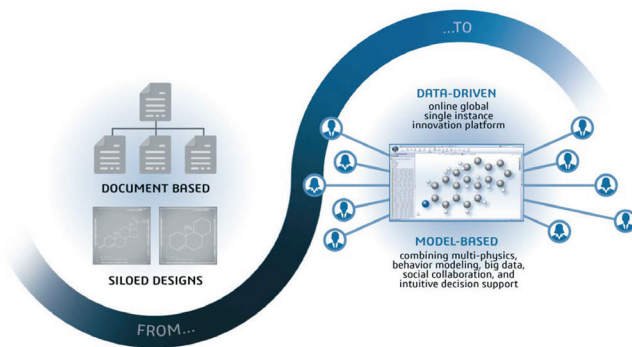


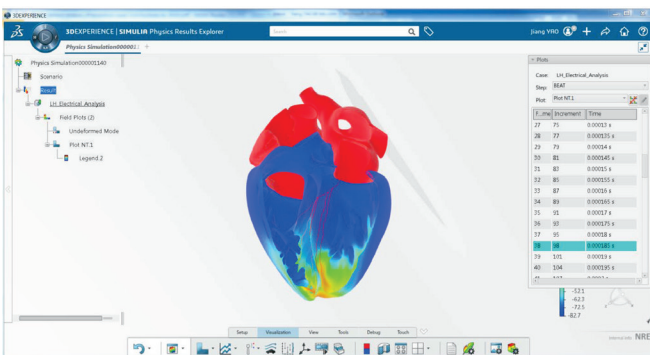


3DEXPERIENCE®

Every day, medical device companies face the realities and responsibilities of developing, manufacturing, and commercializing innovative products. To be successful, companies continually need to balance cost, value, and time-to-market in producing products that are safe, easy to use, and at the right price, while complying with extensive government regulations and reimbursement. In addition, feedback from patients and healthcare professionals is becoming more important in developing new technologies.



Today, most companies manage marketing, product development, regulatory compliance, and quality as separate processes in disparate individual silos using legacy methods. The results are wasted time and difficulty in obtaining correct information, presenting multiple risks around regulatory compliance, patient safety, and reporting, and stifling the innovation process.



SIMULIA's product testing and simulation solutions for medical device development provide a structured, integrated, yet flexible and modular collaborative development experience that

IN SILICO SIMULATION FOR ENHANCED DEVICE PERFORMANCE

ensures each engineer is 100% aware of his or her colleagues' work with minimum effort. Furthermore, using physiological models of the human body throughout the digital design and testing process with to see the device's actual behavior inside the body provides unprecedented power to arrive at the optimal design.

Solution Benefits:

- Reduced device development time and costs
- Improved confidence in device reliability
- Accelerated progress towards virtual clinical trials
- Integrate a company's engineering and best practices into re-usable, deployable processes
- Capture device performance insights previously only gathered in field operation

SIMULIA's solutions for medical device development provides a framework for engineering teams to integrate the tools they use into re-usable, deployable processes. This reduces time-consuming and error prone tasks to improve productivity and consistency, while enabling design exploration studies to find better designs and democratization to expand the user-base for simulation. Lastly, capturing these processes in the 3DEXPERIENCE® platform provides the traceability organizations need when making critical business decisions.

RAPIDLY TRANSFORM LARGE DATA INTO VERIFIABLE DECISIONS

A data post-processing and collaborative decision support tool is readily available on the 3DEXPERIENCE platform for anyone that needs to rapidly go from large data to verifiable decisions. Whether data is generated from simulation, physical test, or operations, customers continue to generate large amount of data that requires results analytics to post-process, visualize, and analyze trade-offs. Users now can maintain a single source of truth while answering common questions such as "What if?" or "What is my best option?"

VISUALIZE VERY LARGE MODELS WITH BEST-IN-CLASS RENDERING PERFORMANCE

As simulation technology and implementation increases, the output datasets have the potential to increase exponentially, often reaching 100 million nodes or more. This causes real

challenges in displaying those results quickly and efficiently. SIMULIA's solutions for medical device development helps solve this problem by providing high performance capabilities for visualizing and exploring simulation results, particularly large datasets. Results files are not copied to the user workstation and visualization computations are performed within the distributed environment. The result is a state-of-the-art visualization capability enabling the processing of very large models with breathtaking performance.



VALIDATE COMPLEX ENGINEERING PROBLEMS USING ADVANCED FINITE ELEMENT SIMULATION TECHNOLOGIES

With an extensive toolset to enhance productivity and efficiency, SIMULIA's solutions for medical device development are equipped to conduct the full range of device behavior including structural, fluid, electromagnetic, thermal simulation of product designs and assemblies within the **3DEXPERIENCE** platform. The toolset provides advanced capability from meshing, model management, scenario definition, execution, results visualization, optimization and report generation.

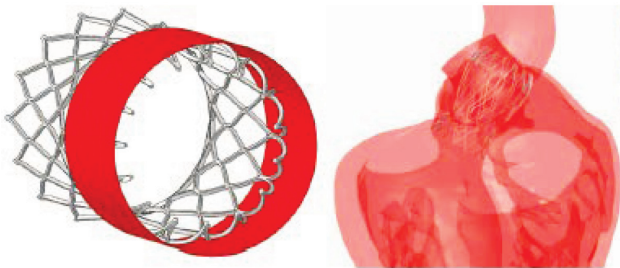


Image courtesy of Admedes Schuessler GmbH.

Medical device companies can obtain a deeper understanding of device behavior in less time than physical prototyping. By refining designs early in the conceptual process, SIMULIA's solutions for medical device development are helping to understand the in-vivo performance and surgical delivery of devices to further optimize their behavior for better patient outcomes. Furthermore, it enhances global collaborative sharing, making compliance and innovation complementary processes that contribute to each other's and the company's success.

Learn more at: <https://www.3ds.com/products-services/simulia/solutions/life-sciences>

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE**® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 210,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

