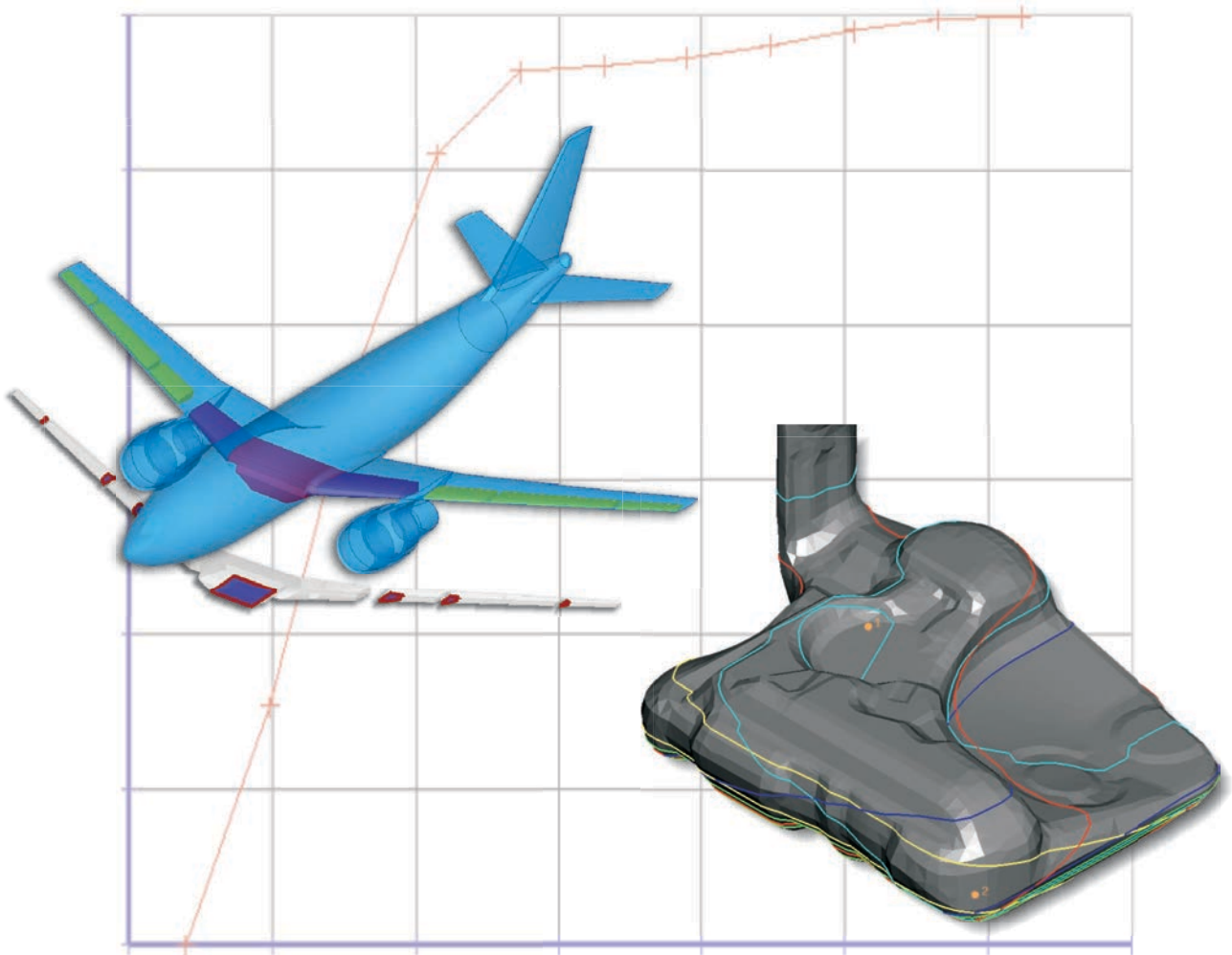


**ANSA**  
PRE PROCESSOR



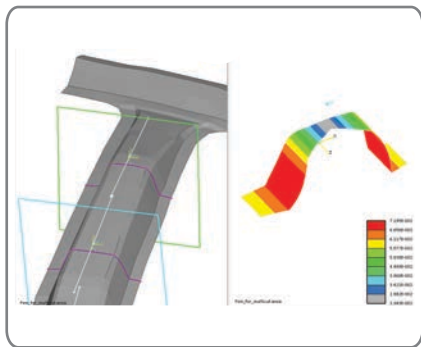
s p e c i a l t o o l s

**META**  
POST PROCESSOR



**BETA**  
SIMULATION SOLUTIONS  
[www.beta-cae.com](http://www.beta-cae.com)

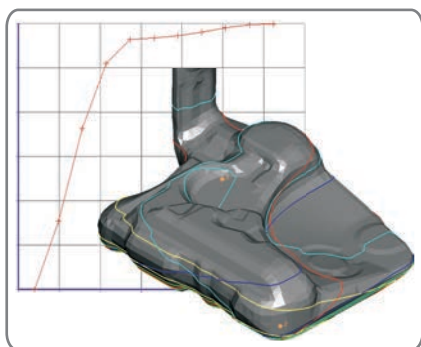




### Cross-Section analysis tool

Some of the available features are:

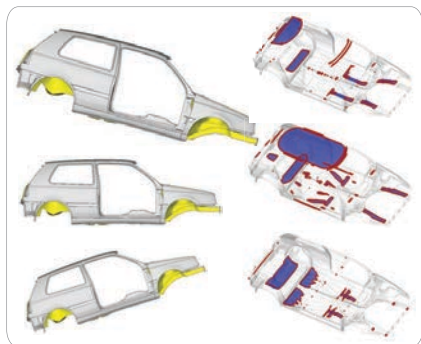
- Cross-section definition, check and modification integrated with the main menus' functions
- Computation of Cross-section geometrical results
- Cross-section Stress Analysis for variable loading points, loads and properties
- Automatic bar or beam property entity definition, integrated into the preprocessing Decks
- Capability to create the equivalent box-cross section
- Possibility to modify a cross section using the morphing tools
- Direct editing and support of the NASTRAN keywords PBMSECT and PBRSECT
- Automatic creation of the required NASTRAN SOL200 keywords, for cross section optimization purposes
- A Group library with predefined sections, such as circular, rectangular and tube
- Cross section edit card that can be used by script functions



### Fuel Tank analysis tool

Rapid simulation of the filling or emptying process of a closed tank predicting:

