ATA ENGINEERING

SOFTWARE newsletter

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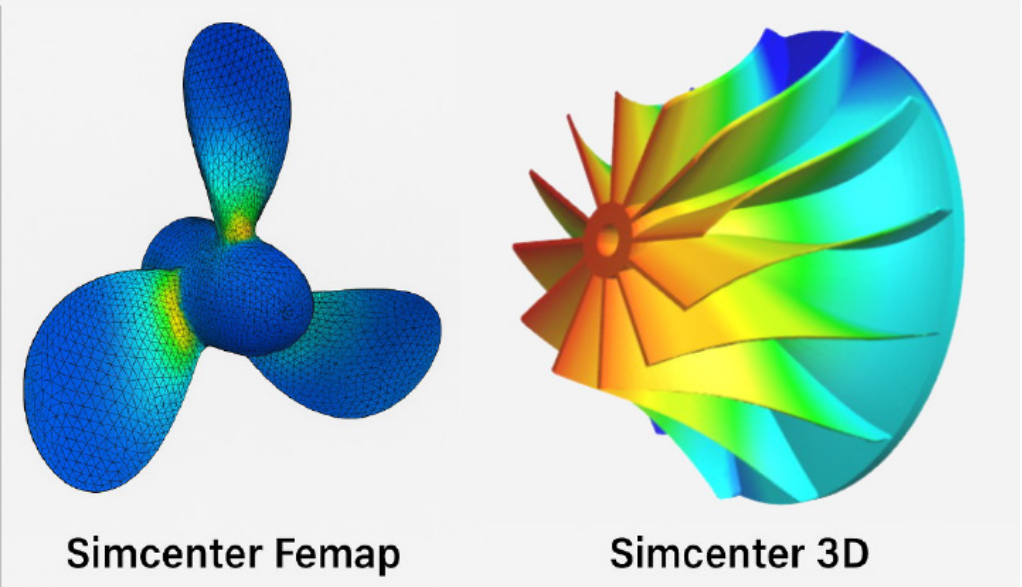


Comparing Simcenter 3D with Femap for Mechanical Simulation

DETAILS INSIDE

Join Us at Siemens' Realize LIVE Americas

ATA Engineering is heading to Detroit this June for Siemens' premier annual event, where experts from across industries will come together to explore the latest in digital engineering tools and technology. As a value-added reseller for Siemens Digital Industries Software, we're looking forward to connecting with customers and discovering new ways to improve engineering workflows.

ATA customers are eligible for an exclusive $200 discount. To claim it, enter the code PartnersRL25AMS at checkout and mention ATA Engineering when asked how you heard about the event. This offer is valid through Friday, May 30, 2025. Register here to save your spot!

ATA Engineering Celebrates 25th Anniversary

On April 1, ATA Engineering marked 25 years of delivering innovative, high-quality engineering solutions. From our start in advanced analysis and test to supporting groundbreaking projects across aerospace, defense, themed entertainment, and more, we have grown as a trusted, employee-owned partner.

Thank you to our clients and team for being part of this journey. Here's to the next chapter of engineering excellence! Read the press release.

Inside:

25 ATA ENGINEERING, INC.

www.ata-e.com
844-756-7638 (844-PLM-SOFT)
plm_sales@ata-e.com

Comparing Simcenter 3D with Femap for Mechanical Simulation

Choosing the right tool for mechanical simulation can significantly impact your workflows, results, and overall efficiency.

Simcenter 3D offers a highly integrated environment that combines CAD, CAE, and simulation in a single platform. It is particularly suitable for teams that benefit from a unified digital thread, with built-in connections to tools like Teamcenter and Simcenter Nastran. This integration streamlines data management, reduces rework, and supports complex simulations across large teams or organizations.

Femap, by contrast, is a stand-alone pre- and postprocessor that offers flexibility and ease of use. It supports a range of solvers—including Simcenter Nastran—and is ideal for users who want a lightweight, customizable simulation tool. Femap's open architecture makes it suitable for smaller teams or those looking to tailor their simulation environment to specific workflows.

