

Anew Design Automation

Anew Design Automation (www.anew-da.ai) helps customers streamline complex electronics product design processes and cuts time-to-market, using Vertica's advanced machine learning capabilities.

Who Is Anew Design Automation?

Anew Design Automation creates Electronic Design Automation (EDA) solutions for Long LifeCycle (LLC) electronic products in markets such as aerospace, automotive, defense, industry automation, smart infrastructure, medical, power and energy and telecom. LLC electronic products typically last over 5 years and even up to 20 years. The Short LifeCycle (SLC) electronic products in largely consumer markets typically last less than 5 years. However, the SLC electronic products is about 70% of the total electronic products market in the world and therefore drive the semiconductor companies to produce less reliable and shorter supply-chain (availability) of semiconductors or Integrated Circuits (IC) posing a huge problem for LLC electronics products. Founded in 2020, the US-based startup helps LLC companies optimize supply chain management, reliability and maximize profitability over the full product lifetime.

"Vertica is excellent in all the dimensions we look for in a database: performance, scalability, and reliability. Just as importantly, Vertica provides us with a very good range of ML algorithms and models. It really is a one-stop shop for our data and analytics needs."

Faiq Fazal

VP Engineering
Anew Design Automation

Outdated processes slow down systems design

In electronics, no single piece of technology is more important than semiconductors, better known as integrated circuits, or ICs. These tiny chips are the brains of modern electronics. Rapid innovation has exponentially increased the complexity and functionality of ICs and the software stack supported by them, which makes design at the system level dauntingly challenging. Yet the resources available to help systems designers navigate this complex design process remain incredibly basic.

Designers are largely limited to datasheets and reference designs published by individual semiconductor vendors, with instructions on how to properly use their chips. Similarly, information on other important chip components such as pinout, and the software stack such as software drivers, operating systems, Integrated Development Environment (IDE), etc. is not easy to find.

This means that today the typical systems design workflow for an LLC product will start with a designer going on a scavenger hunt across the web to track down the information they require. The designer will then capture relevant information in spreadsheets or documents, and add notes about his/her system design. It's an overwhelmingly manual, time-consuming, and error-prone process—one that Anew Design Automation knew was overdue for reinvention.

Powerful analytics for a pioneering platform

Anew Design Automation is bringing printed circuit board (PCB) systems design into the digital age with a pioneering EDA platform built



At a Glance

Industry

Technology

Location

Florida, United States

Challenge

Deliver efficient data management and machine learning capabilities to help customers accelerate electronic product design.

Products and Services

Vertica Analytics Platform

Success Highlights

- + Offers powerful data management and machine learning capabilities in one platform.
- + Easy setup and management empower a lean team to focus on product development.
- + Provides ample speed and scale in analytics for a fast-growing startup.
- + Customers have achieved up to a 2x acceleration in design speed with the new solution.

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HEMANT SHAH
PRODUCT STRATEGY AND MARKETING ADVISOR
ANEW DESIGN AUTOMATION

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specifically to address the challenges of LLC electronics companies. The company’s first product, Smart System Designer, unifies data from across the semiconductor ecosystem and combines it with systems designer knowledge in a structured platform, which includes an AI-based search engine.

Faiq Fazal, VP Engineering at Anew Design Automation, elaborates: “We use Artificial Intelligence (AI) and Machine Learning (ML) to extract relevant information from the overwhelming abundance of data available online. With Smart System Designer, we can present information in a structured way that’s easy for systems designers to access and design.”

To power this first-of-a-kind solution, Anew Design Automation needed a database platform with the flexibility to start small and grow as its data volumes and customer base increased. It also needed to provide extensive ML capabilities—including web scraping, natural language programming, and predictive analytics—plus support for model development, deployment, and tuning. With Vertica Analytics Platform, the startup found a solution that ticked all its boxes.

Faiq Fazal notes: “Vertica is excellent in all the dimensions we look for in a database: performance, scalability, and reliability. Just as important, Vertica provides us with a very good range of ML algorithms and models.

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Thanks to the Vertica Startup Accelerator Program, Anew Design Automation was able to gain special access and pricing for Vertica. The organization is now moving to a commercial version of the platform as it brings Smart System Designer product into production.

Hemant Shah, Product Strategy and Marketing Advisor at Anew Design Automation, reflects on the company’s experience so far: “Support from Vertica has been excellent, and the team has been quick to respond when we’ve had questions or issues. We would recommend Vertica as a leading AI/ML-enabled cloud-based database solution.”

Driving real results

With Vertica offering straightforward setup and management, Anew Design Automation can focus on analytics, not administration—an important advantage for a growing startup with lean resources.

“Data preparation and ML model iteration is very quick and easy with Vertica,” says Faiq Fazal. “As the ML models execute within the database, it means there’s no need to offload and download data. This makes model deployment much more efficient, and it also means that there’s less hardware and software for us to set up and manage.”

Beyond offering extensive analytics functionality, Vertica also allows Anew Design Automation to connect to additional capabilities outside of the database. Faiq Fazal adds: “We can easily extend Vertica’s functionality with custom Python, Java, R, or C++ functions and algorithms. This is very useful in a fast-moving field like ML.”

With Vertica’s powerful, reliable platform driving analytics and ML performance in Smart System Designer, Anew Design Automation is filling an important gap in the LLC product market. It’s now ready to help customers power systems design processes with unprecedented speed, precision, and quality.

Sathyam Pattanam, President, CEO and Co-founder says: “Our solution addresses two vital concerns for makers of LLC products. We help them design reliable products that will last for many years. We also significantly reduce time spent on systems design. Some of our customers say that at least two-times decrease in system design time is expected with the Smart System Designer product. The shorter the design process, it accelerates the time-to-market and reduces the costs resulting in huge benefits for LLC product companies.”