

## ESI Customer Hwaseung R&A Manages Product Reliability while Cutting Development Time and Costs

### The Korean automotive supplier leverages the power of ESI's Virtual Prototyping platform

Paris, France – March 13, 2018 – [ESI Group](#), leading innovator in [Virtual Prototyping](#) software and services for manufacturing industries, announces the successful application of virtual prototyping by Hwaseung R&A, Korean automotive supplier specialized in high & low pressure hoses and weather strips. Using the automation of trunk joint simulation processes in [ESI Visual-Environment](#), the equipment manufacturer was able to correct seals defects and improve their design, while reducing development time and costs.

Hwaseung R&A, a company supplying automotive and other industrial rubber parts, faced a trunk seals issue that needed to be corrected, as it became deformed or distorted at the corners after assembly. The function of a trunk seal is to absorb vibrations and to close the gap between the vehicle body and trunk assembly. When the seal has an irregular shape the pressure on trunk panels is non-uniform, which degrades their ability to control of noise and water leakage can result in failure of trunk panels.

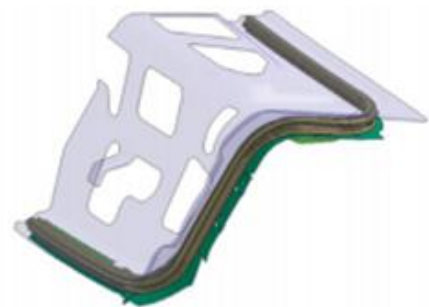


Image: Simulation of a vehicle door seal installation with ESI Visual-Environment

Hwaseung R&A's engineers looked to simulation to address their design problems and wanted a fully automatic model creation process. Their research led them to [ESI's Virtual Prototyping solutions and specifically ESI Visual-Environment](#), a platform for Computer Aided Engineering (CAE) and simulation process automation. Working with ESI, the Hwaseung team was able to build an automated process that reduced model creation time and facilitated performance evaluation. The process they developed uses Computer-Aided Design (CAD) geometry, product design and modelling parameters to build ready-to-run 3D models automatically. Using this process, the Korean company was able to set up parametric studies that allowed them to quickly experiment with different positioning methodologies for thread and ribbed shapes, as well as other sectional shapes.



Thanks to the solution built on ESI's Visual platform, Hwaseung R&A engineers are now able to virtually simulate the assembly of the trunk seal and evaluate its performance without using real prototypes. **Chang-Soo Lee**, Deputy Manager at HWASEUNG R&A Corporation, stated *"The custom-tailored process automation built in ESI Visual-Environment made trunk seal assembly simulation possible. We are now able to analyze the contribution of steel insert design changes using a trunk seal assembly process simulation. The solution we have built using ESI Visual-Environment is fully implemented in our production process and is used as the main tool to decide of design parameters at the initial stage and also for solving problematic issues in production."*

Not only was Hwaseung R&A able to correct the trunk seal defects and reduce their development time and costs, but the process automation in Visual-Environment was so successful that it is now implemented as a standard in their design process for trunk and body seals. Today, they are also using the solution to assist building models of trunk and door closing.

For more information about ESI and Hwaseung R&A, please visit [www.hsrna.co.kr/hsrnaen/](http://www.hsrna.co.kr/hsrnaen/)

For more information about ESI Visual-Environment: [www.esi-group.com/visual-environment](http://www.esi-group.com/visual-environment)

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[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.

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