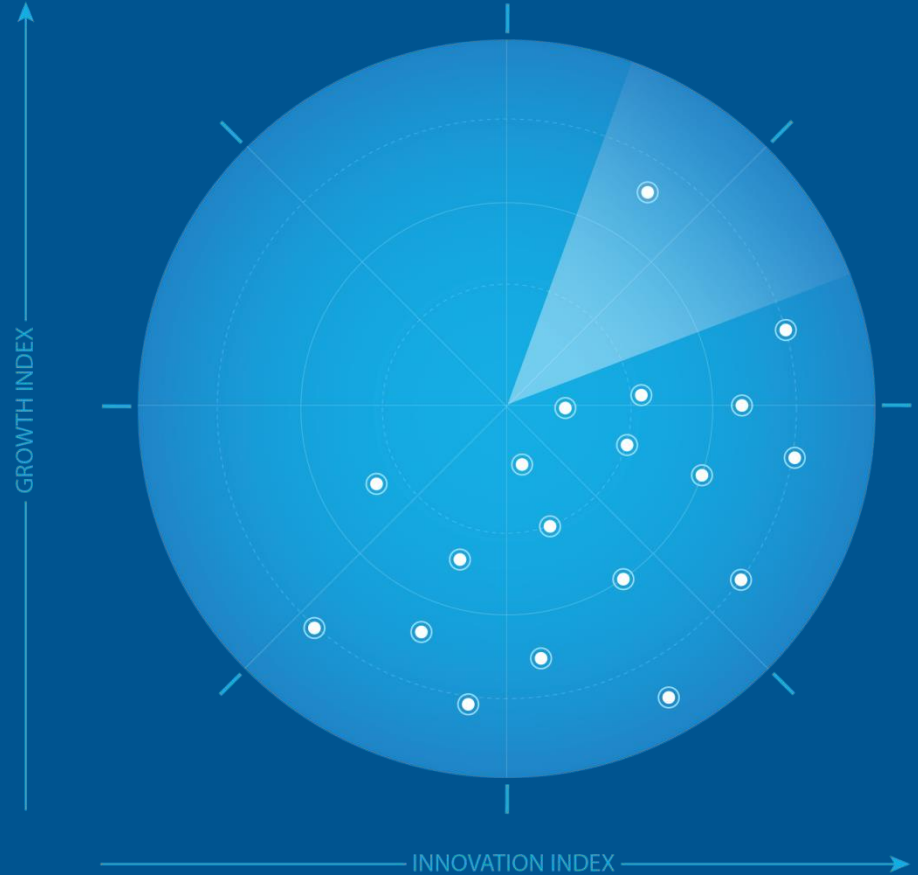


Frost Radar™: Meeting Room Video Conferencing Devices, 2024

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



MAY 2024

FROST & SULLIVAN

Strategic Imperative and Growth Environment



Strategic Imperative

Factors Creating Pressure on Growth

Innovations in camera technology and cloud meetings are reshaping the meeting room experience. Today, the most successful video conference device vendors lead across seven areas, redefining the industry landscape.

- **New growth vectors:** The shift to remote work during the pandemic led to hypergrowth in video meetings and team collaboration tools. The industry is undergoing significant normalization, and growth is slowing down. Providers are resetting their portfolio priorities and tapping into new markets to align with emerging customer needs for technology consolidation and sustain growth. From a technology standpoint, vendors are focused on delivering an end-to-end, unified portfolio for unified communications-as-a-service (UCaaS), contact center-as-a-service (CCaaS), and communications platform-as-a-service (CPaaS). In addition, new opportunities have emerged from market adjacencies, such as workforce management software that improves employee productivity/well-being and workplace management solutions that offer intelligent scheduling/booking, wayfinding, and space insights. Other growth drivers include targeted, vertical-specific expertise and solutions for frontline workers. Technology providers must think beyond the "knowledge worker," address broader markets, and tap into emerging opportunities in next-gen devices for the mass market.

