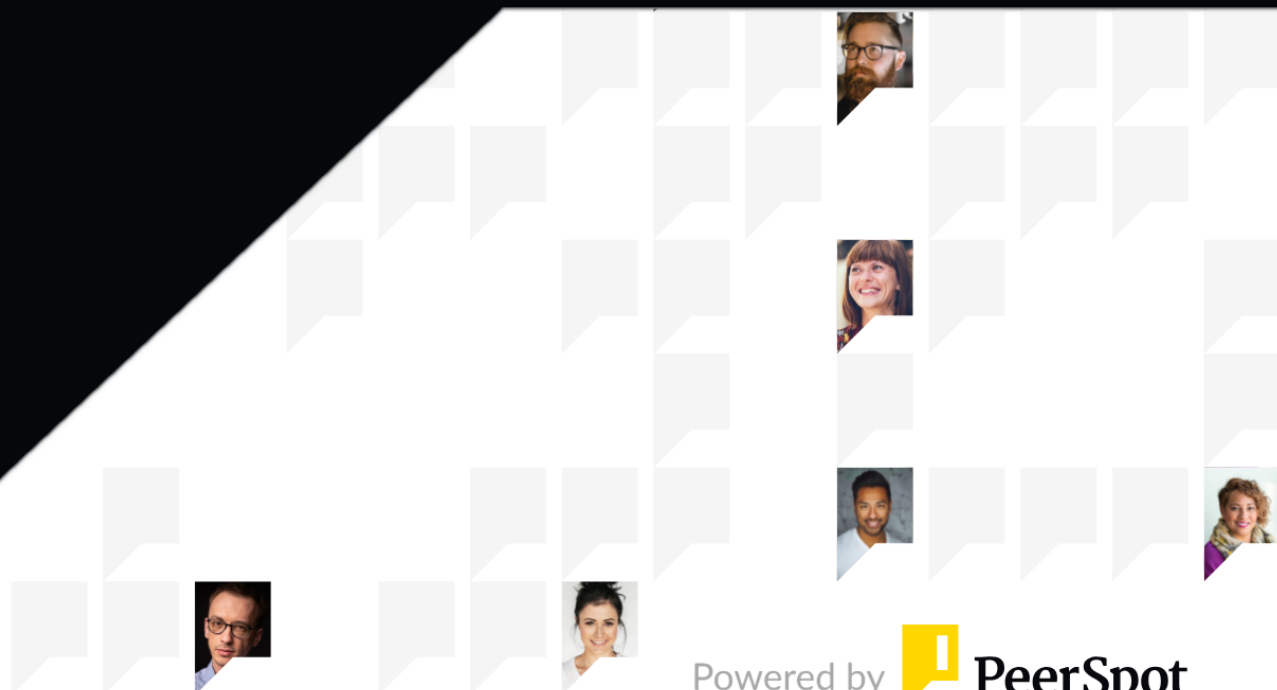




AMD Vivado Design Suite

Reviews, tips, and advice from real users



Powered by  **PeerSpot**

Contents

Product Recap..... 3 - 4

Valuable Features..... 5 - 12

Other Solutions Considered..... 13 - 14

ROI..... 15

Use Case..... 16 - 19

Setup..... 20

Customer Service and Support..... 21 - 22

Other Advice..... 23 - 25

Trends..... 26 - 27

About PeerSpot..... 28 - 29

Product Recap



AMD Vivado Design Suite

AMD Vivado Design Suite Recap

AMD Vivado Design Suite provides a robust platform for developing advanced digital designs, enhancing automation, and elevating productivity within engineering workflows.

Designed with engineers in mind, AMD Vivado Design Suite offers a sophisticated environment for creating complex systems with streamlined workflows. It integrates diverse tools for simulation and synthesis, making it an ideal choice for handling intricate designs. Automation features support enhanced efficiency by reducing human error and accelerating design processes, fostering innovation and enabling rapid development cycles.

What are the key features of AMD Vivado Design Suite?

- **High-Level Synthesis:** Converts C, C++, and SystemC code into optimized hardware, facilitating efficient design.
- **Design Analysis and Debugging:** Comprehensive tools provide in-depth insights and troubleshooting capabilities.
- **IP Integrator:** Simplifies IP module integration within project environments, ensuring smooth design scalability.
- **Advanced Verification:** Offers simulation and formal property checking for precise design validations.

What benefits and ROI should users consider?

