MODEL BUILD-UP MADE EASY: A PROCESS PROPOSAL BASED ON THE SDM CONSOLE

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ABSTRACT –
The task of the engineer that administers the FE-Model build-up process is not only to collect all the source data from various OEM-specific source systems, but to supervise their very transformation into simulation models, many times in cooperation with internal/external engineering service suppliers, even multiple ones per project.

Existing process automation capabilities (such as cad-files conversion and batch meshing) combined with a data management facility (ANSA DM) help in saving pre-processing time, as well as in reusing model-data.

The amount of car derivatives as well as the load cases to be examined is increasing, leading into a big amount of simulation models that has to be generate. Therefore, the requirements of the build-up process need to reach another level, in order to increase productivity without dropping FE-model quality:

- Can the project administrator have access to OEM-specific source systems with features that speak his own CAE-language?

- And in such a way that even if somebody is not necessarily a specialist in terms of ANSA functionality, but just knows the basics (or even less then that), can nevertheless build cars with it?

- Still keeping the overview of the build-up process of multiple car derivatives, consisting of thousands of parts each, and is not overwhelmed by an avalanche of data and information?

- All this incorporated in one tool?

The answer to these questions is given in form of a process proposal for the model build-up phase in this paper. The key process steps will be outlined, giving emphasis to key tools such as the Compare Tool or the META Viewer. A key role in the FE-Administrator's job will play the SDM-Console, a control panel with a twist of project management qualities to it. Finally, the tangible merits of the new FE-model building process will be shown, as well as a brief look at what will follow as future developments.