



Object: An Integrated System for Shape Optimization in ANSYS Fluent.

PRODUCT FEATURES

An Integrated System for Shape Optimization represents a highly innovative product in shape optimization analysis. It offers a unique solution on the market integrating several traditional steps in one and offering parallel performances. This new approach takes advantage of the ANSYS Fluent's CFD technology and overcomes the limits of the mainstream methods, by introducing these functionalities through the implementation of dedicated routine in the CFD ANSYS Fluent code.

In addition, a dedicated Graphical User Interface (GUI) has been developed and integrated in ANSYS Fluent so that the CFD user could work in the very family way, without requiring the knowledge of other software packages.

MAIN FEATURES

- Morphing inside the ANSYS Fluent code without rebuilding the geometry with external tools
- Allows to modify original surfaces by: **smooth reshape, rigid movements, rescale**
- High quality smoothing of internal mesh
- Parallel mode: million of cells are easily managed
- Internal smoothing is achieved by means of a mesh-less approach that is **independent** from the internal mesh structure handling without problems **every** type of mesh elements, like tetrahedral, hexahedral, hex-core and polyhedral meshes, prism and boundary layers, mesh with non-conformal interfaces
- Multi-parameter and multi-step problems
- Multi-configuration runs are possible as well as parallel runs for different configurations
- Available for steady and transient cases
- Post-processing in ANSYS Fluent

PRODUCT STRENGTHS

- Moving parts and deforming parts are easily managed by the proposed tool
- Parametric analyses are easily conducted without preparing a new CFD model
- Mesh consistency (mesh dependency problems are removed because mesh structure and sizes are preserved)
- High efficiency
- ANSYS Fluent users oriented
- No other software knowledge is required
- Projects time and cost reduction and speed up of products development and optimization
- highly customizable for client-oriented solutions, services and consultancy.