Source: Frost & Sullivan

Strategic Imperative

Factors Creating Pressure on Growth

- **Inclusivity and engagement:** For successful hybrid work, technology providers must ensure that they develop feature sets to bridge the gap between physical and virtual experiences. Most meetings today have a mix of in-person and remote participants, reshaping how product feature sets evolve. As employees return to the office, the meeting and team collaboration experience must keep pace, ensuring participant equality, inclusivity, and usability for both in-office and remote participants.
- **Office modernization and workplace optimization:** The physical office is getting reconfigured. Space and office optimization are key focus areas that draw employees back to the office with a new purpose. As hybrid work continues to evolve, there is a growing need to gain workplace insights that provide an accurate view of the pace of return to office and how spaces are being used. Workplace analytics and optimization software provides single-pane-of-glass visibility to IT admins. It offers actionable insights to facilities and HR to enhance employees' in-office experience and improve employee well-being. Analytics on space and technology utilization enable real estate optimization, office redesign, ROI evaluation on technologies, and planning future investments.

Source: Frost & Sullivan

Strategic Imperative

Factors Creating Pressure on Growth

- **AI-first meetings:** As the overarching technology, AI drives much of the innovation in meetings and team collaboration software and devices. Today, AI is being built into the core meeting experience. Software and hardware vendors are leading with AI-based feature sets to provide intelligence, automation, and insights that improve productivity, meeting efficiency, and enhance the user experience. Key features that are fast becoming table stakes include meeting summaries and insights; real-time transcription and translation; speaker tracking and framing combined with AI-based camera switching to ensure the best views of all participants; noise reduction and other audio enhancements including creating audio zone; face recognition, speaker identification, and in-meeting name labels; smart lighting for users to look their best; intelligent content development and sharing including chat and email compose; and actionable insights for streamlined management. Going forward, the focus will be on the speed of innovation and execution to deliver meaningful and measurable benefits of AI.

Source: Frost & Sullivan

Strategic Imperative

Factors Creating Pressure on Growth

- **Sustainability at the forefront:** In 2024, sustainability and circular design have become a material factor for businesses when purchasing new technology. Device vendors are prioritizing carbon footprint reductions in their products. Sustainability is a holistic conversation spanning materials (percentage of post-consumer recycled [PCR] content), processes (e.g., responsible manufacturing), packaging (e.g., reduced/recyclable packaging), refurbishment, and durability. Vendors that lead with a strong ESG focus are gaining preference among customers.

Source: Frost & Sullivan

Growth Environment

- In 2023, customers took a measured approach to video-enable their meeting rooms, focusing first on bringing employees back to the office. Adverse macroeconomic conditions, geopolitical instability, and budgetary constraints put additional pressure on growth.
- The \$3.18 billion global room video conferencing devices industry is undergoing fundamental shifts because of massive work and workplace transformation. Despite challenging conditions, the value of video communications has become deeply entrenched across all industries, creating an upward market trajectory. Frost & Sullivan forecasts a return to growth in 2024 with an accelerated return to office and the revival of meeting room and office modernization.
- More mandates and corporate initiatives will ignite a faster return to the office in 2024. As meeting room utilization improves, there will be a strong drive to upgrade and modernize meeting rooms with current audio, video, and content collaboration technologies.
- In 2023, the room video conferencing devices industry reported an 18.1% YoY unit decline. The larger decline came from the USB room conference cameras, which fell by 27.2%. Room endpoints, which include collaboration bars and cloud-connected room kits, declined by 5.4% in units.