Our recent webinar provides a clear breakdown of each tool's strengths, licensing models, and typical use cases to help you make an informed decision, whether you're managing a large, integrated workflow or looking for a nimble stand-alone solution. Watch the full session here.

Calendar of Events

UPCOMING TRAINING CLASSES

ATA provides comprehensive training in the use of Femap, Simcenter 3D (formerly NX CAE), and Simcenter Nastran (formerly NX Nastran). Upcoming training classes are shown below. Please visit our website to sign up for these classes or request a custom class.

FEMAP

JUL 21 Introduction to Femap

TBA Advanced Femap

SIMCENTER NASTRAN WITH FEMAP

JUN 09 Introduction to Dynamic Analysis with Femap for Pre/Post

JUN 16 Advanced Dynamic Analysis with Femap for Pre/Post

JUL 28 Introduction to Finite Element Analysis with Femap for Pre/Post

AUG 04 Multi-Step Nonlinear with Solutions 401 and 402 with Femap for Pre/Post

SIMCENTER NASTRAN WITH SIMCENTER 3D

JUN 09 Introduction to Dynamic Analysis with Simcenter 3D for Pre/Post

JUN 16 Advanced Dynamic Analysis with Simcenter 3D for Pre/Post

JUL 28 Introduction to Finite Element Analysis with Simcenter 3D for Pre/Post

AUG 04 Multi-Step Nonlinear with Solutions 401 and 402 with Simcenter 3D for Pre/Post

UPCOMING INDUSTRY CONFERENCES

Connect with ATA Engineering at these upcoming industry events.

JUN 02 Space Tech Expo Long Beach, CA

JUN 03 Spacecraft and Launch Vehicle Dynamic Environments Workshop El Segundo, CA

JUN 16 ASME Turbo Expo Memphis, TN

ATA also provides a host of free training resources including tutorials, videos, and whitepapers.

Tips and Tricks

NX: WHAT VERSION OF NX IS THIS PRT/FEM/SIM FROM?

If you have ever needed to check what version of NX a file is from, Siemens has a built-in tool for that: ug_inspect.exe, located in the UGII subfolder of your NX install directory (e.g., C:\Siemens\NX[####]\UGII\ug_inspect.exe). Run it from the command prompt and point it to the file(s) you want to check. It shows the NX version and also details like who last saved the file and when—helpful information if you are digging through short-term archives or need to follow up with someone.

FEMAP: FEMAP API RECORDING

Femap's Program File > Record lets you automatically generate API scripts by recording actions in the GUI. This method is a great way to accelerate custom automation or understand how to script repetitive tasks—especially when working with large parametric model builds or postprocessing routines.

STAR-CCM+: FIELD FUNCTIONS FOR SMART BOUNDARIES

Use Field Functions in Star-CCM+ to define spatially or temporally varying boundary conditions, such as temperature gradients, velocity profiles, or user-defined physics. These boundary conditions can be based on equations or imported tables or even linked to probe points in the model, making it easy to simulate real-world scenarios like moving heat sources or transient inflow profiles without hard-coding data.

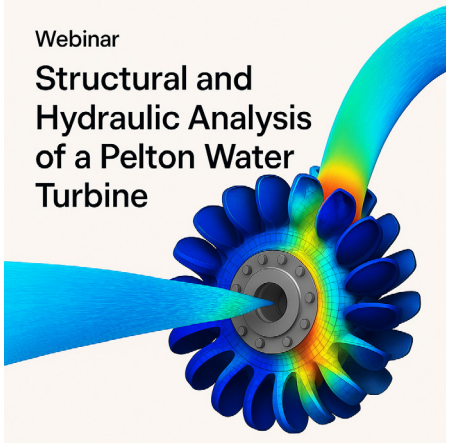
New Resources

On-Demand Webinar: Structural and Hydraulic Analysis of a Pelton Water Turbine

In our latest webinar, ATA Engineering teamed up with Mechanical Solutions, Inc., (MSI) to dive into the structural and hydraulic behavior of a Pelton water turbine. In this webinar using Simcenter STAR-CCM+, we walk through a detailed fluid-structure interaction (FSI) analysis that captures the impact of high-speed water jets on the turbine buckets—which is critical for understanding fatigue-related failures.

