

# Simulation Lifecycle Management

Manage & Secure Simulation Intellectual Property



# SIMULIA SLM

## Industry Challenges

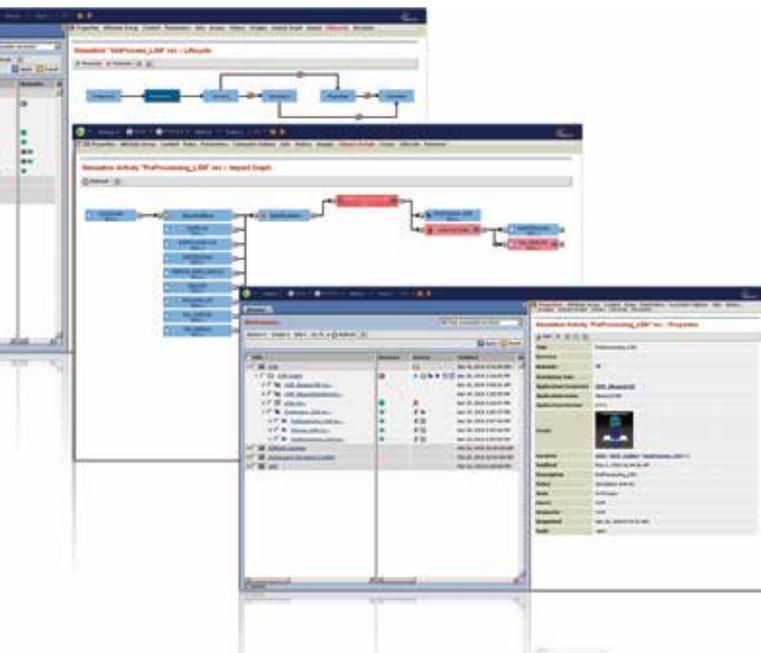
In the manufacturing industry, design analysis technology and related methods are being used to create innovative and reliable products while reducing time and costs. However, even those companies gaining significant benefits from simulation will admit that they often fail to capture their simulation processes or manage the results in a manner that allows effective knowledge reuse or decision-making traceability.

## SIMULIA Solutions

SIMULIA Simulation Lifecycle Management (SLM) solutions simplify the capture and deployment of approved simulation methods and best practices, providing guidance and improved confidence in the use of simulation results for collaborative decision making.

Users can improve product quality with fully traceable simulation history and associated data. SLM also accelerates product development by providing timely access to the right information through secure storage, search and retrieval with distinct functionality dedicated specifically to simulation scenarios and data.

**Capture** best practices  
**Reuse** intellectual property  
**Improve** process quality



## Improve your simulation data and process quality

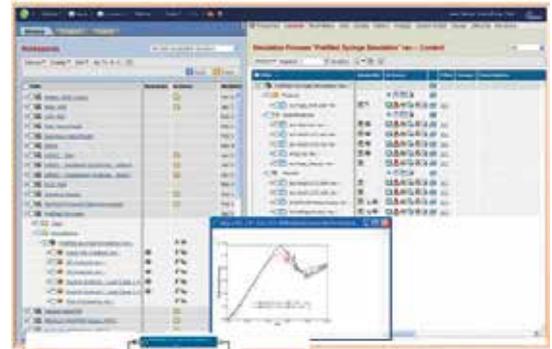
The SIMULIA SLM solution portfolio, includes Scenario Definition, Live Simulation Review, Isight, and the SIMULIA Execution Engine.

**Scenario Definition** enables methods developers to create workflow-specific simulation templates incorporating their company's best practices while using the simulation tools of their choosing. These templates can then be deployed to a wide range of users ensuring adherence to standard practices in order to improve repeatability, reliability and confidence in simulations.

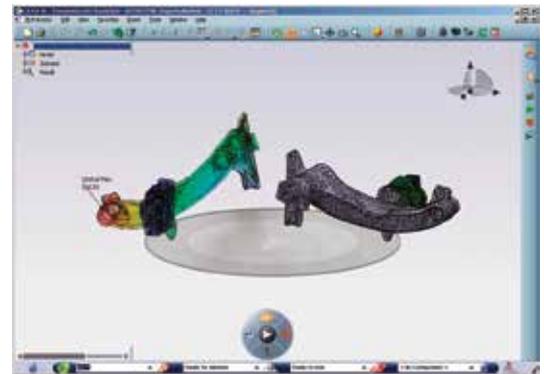
**Live Simulation Review** is an extension of 3DLive's capabilities for 3D search and navigation with simulation focused functionality such as the ability to identify and navigate to all simulations performed on a given part or assembly.

Live Simulation Review enables the simulation processes and resulting data to be fully searchable. This interface empowers collaborators to access simulation data and review results for collaborative decision making during the product development process.

