ESI Virtual Manufacturing Solutions Support the Digital Transformation of SMEs

Thanks to the French government-sponsored SIMSEO initiative, small businesses can benefit from simulation software investment

Paris, France – October 31, 2018 – ESI Group, leading innovator in Virtual Prototyping software and services for manufacturing industries, announces its participation in SIMSEO, an initiative aimed at democratizing the use of CAD/ CAE solutions and to support the digital transformation of smaller businesses. Several of ESI's software solutions, specifically in the field of Virtual Manufacturing, have been granted the SIMSEO label, highlighting their ability to support Small- and Medium- Enterprises (SMEs) as they seek to leverage digital tools to increase their competitiveness.

At a time of globalization and digitization, SMEs try to stay in the race for innovation, despite their limited resources. Entering emerging markets or implementing new production methods can be tough as the associated risk is often too high. However, smaller companies ─ and even start-ups ─ have succeeded in making a shift towards numerical simulation: Expliseat and Gazelle Tech are two great examples of SMEs who managed to develop highly innovative products faster and at lower cost using ESI's solutions. *"Simulation helps decreasing the financial risk associated with innovation, but SMEs need support to implement it. That's precisely the objective of the SIMSEO program,"* says **Karim Azoum**, SIMSEO Program Coordinator.

SIMSEO, a government-sponsored initiative carried out by the French association for numerical simulation, Teratec, has been running roadshows across the country since 2016. They visit local SMEs to offer innovative solutions that deliver a cost-effective alternative to traditional trial and error testing. The scheme offers to fund up to 50% of simulation software investment, with a maximum contribution of SIMSEO up to 10,000 Euros. Local businesses can select software solutions from the SIMSEO catalogue, in which tools have been carefully chosen to address recurrent challenges of the manufacturing and building industries. The SIMSEO label has been granted to ESI solutions in the following manufacturing fields: casting, stamping, welding, assembly heat treatment, composites and plastics. Amongst the industry leaders using the above ESI solutions we find Renault, ArcelorMittal, Framatome and Safran; all compelling references for SMEs.

ESI's solutions for Manufacturing come as flexible packages, including the appropriate training and support to allow smaller businesses to rapidly implement innovative technologies and reap the benefits of digitization in terms of production quality and volume.

In their catalogue, SIMSEO is promoting, for instance, ESI's simulation solutions for metal fabrication, enabling manufacturers to maximize product quality and reduce scrap rates by getting

the parts cast right the first time. ESI casting solution provides the ability to virtually test an extensive range of casting processes, from High Pressure Die Casting to sand casting or investment casting and delivers quick answers to all technical problems that cause casting defects.

Another one of the solutions selected, ESI's die face design and sheet metal forming solution supports the design, quotation and set-up of efficient sheet metal stamping processes for all industries from automotive to heavy industries.

ESI's welding, assembly and heat treatment solution also made its entry in the catalogue. A reference in the energy sector in France, this software offers a unique computer-aided assessment of mechanical, thermal, metallurgical and chemical phenomena encountered in welding, assembly and heat treatment processes.

Another solution that is part of the SIMSEO catalogue, ESI's simulation suite for composite materials brings virtual manufacturing of composite parts and enables defects to be anticipated early in product development cycle, when it's easier to correct and fine-tune the manufacturing process. Manufacturers are able to analyze and optimize individual manufacturing operations and to link those by transferring material history and parameters history (thickness, temperature…) from one operation to the next. This helps to minimize manufacturing defects, insure reproducibility, and decrease development costs.

Image: Thermoformed automotive gearbox simulated with ESI's composites manufacturing simulation solution, (left) and real part (right). Image courtesy of ARRK Shapers.

The last solution commercialized by ESI in France, and part of the SIMSEO catalogue, is 3D Timon, a Japanese software, developed by Toray Engineering, that enables the virtual manufacturing of plastic parts. 3D TIMON is used by companies of all sizes to address manufacturing challenges of a wide range of processes including Plastic Injection Molding, Sheet Molding Compound (SMC), Bulk Molding Compound (BMC) and Thermo-compression of thermoplastic materials.

To learn more about SMEs across the world succeeding in the implementation of virtual manufacturing solutions across the world, please click on the below links:
Pôle Plasturgie de l'Est (France)
Wall Colmonoy (UK)
FAR (Italy)
Patriot Foundry (USA)

To access the full catalogue of solutions sponsored by SIMSEO, please click here

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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 €135 million in 2017. For more information, please visit www.esi-group.com.

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