
ANSA process automation tool - Future developments.

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ABSTRACT

In modern Automotive Industry, the "success" of a vehicle model is not confined on its market acceptance; the routes of this success are quite deep, reaching down to the first CAE concept. The distance between conceptual design and production is covered by an ever increasing number of CAE-cycles that involve collecting and manipulating huge amount of divert data. In addition, the growing complexity of simulation and analyses leads to error-prone procedures, tends to delay crucial decisions and prolongs the CAE turnaround time. The remedy is "process automation" and the challenge is to achieve this by keeping the procedure cost-efficient and error proof.

Within this framework, BETA CAE Systems S.A. introduces an integrated process workflow manager that promotes knowledge transfer and exploits the cumulative CAE experience and expertise. By providing a high degree of automation, our vision is to decrease human error factor, promote model reusability and liberate CAE experts from tedious procedures so they can focus on problem solving.

In the heart of this integrated workflow manager lies a tool where all individual tasks of the development of a vehicle simulation model are included. This task manager is built up from the CAE expert who sets the boundaries between distinct modelling actions and assigns all modelling parameters that must be respected, leaving to the inexperienced user a minimum degree of intervention and limited (or none) decision making. In a typical modelling scenario the task manager integrates the following procedures: batch meshing, assembly, trimming, analysis dependent pre-processing and post-processing of results. Guiding the user to these procedures, the workflow manager assures that the user does not skip any step, marks completed tasks on a check list and provides the respective alternative ways to proceed. This approach reduces the CAE-cycle, safeguards the procedure and makes the CAE expertise inherent in the process.

keywords: process workflow, task manager, pre-processing steps, CAE expert