

Futurum

Futurum Research 2025

Key Issues & Predictions

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Welcome to Futurum's 2025 Key Issues & Predictions Report

As we stand on the edge of 2025, I'm reminded of one fundamental truth: disruption waits for no one. Organizations and leaders who can anticipate, adapt, and act quickly will thrive. At The Futurum Group, we are focused on helping you decode the complexities of today's digital-first world so you can stay ahead of the curve.

This year's predictions dive deep into the trends reshaping industries—from AI's pervasive influence across enterprise applications to seismic shifts in hardware, cloud, and customer experience. Our team of analysts—some of the brightest minds in research and strategy—has dissected the forces driving change and outlined actionable insights for what's next.

Whether it's the rise of agentic AI disrupting software consumption, cloud marketplaces revolutionizing GTM strategies, or the accelerating impact of AI PCs on productivity, the message is clear: we are entering a new era where business agility, intelligence, and innovation are the ultimate differentiators.

The insights shared here are not just about spotting trends but about preparing for transformation. As customer expectations soar and competition intensifies, companies that embrace change as an opportunity rather than a challenge will set the pace for the next decade.

I invite you to explore the predictions in this report and reflect on how your organization can harness these shifts to drive growth, improve outcomes, and elevate experiences for customers and employees alike.

Here's to meeting the future head-on—together.



Tiffani Bova
Chief Strategy and Research Officer
The Futurum Group





AI Software & Tools: Agentic AI Disrupt the Business Application Universe

Prediction: By the end of 2025, we will likely see a meaningful but gradual shift in enterprise software interaction. While AI assistants will increasingly supplement traditional interfaces, adoption will vary significantly across industries and functions. Perhaps 10-15% of routine business software interactions will involve AI-mediated experiences, particularly in data analysis, customer service, and administrative tasks. This evolution will prompt software vendors to experiment with hybrid licensing models that account for both direct user access and AI-assisted usage, though traditional per-seat licensing will remain predominant for most enterprise applications.

Why This is Trending:

The convergence of three key factors accelerates this trend.

- First, recent breakthroughs in large language models have dramatically improved **agents' ability to understand context and execute complex instructions** across multiple systems.
- Second, the widespread adoption of APIs and standardized integration protocols has made it **technically feasible for agents to interact with diverse software systems**. The rise in support for Model Context Protocol (MCP) - originally developed and open-sourced by Anthropic but recently endorsed by rival OpenAI, joining Microsoft, Replit, Codeium and others - could point a way to a standardized approach for connectivity between models and agents.
- Third, the **increasing complexity of enterprise software stacks** - most large companies have multiple hundreds of SaaS applications - has created an urgent demand for solutions that can **abstract away this complexity** for end users while maintaining operational efficiency.

Use cases:

- **Cross-platform business process automation:** An AI agent could manage an entire employee onboarding process by automatically coordinating across HR systems, IT provisioning platforms, and training modules. It could handle everything from creating accounts and setting up permissions to scheduling orientation sessions and ensuring compliance requirements are met, all without manual intervention across multiple systems.
- **Intelligent resource optimization:** An agent could continuously monitor and manage enterprise resource planning (ERP) systems, procurement platforms, and inventory management software simultaneously, making real-time decisions about stock levels, supplier orders, and logistics planning while reconciling data across all systems to maintain optimal operations.
- **Integrated customer experience management:** Rather than requiring separate teams to monitor different customer touchpoints, an AI agent could simultaneously interact with CRM systems, support ticketing platforms, social media management tools, and email marketing software to provide unified, context-aware customer service and relationship management, automatically escalating issues and coordinating responses across all channels.

"The rise of agentic AI represents a significant shift in enterprise software. Instead of employees juggling dozens of different applications and interfaces, they'll simply tell AI agents what they need to do - onboarding a new hire or reconciling financial data across systems - and the agents will handle the complex coordination behind the scenes. This isn't just about automation; it's about fundamentally changing how businesses - and the people within them - interact with their software systems, potentially saving billions in training costs and dramatically reducing the cognitive load on workers to free them up for more productive and creative tasks."