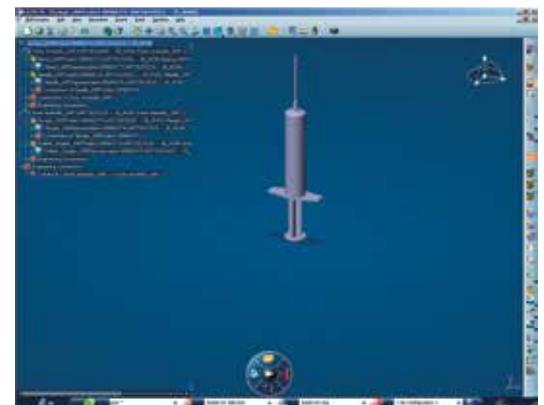
**Model Editor** enables design engineers and analysts to work concurrently in a collaborative, managed, open environment with the simulation modeling tools of their choosing. When used in conjunction with a process flow execution product, such as SIMULIA Scenario Definition, Model Editor provides analysts with the capability to manage and edit their simulation data within the V6 product structure.



*Scenario Definition enables users to access current models, define simulation scenarios and manage simulation data and results.*



*Live Simulation Review provides an immersive environment to access all simulation data in 3D including the geometry and mesh results.*



*Model Editor demonstrates V6 openness by enabling 3rd party simulation representations (primarily FEA models and meshes) to be managed and edited directly on the V6 product structure.*

**Improve** collaboration  
**Achieve** competitive advantage  
**Gain** larger return on CAE investments

## SIMULIA SLM Features & Benefits

### Define Simulation Scenarios

- Populate, instantiate, execute and monitor simulation templates, establishing company-specific best practices
- Reduce Cost of Poor Quality (COPQ), such as simulation re-work, with input traceability between design and simulation

### Automate & Execute Simulations

- Automate critical processes to minimize cycle time
- Execute simulation directly without accessing the authoring application
- Run man-in-loop and ad-hoc analysis directly from SLM to allow automation as needed

### Secure Simulation IP

- Ensure the traceability of "who did what, when, how, and why"
- Secure IP by controlling access rights
- Improve procedure and regulations with minimal associated cost

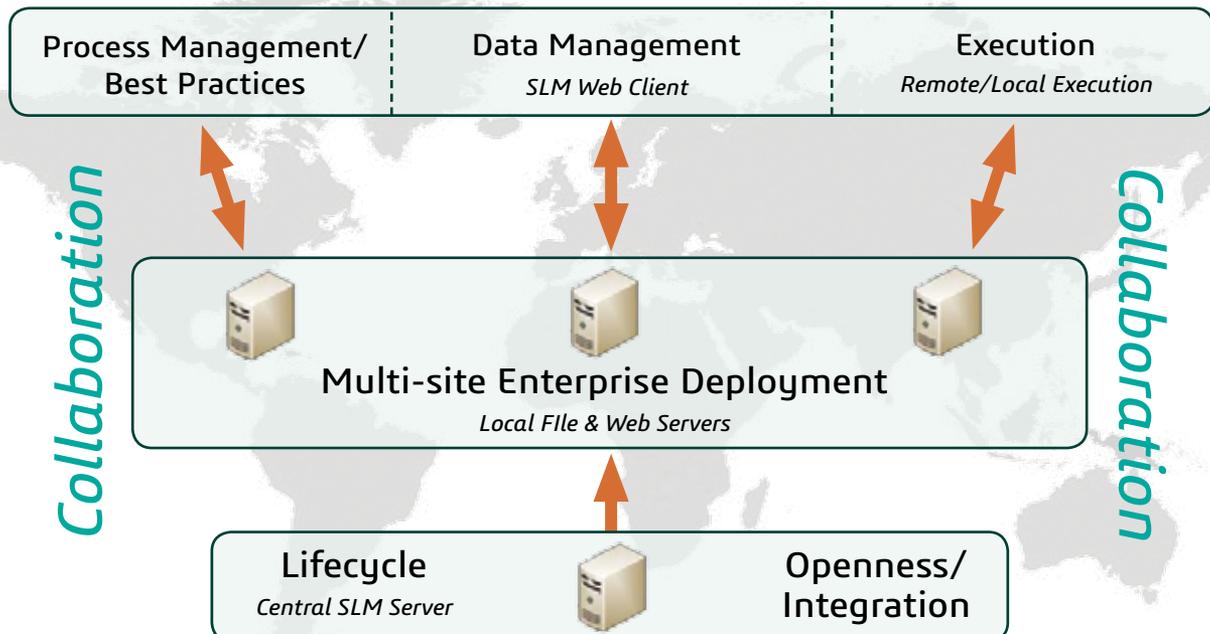
### Collaborate on Simulation Results

- Retain and reuse your company's valuable simulation IP
- Democratize simulation by delivering analysis results to non-experts
- Extend simulation throughout the enterprise with 3D visual representations of simulation data
- Accelerate decision-making by sharing simulation results
- Effortlessly verify simulation analysis methods
- Build confidence with the ability to view CAE data and decisions

### Enterprise Business Process Integration

- Enable efficient integration of simulation processes in enterprise projects
- Increase confidence in simulation results
- Unify customer simulation processes
- Maintain IP security while bringing simulation inside the extended enterprise and multi-sites infrastructure
- Increase productivity within simulation processes

Unleash the information to help drive innovation throughout the full product lifecycle and across the extended enterprise with SLM.



