MSC software global engineering services

Delivering certainty by helping you simulate real world behavior
MSC software
global engineering services

Delivering certainty by helping you simulate real world behavior

Industry experience

The MSC Global Engineering Services organization is a team of engineers and scientists with expertise across a wide range of engineering disciplines and industries. MSC has a history of nearly 50 years of real world, hands-on practical experience.

Engineering expertise you can trust

If you want results you can trust and the flexibility of working with extremely skilled engineers who know Computer Aided Engineering (CAE) and how it’s applied to engineering problems like yours, MSC is a team you can rely on to improve your product development process.

The MSC Global Engineering Services team helps companies in a variety of ways:

• Quick Start Projects
• Knowledge Transfer
• Mentoring; on-site or over the web
• Staff Augmentation
• On-site support
• Simulation Projects
• Customization and Process Automation
• Methods Development
• Solution Toolkits
• Simulation Data and Process Management
• Training

Flexible services offerings

We provide consulting support based on your specific needs and requirements. This could range from performing analysis for you on a project basis; one or two
times a year, or providing full time staff members to help you create repeatable processes in-house.

You can depend on the MSC Global Engineering Services staff to:

- Save you time
- Automate your CAE processes
- Perform project based simulations
- Train your staff
- Mentor and support your staff
- Correlate and validate CAE results with test data
- Transfer knowledge

Get started today...

Select from a broad range of engineering services

Quick start projects

A quick start project will provide you with an MSC consultant at your site to accelerate the returns on your software investment. The consultant will help you install and configure MSC software products for your environment, and provide general instruction for your staff in using the software in your product development process.

Knowledge transfer

The MSC Engineering Services team will perform simulations for you and then use the simulation as a basis for transferring the necessary knowledge to your staff. We do this through a step-by-step approach of training your team on the process we used to setup, simulate and post process your simulation. This ensures your teams are ready to successfully apply simulation to future design projects.

Expert on demand mentoring; on-site or over the web

Expert on Demand can be a true life-saver when our customers are in a situation where it is imperative that an MSC expert gets involved when needed for either a short period of time, or the entire length of a design project. Expert on Demand leverages the vast pool of MSC simulation and industry experts to deliver the mentoring support you need, when you need it, and in the method most convenient – either at the customer’s facility or remotely.

MSC has been a key partner on the LSAT program. Their Adams software and consulting services reduce development cost and risk by providing an understanding of weapon dynamics early in the design process and in more detail than can be obtained from physical testing.”

Paul Shipley
AAI Textron
**Staff augmentation**

The MSC Engineering Services team can become an extension of your team, and provide on-site resources to augment your current staff. We will work with you to assign an industry expert to your staff and work hand-in-hand with the team until the project is complete and you are satisfied with the results.

**On-site support**

On-site support can be a true life saver when you are in a situation where it is imperative that an expert be available at your facility when needed for either a short period of time, or the entire length of a design project which can sometimes be weeks, months or even years. You can always count on the MSC Services team to provide the flexibility to work with you whenever you are in a situation of needing on-site support. We have a team of experts across many engineering disciplines and industries, as well as in-depth knowledge of MSC products and 3rd party CAE products.

**Simulation projects**

If you only need to do analysis infrequently, the MSC Engineering Services team offers Simulation Projects and consulting to tackle your toughest problems. Our services team will work with you to understand your goals and your design problem first. Once we know what you are trying to accomplish, we will gather from you the necessary data such as CAD models, physical test data, and materials data, and then run your simulation for you.

**Customization and process automation**

MSC Software products are highly customizable and extendable. Customization allows customers to create specialized applications for proprietary processes within MSC Software tools. This can include custom user interfaces, automated reports, standardized modeling and simulation techniques, and specialized algorithms. MSC can then help you deploy and manage these customizations across your entire enterprise.
Methods development

MSC Engineering Services experts evaluate your simulation needs and work with your staff to determine how to use simulation software to efficiently simulate your problem. This may include establishing simplifying assumptions, customizing numerical algorithms, and correlating models to test.

Solution toolkits

Our services team has developed numerous solution toolkit extensions that provide capabilities for specialized applications. Solution toolkits provide tailored user interface environments for industry specific simulations.

