



LIFE SCIENCES **DESIGNED TO CURE**

Accelerate time-to-market for novel therapeutics
using collaborative virtual design



BRING HIGHER QUALITY THERAPEUTIC CANDIDATES TO MARKET FASTER BY ACCELERATING KNOWLEDGE-DRIVEN INNOVATION

The Life Sciences industry faces a 'new normal' on the path to successful product development. With increasing operational costs and high development failure rates resulting in fewer, lesser quality candidates entering clinical phases, the pressure is on to deliver better results that can drive down costs while reducing time-to-market. The vast increase in data generated by Life Sciences organizations should help address these challenges; however, tools for analyzing and interpreting this data have not been implemented at the same rate. Using collaboration, common knowledge, and virtual design to drive therapeutic solutions make it possible to 'fail' unsuitable candidates, enabling higher quality candidates to get to market faster. Dassault Systèmes **Designed to Cure** Industry Solution Experience delivers collaborative, knowledge-driven innovation, and predictive analytics to address these challenges.

KEY BENEFITS:

- Improve collaboration using integrated systems that provide high-quality, accessible scientific knowledge across the organization
- Enhance decision making through real-time views across the lifecycle of therapeutics innovation
- Accelerate drug design and development by combining *in silico* and physical experiments
- Integrate Quality-by-Design principles to reduce the time to develop new drugs and increase the duration of market exclusivity
- Reduce time-to-market and the cost of market expansion by improving innovation and efficiency in Discovery Research to deliver better candidates faster

INTEGRATE DATA AND TECHNOLOGY TO OPTIMIZE COLLABORATIVE, MULTI-DISCIPLINARY THERAPEUTICS DISCOVERY

The time needed for drug discovery is lengthening and becoming more costly. The trend towards 'personalized medicine' is shifting the focus from blockbuster drugs to targeted therapies for smaller populations, which reduces the market potential for each drug. This puts even more pressure on pharmaceutical companies to successfully deliver new therapeutics while reducing costs and time-to-market. Dassault Systèmes **Designed to Cure*** Industry Solution Experience supports data-driven insight that is key to accelerating and improving innovation. Utilizing a highly integrated, streamlined information gathering and processing system, multi-disciplinary project teams can connect to the highest quality information available, at any time, from any location. By unifying siloed applications and enabling seamless data management, **Designed to Cure** enables scientists within a collaborative global ecosystem to achieve better insights sooner and reduce typical wet-lab experimentation.

* **Designed to Cure** is an Industry Solution Experience available from the app(s) represented on the 3DEXPERIENCE® platform: BIOVIA®.

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 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

UNIFY PREDICTIVE SCIENCE AND EXPERIMENTAL RESULTS TO ACCELERATE DRUG DESIGN INNOVATION

Drug design is a multi-objective challenge. Potency, selectivity, efficacy, ADME (absorption, distribution, metabolism, and excretion) and toxicity characteristics need to be optimized in parallel. By combining *in silico* experiments concurrently with physical experimentation as part of an integrated, comprehensive rational drug design approach, researchers can apply Quality-by-Design principles from the beginning and ensure that safe and efficacious drug candidates are delivered faster than ever before. **Designed to Cure** drives down operational costs and reduces time-to-market by calculating therapeutically relevant endpoints, such as biological activity, toxicity, and ADME. Identifying these key results within decision support applications early in the discovery research stage can aid design decisions and fast track the most promising drug candidates, enhancing the quality of candidates entering clinical studies.

PREDICT DRUG BEHAVIOR TO OPTIMIZE MANUFACTURING AND DELIVERY

Innovation does not stop once the right API (Active Pharmaceutical Ingredient) has been found; innovation is about providing the right patient experience and therefore also providing the right administration form. *In silico* experiments can be used to guide the choice of delivery methods and understand key properties such as miscibility and degradation. **Designed to Cure** enables the prediction of critical manufacturability characteristics and delivers an integrated, comprehensive, rational drug development approach, accelerating the development of novel drug candidates. Combining knowledge from predictive modelling tools with experimental data also builds Quality-by-Design principals into the drug development process.

To learn more about **Designed to Cure** Industry Solution Experience provided by Dassault Systèmes, visit www.3ds.com/Designed-to-cure.

