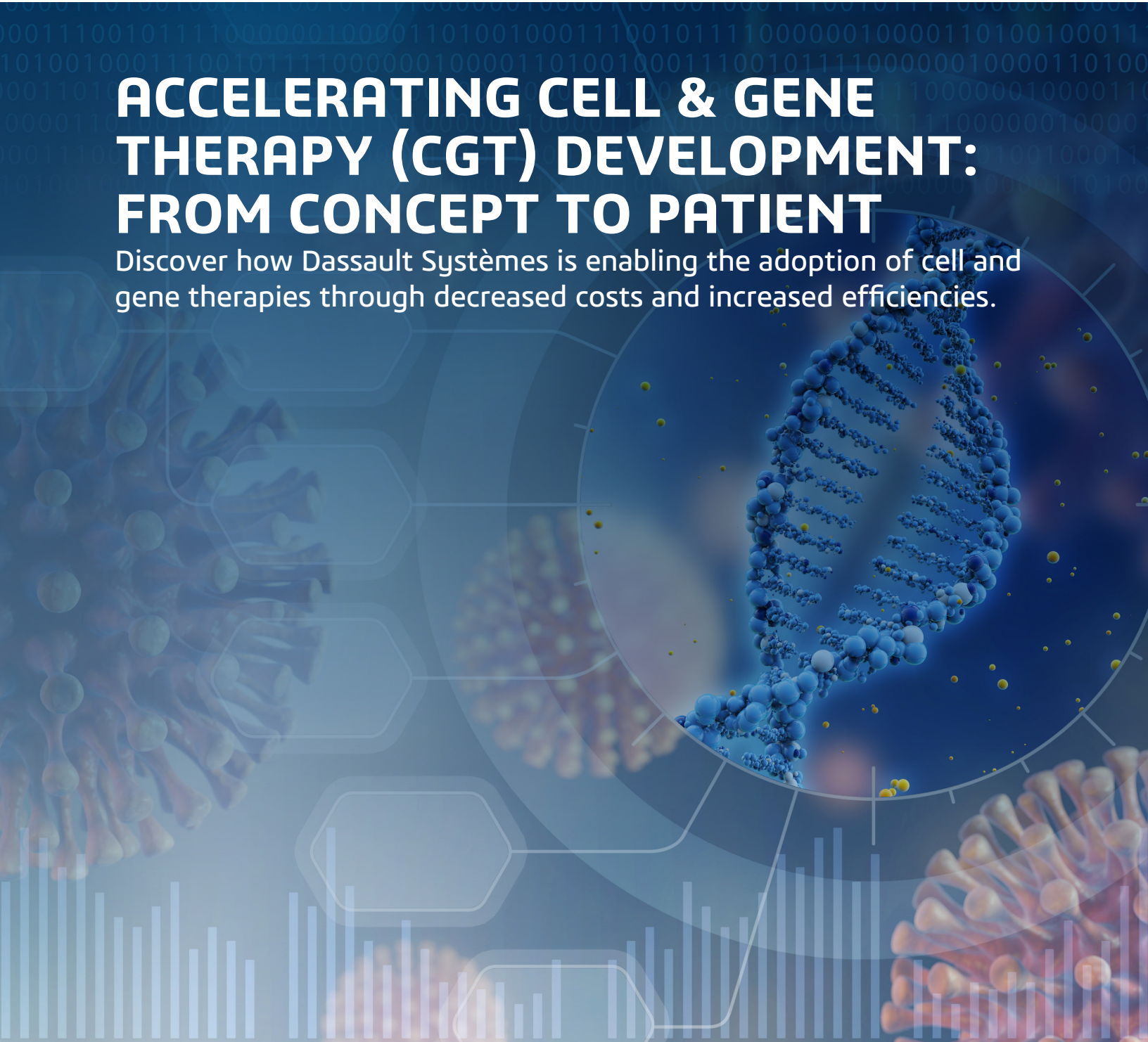


# ACCELERATING CELL & GENE THERAPY (CGT) DEVELOPMENT: FROM CONCEPT TO PATIENT

Discover how Dassault Systèmes is enabling the adoption of cell and gene therapies through decreased costs and increased efficiencies.