Nick Patience

Vice President & Practice Lead AI Software & Tools

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NPU-Equipped AI PCs Will Upend the PC Market

Prediction: AI-capable PCs (PCs equipped with an NPU and capable of running some AI training and inference workloads locally) will come to represent at least 40% of new PC shipments by the end of 2025.

Why This is Trending:

Three primary reasons are driving this change.

- **NPU for PCs:** The introduction of NPUs into device system architectures, which includes PCs, is enabling devices to perform previously energy-intensive tasks far more efficiently than they could with traditional CPUs and GPUs. This new capability unlocks next-gen AI training and inference capabilities directly on the device, creating new horizons of added utility for users and their organizations. NPU-equipped PCs also deliver vastly superior performance per watt to their predecessors, translating into all-day (and even multi-day) battery life to users.
- **OEM Commitment to the Transition.** Every major PC OEM is fully committed to this market transition, with aggressive competition between silicon vendors Qualcomm, AMD, and Intel accelerating performance improvements at both the processor and system levels. NVIDIA is also rumored to enter the market within 6-12 months. The PC ecosystem is moving forward, not backward. AI PCs are already beginning to replace soon-to-be-obsolete traditional (pre-AI) PCs.
- **PC Refresh Cycle.** The end of support for Windows 10 (slated for October 2025) will also help drive the PC refresh cycle towards AI PCs and accelerate the adoption of AI PCs in the commercial segment.

Use cases:

As AI-capable PCs are an evolution of pre-AI PCs, all previous use cases for PCs still apply. However, new use cases have already begun and will continue to emerge.

Moving some AI Processing from the Cloud to Devices to expand the reach of AI beyond the data center. As large language models and large mixed models (multimodal AI) become more efficient and AI PC systems become more capable, AI PCs will accelerate the expansion of AI workloads from the cloud to AI-enabled devices. Many large language models trained in the cloud a year ago can already be trained directly on-device today. As that trend continues, organizations will increasingly be able to train, test, and fine-tune many of these models securely, onsite, and at a fraction of the cost they would have otherwise incurred. Additionally, AI PCs allow pre-trained models to be quickly and securely customized by organizations locally rather than in the cloud.

Agentic AI in the PC. As agentic AI transforms how users interface with apps and software, AI-capable PCs will be uniquely positioned to deliver secure, local, highly individualized on-device agentic-AI experiences to users concurrent with more general-use cloud-based agentic AI experiences. Use case examples range from AI agents drafting email responses, managing calendars, and performing complex searches in seconds to reducing the time it takes to design a presentation, report, or proposal from hours to minutes.

All Day & Multi-Day Battery Life. PCs capable of delivering all-day and multi-day battery life even in thin-lightweight form factors will also transform the way users work and play with their PCs, not only in hybrid and remote work scenarios but at the office as well, with notebook PCs becoming far easier to carry around between meetings.

"The AI PC is, first and foremost, a radically better PC than pre-AI PCs. It is tangibly faster, more powerful, capable, and useful. The all-day battery life alone is such a radical system improvement that even without AI capabilities, it would be worth the upgrade. But perhaps more importantly, in the long term, the AI PC also lays the necessary foundation for the next generation of software experience, which agentic AI will dominate. As agentic AI begins to insert itself into every application, from search, system management, and security to productivity and creativity software, users in both the consumer and the commercial segments will need PCs designed to securely handle agentic AI workloads both in the cloud and locally, to take full advantage of the coming disruption/opportunity."



Olivier Blanchard

Research Director & Practice Lead AI Devices

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Channel & GTM: The Use of Cloud Marketplaces Surges Forward

Prediction: Cloud marketplaces will become as big a Go-to-Market (GTM) for Independent Software Vendors (ISVs) as traditional distribution is for commercial hardware. Nearly \$400 billion of committed cloud spending will continue to help fuel this engine.

