Press release

Paris, January 7th, 2020

Farasis Energy Breaks Through the Electric Vehicle Market Thanks to ESI's Virtual Prototyping

ESI Group, leading innovator in Virtual Prototyping software and services for manufacturing industries, helped Farasis Energy, a Chinese-American battery provider, win in record-breaking time, a call for tenders made by a premium German automotive OEM. Thanks to ESI's expertise, the reliability of the virtual prototype of the new Farasis battery model was decisive in a "zero real prototype" procedure, stipulating the elimination of any physical prototype.

The move of the automotive industry toward electrification is seemingly unstoppable. Manufacturers are announcing aggressive plans for Electric Vehicle (EV) production, and the International Energy Agency says the number of EVs will grow from 3 to 125 million by 2030. So, it's no wonder that new players are entering the market, breaking the traditional rules of product design – new players like lithium-ion battery maker Farasis Energy. Looking to collect wins in this fast-growing market, the team at Farasis relied on ESI's expertise to prove to a major German car maker that they were the best supplier – based solely on a virtual prototype. This collaboration around ESI's Virtual Performance Solution (VPS) allowed to virtualize and secure the behavior of the battery in vibration or vehicle crash situations.

Dr. Matt Klein, Advanced R&D Director at Farasis Energy, emphasized the key role ESI played in this project: "*Half-way through the bidding process, the manufacturer actually decided to remove the physical prototype step – they would make their decision based on the virtual prototype. In just 8 months, we went from limited Virtual Prototyping capability to winning those bids. The head of the whole program conducting the bidding process went out of his way to tell us that the mechanical simulation was an instrumental part in helping us get the design approved. We could not have done that without ESI. Our partnership with ESI is truly strategic in bringing our simulation capabilities to a global leading standard*."

Two fundamental elements differentiated ESI's VPS in this project:

- The reliability of the results, eliminating the need for a real prototype verification, as a result of the consideration of complex physical phenomenon inside the battery.
- The integration level of different virtual vibration and crash tests in one solution, allowing iteration loops and quick decisions.

Farasis relied on ESI's proven knowledge of the automotive industry and ability to provide real results, virtually, thanks to virtual prototyping. The capability to build a global model, covering several engineering disciplines, led to a highly efficient workflow and ultimately a cost-effective solution for Farasis.

Since their win, Farasis has opened a new factory on-site in Germany, dedicated to the research & development of their batteries for the German car maker. ESI is now putting in place a platform for Farasis' international team of simulation engineers, one that is fully automated and customized to their way of working. Thanks to this Platform, the Farasis team will work together – regardless of what continent they are on – with great efficiency and transparency, on common Virtual Prototyping models. And what began as a bi-lateral partnership has quickly evolved into an ecosystem comprised of three major players – Farasis, ESI Group, and the automotive manufacturer – all hungry to tap into the EV market.

About Farasis

Farasis Energy, Inc. created in California in 2002 is a company specialized in the conception and distribution of batteries. Present in China (headquarters), in the Silicon Valley (R&D center), and in Europe, the Group is one of the world leaders in his sector. Farasis' ambition is to position itself as a pivot to better meet the challenges of its industrial clients: saving time to market and the costs of production while maintaining a high level of reliability and safety.

ESI and Farasis will jointly showcase their expertise and partnership at the CES 2020 in Las Vegas. Meet them in ESI Booth: LVCC, Automotive Section - North Hall, booth #9020

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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 €139 million in 2018. For more information, please visit www.esi-group.com.

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