- **Time Efficiency:** Reduces development cycles, enhancing time-to-market for new designs.
- **Cost Effectiveness:** Minimizes overhead by streamlining resource allocation during the design phase.
- **Reliability:** Proven track record for producing high-quality, dependable digital solutions.

In aerospace and communications industries, AMD Vivado Design Suite enables precision and complexity management, supporting cutting-edge innovations in digital technology. Its adoption allows for seamless integration of custom hardware, driving new advancements and meeting industry-specific needs effectively.

Valuable Features

Excerpts from real customer reviews on PeerSpot:



“The best features of AMD Vivado Design Suite is that it is a mature tool with a very good GUI.”



Alen Cherian

Associate Digital ASIC design engineer at a manufacturing company with 10,001+ employees



“Using AMD Vivado Design Suite has helped me personally be more productive and improve the quality of my work.”



Hhussain Bee

Technical Engineering Analyst at a university with 501-1,000 employees



“If people are working on FPGA design, AMD Vivado Design Suite is the one go-to tool that I would recommend for everyone.”



Pguntha Gunther

Hardware Engineer at a university with 10,001+ employees



“What I appreciated most about my use case or the project is having the complete FPGA development workflow with AMD Vivado Design Suite.”



Adam Salash

Software and Test Innovation Engineer at a educational organization with 1,001-5,000 employees



“I really appreciate the IP Integrator in AMD Vivado Design Suite, but the real benefit is the integration with AMD Xilinx FPGAs.”



Cristian Furtuna

Teste Development Intern at a manufacturing company with 5,001-10,000 employees



“To others considering using AMD Vivado Design Suite, I recommend that it can be a fantastic tool for various applications, emphasizing the importance of integrating with third-party software.”



Marco Torelli

FPGA and SoC Technical Fellow at TXT e-tech s.r.l.



“AMD Vivado Design Suite has positively impacted my organization because it helped very well by having everything in one tool.”



Sireesha Jammu

Embedded System Engineer at a university with 5,001-10,000 employees

What users had to say about valuable features:

“The best features of AMD Vivado Design Suite is that it is a mature tool with a very good GUI. The most fascinating feature is its block design feature, which allows me to add and drop various IPs from AMD Vivado Design Suite's IP catalog and create a block design for my video designs. That is the one feature that I find very interesting.

“It is also very easy to source control AMD Vivado Design Suite projects using Git. The IP catalog is another valuable feature, and it is a very good tool that I install on all of my employees' project devices..”

Alen Cherian

Associate Digital ASIC design engineer at a manufacturing company with 10,001+ employees

[Read full review](#) 

“The best features AMD Vivado Design Suite offers are quite manageable once I understood the workflow, but initially, there was definitely a learning curve, especially understanding the relationship between HLS, IP generation, the Vivado design, synthesis, implementation, and bitstream generation.

“The specific features that stood out the most for me in AMD Vivado Design Suite were the HLS pragmas. For example, we implemented the pipeline easily using the HLS pipeline pragma. We accelerated our algorithm and accomplished it quickly with using that pragma.

“AMD Vivado Design Suite has impacted me positively, as it made our implementation easier..”

Adam Salash

Software and Test Innovation Engineer at a educational organization with 1,001-5,000 employees

[Read full review](#) 

“The best features AMD Vivado Design Suite offers include integrated IPs, which is the best thing. If you design anything, you can see everything in AMD Vivado Design Suite, including the schematic view, timing analysis, simulation waves, and tools to test the device internally.

I find myself using simulation and schematic the most because whatever I developed, I need to test, so I used the simulation and schematic mostly, along with the performance analysis tools as well.

AMD Vivado Design Suite has positively impacted my organization because it helped very well by having everything in one tool. You don't need to go for another tool for simulation. While we have some other tools as well, for development and simulation, you have to use one tool, and in AMD Vivado Design Suite, everything is included, which saved me time and made it easy to operate..”

Sireesha Jammu

Embedded System Engineer at a university with 5,001-10,000 employees

[Read full review](#) 

“In my experience, the best features AMD Vivado Design Suite offers include being easy to use and not complicated, thanks to the Flow Navigator that allows you to access anything and reach anything on the same screen. You are coding on the right, can synthesize, implement, and reach the source easily. Its text editor is greater than the other EDA tools I use, which are Vivado, Libero, Microchip Libero, and Altera Quartus. When I compare it to the other two products, I find AMD Vivado Design Suite better, although I am currently using VS Code and do not even open the AMD Vivado Design Suite text editor because we are writing Tcl, which automates implementation, designs, and design flow. AMD Vivado Design Suite is easier to learn than other EDA tools, although I am not using the AMD Vivado Design Suite text editor currently.

