

Press release
Paris, October 14, 2020



ESI Group won the COVID-19 prize of “L’Usine Digitale Simulation and AI Awards”

Yesterday, October 13th, ESI Group, a world player in Virtual Prototyping software and services for industries, was awarded the COVID-19 prize of the 2020 Simulation and Artificial Intelligence Award by “L’Usine Digitale” for its project aiming to prevent office and plant contamination. The ceremony took place during the 15th annual TERATEC Forum that gathers the best international experts in Simulation, HPC, Big Data and Artificial Intelligence; a flagship event that confirms the importance of these technologies for business competitiveness.

The world has been dealing with COVID-19 for several months now. While normalcy seems like a distant possibility, many people from various industries must go back to work, for the economic health of our society. All companies have been mandated to take great precautions and follow all safety measures needed to control and prevent the virus from spreading. ESI took initiative to validate the precautions using state-of-the-art computer modeling in order to contribute to the health of people at work.

ESI Group decided to study the circulation of the virus in the workplace and investigate different contamination scenarios. The goal: to rely on its historical background in materials physics and the talent of its engineers to help preventing the risk of contamination in workplace whether offices or assembly lines.

The spread of particles was simulated, but also pockets of stagnant air were traced out, especially when modeling bigger and/or poorly ventilated spaces. Based on the cough of a person, neighbor or entrant, the simulation considers the density of water vapor and the theoretical distribution of cough particles.

Three technologies were used:

1. Computational Fluid Dynamics to simulate the behavior of flow and cough particles
2. Virtual reality to visualize the scenario in 3D
3. HPC to speed up simulation rendering times

The results highlighted the importance of identifying dead zones (places with air pockets preventing air circulation) not only to adapt the air conditioning and ventilation within the premises but also to optimize seating arrangements. With these scenarios simulated by ESI's experts, questions raised by industries can be answered paving the way for a safe return to offices and industrial facilities.

"The pandemic appears to be a long-term scenario, so the adoption of a new standard is inevitable, and we are convinced that these studies will greatly contribute to this. These simulations are already used by industrial players, particularly in Asia, and plenty of questions are finally being addressed, specifically in terms of space optimization, air-conditioning/ventilation and social distancing. This award recognizes the work, ideas and commitment of our teams to adapt our solutions to specific situations and be responsible citizens of a safe society.", commented Anshul Gupta, COO at ESI India Business Operations on behalf of teams spanning across India, UK and Germany who are leading this project.

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About ESI

Founded in 1973, ESI Group is a leading innovator in Virtual Prototyping solutions and a global enabler of industrial transformation. Thanks to the company's unique know-how in the physics of materials, it has developed and refined, over the last 45 years, advanced simulation capabilities. Having identified gaps in the traditional approach to Product Lifecycle Management (PLM), ESI has introduced a holistic methodology centered on industrial productivity and product performance throughout its entire lifecycle, i.e. Product Performance Lifecycle™, from engineering to manufacturing and in operation. Present in more than 20 countries, and in major industrial sectors, ESI employs 1200 high level specialists. In 2019, its turnover was 146M€. ESI is headquartered in France and is listed on compartment B of Euronext Paris. For further information, go to www.esi-group.com.

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