Source: Frost & Sullivan

Growth Environment

- Revenue for the total market declined by 11.2% YoY. USB conference room camera revenue declined by 24.6%, and revenue for room endpoints declined at a lower rate of 6.4% because of the demand for collaboration bars and cloud-connected rooms.
- The 5-year unit compound annual growth rate (CAGR) for meeting room video conferencing devices is forecasted at 13.2%, resulting from the steady trend of video-enabled meeting spaces for hybrid work. The revenue CAGR is a robust 17.7%, with higher average selling prices (ASPs) propelling revenue to a projected \$7.16 billion in 2028.
- Video device ASPs increased for the third year because of factors, including inflationary pressures and a higher attach rate for additional meeting room components (in-room meeting controllers, outside-the-room schedulers, additional cameras, and AV peripherals).
- AI removes many friction points that have hindered video adoption in the past. The overarching technology drives much of the innovation in meeting software and devices. Vendors lead with AI-based feature sets to enhance the meeting experience, offer meeting equality for all participants, and provide automation and room insights.



Source: Frost & Sullivan

Growth Environment

- Customers are demanding better hybrid meeting experiences. In 2023, many vendors entered the market for center-of-table cameras that work in sync with front-of-the-room devices and leverage AI-driven audio and video tracking to provide the best views of each participant. While the demand for multi-camera rooms is still nascent, it is expected to gain traction. By 2028, one in five medium—and the demand for multi-camera rooms is still nascent, it is expected to gain traction. By 2028, one in five medium and large-sized rooms is forecasted to have a multi-camera solution.
- The main growth drivers in the cloud meetings and team collaboration space include:
 - Hybrid work and modernization of meeting rooms are creating long-term growth opportunities.
 - Rapid AI innovations and camera technology improvements are enhancing the meeting experience.
 - Ongoing migration from legacy environments to cloud UC creates a pull-through for meetings and meeting room upgrades.



Source: Frost & Sullivan

Growth Environment

- All-in-one collaboration bars, with native cloud integration, offer a compelling user experience and simplify IT management.
- Growing demand for multi-camera rooms and higher attach rates for accessories such as meeting room controllers, schedulers, and audio peripherals are boosting revenue.
- New vertical-specific expertise and communications integration into workflows and business processes create new use cases for video.
- In contrast, a confluence of factors will negatively impact revenue growth:
 - Slow return to office and low meeting room utilization lead to cautionary spending.
 - Multi-camera solutions are still nascent and not widely available.
 - The lack of interoperability across collaboration platforms means that BYOD remains prevalent, negatively impacting the revenue opportunity for full-room solutions.
 - The business value of AI has yet to be proven to justify investments on a mass scale.



