

Press release

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Bentley and ESI Group work together to refine the Flying Spur through a sustainable design process

ESI Group, a global player in virtual prototyping for industries, worked hand in hand with Bentley on the optimization of one of the world's finest four door sedans, the Flying Spur. Thanks to virtual prototyping, teams have been able to eliminate noise, vibration and harshness (NVH) and reduce physical parts in the test phase.

Advanced virtual design processes have been used in the testing and production cycles of the third Flying Spur generation. Thanks to ESI's virtual prototyping, a weight optimization program for the Flying Spur could be undertaken on 40 different components. The finely tuned process enabled acoustic tests for any airborne sounds filtering into the cabin to be completed, as well as any impact from the structure itself, such as tire noise. This ensured the correct soundproofing materials were deployed in the right locations around the vehicle, so passengers can enjoy the quietest cabin experience possible. These cutting-edge techniques are ultimately more sustainable, dramatically reducing the need to manufacture physical parts.

"By using Virtual Prototyping, Bentley succeeded in what we set out to do –optimize every component of the Flying Spur firstly in the virtual world before we create physical parts. At the same time, we have reduced physical prototypes, creating the quietest in-cabin experience for our customers. Virtual Prototyping means fewer prototypes have to be built, and we reduce our testing mileage. It also helps influence the design and engineering of the car at an early stage and affords significant benefits in the extensive testing phase", explained Simon Noble, Acoustic Engineer at Bentley Motors.

"ESI Group used their expertise in the challenging job of pinpointing unwanted cabin noise, relying on Virtual Prototyping, allowing Flying Spur designers to use digital mock-ups that helped identify NVH before building a physical version of the car. The virtual prototyping helped to reduce physical parts in the test phase and save time during the process. ESI Group's ambition is to boost human creativity to drive industrial performance to ever higher levels. We are proud to collaborate with Bentley on one of the best luxury sedans in the world!" said Jonas Fredriksson, Managing Director ESI Northern Europe.

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About ESI Group

Founded in 1973, ESI Group envisions a world where Industry can commit to bold outcomes, addressing high stakes concerns - environmental impact, safety & comfort for consumers and workers, adaptable and sustainable business models. ESI provides reliable and customized solutions anchored on predictive physics modeling and virtual prototyping expertise to allow industries to take the right decisions at the right time, while managing their complexity. Acting principally in automotive & land transportation, aerospace, defense & naval, energy and heavy industry, ESI is present in more than 20 countries, employs 1200 people around the world and reported 2020 sales of €132.6 million. 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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