



## **Ansys and Electro Magnetic Applications, Inc. Launch EMA3D Charge to Improve Design and Safety of Electronic Components**

October 21, 2021

Ansys EMA3D Charge empowers engineers to predict effects of electrical charging and discharging phenomena

PITTSBURGH, Oct. 21, 2021 /PRNewswire/ --

Ansys\_EMA3D

### **/ Key Highlights**

- **EMA3D Charge is a new simulation solution from Ansys and Electro Magnetic Applications, Inc. (EMA) for charging and discharging prediction, allowing engineers to mitigate risks early in the design cycle**
- **The full solution was designed for efficiency, featuring an intuitive user interface, end-to-end workflow, powerful mesh engine and 3D environment**

Together with [EMA](#), [Ansys](#) (NASDAQ: ANSS) added [EMA3D Charge](#) to its industry-leading simulation solution portfolio, addressing critical design and safety needs for applications ranging from space exploration to everyday commutes. The new solution enhances predictive accuracy for engineers analyzing charging and discharging events that can lead to catastrophic product failures early in the design cycle, driving faster time-to-market and bottom-line savings.

Aerospace, electronics and automotive industries must meet rigorous electrical performance requirements to mitigate safety risks related to charging and discharging events. Engineers need to be confident a spacecraft will survive exposure to space plasma. High-voltage systems must operate safely without risk of fire. Autonomous vehicles must maintain safety critical functions when faced with an unexpected electrical event. Without fully understanding and addressing these risks, companies may face costly late-phase redesigns, often totaling millions of dollars.

High-fidelity predictions from EMA3D Charge provide engineers with a deeper understanding of electrical charging and discharging phenomena. These insights can have a significant impact on product design, helping engineers determine how electrical components may be harmed — and to what extent — by charging and discharging events. Mitigating risks early in the design phase reduces the chances of late-stage redesigns and costly product failures.

"EMA3D Charge has an impressive array of capabilities," said EMC engineers at NASA Johnson Space Center. "For example, its ability to easily manipulate and mesh mechanical computer-aided design (CAD) models greatly simplifies the process of going from a structural model of the spacecraft to analytical results. We have also seen great value in its ability to perform charging analysis on spacecraft that are being charged by direct contact with lunar dusts whilst simultaneously being charged from exposure to space plasmas on or near the lunar surface."

While the technology within EMA3D Charge has been applied in the electronics and aerospace industry before, the solution is the first to be focused entirely on charging and discharging prediction. Leveraging [Ansys SpaceClaim](#) to create an intuitive user interface and workflow, EMA3D Charge combines CAD import, design and simplification, simulation setup and meshing, and result generalization and visualization into one solver technology.

"EMA3D Charge fills a need in a marketplace in which no other simulation product exists," said Shane Emswiler, senior vice president of products at Ansys. "Engineers simulating charging and discharging events once had to navigate multiple codes and challenging workflows that fell short of a full solution. EMA3D Charge is a full solution—one that provides high-fidelity analysis and an end-to-end workflow designed for efficiency."

[Discover Ansys EMA3D Charge here.](#)

### **/ About Ansys**

If you've ever seen a rocket launch, flown on an airplane, driven a car, used a computer, touched a mobile device, crossed a bridge or put on wearable technology, chances are you've used a product where Ansys software played a critical role in its creation. Ansys is the global leader in engineering simulation. Through our strategy of Pervasive Engineering Simulation, we help the world's most innovative companies deliver radically better products to their customers. By offering the best and broadest portfolio of engineering simulation software, we help them solve the most complex design challenges and create products limited only by imagination. Founded in 1970, Ansys is headquartered south of Pittsburgh, Pennsylvania, U.S.A. Visit [www.ansys.com](http://www.ansys.com) for more information.

Ansys and any and all ANSYS, Inc. brand, product, service and feature names, logos and slogans are registered trademarks or trademarks of ANSYS, Inc. or its subsidiaries in the United States or other countries. All other brand, product, service and feature names or trademarks are the property of their respective owners.

ANSS-T

### **/ Contacts**

Media    Mary Kate Joyce  
724.820.4368  
[marykate.joyce@ansys.com](mailto:marykate.joyce@ansys.com)

Investors Kelsey DeBriyn  
724.820.3927  
[kelsey.debriyn@ansys.com](mailto:kelsey.debriyn@ansys.com)

ansys\_\_inc\_\_logo

 View original content to download multimedia: <https://www.prnewswire.com/news-releases/ansys-and-electro-magnetic-applications-inc-launch-ema3d-charge-to-improve-design-and-safety-of-electronic-components-301405686.html>

SOURCE Ansys