Why This is Trending:

- First, **marketplace fees have gradually been coming down.** When marketplaces first came on the scene, fees were north of 20%, making them a very expensive proposition. Now, they are at about 3% as standard, and in some cases, as low as 1.5%. At this price point, marketplaces are as cost-competitive as traditional distribution channels and leave more room in the margin stack for ecosystem partners to take part. This fee reduction comes from increased volume in marketplace activity, as well as hyperscalers' underlying goal: driving more infrastructure consumption.
- Second, **cloud commits across the major hyperscalers continue to surge.** As the cloud becomes increasingly pivotal to enterprises worldwide, companies are increasingly entering into long-term contracts with hyperscalers that ensure they have the best pricing and a guarantee of resource availability. As of Q3 2024, cloud committed spending across the leading three hyperscalers surged to \$393 billion (representing nearly 30% growth year-on-year). Certain portions of this commitment can be utilized on third-party products in the cloud marketplace, leading to a ready-made marketplace economy for ISVs to tap into.
- Third, **the hyperscalers have all launched programs that allow their partners to participate in the cloud marketplace.** These 'Private Offer' programs enable partners to create custom offers for their customers via the marketplace. This could include pricing, bundling, and their own value-added services. These programs ensure that ISVs that want to participate in the cloud marketplace can still leverage their partner ecosystem and, crucially, reward them for that activity via their own partner programs. Partners will play an integral role in cloud marketplaces. AWS, which has the most mature program, has indicated that north of 30% of marketplace transactions already feature a partner as the selling agent. This number will continue to grow.

Use cases:

- **CrowdStrike** is one of a handful of companies that has surpassed \$1 billion in total sales in the AWS Marketplace. Since launching on AWS in 2017, it has been its fastest growing route-to-market, and is also responsible for delivering a higher-than-average deal size (compared to its other sales channels). CrowdStrike has over 20 integrations with AWS products including AWS Control Tower and AWS GuardDuty.
- **NetApp** recently launched NetApp Data Infrastructure Insights on the Azure Marketplace to help customers planning an Azure migration with streamlined observability and real-time telemetry data. NetApp has leaned heavily into its hyperscaler GTM strategy. In addition to offering products on the marketplaces, it is the first vendor to offer first-party services with all three leading hyperscalers.
- **Salesforce** and AWS announced a wide-reaching strategic partnership agreement in 2023. One aspect of the agreement was the first-time availability of select Salesforce products in the AWS marketplace, including Data Cloud, Service Cloud, Sales Cloud, Industry Clouds, Tableau, MuleSoft, Platform, and Heroku. In its Q3 2024 earnings, Salesforce highlighted AWS as a key growth driver, with transactions doubling quarter-over-quarter and 10 deals exceeding \$1 million in sales.



Alex Smith

Vice President & Practice Lead Channels & GTM

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"Every vendor is trying to figure out their marketplace strategy: which ones to prioritize, how to operationalize it, and how to bring traditional partners on that journey. The most successful vendors in the marketplace will be the ones who understand how to include service delivery partners as part of their marketplace strategy. AWS has been the pioneer in this space, but Microsoft and Google are quickly gaining steam, and other marketplaces will continue to emerge as attractive propositions"



CIO: Confronted with the Realities of Strategically Operationalizing AI, IT Leaders Will Rethink How They Wield the Cloud

Prediction: Enterprise IT will transform dramatically in 2025 as CIOs strategically re-architect their cloud infrastructure to meet the demands of AI-driven workloads. According to Futurum's latest CIO Insights survey, 89% of CIOs report leveraging AI for strategic improvements, with 71% reevaluating the optimal environments for running cloud workloads.

Why This is Trending:

Three primary reasons are driving this change.

- **Legacy Architectures Fall Behind.** The rise of generative AI and large-scale machine learning models has introduced unprecedented compute and storage requirements that legacy architectures cannot support.
- **Balancing Cloud Deployments.** Organizations seek to balance the flexibility of public clouds with the control and cost predictability of private or hybrid cloud environments.
- **Compliance & Data Sovereignty.** Increased awareness of data sovereignty and compliance needs drives CIOs to redesign their cloud strategies with AI in mind.

Use cases:

- **AI-Optimized Data Centers:** Enterprises deploying on-premises GPU-based architectures to support cost-effective training and inferencing workloads while also maintaining data control.
- **Making AI Affordable:** Making AI workloads inexpensive enough to operate, especially for complex knowledge work in price-sensitive industries like healthcare and insurance, to achieve ROI requirements.
- **Dynamic Cloud Bursting:** Leveraging hybrid cloud environments to scale AI workloads to public clouds during peak demands seamlessly.
- **AI-Enhanced Business Resiliency and Disaster Recovery:** Implementing AI-driven predictive analytics to optimize failure-resistance, operational failover, and recovery processes across multi-cloud architectures.

