

## **THE ANSA / LS-DYNA APPROACH FOR ISOGEOMETRIC ANALYSIS SIMULATIONS**

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### **ABSTRACT**

Isogeometric Analysis (IGA), is maturing and becoming capable to be incorporated in industrial applications. Widely used in the automotive industry for crash analysis, LS-DYNA is the first commercial solver to provide IGA features. Highest accuracy and shorter run times make IGA effective for crash analysis. Nevertheless, the complexity of the current automotive models and the maturity of the already established methods and processes require the development of the respective IGA tools and processes to reach and exceed the current levels of effectiveness. The new technical challenges offer the opportunity for new solutions and improvements in engineering simulation technology.

BETA CAE Systems and LSTC have joined their efforts to develop all the required tools and workflows that will enable analysts to move to the IGA era. These tools, will allow for the creation and analysis of shell structures models consisting of single or multi patched trimmed surfaces, along with all the necessary functions to apply boundary, and initial conditions for crash load cases. In this presentation these developments are presented.