MSC Solution Toolkits are available for purchase and can be further customized to meet your needs. Here is a sample toolkit list:

- **Tracked vehicle**
  Provides a graphical user interface (GUI) to create, modify, and simulate tracked vehicles with ease

- **Advanced gears**
  Environment for easy creation of gear forces and gear geometry

- **Cables**
  Delivers a graphical user interface (GUI) to model cable and pulley systems

- **Wind turbine motion**
  Custom interface for modeling and simulating horizontal axis wind turbines

- **Leafspring**
  Provides easy modeling and simulation of beam based 3D models of leaf springs

Simulation data and process management

MSC’s SimManager provides a powerful system for managing simulation data and processes. Out-of-the-Box, SimManager can provide instant value by maintaining the linkages and pedigree of the variety of data that is input to and output from a simulation and by enabling management to quickly assess the state of simulation tasks in the enterprise. MSC’s services can help install and implement SimManager and customize it for your unique data and processes.

Training

MSC offers basic and specialized training in the use of our simulation tools to maximize your investments in our software. Whether you need an introduction to our simulation tools or expert instruction in specialized applications, we offer the courses you want, with the expertise you deserve.

Flexible training offerings

To further meet your specific requirements, we offer the following options for live instruction.

- **Public Classroom Training** – Choose from our wide selection of courses conveniently offered at sites throughout the world.

- **Public Online Training** – The convenience of on-line learning with the interactivity and depth of a traditional classroom setting – no travel required. The entire instructor-led course is live and online on your own computer. Live Online Training is an efficient, cost effective and convenient way to gain skills in the use of our MSC simulation software.

- **Training at Your Facility** – If you have a number of employees who need training, we offer the cost effective option of bringing our class to your facility. This eliminates employee travel costs, minimizes time away from work, and can be arranged at your convenience.

- **Custom Courses** – If our standard seminar offerings do not meet your training requirements, MSC can develop a course or set of courses tailored to your specific needs. A custom course might include a combination of topics from several standard courses or specialized material not found in any of our standard seminars. MSC will work with your staff to design the course you need.

“**Our MSC application engineer comes out at least once a month to see how we are doing and help us with any issues. In fact this plane would have been impossible to model without the phone support, on-site visits and consulting services provided by the MSC support team”**

Dana Taylor
AeroVironment
MSC global engineering services
Select options that work best for you:

- Quick start projects
- Knowledge transfer
- Customization and process automation
- Simulation data and process management
- Training
- Solution toolkits
- Simulation projects
- Staff augmentation
- On-site support
- Mentoring
- Methods development
Standard curriculum

The following is a list of standard courses offered. Please refer to the MSC Software training website at http://training.mscsoftware.com for detailed course descriptions and dates offered at sites throughout the world.

Actran

- Actran for Trimmed Body Simulation
  ACT120
- Actran for Trimmed Body Simulation plus Wind Noise
  ACT121
- Simulation of Launch Acoustics with Actran
  ACT140

Adams

- Adams Basic Full Simulation
  ADM701
- Basic Adams/Solver
  ADM702
- Advanced Adams/Solver
  ADM703A
- Advanced Modeling Elements and Techniques with Adams/Solver
  ADM703B
- Advanced Parametrics, Design Sensitivity, and Optimization using Adams/View
  ADM704A
- Automating Tasks using Adams/View Scripting, Maros, and GUI Customization
  ADM704B
- Flex Body Dynamics and Modal Stress Recovery using Adams
  ADM710
- Adams/Controls
  ADM711
- Adams/Vibration
  ADM720
- Adams/Car
  ADM740

Dytran

- Introduction to Langrangian Analysis Using Dytran
  DYT101
- Introduction to Eulerian and Coupled Analysis Using Dytran
  DYT102
- Introduction to Airbag Analysis and Occupant Safety Using Dytran
  DYT103

Flightloads

- Introduction to FlightLoads & MSC Nastran Aeroelastic Analysis
  FLD120
- Flightloads and Aeroelasticity - Static Analysis
  FLD120S

Marc

- Marc Mentat Introduction
  MAR101
- Marc Mentat Advanced
  MAR102
- Experimental Elastomer Analysis with Marc
  MAR103
- Introduction to Engineering Analysis with Marc & Patran
  MAR120

