



ESI Releases PAM-COMPOSITES 2017 to Facilitate Composite Material Manufacturing

Supporting suppliers of automotive and aircraft interiors

Paris, France – October 17, 2017 – [ESI Group](#), leading innovator in [Virtual Prototyping](#) software and services for manufacturing industries, announces the release of [ESI PAM-COMPOSITES 2017](#). The latest version of this leading process simulation software for manufacture of composites, addresses fiber reinforced structural and semi-structural components and multi-material thermoformed acoustic and cosmetic interior parts and trim for vehicles and aircraft.

Process and design engineers, be they in the automotive or aeronautic sectors, must create lightweight, strong and durable composite components that will meet all quality requirements at an affordable cost. With [PAM-COMPOSITES 2017](#), they can create a simulated part that matches the exact nature of the composite material, improve process stability, and reduce manufacturing defects for a vast range of composites types and manufacturing processes.

While past improvements to the software focused on continuous fiber reinforced composite parts with high structural performance expectations, PAM-COMPOSITES 2017 targets the thermoformed acoustic and cosmetic multi-material components typically used in automobile and aircraft interiors. This new version gives users the ability to accurately determine the noise and vibration response (NVH or Noise, Vibration & Harshness) of the manufactured product by predicting the stiffness and thickness in each location of the formed part. Typical defects, such as tearing and skin texture modifications induced during manufacturing, can also be anticipated and corrected through simulation. This cost-effective solution enables process and design engineers to evaluate the manufacturing of composite parts even more accurately and to reduce time consuming and expensive physical trials.



Image: Comparison between simulated grid with ESI PAM-COMPOSITES (left) and physical grid (right) on a synthetic automotive floor carpet

Consequent to evolving automotive regulations, there has been an evolution in materials used in car interiors. Recently, Japanese floor carpet manufacturer [Kotobukiya Fronte](#) needed to quickly move from manufacturing rubber carpets to new synthetic materials carpets; a challenge they addressed quickly thanks to PAM-COMPOSITES. **Takumi Fujino**, Acoustic & Simulation Group / R&D Department Kotobukiya Fronte Co., Ltd states: *“ESI PAM-COMPOSITES is equipped with the features and parameters necessary for carpet analysis. The analysis accuracy and the usability are excellent, and graphical display of analysis results is easy to understand, which is why we rate it highly. We consult with ESI daily about various matters such as how to reduce calculation time or what kind of modeling is necessary. ESI Japan is also actively and frequently providing information. We recognize that the early practical application of simulation of sound absorption type carpet is largely owed to support from ESI Japan.”*

Also new in PAM-COMPOSITES 2017, the solution now includes a grid tracing tool that allows engineers to analyze the length variation on each segment of the grid as they would do on physical prototypes. Moreover, the new element elimination functionality allows the visualization of physical holes or fiber separations generated during the thermoforming of composite products. PAM-COMPOSITES 2017 is dedicated to supporting automotive and aircraft interior designers and process engineers who, thanks to its process-oriented graphical interface, no longer need to be experts in finite element analysis.

For more information about ESI PAM-COMPOSITES, please visit www.esi-group.com/COMPOSITES



Watch the webinar about this latest release, by Mathilde Chabin, ESI Composites Product Marketing: www.esi-group.com/resources/webinar/pam-composites-20170-whats-new-composite-manufacturing-simulation

Follow ESI Composite Simulation showcase page on LinkedIn for continuous news on composite modeling: www.linkedin.com/company/esi-composite-simulation

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About ESI Group

ESI Group is a leading innovator in [Virtual Prototyping](#) software and services. Specialist in material physics, ESI has developed a unique proficiency in helping industrial manufacturers replace physical prototypes by virtual prototypes, allowing them to virtually manufacture, assemble, test and pre-certify their future products. Coupled with the latest technologies, Virtual Prototyping is now anchored in the wider concept of the *Product Performance Lifecycle™*, which addresses the operational performance of a product during its entire lifecycle, from launch to disposal. The creation of a *Hybrid Twin™*, leveraging simulation, physics and data analytics, enables manufacturers to deliver smarter and connected products, to predict product performance and to anticipate maintenance needs.

ESI is a French company listed in compartment B of NYSE Euronext Paris. Present in more than 40 countries, and addressing every major industrial sector, [ESI Group](#) employs about 1200 high-level specialists around the world and reported annual sales of €141 million in 2016. For more information, please visit www.esi-group.com.

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