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ESI is the pioneer and world-leading solution provider in virtual prototyping.

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ESI will speak at the 6th International Styrian Noise, Vibration and Harshness Congress in Graz, Austria

The presentation will cover the driving parameters for sound power radiation from beaded panels

The International Styrian Noise, Vibration and Harshness (ISNVH) Congress is the annual European Automotive Noise Conference for [Noise, Vibration and Harshness](#) (NVH) experts to discuss the possibilities and existing achievements in vehicle NVH. Organized by the Virtual Vehicle Research and Test Center in cooperation with AVL, MAGNA STEYR and the American Society of Automotive Engineers (SAE), the [6th ISNVH Congress](#) will be held June 9-11, 2010 at the University of Technology in Graz, Austria.

[ISNVH-2010](#) will focus on highly up-to-date topics for car manufacturers, suppliers and customers currently experiencing a tense economic situation. [NVH](#) engineers today are facing the challenge of designing lightweight vehicles with acceptable noise and vibration characteristics. In the context of the growing importance of hybrid and electric vehicles, car manufacturers require advanced experimental and simulation applications to evaluate and minimize the resulting [NVH](#) early in the design process to benefit from novel materials and arrangements.



ESI will contribute to the congress theme – Sustainable NVH solutions inspired by ecology and economy – by giving a talk on ***'The Effect of Beading on Radiated Noise'***. The paper will be presented by **Denis Blanchet**, [ESI's Vibro-Acoustics](#) Engineering Services Manager, on June 10 at 2:15 pm during the *'Light Weight Design Contra NVH'* session (2).

In the automotive industry there is widespread use of beading to stiffen floor and dash panels. The aim is to reduce vibration levels and simultaneously to reduce radiated noise. While beading has a positive effect close to the first panel mode's natural frequency, it can also have a negative effect at all other frequencies. For the sake of simplicity, or because of lack of available implemented formulation in their simulation tools, engineers typically assume a radiation efficiency of "1" (one) over the whole frequency range. This assumption leads to reducing the vibration levels only and can be misleading because the radiation efficiency tends to "1" (one) above coincident frequency but not below it. While increasing stiffness reduces vibration levels, it also increases radiation efficiency and can result in higher levels of radiated noise.

The presentation will compare vehicle panels with uniform cross-section and beaded panels in two different configurations:

- Academic frame and plate case
- Automotive floor

Mr. Blanchet will present vibration levels, radiation efficiency and sound radiated power for all cases. He will also compare different beading types and draw conclusions as to whether these beadings actually reduce radiated noise or not.

We invite delegates to find out more about [ESI's Noise, Vibration and Harshness](#) and [Vibro-Acoustic](#) solutions by visiting [ESI's](#) booth in the exhibition area.

For more immediate information, please visit:

www.esi-group.com/products/nvh-dynamics

www.esi-group.com/products/vibro-acoustics

For more ESI news, visit: <http://www.esi-group.com/newsroom>



About ESI Group

[ESI](#) is a pioneer and world-leading solution provider in virtual prototyping that takes into account the physics of materials. [ESI](#) has developed an extensive suite of coherent, industry-oriented applications to realistically simulate a product's behavior during testing, to fine-tune manufacturing processes in accordance with desired product performance, and to evaluate the environment's impact on performance. [ESI](#)'s solutions fit into a single collaborative and open environment for End-to-End Virtual Prototyping, thus eliminating the need for physical prototypes during product development. The company employs over 750 high-level specialists worldwide covering more than 30 countries. [ESI Group](#) is listed in compartment C of NYSE Euronext Paris. For further information, visit www.esi-group.com.