Easy5

- Seminar Class: Easy5 Dynamic System Modeling Simulation and Analysis using Easy5 (Intro Class)
  EAS101
- Easy5 Modeling Simulation of Fluid Power Systems Using Easy5
  EAS103
- Modeling Simulation of Gas Systems Using Easy5
  EAS105

MSC Fatigue

- Durability and Fatigue Life Estimation Using Patran Fatigue
  PAT318
- Fatigue & Dynamics - The Reliability of Vibrating Systems
  NAS319B
- Practical Implementation of Fatigue Methods with MSC Nastran, Patran,
  NAS319C
MSC Nastran
- Linear Static & Normal Analysis using MSC Nastran NAS101A
- Advanced Linear Analysis using MSC Nastran NAS101B
- Dynamic Analysis using MSC Nastran NAS102A
- Advanced Dynamic Analysis using MSC Nastran NAS102B
- MSC Nastran Nonlinear Analysis NAS103
- MSC Nastran Thermal Analysis NAS104
- Practical Finite Element Analysis Techniques using MSC Nastran NAS105
- Basic Substructure Analysis using MSC Nastran - Primary NAS106A
- Advanced Substructure Analysis using MSC Nastran - Secondary Superelements NAS106B
- Design Sensitivity and Optimization in MSC Nastran NAS107
- DMAP and Database Application in MSC Nastran NAS110
- MSC Nastran Aeroelastic Analysis NAS111
- Analysis of Composite Materials with MSC Nastran NAS113
- Fluid Structure Analysis in MSC Nastran NAS115
- Practical Dynamic Analysis in MSC Nastran NAS116
- Linear Statics Normal Modes and Buckling Analysis MSC Nastran & Patran NAS120
- Dynamic Analysis Using Patran and MSC Nastran NAS122
- MSC Nastran Implicit Nonlinear (SOL 600) Analysis NAS123
- Explicit Nonlinear Analysis using MSC Nastran and Patran NAS126
- Contact Analysis using MSC Nastran and Patran NAS133
- Implicit Nonlinear Analysis using MSC Nastran and Patran NAS400

Patran
- Computer Based Modeling for Design & Analysis with Patran PAT301
- Computer Based Modeling for Design and Analysis for Aerospace Application PAT301 AERO
- Patran for Advanced Users PAT302
- Automating Tasks and GUI Customization using the Patran Programming Command Language (PCL) PAT304
- Thermal Analysis using Patran Thermal PAT312
- Fatigue Analysis of Dynamically Responsive Systems using FEA PAT319
- Patran Introduction to Laminate Modeler PAT325

SimDesigner
- Structural and Thermal Analysis Using SimDesigner SMD101
- MSC SimDesigner Motion for CATIA V5 SMD102

SimManager
- Introduction to SimManager SMM101
- SimManager Basic Configuration SMM102
- SimManager Automotive Solution Class SMM111
- SimManager Automotive Solution Configuration Class SMM112
SimXpert

- Introduction to SimXpert
  SMX101

- SimXpert Linear Static Analysis
  SMX120

- SimXpert Motion Analysis
  SMX121

- SimXpert Dynamic Analysis
  SMX122

- SimXpert Thermal Analysis
  SMX124

- Introduction to SimXpert MD Explicit Workspace
  SMX126

- SimXpert Templates
  SMX131

- SimXpert Scripting
  SMX131

- Dynamic System Modeling and Simulation using SimXpert
  SMX140

- Nonlinear Structural Analysis with SimXpert
  SMX400

Sinda

- Network Thermal Analysis Using MSC Sinda
  SND501

- Thermal analysis using Patran with MSC Sinda
  SND502

- Spacecraft Thermal Analysis Using THERMICA V4
  SND503

Note that there may be slight variations in courses offered for some regions. Please refer to the MSC Software website at www.mscsoftware.com for regional course curriculum.
Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

MSC Software, part of Hexagon’s Manufacturing Intelligence division, is one of the ten original software companies and a global leader in helping product manufacturers to advance their engineering methods with simulation software and services. Learn more at mscsoftware.com. Hexagon’s Manufacturing Intelligence division provides solutions that utilise data from design and engineering, production and metrology to make manufacturing smarter.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us @HexagonAB.