

Press release

Paris, June 8<sup>th</sup>, 2021

## **Enabling a world premiere: 100% of the development of a vehicle done in virtual reality**

ESI Group, a global player in virtual prototyping for industries, participates in the successful development phase of the Nivus made by Volkswagen do Brazil: 100% digitally and virtually – a world premiere. The process began before the pandemic and was completed during the COVID-19 period, applying all the sanitary measures in place. Thanks to Virtual Prototyping/Digital Development (a change in product development), time was shortened in about 10 months and saved a few million euros in prototype production costs: **Would it be a shift in the industry?**

### **Making the right decision, quickly and 100% digitally**

Usually, when a new vehicle is developed, time and physical prototypes are required both during the design and assembly preparation phases. In the case of the Nivus, launched in a live broadcast by Volkswagen do Brazil in June 2020 to around 60 countries, the [whole conception of the vehicle was made 100% virtually](#). The state-of-the-art solution provided by ESI Group, based on its software [IC.IDO](#) was one of the tools used to design reviews and engineering decisions in different departments (product development, operations, quality, etc). This allowed Volkswagen to make informed decisions regarding the car's conception. It provided the automotive company with the opportunity to save time (shortened the car's development in about 10 months) and investment (for example, only in the Virtual Prototype Laboratory there was a 65% reduction of costs compared to previous projects).

Virtual reality also conserves tons of paper, in which specifications for each part of a car were previously detailed.

Long before Nivus physically existed, the vehicle was already available digitally in the engineering computers. Considering that building a physical prototype takes 19 weeks, in which only a single vehicle variant is possible. For this vehicle, nine virtual variants were produced, in much less time, which made it possible to anticipate more efficient assembly procedures, reducing the number of processes in the simulations and avoiding errors, since all parts were previously tested with digital tools.

*"We designed 100% of the Nivus with digital processes using, among others, ESI's technology without the need to assemble a single physical prototype. In addition, with the drastic reduction of the development time, this solution helps us to integrate all our different teams, from various department (design, engineering, marketing, production, etc) in the same decision-making process. It was a more efficient but also more collaborative process."* explains Francisvaldo Gomes Aires, Prototyping Development Manager at Volkswagen do Brazil.

### **Virtual reality: A huge benefit during COVID-19**

ESI demonstrated that even when the design phase is impacted, in this case by COVID-19, it is possible to continue with the project, since it is no longer a question of relying solely on physical reality. This opens up the possibility of experiencing the future with digitalization and technology for the project benefit.

*"It's a shift in the industrial production. For the first time, all phases of a car release, before the effective production, has been fully made virtually making the production feasible during Covid-19 time. While allowing Volkswagen to take all its design and manufacturing decisions virtually, we helped them produce faster, cheaper and in a more sustainable way. This was possible due to a strong support of our local Brazilian team and a mutual collaboration between ESI Brazil and Volkswagen do Brazil. We*

*all feel proud to be part of this world-premiere alongside with Volkswagen and its partners.” declares Andreas Renner, Volkswagen Global Account Manager – ESI Group.*

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## About ESI Group

Founded in 1973, ESI Group is a leading innovator in Virtual Prototyping solutions and a global enabler of industrial transformation. Thanks to the company's unique know-how in the physics of materials, it has developed and refined, over the last 45 years, advanced simulation capabilities. Having identified gaps in the traditional approach to Product Lifecycle Management (PLM), ESI has introduced a holistic methodology centered on industrial productivity and product performance throughout its entire lifecycle, i.e. Product Performance Lifecycle™, from engineering to manufacturing and in operation. Present in more than 20 countries, and in major industrial sectors, ESI employs 1200 high level specialists 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](http://www.esi-group.com).

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