“AMD Vivado Design Suite has positively impacted our organization because it is a great tool that makes jobs easier. Additionally, AMD provides versatile IPs that allow you to create your block design, which makes work faster. In AMD Vivado Design Suite, XSim is a simulation software that comes embedded, so we do not need any other simulation tools. It also improves work quality due to its good error feedback, allowing you to return these errors and fix your code easily in the programming process..”

Verified user[Read full review](#) Digital Design Engineer with 10,001+ employees

“The most valuable aspect of AMD Vivado Design Suite is its comprehensive low-level implementation flow together with the ML-based implementation strategies introduced in recent releases. These capabilities help improve timing closure and provide better implementation results for complex FPGA designs.

When working on timing closure and Static Timing Analysis (STA), these implementation strategies are particularly valuable because they often improve placement and routing decisions while helping achieve timing requirements more efficiently.

Another important feature is Vivado's infrastructure for developing reusable IP cores compliant with the IP-XACT standard. This greatly simplifies subsystem integration and enables reusable hardware architectures across multiple projects.

I also appreciate the flexibility offered by Vivado during synthesis and implementation. The ability to select different optimization strategies and apply custom implementation constraints allows developers to tailor the design flow according to the specific requirements of each FPGA project.

Another valuable capability is interoperability with third-party tools. I have extensive experience using Synopsys Synplify Premier, particularly for space applications involving Triple Modular Redundancy (TMR), Clock Domain Crossing (CDC) verification, and complex FPGA architectures. Integration with tools such as QuestaSim, ModelSim, MATLAB, and Vitis enables a complete and flexible development workflow..”

Marco Torelli

FPGA and SoC Technical Fellow at TXT e-tech s.r.l.

[Read full review](#) 

“There are a lot of valuable features when it comes to AMD Vivado Design Suite. I primarily appreciate their support for CLI; pretty much all their tools support CLI, which helps me with automating different workflows right from RTL synthesis, implementation, bitstream generation, building the C++, and creating Xcel-Bin packages and other automation tasks.

“Nowadays using AI-based agents to perform automation makes much more sense with tools supporting CLI, and AMD Vivado Design Suite is right at the top when it comes to FPGA-based development environments. I have been using these agents to design scripts for me to basically automate all the work that I have been working on. I used to spend more than a week to come up with a script once I have my design ready, and for incremental changes on top of that, this script used to help me fasten the process through rebuilding and regenerating the bitstreams, testing, and other tasks. Now using AI-based integration for generating CLI scripts, it has fastened the process much faster, so I can complete this whole respawning of things within a day.

“AMD Vivado Design Suite provides a very powerful FPGA platform. I particularly appreciate the CPU and FPGA integration, which is pretty strong. All the use cases these days require heterogeneous compute where I need multiple kinds of devices in a single place in order to really make the best out of the device and also tune my use case accordingly in order to get the best results. In my work, it is about bringing the best throughput and the best latency out of the device, and all these capabilities and the strong AMD Vivado Design Suite helps me to achieve these goals.

“The time saved in development is a bigger factor. I could not go into specific details of how I improved the throughput or latency using an FPGA device as that is more of a design challenge, but when it comes to the tool perspective, for all the reasons that I have mentioned before, the CLI support, pretty strong tool set, and all of that at one place helps me to reduce my development time much and made it a much shorter process..”

Pguntha Gunther

Hardware Engineer at a university with 10,001+ employees

[Read full review](#) 

Other Solutions Considered

“Before choosing AMD Vivado Design Suite, I used ISE Design Suite in university. After that, we continued with AMD Vivado Design Suite and have not used another solution since..”

Adam Salash

Software and Test Innovation Engineer at a educational organization with 1,001-5,000 employees

[Read full review](#) 

“Before using AMD Vivado Design Suite, I worked with ISE for the previous FPGA versions, and I switched to Vivado because it is essential for the latest products such as Ultrascale and Versal, making this transition mandatory..”

Marco Torelli

FPGA and SoC Technical Fellow at TXT e-tech s.r.l.

[Read full review](#) 

“I did not evaluate other options before choosing AMD Vivado Design Suite because I only had one option when I started, which was the Xilinx card, so I had to choose AMD Vivado Design Suite..”

