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Electronic Product Development Gaps You Need To Close

Executive Insights Into Electronics Hardware Design

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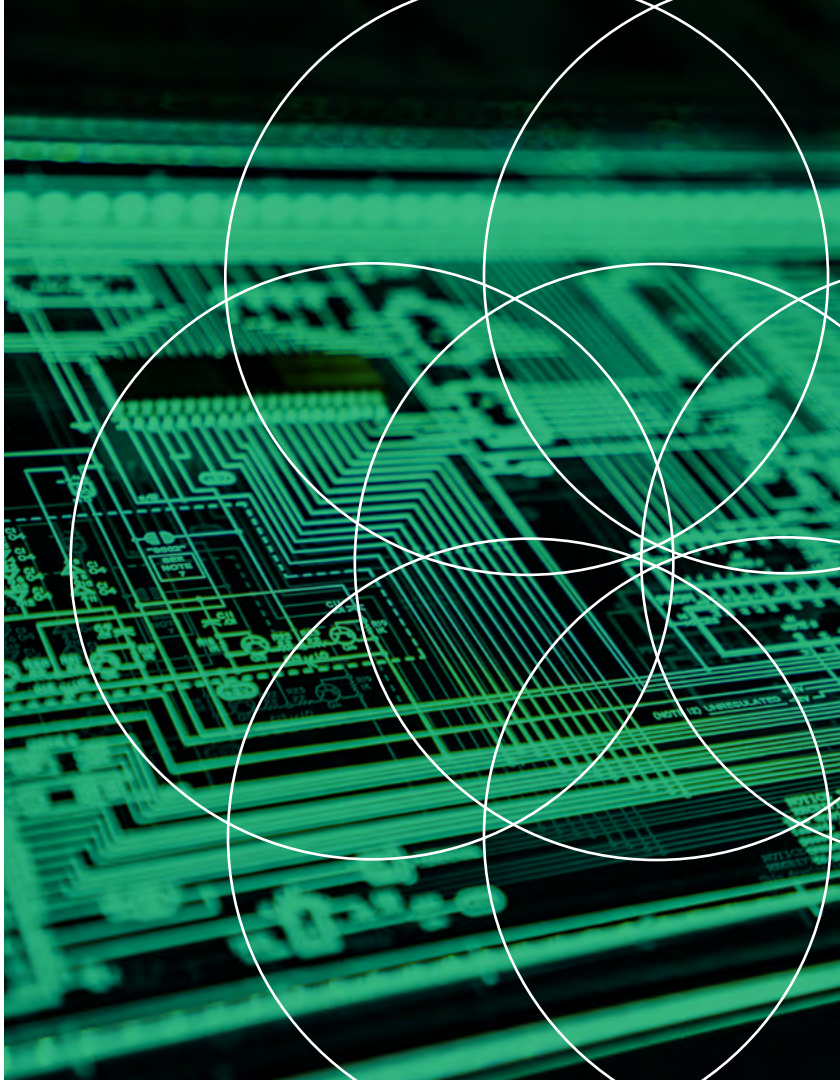
FORRESTER OPPORTUNITY SNAPSHOT: A CUSTOM STUDY COMMISSIONED BY ALTIUM | SEPTEMBER 2025



Electronics Hardware Development Must Evolve And Adapt

High-tech companies and their product development organizations are constantly adapting to increasingly sophisticated and regulated product design, lifecycle management, and complex development processes. For decades, mechanical and software organizations have fine-tuned their product development processes, lifecycle management capabilities, and regulatory compliance through design solutions and lifecycle systems like product lifecycle management (PLM) and application lifecycle management (ALM). They have bridged design and development gaps in mechanical and software domains, enabling them to keep pace with the complexities of production innovation. In contrast, electronics hardware development lags severely, using fragmented tools that hinder strategic goal achievement, business risk reduction, and overall success. This report highlights the realities facing companies and their electronics design organizations.

