ANSA for Morphing and Optimization

Training	ANSA for Morphing and Optimization
Duration	24 hours (3 days)
Level	Entry
Who should attend	CAE analysts who perform reshaping and shape optimization tasks.
Training description and objectives	This course introduces the concept of the morphing tool and the functionality for optimization set-up so that attendants become familiar with the main tools and terminology of morphing and optimization. Upon course completion, participants will be able to perform direct or parameterized model reshape on both FE and geometry models, and set-up and execute an optimization process.
Prerequisites	Participants should have an engineering background. Basic knowledge of ANSA is necessary. Basic optimization knowledge is required for the optimization set-up session.
Suggestions	Course can be combined with the training: – Introduction to preprocessing with ANSA – Introduction to CFD pre- & post- processing with ANSA and META
Language	English, German, Italian **ask for more languages*

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Suggested topics
Session 1 (8h)

– Introduction to Morphing
– Feature handling/morphing
– Direct Morphing for Detail designs
  – Creating parts from cross sections
  – Flanges adaptation
– Handling members and cross sections
– Morphing Constraints
  – Constraining morphing at regions

Session 2 (8h)

– Direct Morphing for Concept designs
  – Translate, Rotate, Align regions, Fit surfaces and more
  – Bend, Twist, Taper regions/parts
– Parameters definition
– Advanced morphing with Morph Boxes
  – Creating and handling Morph Boxes
  – FE and Geometry morphing

Session 3 (8h)

– Optimization/Design of Experiments setup
  – Optimization Tool introduction
  – Design Variable definition
  – DOE and analysis constraints definition
– Optimization study
  – Response Surface Model
  – Optimization
  – Results – Data Analysis
– Connection to external optimizers
– EPILYSIS SOL200

Course content is subject to change without notice.
Course content may be adjusted to audience requirements or background.
The duration of each session could vary upon request.