NVH Root cause analysis with NVH Console

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This session addresses the area of reduced models and their use for the assessment of NVH behavior of complicated structures. Reduced modeling has been identified since many years as an efficient technique to master efficiently dynamic calculations on big structures which otherwise can be costly or even not feasible otherwise. The respective tools highlighted here, provide a robust and simplified procedure towards implementing reduced modeling, featuring the following sections:
- Streamlined assembly and modelling reduction
- Fast conducting numerous "what-if" studies
- Easy identification of root causes of poor NVH performance

Various configurations with multiple subcases can be built easily in a modular way also through the use of external xml files.
Numerous "what if" studies through modifying modal characteristics of components (modal damping, modal frequency, constraining modes) or by changing bushing properties can be conducted easily and in a simple way. Symmetrical treatment of entities and linking of bush connectors for bush sensitivity analyses is available. Root cause analysis is performed by means of Transfer Path Analysis, Mode Contribution, Energy Map, Grid Participations and System Modes participations. At any time and from within the same environment, the whole assembly can be output for Nastran SOL108 or Nastran SOL111 after various checks being performed real-time automatically assuring process robustness.