Key Findings

Electronics hardware development is lagging. Existing electronics development processes do not allow organizations to keep pace with modern electronics product development.

Electronics development challenges mean missed opportunities. Fragmented workflows, inefficient collaboration, and compliance shortcomings can increase development risks, complicate compliance, and prevent timely and cost-effective project delivery.

Organizations need a new approach. Respondents expect improved profitability, increased productivity, and improved vendor relationships with a modernized electronics development organization.

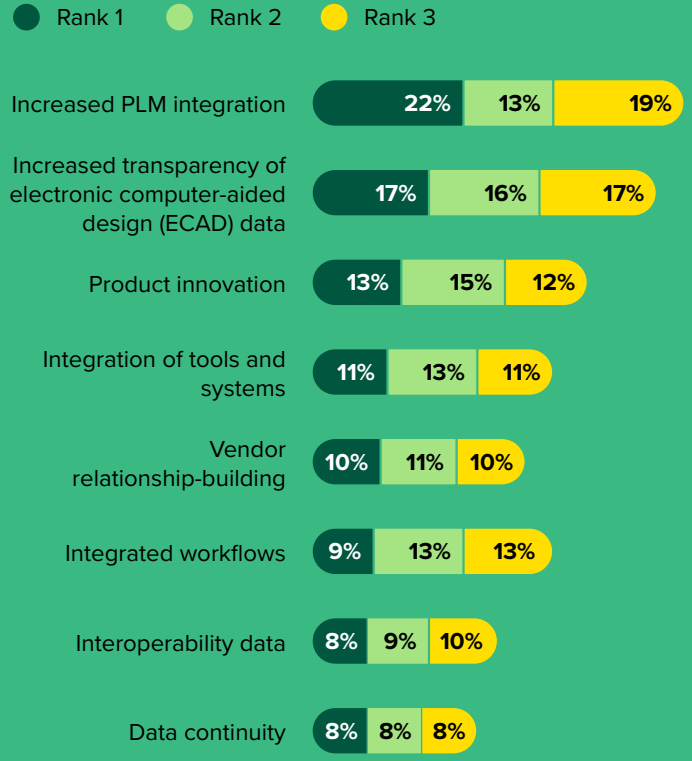
Executive Priorities Reflect The Need For A New Electronics Hardware Development Approach

Executives worry that the increasing sophistication of their electronic products and systems — along with the complexity of the underlying electronics hardware — threaten key business metrics like profitability, on-time product launches, and innovation pace.

In response, respondents recognized the need to invest in strategically important initiatives that will close critical gaps in their electronics development and lifecycle management, including those that increase integration (54%) and innovation (40%).

Surveyed executives expected to minimize threats to key business metrics and align their electronics design organizations with their executive goals; however, their priorities also reflected the need for a new electronics hardware development approach to address the challenges of product development organizations and electronics hardware design.

