

Simulation services for the defense industry

Advanced simulation services

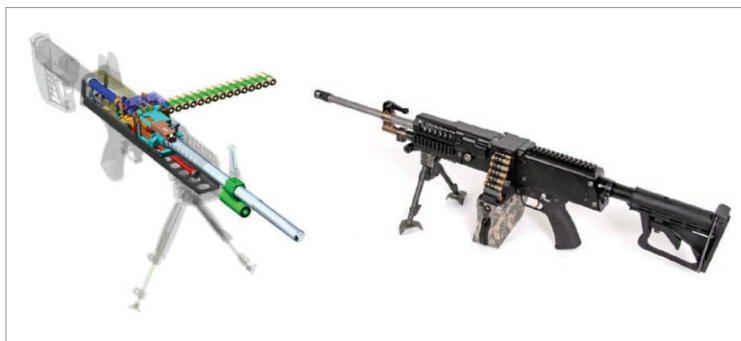
MSC Services is your partner in performing cost-effective advanced simulation for your research, system development, and system qualification efforts. MSC has a 45-year history of providing consulting services to industry, including aerospace, automotive, biomedical, energy, electronics, machinery, and many others. With more than 400 top-flight field engineers worldwide, MSC has the skills and capacity to understand and overcome your challenges.

MSC Services has expertise in structures, impact, blast, motion, controls, fluids, thermal, fatigue, and advanced materials. MSC Services is an extension of your engineering team enabling you to have the skills you need when you need them.

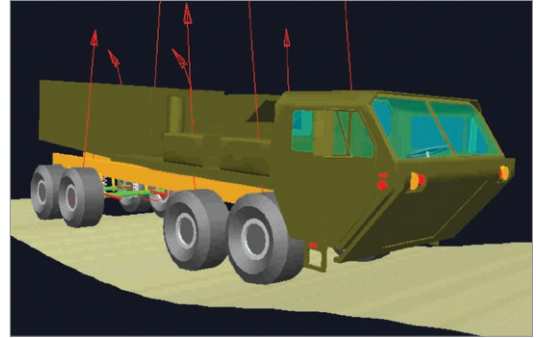
The goal of MSC Services is to enable you to maximize the value of your computer-aided design and engineering investments. Whatever your needs, MSC Services works with you to identify and implement customized solutions ranging from technical support and enterprise training to engineering services and custom software development.

Methods development and application

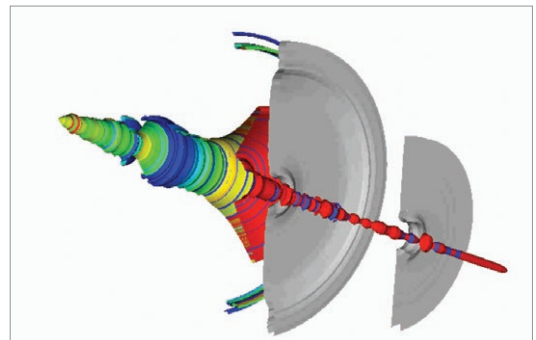
Simulation can be applied to a wide range of product development, manufacturing challenges, and qualification/certification programs. However, it is not always obvious how to apply simulation through the product lifecycle to achieve the desired efficiency and accuracy required to promote long-term system sustainability. Development of standardized and repeatable methods and practices is necessary. In addition to routine analytical services, MSC Services will work with your staff to put in place forward-looking processes to assure that today's simulation data is pertinent and usable decades in the future as system service life is extended for today's complex defense systems.



Automatic weapon simulation model



Vehicle mobility simulation



Explosively formed penetrator simulation

Focus on:

- Reliability
- Maintainability
- Survivability
- Sustainability
- System level performance and optimization
- Multi-disciplinary analysis
- Mobility
- Lethality and vulnerability

Training and technology transfer

MSC Services offers a full range of training courses in locations throughout the US and Canada. These courses address the needs of new users of our simulation products and the needs of long time users who want to apply more advanced features. If these public classes do not meet your needs, MSC Services can prepare a custom training curriculum to be delivered at your facility.

Sometimes a training course is not sufficient to get your staff up and running simulation with the efficiency you need. When that happens, technology transfer through one-on-one time with MSC Services is recommended. MSC Services will provide instruction in the topics you need, using your simulation models and techniques to illustrate how to address your particular needs with maximum efficiency.

This technology transfer can be in-person and on-site, or it can be done remotely through telephone or web conferencing. The content can be what you want: from advanced simulation techniques to more fundamental engineering topics. We have the expertise that you want for your own organization.

Service Life engineering

More and more, defense systems are called upon to not only meet a mission requirement today but to meet this mission and even expanded mission requirements far into the future. MSC Services can provide the skills you need to get these predictions right. Let us set up an analysis process that starts with assuring an accurate load set for the parts of your system based on system level functional analysis.

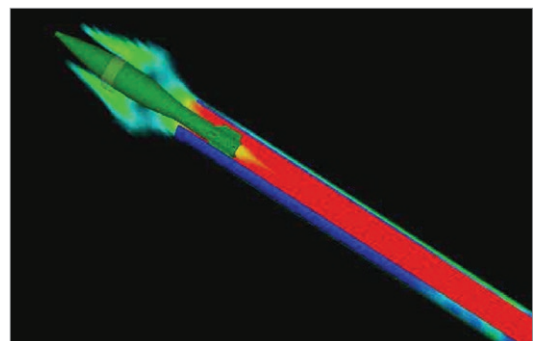
This process can start the path toward accurate stress calculation which leads to fatigue and service life predictions that a program manager can really hang his hat on. Presently, systems are often over-designed to obtain long service life. Or they are designed with built-in flaws that may not be recognized until many years down the road. Obtaining accurate loads is vital to predict service life of a complex system without excessive time-consuming and costly testing programs. Let MSC Services lead you through an integrated system level analysis of your developmental systems today to pay big dividends in service life.

Broad Defense expertise:

- Automatic weapons
- Aircraft and spacecraft
- Tracked and wheeled military vehicles
- Targeting systems
- Human body modeling
- Mechanical and thermal for electronics
- Lethality studies
- Vulnerability assessments

Key benefits:

- Get specialized expertise when you need it
- Rapidly develop new methods for applying simulation to your systems
- Automate your simulation processes to provide consistency and repeatability as well as alignment with contractors
- Reduce the time and expense required to assess and evaluate the performance of new defense systems.



Mortar round and tube simulation

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](https://www.mscsoftware.com). Hexagon's Manufacturing Intelligence division provides solutions that utilise data from design and engineering, production and metrology to make manufacturing smarter.

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