Verified user

Digital Design Engineer with 10,001+ employees

[Read full review](#) 

“Currently, I do not evaluate other options when it comes to using AMD Vivado Design Suite for physical implementation. However, I do consider switching to a tool with greater synthesis capabilities from the Synopsys family in the near future for synthesis purposes..”

Marco Torelli

[Read full review](#) 

FPGA and SoC Technical Fellow at TXT e-tech s.r.l.

“I did not previously use a different solution before AMD Vivado Design Suite because, depending on the project requirements, if your project needs a Microchip FPGA, you use Libero, and if your project needs a Xilinx FPGA, you use Xilinx. It is not a matter of switching; you simply use what your project needs..”

Verified user

[Read full review](#) 

Digital Design Engineer with 10,001+ employees

ROI

Real user quotes about their ROI:

“I have seen a return on investment from using AMD Vivado Design Suite because it required fewer people due to its ease of use. You can adapt yourself very easily, and it has improved the quality of our work because its error feedback is very good, allowing for easy error correction and programming..”

Verified user

Digital Design Engineer with 10,001+ employees

[Read full review](#) 

“I have seen a return on investment from using AMD Vivado Design Suite, particularly in terms of time saved. We used Vivado HLS to develop our program with the C programming language rather than VHDL and Verilog. Vivado HLS converts C programming language code to VHDL and Verilog. This allowed us to quickly implement the new design and accelerate the hardware-friendly functions. Vivado HLS converts the code and saves our time because if we needed to develop that entire architecture with VHDL and Verilog languages, we would probably waste significantly more time..”

Adam Salash

Software and Test Innovation Engineer at a educational organization with 1,001-5,000 employees

[Read full review](#) 

Use Case

“My main use case for AMD Vivado Design Suite is FPGA development. I used it to develop a game where I designed a game on a Nexys board, and I also used it for an asynchronous communication system on an RT-AXA7 board..”

Sireesha Jammu

Embedded System Engineer at a university with 5,001-10,000 employees

[Read full review](#) 

“My main use case for AMD Vivado Design Suite involves competitions where we use Genesis 2 boards and the Kintex-7 IC, which is a pure FPGA. It is important because in the market, many FPGAs consist of products by Xilinx AMD. We use AMD Vivado Design Suite when we want to program this FPGA and boards..”

Verified user

Digital Design Engineer with 10,001+ employees

[Read full review](#) 

“I mainly use AMD Vivado Design Suite for creating designs for AMD's Zynq SoC FPGAs. I tried creating a video pipeline for a Zynq design on the Zybo ZC10 board to capture video coming from an IMX219 and display it on an HDMI monitor using AMD Vivado Design Suite. I use AMD Vivado Design Suite to generate bit streams for AMD's FPGAs, and it is the most user-friendly FPGA tool compared to its competitors' tools..”

Alen Cherian

Associate Digital ASIC design engineer at a manufacturing company with 10,001+ employees

[Read full review](#) 

“My primary use case for AMD Vivado Design Suite is RTL development in VHDL targeting AMD FPGAs and SoCs. I also use it extensively for system integration, combining RTL modules with designs generated through High-Level Synthesis (HLS) and MATLAB/Simulink.

“I use Vivado across a wide range of projects. For example, I have developed FPGA-based prototypes for industrial automation systems and recently automated the integration of third-party IP cores into FPGA-based subsystems. Vivado is the central tool in my FPGA development workflow, from RTL implementation to final device integration..”

Marco Torelli

FPGA and SoC Technical Fellow at TXT e-tech s.r.l.

[Read full review](#) 

I mostly use AMD Vivado Design Suite for IP integration projects, primarily in aerospace research.

I used AMD Vivado Design Suite to develop an optimized data acquisition platform using triple modular redundancy for a custom IP in aerospace research.

“Previously, we worked on Quartus from Altera, but we migrated to AMD Xilinx FPGAs, which led me to use AMD Vivado Design Suite.

“I only used AMD Vivado Design Suite for educational purposes, so there was no billing involved. .”

Cristian Furtuna

[Read full review](#) 

Teste Development Intern at a manufacturing company with 5,001-10,000 employees

“My main use case for AMD Vivado Design Suite is that I used Vivado and Vivado HLS during a university FPGA project. We were working on a post-quantum cryptography algorithm called Ring-LWE and targeting a Zynq 7000 ZED board.