Electronics Development And Lifecycle Management Priorities For The Coming Year



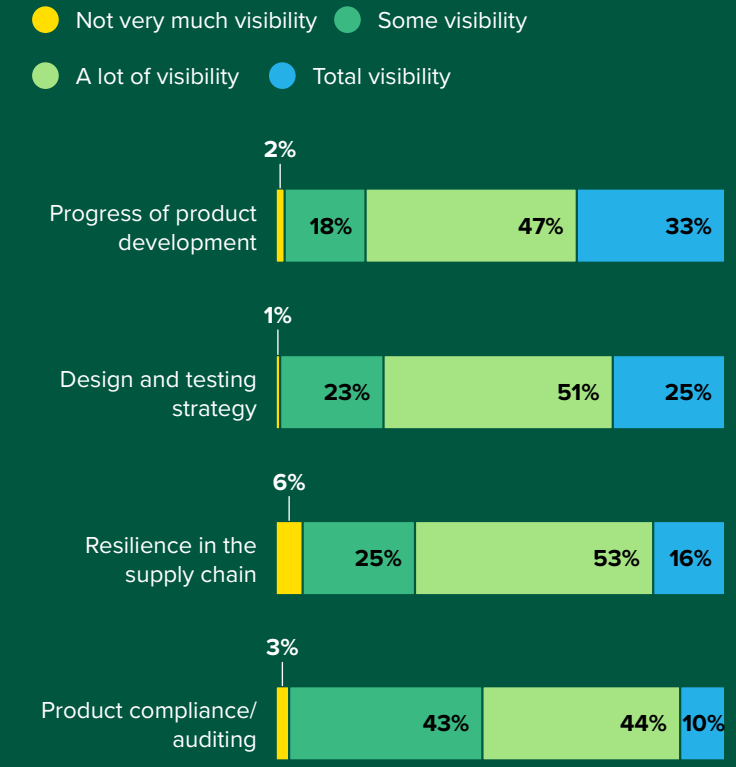
Base: 412 electronic lifecycle management strategy decision-makers at enterprise companies in NA, APAC, and EMEA
Source: Forrester's Q4 2024 ELM Survey [E-61412]

Critical Visibility Must Extend Throughout Product Development

Executives and decision-makers need visibility into product development processes at every level to ensure they are achieving business goals and key metrics, and many companies have invested in systems and product-level tools to provide this. As such, most respondents reported having visibility into overall product development progress (80%), strategic product design and testing (76%), and broad supply chain management (69%).

However, nearly half of the executives surveyed reported a lack of visibility into product-level compliance and auditing, which can result in financial losses, product launch delays, and operational inefficiencies. Although many respondents appear to have a broad, high-level visibility into product development, they shared a much different view of their electronics hardware design organizations.

Decision-Maker Level Of Visibility



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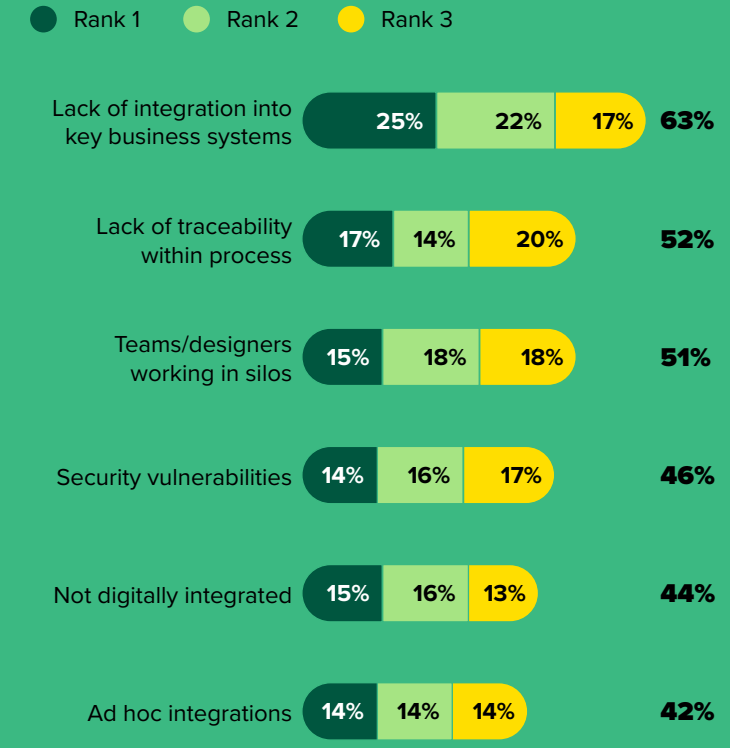
Source: Forrester's Q4 2024 ELM Survey [E-61412]

Electronics Development Challenges And Regulatory Churn Mean Missed Opportunities

Nearly every executive surveyed noted challenges with their electronic product development processes, including a lack of integration into key business systems (63%), a lack of traceability within processes (52%), and siloed design teams and engineers (51%). These challenges impact the broader development organization and are particularly critical in regulated electronics design where they can further exacerbate compliance risks, prolong validation, and delay product launches. Respondents reported the consequences of these challenges, including redesign delays, cost increases, and compliance practice fines along with more product recalls and longer audit times. A modern approach to electronics hardware development may have helped respondents' organizations avoid these outcomes.