Macro: Summarize Output by Group

Analyzing stress results across multiple components and load cases in large models can be a time-consuming task. To simplify this process, ATA Engineering offers a free Femap API macro that quickly summarizes and envelopes stresses and failure indices by group and then outputs the results to Excel.



Enhance Your Design Workflow with NX CAD Surfacing

ATA recently hosted a webinar where our engineers demonstrated how to create complex, high-quality geometry using Siemens NX. The session covers key surfacing tools and techniques that help improve design efficiency and flexibility.

Recent News

Early Access Program

We are happy to announce the next round of the Simcenter 3D Remote Early Access Program.

Registration is now open. To experience the new features and functionalities that are currently in development, just follow the two easy steps below:

1. Register here: Simcenter 3D EAP.
2. If the registration page shows that your pre-release agreement is inactive, please sign a copy of the pre-release agreement digitally on the registration site or download a copy of the pre-release agreement from the registration site, fill in the SoldTo, Your name, and Company information, sign it, and email it back to us at plm_sales@ata-e.com.

Simcenter STAR-CCM+ 2502 Now Available

The latest version of Simcenter STAR-CCM+ 2502 is here, bringing powerful new features that enhance simulation performance and usability. Key updates include GPU acceleration for overset meshing, improved thermal modeling, and streamlined workflows that save time and increase efficiency.

These advancements support faster, more accurate simulations, helping you deliver high-fidelity engineering solutions.

Read more about the release.

GSA OASIS+ Contract Awards

ATA Engineering is excited to announce our recent awards under the GSA OASIS+ Unrestricted and Small Business contracts in the Technical and Engineering Domains. These contracts enhance our ability to provide high-quality engineering solutions to government agencies, including the Department of Defense (DoD), Federally Funded Research and Development Centers (FFRDCs), and University Affiliated Research Centers (UARCs), while streamlining the procurement process.

Interested in partnering with ATA through OASIS+? Learn more here.

Why choose ATA?

ATA Engineering is a nationwide provider of innovative, high-value, analysis- and test-driven mechanical engineering design solutions.

With more than four decades of experience working with our customers to solve the most challenging design, test, and analysis problems, we have gained a reputation for excellence in the engineering community.

Our work on a wide range of products across a broad spread of industries has been recognized with numerous technical and service awards for excellence. This expertise and support are a key part of the added value we offer to all customers who purchase Siemens products from us, whether you are an independent contractor or a large engineering team. To provide best-in-class support to our VAR software customers, we have established a formal hotline system that provides on-demand support to resolve technical issues encountered by our customers in their implementation of the tools.

The hotline is staffed by experienced engineers, all of whom use these applications on a regular basis. ATA is also the Siemens preferred training provider and official developer of courseware for all Simcenter Nastran training.

ATA Technical Support

Need technical assistance? Call our hotline staffed by engineers at **877-282-4223**, or visit us online. Even if you're not a current ATA customer, try us out for free.

Free Software Trials

Contact us for more information about free trials/demos of Femap and Simcenter Nastran, NX CAD and CAM, Simcenter 3D, Simcenter STAR-CCM+, Teamcenter, and Solid Edge.

Featured Instructor

Alex Sprunt, Ph.D.

Dr. Alexander Sprunt applies static and dynamic analysis to the design, evaluation, and testing of complex engineered systems, with a focus on optical systems.

As a Senior Technical Advisor in the Aerospace Analysis group, he has contributed to a range of aerospace projects involving analysis, testing, and systems engineering. His work involves predicting, measuring, and developing requirements for static and dynamic responses in spacecraft, instruments, vibration isolators, and optical systems to ensure that they meet stringent performance standards.

He has extensive experience with Nastran, MATLAB, IMAT, Femap, Git, and I-deas. In addition to his engineering work, Dr. Sprunt is an instructor for ATA's training courses.

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www.ata-e.com

sales@ata-e.com | 858.480.2000

Software Partner Sell PLATINUM EXPERT SIEMENS

ATA Engineering, Inc., is recognized as an Expert Partner with validated expertise in Femap, Simcenter 3D, and STAR-CCM+.