"As AI becomes integral to business strategy, CIOs are being forced to reconsider how and where it's optimal to deploy compute resources. The need for low latency, cost efficiency, and compliance in AI applications is driving a rapid shift toward hybrid and multi-cloud strategies. For IT leaders, this means 2025 will be a pivotal year for a comprehensive realignment of their infrastructure with the realities of the AI era."



Dion Hinchcliffe

Vice President & Practice Lead CIO Insights

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Cybersecurity: Agentic AI presents cybersecurity teams with both challenges and opportunities

Prediction: As organizations ramp up their efforts around agentic AI initiatives, cybersecurity teams will increase their focus on the technology from two perspectives: first, they seek to understand agentic AI as a precursor to securing the multiple ways it may be used across the business; secondly, they investigate and experiment with agentic AI themselves as part of the many operational processes within cybersecurity.

Why This is Trending:

Three primary reasons are driving this change.

- **Widespread popularity within the business.** The emergence of agentic technology is of great interest to businesses seeking efficiencies across numerous processes.
- **Securing agentic AI is a complex undertaking.** Agentic technology includes several aspects that must be addressed, including code security, identity management, data security, and more.
- **Technology may apply to security use cases.** On the flip side, agentic technology may be particularly well-suited for well-defined use cases in cybersecurity itself, including scenarios in application security, security operations, and more.

Use cases:

- **Enrichment for security events and alerts.** Agents can be beneficial in aggregating information from multiple sources based on a deeper understanding of the underlying content. This can be applied to time-sensitive investigations where security analysts must understand the context of possible incidents.
- **Response acceleration.** Responding to a security incident requires the coordination of multiple resources and the execution of several well-defined steps. Agentic technology can potentially accelerate these responses, freeing up resources for more complex and strategic considerations.
- **Scale up threat hunting.** Many security teams proactively look for signs of potential intrusion through threat hunting, but this can be a time-consuming activity requiring deep domain knowledge. Agentic technology can potentially assist here by offloading well-defined tasks from the human threat hunters.

“The broad evolution of and interest in agentic AI is extremely important to cybersecurity teams. As a new technology, the adoption of agentic AI across the organization means that security teams must quickly understand the technology, analyze the impact it may have on security posture, determine how to secure it, and implement these changes while supporting innovation and experimentation. That same technology, however, can potentially be a boon to security teams themselves, as they use it selectively to assist with well-defined security tasks.”



Fernando Montenegro

Vice President and Practice Lead, Cybersecurity

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Data Management & Analytics:

Prediction: 2025 will be the year of metadata for enterprises seeking faster and easier access to the data necessary to fuel impactful business and AI outcomes. As the year progresses, companies will increasingly set aside the complexities of data fabrics and data meshes to focus on metadata to deliver data- and AI-borne business value. Employing the philosophy of a meta grid (a concept originally defined by Ole Olesen-Bagneux), companies will seek to unify disparate databases, warehouses, lakes, lakehouses, and even knowledge management systems. At its core, a meta grid functions as a decentralized architecture comprising metadata-driven data catalogs. When used together, these islands of knowledge can be used to sidestep a centralized, company-wide master view of data to surface instead data and data-driven insights where and when needed with little to no IT friction.

Why This is Trending:

Pragmatically, this trend recognizes that a centralized, company-wide master view of data is no longer a realistic or necessary goal. In today's decentralized, hybrid/multi-cloud data landscape, data is often scattered across multiple systems, formats, platforms, and departments, making it nearly impossible to create a single, unified view.

A meta grid approach acknowledges this reality and instead focuses on providing a more nuanced and contextual understanding of that data, surfacing insights where and when needed, with minimal IT involvement. This approach enables businesses to tap into the power of their data without getting bogged down in complex integration and governance efforts.

More strategically, the idea of a meta grid also has the potential to truly democratize access to data and AI-driven insights across the organization. By providing a more flexible and agile method by which business users and data professionals can access and utilize contextual, timely, and accurate data, a meta grid can help companies make more informed decisions faster and with greater confidence.