“A specific example of how I used AMD Vivado Design Suite for that FPGA project is that we used Vivado HLS to convert parts of our C implementation into hardware IP. We experimented with different implementation and optimization parameters to find a good balance between latency, performance, and hardware resource usage. Essentially, we tried to accelerate the encryption and decryption algorithm in the FPGA using Vivado.

“What I appreciated most about my use case or the project is having the complete FPGA development workflow with AMD Vivado Design Suite. We could generate an IP with Vivado HLS, integrate it into the design, generate the bitstream, and then program and test the actual hardware. The process is notably easier with Vivado HLS..”

Adam Salash

Software and Test Innovation Engineer at a educational organization with 1,001-5,000 employees

[Read full review](#) 

Setup

The setup process involves configuring and preparing the product or service for use, which may include tasks such as installation, account creation, initial configuration, and troubleshooting any issues that may arise. Below you can find real user quotes about the setup process.

“My experience with pricing, setup cost, and licensing for AMD Vivado Design Suite is that I did not have any problems with the setup cost and licensing because I used that project in my master's degree at university. Therefore, my university supported those issues and arranged the licensing and setup costs..”

Adam Salash

[Read full review](#) 

Software and Test Innovation Engineer at a educational organization with 1,001-5,000 employees

Customer Service and Support

Regarding one bug, my mentor searched for information or reported it to the Vivado team, but he did not receive a response. That is my only experience regarding customer support.

Cristian Furtuna

Teste Development Intern at a manufacturing company with 5,001-10,000 employees

[Read full review](#) 

“I have not experienced any support issues with AMD Vivado Design Suite, but our other engineers and colleagues have reached out for support regarding some issues, and I think their return is very good and the support team is very good..”

Verified user

Digital Design Engineer with 10,001+ employees

[Read full review](#) 

“The customer support is very good for AMD Vivado Design Suite. I am happy with the AMD customer support available online. You get accurate responses to your queries from AMD customer support, and I am satisfied with that..”

Alen Cherian

Associate Digital ASIC design engineer at a manufacturing company with 10,001+ employees

[Read full review](#) 

“My experience with customer support for AMD Vivado Design Suite has been very positive. I have been in direct contact with AMD and received valuable advice for past issues, and I find that the community provides a wealth of information on resolving various problems related to constraints and TCL scripting issues at a low level..”

Marco Torelli

FPGA and SoC Technical Fellow at TXT e-tech s.r.l.

[Read full review](#) 

Other Advice

“I cannot comment on any of the AI capabilities of AMD Vivado Design Suite because I have not used that yet for my personal projects. I have not used any of the latest AI features available in AMD Vivado Design Suite. I would recommend AMD Vivado Design Suite for any new FPGA designer. I give this product a rating of 9..”

Alen Cherian

Associate Digital ASIC design engineer at a manufacturing company with 10,001+ employees

[Read full review](#) 

I did not identify anything in AMD Vivado Design Suite that speeds up my workflow.

There are no improvements needed for AMD Vivado Design Suite that I have not already mentioned.

“I advise others looking into using AMD Vivado Design Suite to approach it with patience and be prepared for a steep learning curve. My overall rating for this product is 7 out of 10. .”

Cristian Furtuna

Teste Development Intern at a manufacturing company with 5,001-10,000 employees

[Read full review](#) 

“Regarding AMD Vivado Design Suite's AI capabilities and security, I think there is no problem. I especially trust the output from AMD Vivado Design Suite because it tells me exactly what the problem is with my implementation. It shows me

warning information, and when I read that information or error output, I can easily solve my problem and try again. I do not think there is anything else that could be improved with AMD Vivado Design Suite. My advice to others looking into using AMD Vivado Design Suite is that if it is not necessary to continue with VHDL or Verilog programming, I would recommend using Vivado HLS. I would rate my overall experience with AMD Vivado Design Suite as an 8 out of 10..”

Adam Salash

Software and Test Innovation Engineer at a educational organization with 1,001-5,000 employees

[Read full review](#) 

“To others considering using AMD Vivado Design Suite, I recommend that it can be a fantastic tool for various applications, emphasizing the importance of integrating with third-party software. I previously mentioned that improving the interface with external tools such as P4 scripts for the development of various applications is essential. Although the code generated from third-party tools is often not optimal, Vivado does provide optimization capabilities for that code, so it would be beneficial to improve the generation quality of code from external tools. I would rate my overall experience with AMD Vivado Design Suite as a 10..”

Marco Torelli

FPGA and SoC Technical Fellow at TXT e-tech s.r.l.