## Simulation Lifecycle Management as Tool to Enhance Product Development and its Decision-Making Process for Powertrain Applications

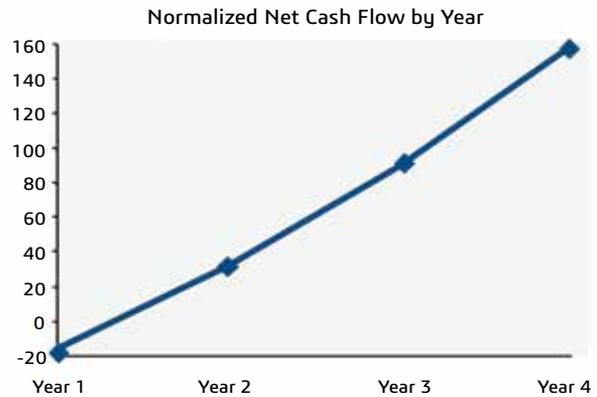
**Frank Popielas, Rohit Ramkumar, Jason M. Tyrus**  
Sealing Products Group, Dana Holding Corporation

Product development is becoming more complex. It involves not only system simulation requirements, but also the need to manage and share huge amounts of engineering information that is housed throughout the world. It quickly becomes complex when getting into detailed system simulation for powertrain applications such as sealing products. In this paper Dana uses the processes for cylinder head gaskets (CHG) and material data input management as examples of how SIMULIA SLM provides more consistency, accuracy and faster turnaround times through easier, coordinated information flow and access. Using 3D Live capabilities enables Dana to provide an easy-to-use environment to make simulation information available to non-CAE users, such as engineering management, to support decision-making.

Download the full paper: [www.simulia.com/Dana\\_SCC2010](http://www.simulia.com/Dana_SCC2010)

“Not only is SIMULIA a proven leader in the CAE market, they have a deep understanding of our engineering processes and workflows and share our vision for leveraging simulation knowledge as a valuable business asset.”

**Frank Popielas**, Sealing Products Group, Dana Holding Corporation



## Enhancing Simulation Value Using Abaqus with SIMULIA SLM - A Customer's Perspective

**Chris Pieper, Kimberly-Clark Corporation**

The emergence of simulation data management software packages provides an opportunity to both streamline simulation processes and further leverage the impact of simulation results. The nimble mechanism for process automation offered by SIMULIA SLM product reduces simulation turnaround by connecting and managing simulation stages while allowing interactive components, such as Abaqus/CAE, to provide rich functionality. A strategy of combining a server based management system with local interactive components allows new and existing simulation processes to be quickly encapsulated into a streamlined tool. This paper uses two applications using SLM in conjunction with interactive tools to provide formalized simulation processes to illustrate the advantages of such a strategy.

Download the full paper: [www.simulia.com/KC\\_SCC2010](http://www.simulia.com/KC_SCC2010)

“Simulation Lifecycle Management provides a mechanism to streamline the execution of our simulation processes while offering a standardized procedure that multiple analysts can use—improving the quality and value of our simulation investments.”

**Chris Pieper**, Kimberly-Clark Corporation





## Delivering Best-in-Class Products



Virtual Product Design



Virtual Planet



3D for Professionals



Information Intelligence



Realistic Simulation



Dashboard Intelligence



Virtual Production



Social Innovation



Global Collaborative Lifecycle Management



Online 3D Lifelike 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 150,000 customers of all sizes, in all industries, in more than 80 countries. For more information, visit [www.3ds.com](http://www.3ds.com).

CATIA, SOLIDWORKS, SIMULIA, DELMIA, ENOVIA, GEOVIA, EXALEAD, NETVIBES, 3DSWYM, 3DVIA are registered trademarks of Dassault Systèmes or its subsidiaries in the US and/or other countries.

---

### Europe/Middle East/Africa

Dassault Systèmes  
10, rue Marcel Dassault  
CS 40501  
78946 Vélizy-Villacoublay Cedex  
France

### Asia-Pacific

Dassault Systèmes  
Pier City Shibaura Bldg 10F  
3-18-1 Kaigan, Minato-Ku  
Tokyo 108-002  
Japan

### Americas

Dassault Systèmes  
175 Wyman Street  
Waltham, Massachusetts  
02451-1223  
USA

Visit us at  
**[3DS.COM/SIMULIA](http://3DS.COM/SIMULIA)**

---