Challenges To Electronics Development Processes



Base: 412 electronic lifecycle management strategy decision-makers at enterprise companies in NA, APAC, and EMEA
Note: Individual percentage values may not sum to totals due to rounding.
Source: Forrester's Q4 2024 ELM Survey [E-61412]

Electronics Design Challenges Have Real Impacts For Executives And Decision-Makers

Survey respondents noted that electronics development challenges extend across the entire electronics development organization. The root of these challenges — including fragmented design processes, inefficient collaboration, and inadequate lifecycle management — cause miscommunication and redundant work, forcing teams to rely on manual processes and ad hoc fixes that introduce inconsistencies and increase development risks. These issues can have severe impacts, such as lost opportunities due to missed product launches (49%) and design delays (48%), which led to increased development costs and engineering resources. They also caused an inability to mitigate risks due to difficulties making intelligent, data-driven decisions (39%). When executives and decision-makers cannot directly address these challenges, the business consequences are unavoidable.

Challenges Impacting Decision-Makers

Delayed time to market

Lost design cycles

Lack of electronics integration

Excessive respins

Too many workarounds used

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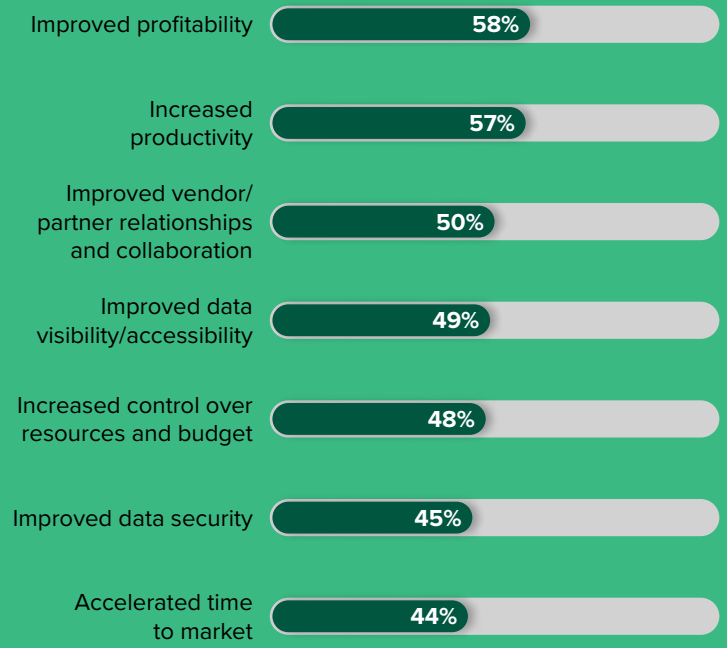
Source: Forrester's Q4 2024 ELM Survey [E-61412]

Maximizing Investment In Electronics Design Organizations

Surveyed executives understand the gaps and challenges their electronics development organization face and know that overcoming them requires investing in a new approach. They made it clear that returns on those investments must have tangible benefits for the design organization and the business.

With an investment in a modern, integrated, and compliance-centric solution, more than half of the respondents expected to improve profitability (58%), increase productivity (57%), and improve vendor collaboration (50%). Nearly half also expect improved visibility (49%) and better control of resources and budgets (48%).

