ANSYS Announces Winners Of 2020 Hall Of Fame Competition

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Corporations and universities use ANSYS simulation solutions to save lives, time and money

PITTSBURGH, Jan. 23, 2020 /PRNewswire/ -- The winning entries of the annual ANSYS (NASDAQ: ANSS) Hall of Fame competition showcase how engineers are using ANSYS' cutting-edge simulation solutions to solve critical engineering challenges, ranging from detecting unexploded land mines to simulating the human heart.

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The contest grew significantly in 2020, with a 21% increase in total submissions compared to 2019. The submissions, which were sent from nearly 20 countries, were divided into two categories — corporate and academic:

Corporate winners:

- Astec, Inc. engineers identified an opportunity to optimize an asphalt drying process in which the phase change of liquid to gas can consume half the energy input. By developing software to capture the mass transfer between aggregate particles and using ANSYS to solve exchanges between the fluid phase, the team designed a more efficient dryer that lowers running costs and reduces emissions.
- Druids Process Technology S.L. developed an electromagnetic detector to sense internal cavities that can block production in high temperature copper. Engineers used ANSYS to check the coil configuration and induce currents, monitor the detector's behavior at extreme heat and determine whether thermal and pressure effects could damage the coil shield.
- NUM solution created its own flutter tool for automatic blade flutter prediction with ANSYS, leading to a 60% reduction in simulation time and a 95% reduction in pre- and post-processing time. The solution is being used to accelerate the development of a flutter-free blade, which will reduce blade loss and damage in large-scale turbomachinery.

Academic winners:

- King Abdullah University of Science and Technology used ANSYS to detect unexploded landmines — a massive problem in some countries — that cannot be detected with conventional radar. Researchers obtained the radar cross section of a 330-milliliter plastic bottle filled with dielectric materials to mimic explosives and applied machine learning techniques for better landmine detection.
- Politecnico di Milano simulated an artificial ventricle to develop a computational model that accurately reproduces the hemodynamics inside the left chamber of an artificial heart. The results from fluid–structure interaction simulations led to realistic kinematics of the valve leaflets and membrane.
- University of Rome Tor Vergata engineers used ANSYS to perform cardiovascular simulation with moving walls and applied it to the fluid–structure interaction analysis of a custom valve coupled with patient data. They developed a high-fidelity, fast and accurate way to bring simulation into the clinic.

"Year after year, we are blown away by how engineers leverage ANSYS solutions," said Matt Zack, vice president of corporate development and global partnerships at ANSYS. "The entries we receive offer a glimpse into the revolutionary products and solutions our customers are building. As a simulation provider, there's nothing more exciting or validating than knowing that our products play a critical role in ushering in the future."

View the ANSYS Hall of Fame Archive for submissions from previous years' competitions.

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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