# NEWS RELEASE

## ANSYS 19.2 DELIVERS FASTER PROBLEM-SOLVING CAPABILITIES ACROSS THE ENTIRE PORTFOLIO

*The latest generation of Pervasive Engineering Simulation solutions spurs productivity, efficiency and accuracy for every application*

**Paris, September 26, 2018 –** From innovative fluids meshing technology to improved workflows for safety analysis to an innovative system coupling engine, the newly released ANSYS® 19.2 enables customers to solve their most difficult product development challenges faster than ever.

With product lifecycles continuing to shrink and trends in additive manufacturing, autonomous vehicles, electrification and 5G connectivity rapidly evolving, the pressure for companies to deliver innovative products is at an all-time high. This latest release of ANSYS (NASDAQ: ANSS) Pervasive Engineering Simulation solutions empowers more users to accelerate the design process with its new single window, efficient workflows and patent-pending advanced meshing technology for computational fluid dynamics (CFD). Users will greatly benefit from new processes for developing embedded software for safety-critical applications, dramatic computational speed and user experience improvements for solving automotive radar scenarios, digital twins, 3D design exploration and structural modeling.

“Our customers are faced with unrelenting pressure to reduce costs, improve quality and lower cycle times all while producing faster, smarter and more innovative products,” said Shane Emswiler, vice president and general manager for ANSYS electronics, fluids and mechanical business units. “ANSYS 19.2 delivers product enhancements across our industry-leading portfolio, enabling more companies to remove design barriers and bring their innovative products to market faster than ever without sacrificing quality.”

Highlights of the 19.2 release include:

**Accelerate CFD Models Faster and with More Accuracy.** In the fluids suite, ANSYS 19.2 delivers new features to accelerate CFD simulations to boost productivity. The task-based workflow for watertight geometries supports patent-pending Mosaic meshing technology – empowering more engineers to get accurate results faster and with less training. ANSYS® Fluent® meshing now includes a fully automated, patent-pending technology that delivers higher quality results at faster speeds. This Mosaic technology automatically combines a variety of boundary layer meshes using high-quality polyhedral meshes for accurate flow resolution for fewer, better quality cells and delivers solutions 2x faster.

"FLUENT Meshing in 19.2 has been extremely beneficial to us in terms of turnaround times compared to the previous versions, especially in handling large complex geometries,” said Vidyanand Kesti, CFD specialist at

Mann and Hummel. “The resulting mesh also meets and exceeds our quality requirements in every aspect. All of these put together has greatly improved our productivity, while reducing manual efforts required."

**Increased Speed and Performance for Multiphysics Designs.** ANSYS 19.2 introduces System Coupling 2.0 for multiphysics simulation. System Coupling 2.0 offers improved and consistent performance for any scenario and is fully validated against the original version of the engine. Users can take advantage of the high-performance computing (HPC) resources for multiphysics simulations and quickly map data. Also available in 19.2 is improved text-driven workflows. Users will benefit from refined text-driven workflows that will make it easier to start and restart coupled fluid structure interaction analysis and leverage HPC clusters.

**Expanded Capabilities to perform Functional Safety Analysis for Automotive Semiconductors.** Engineers will benefit from the new functionality to improve workflow and speed up the development process for semiconductor manufacturers, specifically those used in the automotive and autonomous vehicle industries with dedicated ISO 26262 support to meet safety regulations, through the newly released medini analyze for semiconductors solutions.

“Through the use of task lists and libraries, medini analyze has helped Allegro improve the quality and standardization of safety analysis across business units, while at the same time increasing efficiency through re-use,” said Paul Amons, functional safety manager, Allegro MicroSystems. “We are currently working with a key customer to utilize the new features in ANSYS 19.2 to export analysis adapted to the system level. This is more efficient for the customer and protects our detailed intellectual property.”

**Expanded systems simulation capabilities for autonomous and electric vehicles.** The ANSYS systems suite has new features and functionalities that are essential for the development of digital twins, autonomous and electric vehicles.