Expectations Of A Solution Architected For Electronic Hardware Development And Lifecycle Management



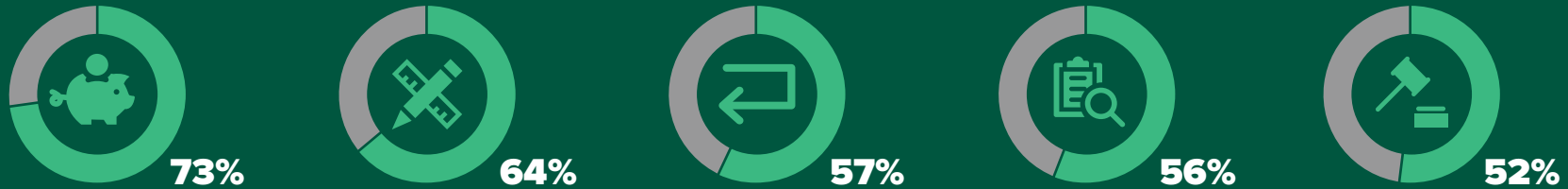
Base: 412 electronic lifecycle management strategy decision-makers at enterprise companies in NA, APAC, and EMEA
Note: Showing top seven responses
Source: Forrester's Q4 2024 ELM Survey [E-61412]

Compliance Processes In Electronics Design Organizations

Streamlining regulatory compliance processes has tangible benefits for all involved, which is not only important for the broader development organization but also particularly critical in regulated electronics design. A compliance-centric solution with workflows and processes integrated into the design environment helps electronics organizations meet complex regulations, reduce manual effort, and streamline compliance processes.

Survey respondents had strong expectations for streamlining compliance in electronics design, including reduced development costs (73%) through managed workflows and minimized rework, accelerated design cycles (64%) through improved collaboration and integration, and fewer product recalls (57%) through regulatory alignment. Additionally, executives expected a reduction in audit efforts (56%) due to enhanced traceability, decreasing manual documentation and last-minute compliance fixes.

Expectations Of A Compliance-Centric Solution For Electronics Hardware Development



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A New Approach To Electronics Hardware Development

Electronics design organizations must catch up with the evolution of integration, efficiency, and streamlined compliance seen in mechanical and software domains. Respondents recognized that outdated tools and processes impact development and expose them to business risks like delays, compliance failures, and lost revenue opportunities.

An integrated, compliance-centric approach to electronics development and lifecycle management is essential for boosting efficiency, profitability, and innovation. It bridges design and business priorities, enhances visibility, and embeds compliance into the design processes.

Implementing a compliance-centric electronics design and lifecycle management solution can reduce development costs, streamline compliance, accelerate time to market, and mitigate risks, delivering competitive advantages. Those who act decisively will be well-positioned to navigate the complexity of electronics development and thrive in an era of unparalleled innovation.

Project Team:

Madeline Harrell,
Senior Market Impact Consultant

Contributing Research:

Forrester's Advanced Manufacturing research group

Demographics

GEOGRAPHY	
Canada	17%
United States	16%
India	16%
Australia	16%
Spain	12%
France	12%
Germany	11%

ANNUAL REVENUE	
>$5B	22%
$1B to $5B	64%
$500M to $999M	14%

RESPONDENT LEVEL	
C-level executives	13%
Vice president	40%
Director	48%

INDUSTRY			
Automotive electronics/ manufacturing	15%	Services sector	10%
Industrial electronics/ manufacturing	15%	Chemicals/CPG/distribution/ logistics	6%
Aerospace electronics/ manufacturing	15%	Business services	5%
Component electronics/ manufacturing	15%	Advertising/marketing/media	2%
Medical devices electronics/ manufacturing	15%	Utilities/telecom	2%

Note: Percentages may not total 100 due to rounding.

Methodology

This Opportunity Snapshot was commissioned by Altium. To create this profile, Forrester Consulting supplemented this research with custom survey questions asked of 412 executives and decision-makers at enterprise companies in NA, APAC, and EMEA. The custom survey began and was completed in November 2024.

