

KINETIC VISION

Case Study



Challenge:

Kinetic Vision needed a sophisticated and scalable simulation tool to allow them to provide their clients with efficient and accurate virtual testing.

Solution:

Kinetic Vision used SIMULIA tools and the 3DEXPERIENCE® platform on the cloud solution to create virtual twins of clients' products and to scale for their project needs.

Benefits:

With SIMULIA and the 3DEXPERIENCE platform, Kinetic Vision was able to easily create up to hundreds of simulations in a brief period of time, enabling clients to thoroughly test their products without requiring physical prototypes.



CROSS-INDUSTRY INNOVATION THROUGH SIMULATION

When Kinetic Vision first opened its doors 30 years ago, the company stood out with a unique service: helping clients to virtually test products using modeling and simulation in an era when the technology was rarely seen outside the aeronautical and aerospace industries.

Founded by Rick Schweet as an analysis company, Kinetic Vision has since grown into an integrated technology company, expanding its focus beyond modeling and simulation to other technologies like computed tomography scanning, visualization, machine learning and non-destructive testing. The company now consists of eight different groups focusing on these various technological services.

"We are a services company. We help other people make their things better," explains Shane Mooney, Group Manager of Kinetic Vision's Modeling and Simulation Group. "We're just a group of talented people with diverse backgrounds and diverse skillsets who are really interested in the creative problem-solving method."

TWINS IN THE VIRTUAL WORLD

Kinetic Vision works with many industries, though most of its clients come from the biomedical devices and consumer-packaged goods sectors. The Modeling and Simulation Group leverages virtual twins, which Mooney defines as "a digital copy of anything that exists in real life." Virtual twins can be created of anything from a small part to an entire assembly line. They allow for virtual testing that yields the exact same results as a physical test on the real object or system—without actually having to perform those costly and time-consuming physical tests.

"A virtual twin is when you have a synthetic version of reality that you can leverage to better understand, optimize, and develop your product," says Kinetic Vision Senior Vice President Jim Topich. "A virtual twin can exist in different levels of fidelity and it can have different levels of accuracy. Some of the tools that we're using today enable us to develop extremely accurate virtual twins that can provide value back to our customers."

Without virtual twins and virtual testing, Topich believes that all of Kinetic Vision's projects would take twice as long at minimum. The technology allows Kinetic Vision's clients to not only save time but money and materials, fully testing and evaluating their products in the digital world.

Kinetic Vision uses SIMULIA software to create these virtual twins in a partnership that has served the company well.

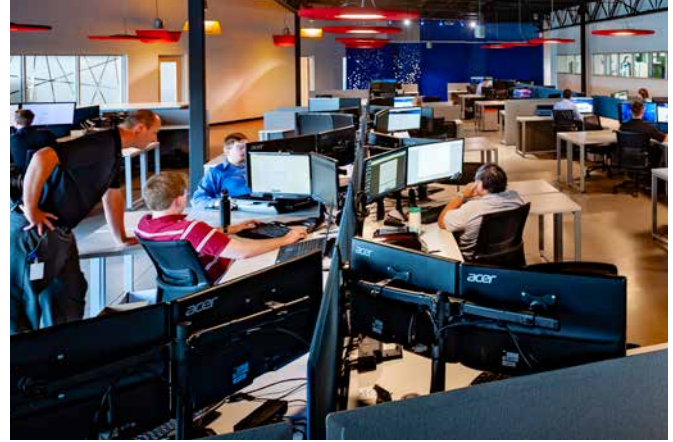
"SIMULIA, much like Kinetic Vision, is always being innovative," says Topich. "They're always thinking outside the box. They've enabled us to do things that we've never been able to do before, including scaling up, using cloud resources and cloud technology to run our projects faster and more efficiently."

"The big engineering dream that's been around for a while is an all-in-one inclusive package," says Mooney. "All that really means is that your CAD model is tied directly to your mesh and directly to your simulation inputs. The benefit is that when you make a small tweak upstream, you set the refresh button, and everything downstream in the model updates."

He adds that while a few companies are working on delivering that all-in-one package, the 3DEXPERIENCE platform has a large head start, and is also innovating new features such as revision tracking and cloud computing.

"I love simulation because it lets me test absolutely anything without having to build it. I can answer the what-ifs of any scenario and trust that my answer will be accurate," says Mooney. "I love that SIMULIA is part of that wonderful technology suite that I get to use on a daily basis."

—Shane Mooney, Group Manager of Kinetic Vision's Modeling and Simulation Group



A CLOUD COMPUTING EXPERIENCE

Kinetic Vision was introduced to the cloud by Adaptive, its value-added reseller. Adaptive exposed Kinetic Vision to the benefits of the cloud and allowed the company to run some small pilots—with fantastic results, according to Topich.

