

The CIMdata 2018 Simulation & Analysis (S&A) Market Analysis Report

Comprehensive Information and Analysis Critical to Sound Business Decisions

Products across many industry sectors are made better by applying Simulation & Analysis (S&A) solutions early and often in the product lifecycle. The application of S&A has progressed far beyond its use as an analog of physical testing for final product and manufacturing validation.

S&A is a US\$5.7 billion segment of PLM covered in CIMdata's annual PLM Market Analysis Report (MAR) Series, which provides detailed information and in-depth analysis of the worldwide Product Lifecycle Management (PLM) market. The CIMdata PLM MAR Series is packaged in five modules, each with a separate focus and targeting a different audience. The report modules contain analyses of major PLM trends and issues, leading PLM solution providers, purchases of PLM software and services for geographical regions and industry sectors, and historical and projected data about market growth. This series of reports provides insights into worldwide PLM market investment dynamics and the revenue performance of leading PLM solution providers.

Our global analyses cover many segments, but none so dynamic and rapidly growing over the last several years as S&A. S&A solution and service providers are delivering high value offerings throughout the product lifecycle, and it is shown in their results, which is the focus of this CIMdata S&A Market Analysis Report.

The CIMdata S&A MAR

The CIMdata S&A MAR builds upon the methodology and data from the global PLM MAR series, and leverages the expertise and research of the CIMdata S&A Knowledge Council. S&A includes a wide range of technologies and related services, including:

- 2D/3D structures, strength, stiffness, and vibration (FEA)
- Structural fatigue, durability, and failure analysis
- Empirical materials characterization and material data libraries
- Laminate composites and advanced materials analysis
- CFD (computational fluid dynamics) and flow analysis
- Thermal and heat transfer, conduction, convection, and radiation

- Multi-body dynamics and mechanisms—rigid and flexible bodies
- Impact, crash, and safety analysis (explicit nonlinear)
- Electromagnetics
- Optics analysis and other sensors
- Acoustics and vibro-acoustics
- Integrated multiphysics solutions
- 3D topology and geometry optimization
- Analysis post-processing and high performance visualization
- Process orchestration and analysis automation
- System simulation (0D, 1D, networks, embedded software, controls)
- System synthesis, optimization, DOE, and robust design
- General math-based calculations (e.g., Mathcad, Maple, Mathematica)
- Physical testing and empirical data analysis
- Manufacturing process simulations (plastics, metal forming, casting, etc.)
- Chemical formulations and reactions analysis
- Embedded software and controls simulation and validation
- Vertical applications by industry (e.g., vehicle NVH, engine performance, combustion, powertrain, gear system noise and vibration, etc.)
- Cross-domain modeling and simulation (M&S) data interoperability tools
- Simulation data and process management (SDPM)
- Engineering consulting services

These solutions are designed to enable engineers to simulate real-world loads, stresses, and functionality via digital modeling and simulations, to run through “what-if” scenarios, explore new designs and technology, evaluate multiple concept alternatives, and gain deeper insight into product behavior.

The 2018 S&A MAR includes discussions of trends in the market and how S&A solution and service providers are responding. It also includes an overview of the research agenda of the CIMdata S&A Knowledge Council. The report documents CIMdata's estimates for the global S&A market for the calendar year 2017, including 2017 revenue results and revenue forecasts for 2018 to 2022. It includes over 30 tables and charts, including S&A historical revenue and forecasts, revenues by industry segment, and revenues by geography. S&A market leaders profiled in the S&A MAR include:

- Altair
- ANSYS
- Autodesk
- BETA CAE Systems
- COMSOL Group
- Cybernet Systems
- Dassault Systèmes
- ESI Group
- Gamma Technologies
- Livermore Software Technology Corporation (LSTC)
- MathWorks
- MSC Software (Hexagon MI)
- Siemens PLM Software

The report also includes charts that highlight the market leaders, focusing on total revenues, splits by software and services, customer size, and geography.

Who Should Buy This Report?

This S&A market analysis is valuable to a range of audiences. S&A solution and service providers often use CIMdata MAR data to support strategic planning, sales planning, and marketing. Industrial companies seeking to make S&A investments value this information as part of their decision-making process. Industry and financial analysts often acquire MAR data to support mergers and acquisitions (M&A).

The report can be purchased for US\$4,995. For more information, please visit www.CIMdata.com or call +1 734.668.9922.

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM) solutions. Since its founding over thirty years ago, CIMdata has delivered world-class knowledge, expertise, and best-practice methods on PLM solutions. These solutions incorporate both business processes and a wide-ranging set of PLM-enabling technologies.

CIMdata works with both industrial organizations and solution providers of technologies and services seeking competitive advantage in the global economy. CIMdata helps industrial organizations establish effective PLM strategies, assists in the identification of requirements and selection of PLM technologies, helps organizations optimize their operational structure and processes to implement solutions, and assists in the deployment of these solutions.

For PLM solution providers, CIMdata helps define business and market strategies, delivers worldwide market information and analyses, provides education and support for internal sales and marketing teams, as well as overall support at all stages of business and product programs to make them optimally effective in their markets.

In addition to consulting, CIMdata conducts research, provides PLM-focused subscription services, and produces several commercial publications. The company also provides industry education through PLM certificate programs, seminars, and conferences worldwide. CIMdata serves clients around the world from offices in North America, Europe, and Asia-Pacific.

To learn more about CIMdata's services, visit our website at www.CIMdata.com or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.