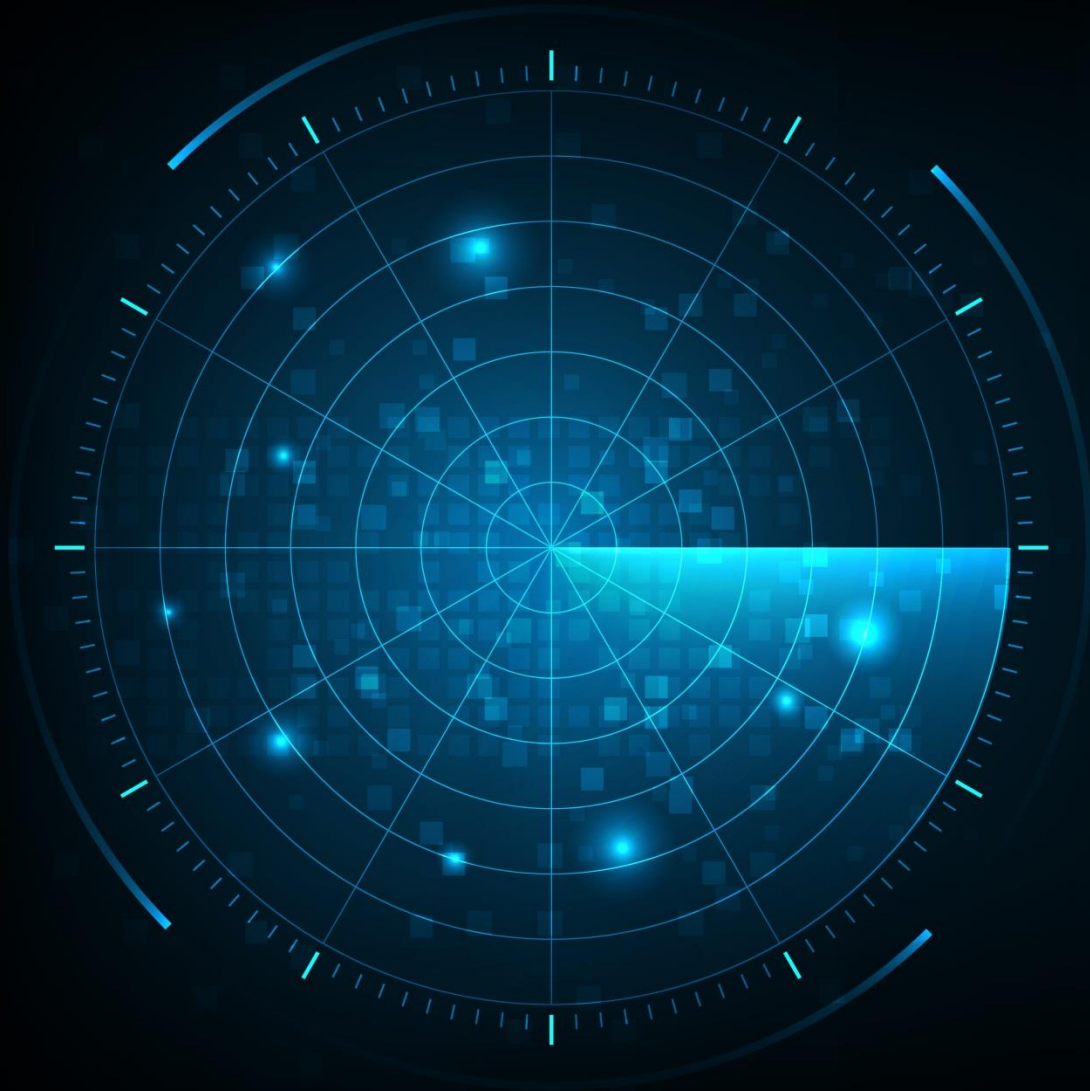
Source: Frost & Sullivan

Growth Environment

- Higher prices of meeting room devices have delayed adoption by SMBs and organizations that lack budgets.
- A cautious spending environment leads to longer sales cycles and delays projects.