Use cases:

- **Data quality and validation.** A meta grid can automatically validate data quality, comparing data against predefined standards and recommending improvements to data pipelines while also identifying data inconsistencies and anomalies in near real-time.
- **Observability and the examination of the entire data landscape.** A meta grid can quickly and continuously examine an entire portfolio of data assets to identify redundancies, quality issues, security vulnerabilities, non-compliant data practices, etc.
- **Breaking down data silos.** At a high level, a meta grid can bring together the disconnected domains of knowledge spanning information management, data management, IT management, and knowledge management. Tactically, this translates into fewer routine data migrations and consolidations, thereby minimizing repeated and wasteful data movements while also enabling more effective data sharing and collaboration.
- **Refactoring and modernizing data architectures.** A meta grid can perform basic data improvements, such as optimizing data storage and retrieval, to more complex tasks, such as examining an organization's data architecture and developing multiple approaches to refactoring legacy data systems into modern, cloud-based data platforms.

"In the race to deliver timely, accurate, and contextual insights, many organizations have gotten bogged down in the act of building out the perfect data stack and data landscape, one that enforces consistency (e.g., a data fabric) while also encouraging collaboration and self-reliance (e.g., a data mesh). As a result, in 2025, we expect to see companies seek out a third, middle way, with metadata catalogs serving as a unifying principle across disparate data and AI assets."



Brad Shimmin

Vice President & Practice Lead, Data Management & Analytics

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DevOps and Application Development: Agentic AI's Greatest Gains Are In Development Tasks

Why This is Trending:

Three primary reasons are driving this change.

- While generating software code from a natural language prompt garners great interest, generative AI is proving to be particularly well suited to software development tasks that require an understanding of software's inner workings.
- Generative AI's strengths in natural language processing and inferencing are highly applicable to software development tasks and processes, as well as generating and improving code.
- AI agents are conducive to tasks including writing unit and functional tests, performing code and security reviews, and agentially performing multi-step software development tasks beyond writing code. More complex tasks, such as refactoring and modernizing existing code, require a fuller and more comprehensive examination of codebases, often much larger than a single person can fully comprehend.

Use cases:

- **Streamlining Development Tasks.** Beyond code generation and completion, agentic AI agents streamline the software creation processes, DevOps workflows, platform configurations, debugging, CI/CD pipelines, technical documentation and architectural diagrams, and software unit, functional, and security testing.
- **Code Reviews and Improvement.** AI agents can automatically perform code reviews, comparing uses of software patterns and adherence to modern programming standards while also recommending improvements to code.
- **Examining Full Codebases.** AI agents can quickly and continuously examine entire codebases to identify reusable code, reoccurring software bugs, security vulnerabilities, and non-compliant coding practices.
- **Tackling Technical Debt.** AI agents trained in upgrading and integration testing software packages and libraries will begin performing targeted software upgrades.
- **Refactoring and Modernizing Code.** AI agents can perform basic code improvements, such as removing inefficiencies in code, to more complex tasks, such as examining an application codebase and developing multiple approaches to refactoring legacy code into microservices.

Prediction: By the end of 2025, generative AI will be recognized as much, if not more, for its ability to reduce the toil of development tasks and technical debt, which comprise the lion's share of work performed by developers and development teams. By the end of 2025, generative AI will be recognized not only for its capacity to generate code but equally, if not more so, for its ability to automate mundane development tasks and reduce technical debt, thereby alleviating the substantial workload shouldered by developers and development teams.

"AI and agentic agents are revolutionizing new software development and changing how software developers and teams create, deliver, and maintain software. Software development relies upon the human ability to understand designs, interdependencies, the inner workings of software codebases, and a multitude of tasks beyond writing or updating code. Many of these tasks are natural use cases for generative AI and agents. Agentic AI will have a profound impact on reducing the toil developers deal with as part of their everyday work."



Mitch Ashley

Vice President & Practice Lead DevOps & Application Development

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Enterprise Applications: Pricing Model Shifts

Prediction: Generative AI-powered features will enter widespread use in 2025, thereby requiring significant shifts in pricing models, with seat-license models being supplanted by consumption-based and outcome-based approaches. A 2024 Futurum Intelligence survey of 895 decision-makers and influencers found that 40% of respondents were paying for software on a consumption-based pricing model, and 15% were using an outcome-based model.