“Adaptive is a continued resource that we lean on regularly to bounce ideas off to figure out new ways to solve problems,” he says. “We have a great relationship with them, truly something we value.”

Adopting cloud services through the **3DEXPERIENCE** platform was a “no-brainer” according to Mooney. The cloud allows Kinetic Vision to scale “infinitely and instantly” for any project needs. If a client asks for a project that requires hundreds of simulations, that request can be rapidly fulfilled with the **3DEXPERIENCE** platform on the cloud solution.

In Kinetic Vision’s early days, its capabilities were limited by model size; the team could only work with models that could be installed on a CPU in a reasonable amount of time. Now, the size of the model is much less important, and the team can focus on how many models they can run in parallel—and how fast they can get the answers back.

The cloud has achieved a level of security that offers confidence in scaling up solutions.

“With the advances in security and protection, I absolutely trust the cloud. And having a high level of security is imperative for our clients,” says Mooney.

In the not-so-recent past, many people may have felt the opposite, but COVID-19 and the resulting increase in remote workers has changed that. As more people have begun working with and becoming familiar with the cloud, they have begun trusting it to a fuller extent, and Kinetic Vision is seeing many of its clients move toward adoption of the technology.

A BRIGHT FUTURE WITH SIMULIA

Topich believes that in the future, Kinetic Vision will be nearly 100% cloud-based in terms of running tools and software, and that SIMULIA will continue to play a large role with the company.

“Having a continued relationship with SIMULIA, I think we’re going to continue to be exposed to advancements in the tools that we’re already using today—advancements in the workflows, and how we can more efficiently leverage those tools to be successful for our customers,” he says.

Mooney expects that the company will continue to grow as it explores and leverages the latest technology. As Kinetic Vision evolves, however, one thing will stay the same—its focus on innovation.

“Innovation to me is all about creating something new,” says Mooney. “It’s taking the building blocks that exist in the world, the things you walk by every day, the things you use every day, and just combining them in a way that they’ve never been combined before, using them for a purpose that’s never been used before, and the result of that is an innovative new process or product.”

He, like Topich, expects that SIMULIA will remain a large part of Kinetic Vision in the future.

“I have a vision for the work experience that I want as an engineer,” he continues. “I have a vision for what I think the software should do and what I think my job should be, and I think SIMULIA, especially the latest **3DEXPERIENCE** products, go very much along with that vision. I think SIMULIA is embracing all the latest trends and delivering the products that I want to use.”

Both Mooney and Topich are big fans of simulation, acknowledging that without the technology, they would not be able to offer their clients the solutions that have made Kinetic Vision such a trusted and respected provider.

“I love simulation because it lets me test absolutely anything without having to build it. I can answer the what-ifs of any scenario and trust that my answer will be accurate,” says Mooney. “I love that SIMULIA is part of that wonderful technology suite that I get to use on a daily basis.”

“I love simulation because when you’re developing and testing a product physically, you usually know, did the product or system work? Yes or no?” adds Topich. “When you’re using simulation, you’re able to understand why it worked, or did not work, not just the yes or no.”

This kind of detailed knowledge about products lets Kinetic Vision stand out as a provider of invaluable solutions to its clients, and SIMULIA plays a large role in delivering that detailed knowledge. Together, Kinetic Vision, Adaptive, and SIMULIA are helping a wide variety of companies to create better products in less time with less resources spent, and will continue to do so as simulation technology advances in the future.

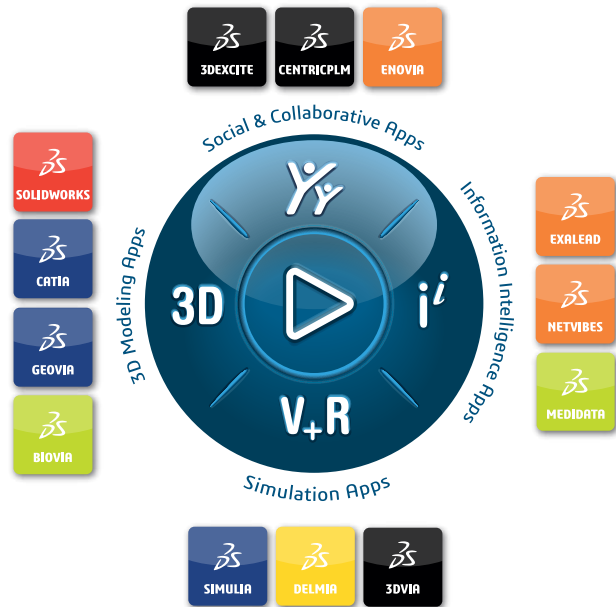
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