

LIFE SCIENCES & HEALTHCARE

MEDTECH ENGINEERING EXCELLENCE

Develop Safe and Effective Medical Devices with Collaborative Design and Simulation



INCREASE INNOVATION, REDUCE PRODUCT DEVELOPMENT COSTS, AND ACCELERATE TIME TO MARKET WHILE IMPROVING THE PATIENT EXPERIENCE AND OUTCOME

The increasing global incidence of chronic diseases demands that novel solutions be developed rapidly and within tight budgets, yet be safe and efficacious enough to withstand stringent regulatory scrutiny. Moreover, the expectation of measurable long term improvement in patient outcomes is driving the need for greater personalization of therapies that enhance the patient and clinician experience. Intense competition from traditional and non-traditional players as well as the emergence of novel product categories, such as combination products and digital therapies, are pushing medical device firms to develop holistic and agile product portfolios and development processes that can respond to unmet patient needs in a market landscape characterized by constant and rapid scientific, technological, social, and economic change.



Dassault Systèmes **MedTech Engineering Excellence** Industry Solution Experience provides a data-driven & model-based engineering platform that facilitates collaborative design and development of medical devices using best in class apps and processes for 3D design, systems engineering, multiphysics simulations, and virtual human modeling.

Modeling and simulation in device development reduces reliance on physical testing, facilitates greater innovation, and improves device quality and safety.

With **MedTech Engineering Excellence**, designers and engineers can rapidly explore the device design space, virtually test promising designs in real world usage scenarios, and validate optimal designs against product requirements and business objectives, while reducing their reliance on expensive and time-consuming physical, animal, and human testing.

MedTech Engineering Excellence integrates designers and engineers – allowing them assess the performance and safety of smart connected medical devices and rapidly explore device and patient variability to optimize device performance for individuals and populations in realistic virtual human environments.

The **3DEXPERIENCE®** platform provides an open collaborative environment for all engineering participants at all stages of development to boost productivity and innovation. In addition to full digital continuity from device design through validation, engineering teams also have access to a range of integrated quality and regulatory solutions that help ensure regulatory compliance and speed the approval process. **MedTech Engineering Excellence** on the **3DEXPERIENCE** platform is a unique solution that integrates the entire product development and certification business processes with full visibility and traceability.

- Implement fully integrated and standardized simulation-driven design processes and methods and democratize them to a broader user community
- Assess device safety and efficacy in a realistic virtual human environment
- Automatically develop and maintain complete traceability and defensibility from requirements through certification
- Enable early stage virtual evaluation of patient, caregiver, and practitioner experience
- Rapidly explore device and patient variability to optimize device performance for individuals and populations

Dassault Systèmes, the **3DEXPERIENCE** Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating virtual twin experiences of the real world with our **3DEXPERIENCE** platform and applications, our customers can redefine the creation, production and life-cycle-management processes of their offer and thus have a meaningful impact to make the world more sustainable. The beauty of the Experience Economy is that it is a human-centered economy for the benefit of all –consumers, patients and citizens. Dassault Systèmes brings value to more than 300,000 customers of all sizes, in all industries, in more than 150 countries. For more information, visit **www.3ds.com**.



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