Why This is Trending:

Vendors and enterprise customers realize that AI enables work to be completed more quickly and efficiently than ever before, and paying for a full-seat license is inefficient and lacks a direct connection to business results.

Moreover, the results of a January 2025 study conducted by Kearney and The Futurum Group of more than 200 CEOs operating globally across diverse industries such as finance, manufacturing, retail, and healthcare with more than \$1 billion USD in annual revenue found that incumbent organizations (those with operating histories of 10+ years) are more focused on aligning AI initiatives with recognized industry standards (49%) and achieving tangible ROI (49%). As AI agents proliferate, we expect a strong shift to outcome-based pricing models in 2025, as these CEOs are prioritizing tangible and visible ROI from their AI investments. This outcome-based approach to pricing ensures that customers are not paying for software that is not delivering promised results, which can be contrasted with a consumption-based model that does not incorporate any ROI guarantee.

Common Pricing Models for Agentic AI:

- **Zendesk** has announced the use of outcome-based pricing with its AI agents. Under this model, customers will only pay for successful interactions based on agreed-upon interaction metrics.
- **Workhuman** has fully shifted to an ROI guarantee model, under which larger overarching metrics, such as employee engagement or retention, are used to assess whether Workhuman has delivered on its promises and will be compensated for using its platform.
- **Salesforce** offers interaction-based pricing starting at \$2 per interaction, with volume discounts available as use ramps up. The company aims to ensure customers see a direct link between AI usage and cost instead of a more opaque flat fee-per-user model.

“As vendors continue to roll out new and enhanced versions of AI agents, consumption-, interaction-, and outcome-based pricing models are quickly becoming the most common approaches for linking the benefits of AI with the cost of the resource. This will be increasingly important to CEOs who need to justify their investment in AI, particularly agentic AI systems. However, vendors need to ensure that any pricing model deployed – as well as any ROI promises made – clearly lays out all ancillary costs and restrictions. Hence, customers can make an accurate assessment of whether the pricing model works for their business and use cases.”



Keith Kirkpatrick
Research Director & Practice
Lead Enterprise Applications

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Semiconductors: Chiplets, Heterogeneous Integration, and Advanced Packaging Will Be Critical Enabling Technologies for High-Performance Applications

Prediction: Chiplets will account for an increasing share of semiconductor foundry services, with some leading advanced packaging equipment suppliers expecting chiplets to account for 25% of foundry revenue by 2030

(source: BESI Investor Presentation, November 2024)

Why This is Trending:

Industry Economics: For decades, Moore's Law delivered performance and cost improvements through shrinking transistor geometries, increased die sizes, and larger diameter wafers. As overcoming the technical challenges associated with this monolithic scaling has become too expensive to justify for all but a few semiconductor device types, industry investment has shifted more towards advances in packaging technology.

Cost Optimization: By partitioning the chip into separate functional elements (chiplets), only the advanced logic functions need to be fabricated on leading-edge process nodes. Less-critical functions can be processed using legacy nodes or a different process technology altogether. Chiplets also have the advantage of the higher yields typically associated with smaller die.

Performance Benefits: Besides facilitating higher-speed data processing and transfer, heterogeneous integration enables lower power consumption and better heat dissipation, which are increasingly important system performance metrics.

Use cases:

- **Stacked Die:** Heterogeneous integration utilizes a variety of 2.5D and 3D advanced packaging process technologies, including Hybrid Bonding and Thermo Compression Bonding (TCB)
- **High-bandwidth memory (HBM):** For use in applications such as high-performance computing (HPC), HBM achieves much higher bandwidth than standard DRAM by stacking multiple vertically interconnected DRAM dies.
- **Co-packaged Optics:** Co-packaged optics (CPO) is the advanced heterogeneous integration of optical components and semiconductor devices in a single package, aimed at addressing performance and power challenges in high-bandwidth data-center applications.

"As the monolithic scaling associated with Moore's Law has become increasingly economically unviable as a driver of semiconductor performance and cost improvements, so the demands of future applications, such as AI processing, have become even more onerous. We will see an increasing share of industry investment (both R&D and CAPEX) directed towards the advanced packaging technology required to deliver heterogeneous integration of chiplets."



Richard Gordon

Vice President & Practice Lead Semiconductors

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