

LIFE SCIENCES & HEALTHCARE

PHARMACEUTICAL DEVELOPMENT EXCELLENCE

Accelerate drug product and
process development by leveraging
a virtual-and-real experience.

DELIVER HIGH-QUALITY DRUG PRODUCTS TO MARKET FASTER BY COMBINING THE VIRTUAL AND THE REAL WORLD

In recent decades, the rising prevalence of complex and life-threatening diseases has driven the development of new classes of active pharmaceutical ingredients (APIs). While these novel molecular entities offer significant therapeutic potential, their development is fraught with challenges.

Developing the optimal process to manufacture drug substance or formulate an effective and stable drug product is complex, requiring strong scientific expertise and close collaboration among

various teams. Consequently, the time to market and associated development costs have become substantial burdens for pharmaceutical companies.

Dassault Systèmes offers a comprehensive suite of solutions through the **Pharmaceutical Development Excellence** Industry Solution Experience on the **3DEXPERIENCE®** platform. It is designed to assist pharmaceutical companies in their development journey, accelerating time to market by leveraging both virtual and real-world capabilities.



BOOST EVERYDAY LABORATORY ACTIVITIES

Development activities, from drug substance to commercial drug product development, begin and take place in the laboratory. In this environment, experiments are conducted to test process conditions, define parameters and evaluate formulation performance and stability, all with the goal of delivering optimal drug products to patients. These activities are typically lengthy and time-consuming, which is why in the race to market, efficient laboratories are crucial for reducing timelines.

With the **Pharmaceutical Development Excellence** Industry Solution Experience, Dassault Systèmes helps pharmaceutical companies optimize laboratory activities and accelerate development by replacing paper-based processes with fully digital systems. Instruments and equipment are connected through the **Pharmaceutical Development Excellence** Industry Solution Experience, where data is automatically captured and structured. All samples, materials and other resources are also managed to achieve operational excellence.



LEVERAGE THE VIRTUAL WORLD

Pharmaceutical Development Excellence is more than just a laboratory digitalization solution. In addition to providing a unified digital environment for managing laboratory operations, it supports science and innovation, which are at the core of development.

By leveraging advanced scientific modeling, simulation and machine learning, this solution enables scientists to harness the virtual world daily. Experimental conditions can be de-risked through simulations, enhancing experimental design. Machine learning enables data to be transformed into predictive models, facilitating better decision-making.

The solution includes user-friendly, democratized solutions that streamline product and process understanding, thereby accelerating development. Scientists can perform virtual activities when needed, further accelerating development processes. The **Pharmaceutical Development Excellence** Industry Solution Experience offers in-silico capabilities designed for both expert and non-expert users, with intuitive interfaces that allow all scientists to benefit from them.

By integrating both environments of the virtual and the real world, scientists are able to guide their experiments more effectively, using virtual tests to inform physical ones and vice versa. This synergy allows teams to develop products that are safer, more innovative, effective and cost-efficient, ultimately leading to better patient outcomes.

PLATFORM-BASED DIGITAL TRANSFORMATION

Pharmaceutical Development Excellence Industry Solution Experience is offered to our customers via the **3DEXPERIENCE** platform. This platform provides an open, collaborative environment for scientists at all stages of drug substance and drug product development, enhancing productivity and fostering innovation. Additionally, the platform facilitates seamless connections with other key departments, breaking down silos to encourage collaboration and knowledge sharing.

Pharmaceutical Development Excellence is a unique data-driven Industry Solution Experience that supports the collaborative development of drug products using the best-in-class apps for laboratory management and in-silico activities.

KEY BENEFITS OF THE PHARMACEUTICAL DEVELOPMENT EXCELLENCE INDUSTRY SOLUTION EXPERIENCE:

- Improve laboratory operational efficiency by transitioning from paper-based processes to a comprehensive digital system that manages personnel, data and resources
- Enhance collaboration across teams and eliminate siloed data through a unified environment
- Accelerate drug and process development by combining virtual simulations with real-world experimentation and machine learning capabilities

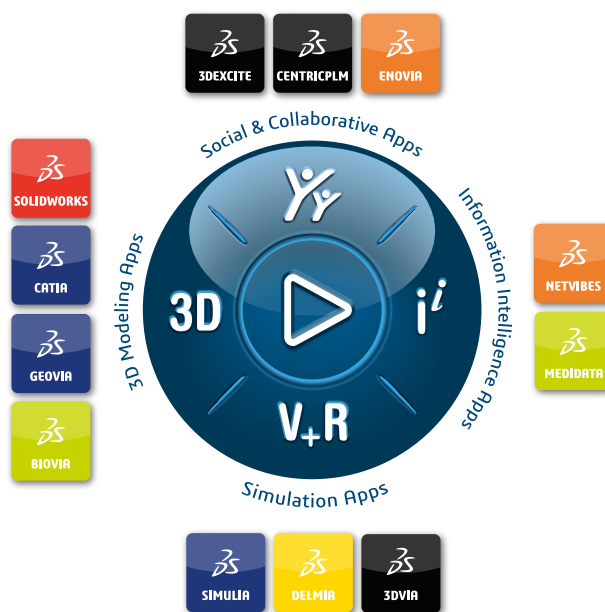
To stay updated about **pharmaceutical developments**, visit us at www.3ds.com/industries/life-sciences-healthcare/pharmaceutical-and-biotech for further information.



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

Dassault Systèmes 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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