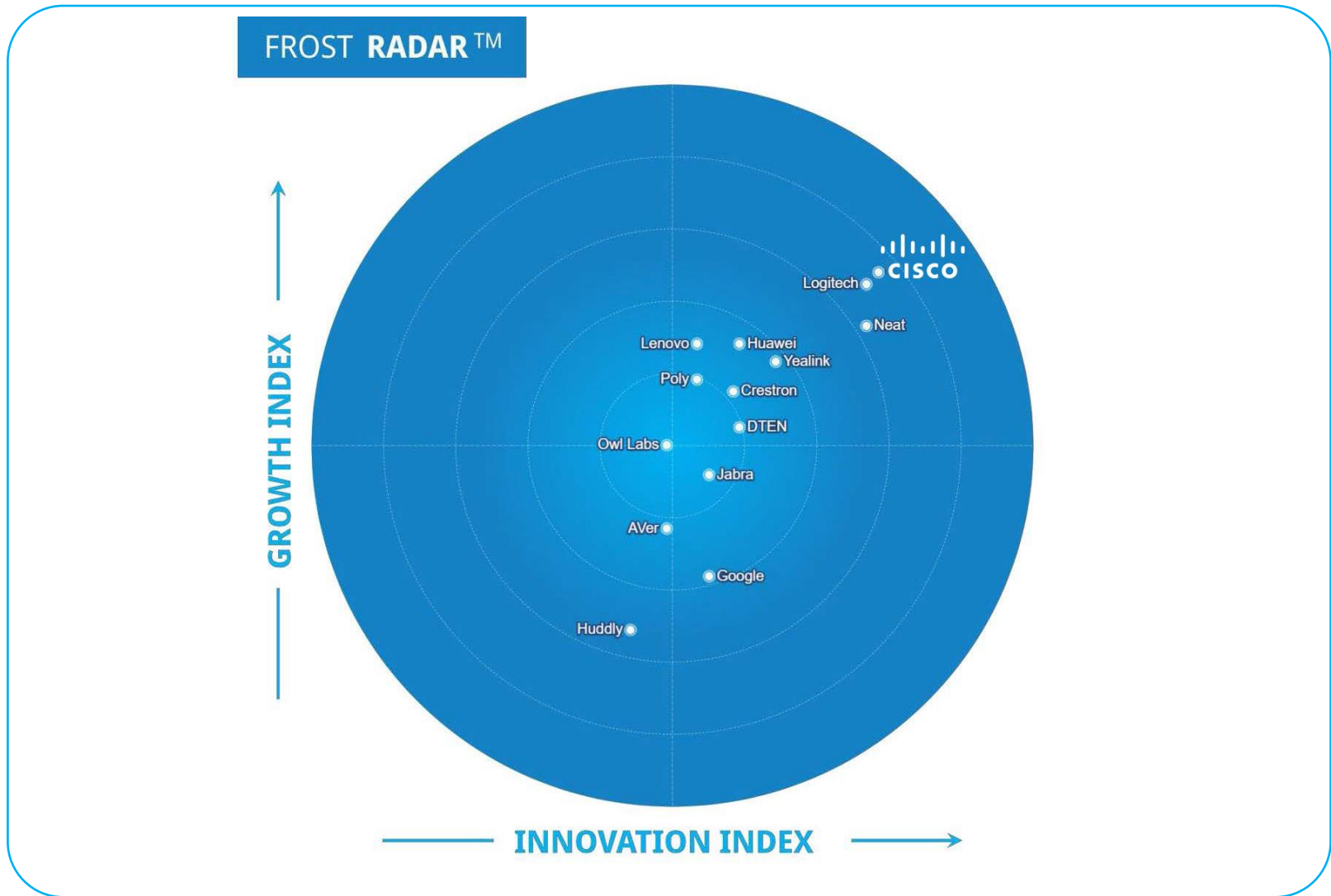


Source: Frost & Sullivan



**Frost Radar™
Meeting Room
Video
Conferencing
Devices, 2024**

Frost Radar™: Meeting Room Video Conferencing Devices, 2024



Source: Frost & Sullivan

Competitive Environment

- Given the rapid pace of innovation and the entrance of new vendors, the video conferencing devices industry is undergoing a phase of intensive competitiveness. It has become more fragmented, with smaller competitors and new entrants nibbling away at the incumbents' market share.
- In this Frost Radar analysis, Frost & Sullivan independently plotted 14 growth and innovation leaders in an industry with more than 50 video conferencing device vendors.
- The following key competitive factors determine the degree of success for participants:
 - Audio and video quality
 - Support for content collaboration
 - Current AI capabilities and road map
 - Ease of use and intuitiveness
 - Engaging and inclusive meetings
 - Security and compliance
 - Support for a broad ecosystem of collaboration and productivity cloud services



Source: Frost & Sullivan

Frost Radar™

Competitive Environment

- Centralized device monitoring and management
- Analytics and room insights
- Scalability
- Reliability
- Interoperability with third-party collaboration platforms and ease of external/intercompany collaboration
- API/SDK enablement
- Vertical-specific solutions
- Broad global presence
- Range of managed and professional services
- A well-established and growing channel partner community



