



HOW TO GET LIGHTWEIGHT ENGINEERING RIGHT.

Shift to VIRTUAL TESTING of Multi-Material Joining and Assembly Processes.

In pursuit of Mission Zero for carbon reduction, automakers aim for disruptive lightweight solutions to enhance electric vehicle range. However, the lack of experience in assembly and joining of mixed materials poses risks and challenges for the introduction of new materials and processes.



TAKE A MOMENT AND THINK!

What is the response of your existing manufacturing engineering approach to these daily work challenges?



Can you make design decisions regarding cost, feasibility, and aesthetics without physical build or assembly line tooling?

Can you predict connection breakage in early design stages when pushing the boundaries of lightweight design?

Are you able to operate without the need for multiple expensive and time-consuming studies involving physical prototypes for validating and implementing countermeasures?

Do you anticipate body distortions upcoming during the manufacturing process and can you eliminate them before production begins?

IF EVEN ONE QUESTION IS ANSWERED WITH "NO" ...

... then it's really time to shift to a controlled VIRTUAL environment for evaluating material and process performance in real-world production conditions!



SHIFT TO VIRTUAL CONCURRENT ENGINEERING

Introduce manufacturing information early in the virtual prototyping chain. Optimizing designs through a purely digital approach ensures early confidence in material choices and optimal joining processes.



END-TO-END VIRTUAL PROTOTYPING

Virtual Prototypes play a crucial role in concurrent pre-production validation: find the right material mix and apply it to the appropriate location, optimize geometries & thicknesses, engineer robust manufacturing processes, and select the optimal joining technologies.



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