- Total volume of the tank and wetted surface
- Liquid levels and their corresponding volume
- Liquid and total Centre of Gravity monitoring
- 3D curve representation of levels and 2D filling curve at various user defined inclinations and filling/suction points



Some of the available features are:

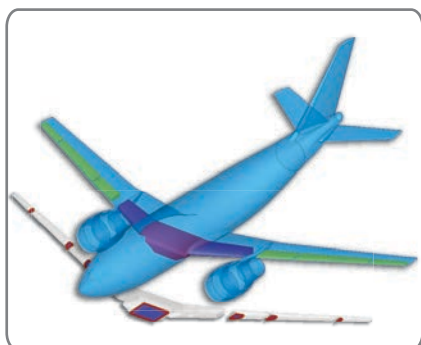
- Volume vs fuel level graphic and numerical analysis, for arbitrary car positions
- Automatic volume-traps detection
- Filling and suction points definition and analysis
- Real filling process monitoring

### Volume Traps Tool

This Tool has various applications, among which the detection of trapped air or liquid in the paint bath process of BiW assemblies, or the identification of unused fuel or settled fuel residues in fuel tanks.

#### BiW paint bath simulations

- Allows the identification of volume traps at a BiW that is going in and out of a bath
- Position the meshed parts like being immersed, or extracted from a virtual bath
- Get the location, the total volume and area of the air traps and liquid ponds



#### Unused fuel prediction

Calculation of location and volume of residual resting water or unused fuel in aircraft tanks based on:

- different tank configurations
- suction pump locations
- aircraft inclinations