[Read full review](#) 

“If you are developing any device using AMD Vivado Design Suite, you can check from the beginning to the end of the entire device development cycle.

I gave AMD Vivado Design Suite a rating of six out of ten because while we have everything, it is very slow, and it is also not free; it is licensed.

Regarding AMD Vivado Design Suite's AI capabilities, I think its governance and security are good. Regarding AMD Vivado Design Suite's AI capabilities, I believe the accuracy and reliability of output are good.

I am not sure which cloud provider we are using. I have no experience with pricing, setup cost, and licensing. My overall review rating for AMD Vivado Design Suite is six out of ten..”

Sireesha Jammu

Embedded System Engineer at a university with 5,001-10,000 employees

[Read full review](#) 

“I would rate AMD Vivado Design Suite a 7.5 out of 10 because I am currently not using the tool or GUI; I am using Tcl and just writing RTLs.

“Regarding AMD Vivado Design Suite's AI capabilities, I think it is a very reliable tool because I trust it.

“My advice to others looking into using AMD Vivado Design Suite is to first learn digital design basics and logic basics. You should study them before buying some kits for education, such as Basys 3, or others such as GOWIN if you want something cheaper. You can easily find tutorials on YouTube about VHDL, Verilog, or digital design. Do not directly go into AMD Vivado Design Suite because it can be very complex for first-time users; first, you should understand the basics such as digital design fundamentals and signals and systems.

“I have covered everything regarding AMD Vivado Design Suite, and it is sufficient..”

Verified user

Digital Design Engineer with 10,001+ employees

[Read full review](#) 

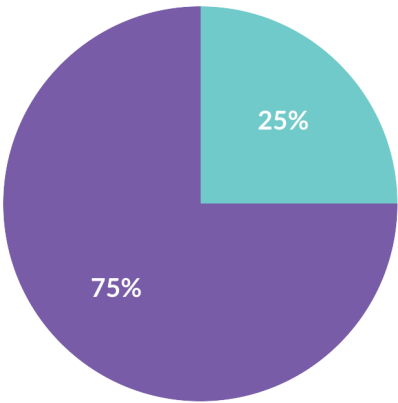
Top Industries

by visitors reading reviews

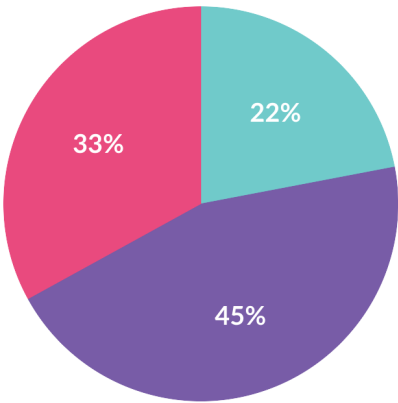


Company Size

by reviewers



by visitors reading reviews



 Large Enterprise  Midsize Enterprise  Small Business

About this buyer's guide

Thanks for downloading this PeerSpot report.

The summaries, overviews and recaps in this report are all based on real user feedback and reviews collected by PeerSpot's team. Every reviewer on PeerSpot has been authenticated with our triple authentication process. This is done to ensure that every review provided is an unbiased review from a real user.

Get a custom version of this report... Personalized for you!

Please note that this is a generic report based on reviews and opinions from the collective PeerSpot community. We offer a [customized report](#) of solutions recommended for you based on:

- Your industry
- Company size
- Which solutions you're already considering

The customized report will include recommendations for you based on what other people like you are using and researching.

Answer a few questions in our short wizard to get your customized report.

[Get your personalized report here](#)

About PeerSpot

PeerSpot is the leading review site for cloud, AI, and business software. We created PeerSpot to provide a trusted platform to share information about software, applications, and services. Since 2012, over 22 million people have used PeerSpot to choose the right software for their business.

PeerSpot helps tech professionals by providing:

- A list of products recommended by real users
- In-depth reviews, including pros and cons
- Specific information to help you choose the best vendor for your needs

Use PeerSpot to:

- Read and post reviews of products
- Access over 30,000 buyer's guides and comparison reports
- Request or share information about functionality, quality, and pricing

Join PeerSpot to connect with peers to help you:

- Get immediate answers to questions
- Validate vendor claims
- Exchange tips for getting the best deals with vendor

Visit PeerSpot: www.peerspot.com

PeerSpot

244 5th Avenue, Suite R-230 • New York, NY 10001

reports@peerspot.com

+1 646.328.1944