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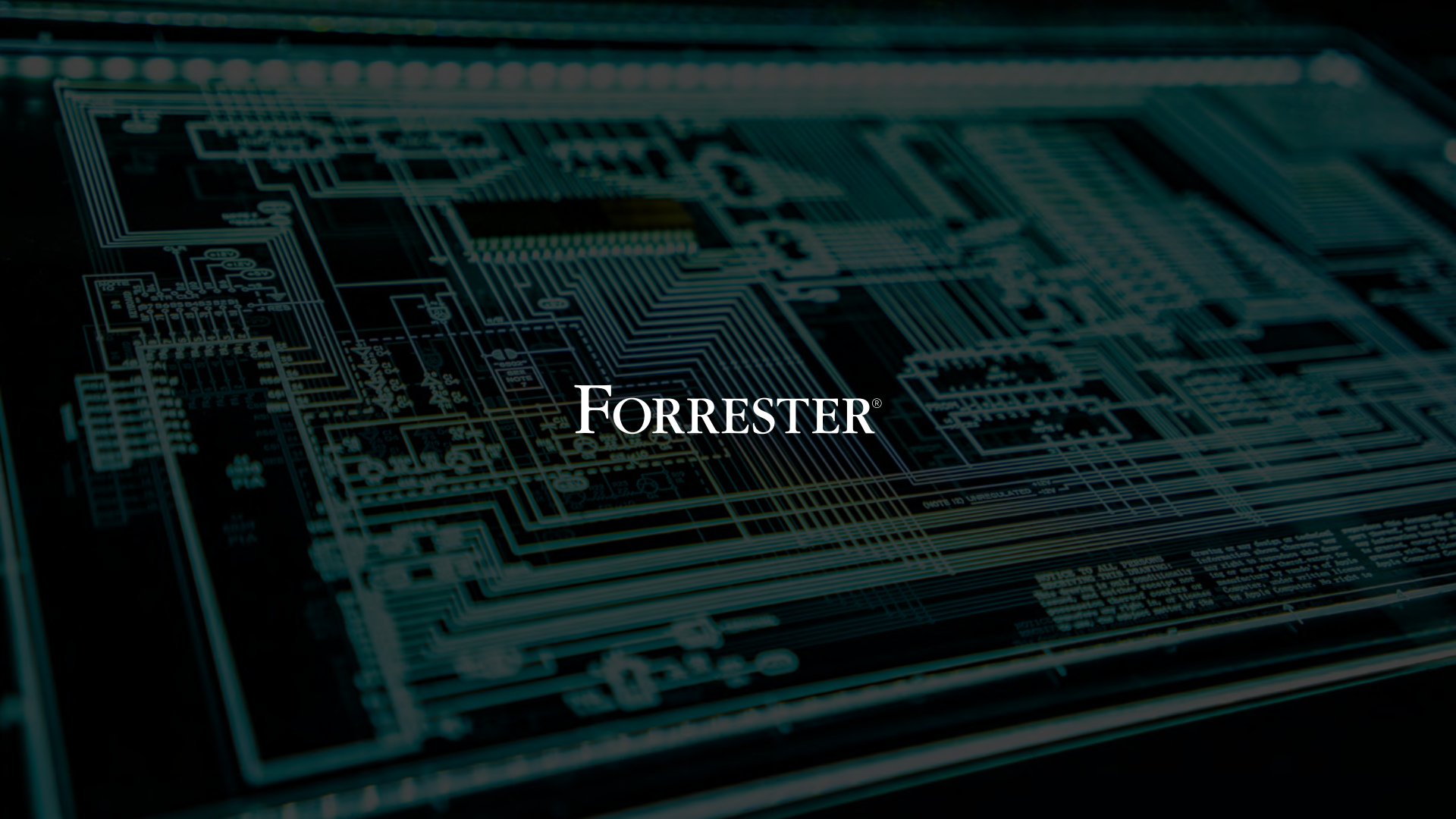
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