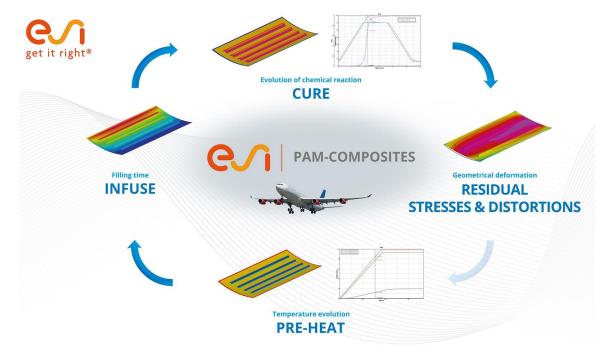# ESI Launches PAM-COMPOSITES 2016

Complete Simulation Solution to Perfect Composite Material Manufacturing at Every Stage

Paris, France – 4 October, 2016 – ESI Group, leading innovator in Virtual Prototyping software and services for manufacturing industries, announces the release of its PAM-COMPOSITES 2016 software solution to provide process and design engineers with its full suite of modules to predict, analyze and correct manufacturing defects of composite structural components across the complete manufacturing chain.

The cost-effective solution combines the existing modules of ESI Group with new, innovative enhancements that enable process and design engineers to precisely identify the origin of defects and manufacture composite parts with a higher degree of accuracy; reducing material waste and obsoleting the need for costly and time consuming trial and error approaches.

Image: Sample application: PAM-COMPOSITES can predict the entire manufacturing chain for developing a defect-free aeronautic composite fuselage panel.

Using the ESI PAM-COMPOSITES solution, process and design engineers can tailor simulations to the exact nature of the composite material and their unique shop floor environment to improve process stability and reduce manufacturing defects for a vast range of composites manufacturing processes. These include: draping, thermoforming, Liquid Composites Molding (LCM), Resin Transfer Molding (RTM), and curing , as well as two new robot draping processes: Automated Fiber Placement (AFP) and Automated Tape Layering (ATL).
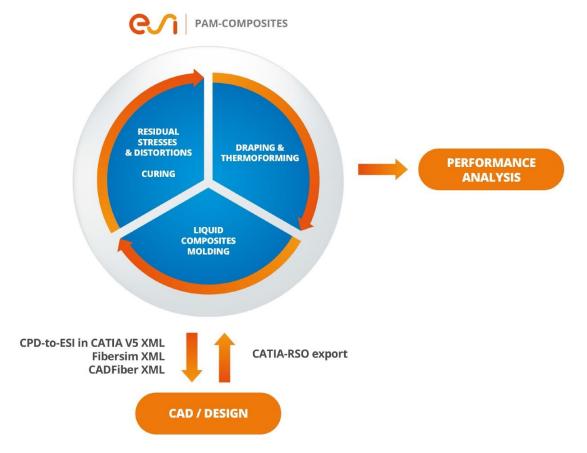
Jacinto Tortosa, CEO at FIDAMC — a Spanish company aiming to consolidate their leadership position in composite material technology — recognizes the contribution of numerical simulation to their success. He states that ESI PAM-COMPOSITES allows them to perform *"the analysis and optimization of each individual manufacturing operation"* so they can *"save cost and speed up project completion, substituting manufacturing trials by simulation "*.

In PAM-COMPOSITES 2016, the newly introduced Design of Experiments (DoE) functionality automatically analyzes variations in the composite material and manufacturing process parameters to allow process and design engineers to optimize key influencing parameters and improve process stability.

The new Die Spotting functionality allows process and design engineers to automatically morph existing tools to ensure a perfect contact with the part. This avoids the bridging effects often seen with thermoformed organo-sheet components where resin migration and lack of compaction leads to visible defects. It also allows engineers to avoid the incidence of areas with low fiber content or race tracking during resin injection or infusion.

PAM-COMPOSITES brings together the PAM-FORM, PAM-RTM and PAM-DISTORTION modules into one, competitively-priced bundle within a process-oriented Graphical User Interface to free specialist resources and allow all engineers to use this highly intuitive solution.

Image: ESI PAM-COMPOSITES enables the prediction, analysis and correction of manufacturing defects for composite structural components across the complete manufacturing chain. Manufacturing processes covered include draping, thermoforming, Liquid Composites Molding (LCM), Resin Transfer Molding (RTM), and curing.

For more information about ESI PAM-COMPOSITES, please visit www.esi-group.com/COMPOSITES or contact your nearest ESI office.

Join ESI's customer portal myESI to get continuously updated product information, tips & tricks, view the online training schedule and access selected software downloads: https://myesi.esi-group.com

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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 virtually replicating the fabrication, assembly and testing of products in different environments. Today, coupled with Virtual Reality, animated by systems models, and benefiting from data analytics, Virtual Prototyping becomes immersive and interactive: ESI's clients can bring their products to life, ensuring reliable performance, serviceability and maintainability. ESI solutions help world-leading OEM's and innovative companies make sure that their products will pass certification tests - before any physical prototype is built - and that new products are competitive in their market space. Virtual Prototyping addresses the emerging need for products to be smart and autonomous and supports industrial manufacturers in their digital transformation.

Today, ESI's customer base spans nearly every industry sector. The company employs about 1100 high-level specialists worldwide to address the needs of customers in more than 40 countries. For more information, please visit www.esi-group.com/

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