Source: Frost & Sullivan

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

Company to Action: Cisco

Innovation

- Cisco continues its relentless innovation by releasing industry-leading audio, video, and content-sharing features on its room devices. Its investments are centered on enabling secure and frictionless workflows, inclusive meetings, and flexibility to work from anywhere.
- Focusing on reliability and security, Cisco's comprehensive line of room and personal collaboration devices complements its cloud portfolio, which covers the full stack: calling, messaging, video, whiteboarding, webinars, events, polling, Vidcast, workplace reservation, contact center, and CPaaS.
- In the collaboration devices industry, Cisco has been known to lead with innovation in high-quality, differentiated solutions.
- Over the past few years, Cisco has innovated with an AI-first approach, including intelligent audio-video across its entire device portfolio.
- In 2023, Webex made new strides and launched a partnership with Microsoft that allows users to run Microsoft Teams natively on a broad portfolio of Cisco Room and Desk devices. This partnership has opened up new growth opportunities for Cisco and has helped expand its reach. In addition, Cisco Devices support interoperability with Zoom Meetings and Google Meet.

Source: Frost & Sullivan

Company to Action: Cisco

Innovation

- Cisco has a strategic approach to enabling its innovations across Webex's suite of services and the portfolio of Cisco devices. Recent innovations on Cisco's Webex platform include Real-Time Media Models (RMMs) that will fuse text, audio, and video for enhanced AI-driven experiences; a new AI Codec that will deliver clear audio regardless of network conditions; facial detection for in-meeting name tags; Super Resolution in high-definition meetings without the need for high-definition bandwidth; a Presenter and Audience feature that enables presenters to engage audiences in large rooms; an Optimize for my Voice feature that can differentiate between the primary speaker(s) and people in the background to block out unwanted voices; AI-powered meeting summaries, task lists, and chapters that allow users to catch up on content following a meeting; and integration with Apple TV 4K, Apple Watch, and Apple Vision Pro. Recent device-related innovations include Cinematic Meetings, which uses voice and facial detection to follow participants for more engaging and inclusive meetings, and Cross View for AI-optimized framing and meeting equity.
- Cisco announced a new campfire-like boardroom experience with four quad cameras and screens arranged in a circular configuration at eye level. The unique solution offers immersive, inclusive boardroom meetings, allowing for natural conversations that reduce meeting fatigue and cognitive load.

Source: Frost & Sullivan

Company to Action: Cisco

Innovation

- Recent device announcements include the new Room Kit EQX and the Campfire device experience. Targeted at large flagship spaces, Room Kit EQX offers easy deployment, an improved audio-video experience, and a native experience with Webex and Microsoft Teams, including Teams'io-video experience, and native experience with Webex and Microsoft Teams, including Teams signature Front Row experience. With flexible mounting options, including wall-mounted or free-standing, Room Kit EQX eliminates the need for complex pro AV services such as patchwork speaker solutions, mounting options, and furniture enclosures, saving customers time and money.
- Unique to Cisco's collaboration devices is a deep partnership with NVIDIA, which Cisco has leveraged since 2015. Cisco's RoomOS platform is built on the Jetson Edge AI platform, which has enabled Cisco devices to launch industry-leading video, audio, and speech intelligence and other innovative AI and machine learning features. This is a key part of Cisco's strategy to provide customers with investment protection by ensuring that the architecture can meet customer requirements today and in the future.

Source: Frost & Sullivan

Company to Action: Cisco

Innovation

- An area of competitive strength for Cisco is its end-to-end management platform, the Webex Control Hub. Offering comprehensive management, analytics, and reporting, Control Hub allows IT teams to leverage capabilities, including real-time troubleshooting, workspace optimization, and user and device management. Cisco Devices integrate through Control Hub to Cisco Spaces, providing end-to-end workplace visibility for end users, IT, and facilities teams. Furthermore, integrating Control Hub with Cisco's network management tool, Thousand Eyes provides observability across the entire organization. Cisco video devices also have built-in people count and environment sensors that surface in Control Hub, which are important capabilities to support scaled deployments of devices for hybrid work while reducing the total cost of ownership.