## KEY TAKEAWAYS:

Rapid growth in cell and gene therapy faces obstacles, including the need to accelerate discovery, ensure safety, affordability, and optimize manufacturing processes.

Dassault Systèmes enhances efficiency in R&D labs, accelerates global therapy development, and facilitates agile clinical trials for improved collaboration and results.

The 3DEXPERIENCE® platform from Dassault Systèmes provides a comprehensive digital solution to address challenges throughout the cell and gene therapy lifecycle, from research and development to patient access.

Utilizing Dassault Systèmes' platform reduces costs, ensures compliance, and optimizes manufacturing processes through a modular, predictive, and digitalized approach, enhancing overall efficiency.



**“Realizing the potential of cell and gene therapies requires the convergence of science and technology to create advanced novel therapeutics, and a game-changer scientific and business platform that enables sustainable innovation and fosters operation excellence in order to accelerate the delivery of the breakthroughs that improve the patient & physician experience.”**

— Claire Biot, Vice President,  
Life Sciences & Healthcare Industry,  
Dassault Systèmes

## THE CHALLENGES

The area of cell and gene therapy is undergoing rapid growth with billions of dollars being invested and product development pipelines expanding quickly. However, in order for Life Sciences companies to leverage the full potential of this market, there are a number of challenges they need to overcome:

- Accelerating therapeutic discovery, research and design while driving down costs by effective knowledge transfer and collaboration to facilitate the exchange of scientific information to swiftly advance best candidates to clinical trials.
- Delivering safe, affordable and high quality products by leveraging an integrated framework for compliant innovation, embedding quality and regulatory best practices early in development and providing end-to-end traceability throughout the patient and product lifecycle.
- Expediting the transition from development to manufacturing with agile and smart practices, shifting to more predictive and adaptive approaches to scale-up and scale-out, meeting market demand while reducing costs.
- Optimizing the Supply Chain to maximize shareholder return with a networked and digitally connected value chain and adopting open innovation as a core business strategy to drive agility with global scale.
- All of the above requires digitalization to transform business processes and will involve the collecting, controlling and leveraging of huge quantities of data generated from a variety of processes for the patient and product journeys. Virtual twin technology can improve agility and flexibility to optimize manufacturing output. Predictive Analytics will find factors and risks associated with a disease or predict which patient would respond best to an experimental treatment.

## THE SOLUTION

The 3DEXPERIENCE® platform and our extensive portfolio of solutions enable Life Sciences companies to address each of the challenges associated with bringing cell and gene therapies to the market, from concept to patient – satisfying unmet medical needs and allowing patient access to the right treatment at the right time.

With Dassault Systèmes, Life Sciences companies can:

- Make Research and Development labs more efficient, compliant and collaborative for faster product and process development by integrating people, resources, processes, data and interfaces.
- Advance cell & gene therapy development, regulatory approval, manufacturing, and supply, in a global landscape by leveraging an extensive, connected and comprehensive regulatory and quality platform.
- Accelerate clinical trials by collaborating with all stakeholders to increase statistical confidence in trial results for indications where randomized control groups are impractical or infeasible using a reliable synthetic control arm.
- Reduce costs & deliver therapies to smaller patient populations, with a modular, predictive, digitalized approach, optimizing and virtually testing CGT processes before a new plant is built or before an existing plant undergoes improvements.
- Identify and make adjustments on out of control manufacturing trends before failures occur through identification of critical process parameters, quality attributes and monitoring production processes.
- Gain operational excellence against volatile and rapidly changing production schedules across many different sites/CDMOs with dynamic and intelligent planning and scheduling.

## 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](http://www.3ds.com).



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