New capabilities in make it easier and faster to build, validate and deploy digital twins. Now users can visualize 3D fields of static ROMs and view simulation results, like velocity and flow rate, on the 3D geometry.

With the recent acquisition of OPTIS, ANSYS is introducing ANSYS VRXPERIENCE. This new solution takes predictive validation of vehicle systems to the next level – meeting any virtual reality simulation and validation need for autonomous vehicle simulation, including complex systems such as intelligent headlamps, interior and exterior lighting, autonomous vehicles controls and HMI validation. VRXPERIENCE also enables users to fully and realistically simulate autonomous vehicles using real-world conditions, including various weather and road conditions, oncoming vehicles, pedestrian scenarios and anticipating the vehicle’s reaction to any critical situation.

**Ease of Use and Enhancements for Embedded Software Designs.** In the embedded software suite, new powerful capabilities will make it easier and faster for engineers to design their embedded system architecture and develop and verify safety-critical embedded code. ANSYS® SCADE Suite® has improvements to both the design verifier and the Simulink® importer. ANSYS® SCADE LifeCycle® now offers Jama from Jama Software

to ANSYS' supported requirements manageability tools. Now, users can export SCADE artifacts as surrogate models in Jama, enabling bidirectional generation of matrices.

**Physics Simulation capabilities expanded to Optics and Optoelectronics.** ANSYS 19.2 also introduces a new product bundle, ANSYS SPEOS, a complete solution for designing and simulating illumination, interior and exterior lighting, cameras and LiDARs and optical performance. ANSYS SPEOS helps users design optical systems faster than ever. Now, designers can uniquely simulate optical performance within a system and evaluate and test the final illumination effect. These unparalleled capabilities empower designers to perfect their optical product performance while simultaneously reducing development time and costs.

**Enhanced Design Exploration for Faster Insight.** In the 3D design suite, designers can confidently explore more concepts faster than ever before. The Discovery family of products has been enhanced to simplify and streamline 3D simulation. ANSYS® Discovery Live™ now includes a parameter studies capability, scripting and customization features – empowering users to make complex design changes easier. The parameter studies empower designers to test new ideas with minimal setup and run time, learn more about simulation results and better understand the trends and trade-offs between design goals. Enhancements to ANSYS® Discovery™ AIM® include improved physics-aware meshing that will empower designers to make critical, upfront design choices faster.

**More Simulation Options for Design Optimization.** ANSYS 19.2 delivers advanced capabilities in the structural suite. New enhanced inverse analysis, material designer and topology optimization developments give engineers more simulation options than ever before. New hot to cold, or inverse, analysis enables engineers to calculate the cold, or unloaded, the shape of a component to achieve the desired hot shape and performance during operation. The new material designer feature can create detailed models of sample materials and then calculate equivalent properties for use in larger scale simulations, providing an efficient way of incorporating complex materials without the overhead. ANSYS19.2 additive solutions provide improved robustness for both ANSYS® Additive Print™ and ANSYS Workbench Additive. Additive Suite now includes physics-driven lattice optimization. In topology optimization, ANSYS 19.2 has additional loading options; manufacturing constraints that are ideal for additive manufacturing; and a unique lattice optimization capability.

"Topology optimization and additive manufacturing are critically important in reducing weight while maintaining structural integrity for our clients like Vins Motorcycles," said Davide Mavillonio, technical manager, Asotech. "The advances in ANSYS 19.2 will streamline this process even further to enable our clients to solve their toughest product development challenges."

**Easy, Fast Simulation for Electronics Design.** Engineers will greatly benefit from the new analysis capabilities in the electromagnetic suite. New advancements in multi-channel radar system simulation include lightweight geometry modeler that enables rapid meshing and efficient actor movement in pulse-by-pulse road scene simulation resulting in 20x faster processing than the previous release. ANSYS® Icepak® adds the ability to compute thermal impact from multiple electromagnetic loss connections. A new stackup wizard has been added to ANSYS® SIwave™ that allows for easy definition and exploration of printed circuit board (PCB) stackup layers and impedances to evaluate PCB design performance.

**About ANSYS, Inc.**

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 for more information.

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