Source: Frost & Sullivan

Company to Action: Cisco

Innovation

- Cisco took broad steps in 2023 to solidify its commitment to sustainability. Its company aims to reach net zero emissions across its value chain by 2040. It actively applies circular design principles and has set aggressive targets for product sustainability. The company aims to reach 50% PCR content in FY 2025 across its product lines. Its collaboration portfolio (phones/video) is close to the goal already, and specific video device SKUs such as Room Bar and Room Bar Pro already meet the targets at 56% and 63%, respectively. For packaging, it has set the target of 70% foam reduction in FY 2025. Cisco devices support smart power management, energy consumption, and carbon footprint estimations through the Control Hub. Finally, Cisco devices are designed with longevity in mind and offer easy return and refurbishment programs.

Source: Frost & Sullivan

Company to Action: Cisco

Growth

- Despite intense competition, Cisco remains the clear leader in the global room endpoints market, with a 26.2% revenue market share—more than twice that of its nearest competitor.
- Throughout 2023, the macro challenges that impacted the industry continued to pressure Cisco's device business. However, the company turned the corner in CYQ3 2023 and returned to growth. In CYQ4 2023, it reported a YoY 21.7% revenue growth and 18.6% unit growth for its video endpoints business, outpacing the market average.
- Cisco's recent innovations in AI, rapid feature velocity and product line expansion, strong partner ecosystem, keen focus on customer needs for security, reliability, manageability and superior brand recognition position it well to continue this growth trajectory.
- Cisco's partnership with Microsoft Teams extends across various Cisco devices, resulting in significant customer wins. As of February 2024, Cisco reported having over 2,200 joint customers with Microsoft Teams.
- With the company's leadership team prioritizing AI-driven collaboration as an important growth vector, Cisco's video endpoints will likely maintain a leadership position in the cloud communications and collaboration industry for the foreseeable future.

Source: Frost & Sullivan

Company to Action: Cisco

Frost Perspective

- Customers choose Cisco for its unified and end-to-end cloud communications and collaboration stack, advanced security, robust management and administrative tools, and industry-leading audio-video devices. Today, the company has a large, global customer base of 95% of Fortune 500 companies.
- The Cisco brand is widely known and respected across the enterprise communications industry because of its innovation and ability to remain at the forefront of emerging trends. Over the last several years, it has launched a series of market-leading audio and video devices with features that enable better communications for employees working from anywhere while making it easy for IT teams to manage end-to-end.
- The industry is seeing a shift from unimodal to multimodal AI. Cisco's lead in RMMs that leverage inputs from audio-video signals, gestures, voice tones, and inflections will shift the use of AI and provide users with unique contextual information to improve the meeting experience.
- Cisco's broad devices portfolio for all types of workspaces, innovation velocity, ability to tap into new growth vectors, and strength in large, global enterprise customers and the public sector, combined with its integration with Microsoft Teams, have enabled it to maintain its leadership position in-room video conferencing devices.

Source: Frost & Sullivan

Company to Action: Cisco

Frost Perspective

- Well known for innovation, Cisco must continue realigning its growth strategy vision. It must focus on accelerating top-line growth, strengthening its open ecosystem approach, simplifying its messaging and pricing, and addressing diverse markets while innovating with purpose.

Source: Frost & Sullivan



Key Takeaways

Key Takeaways

1

While a customer-first motto has always driven businesses, employee experience has emerged as a strategic business goal. Today, business leaders are equally focused on employees and their customers. Technology is leading in improving employee performance, engagement, and satisfaction. Video conferencing and group chat have become table stakes.

2

Innovation beyond video-first communications to support multiple modalities (without losing context or continuity), including synchronous and asynchronous communications and scheduled and spontaneous interactions, is paramount. The meetings and team collaboration services industry has evolved to do more than just deliver tools for meetings and chats. The next generation of solutions solves the pain points of disconnected communications, enhancing collaboration and accelerating decision-making.

3

In 2024, the industry will see continued innovation and enhancements in collaboration platforms and the devices that connect to them. Transformational leaps in AI and analytics, as well as developments in interoperability across meeting platforms, are making it easier for users to have effective and productive communications from anywhere they choose to work.

Source: Frost & Sullivan

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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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