

## ANSA and SpaceClaim interaction for upfront changes in CAE

Traditionally, CAE engineers relied heavily either on advanced and complicated CAD tools designed for CAD experts, or on the CAD engineers for the creation or the modification of a model. Consequently, this dependency resulted in a considerable amount of time consumed by the process of CAE and CAD engineers' collaboration. ANSA v14.x, by interacting with SpaceClaim, offers the capability to address the CAD "bottleneck" in product design and modification.

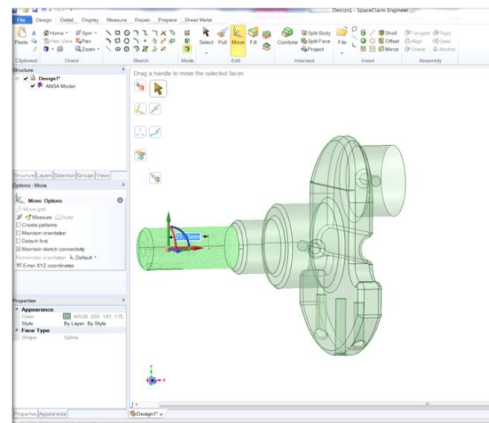
### ANSA and SpaceClaim interaction

ANSA v14.x provides engineers with the capability to export a model to SpaceClaim, make the necessary modifications -in a direct modeling environment-, and retrieve this model back to ANSA to prepare it for the analysis.



### Modifying a Model in SpaceClaim

Using SpaceClaim's intuitive tools (i.e. Pull and Move), the engineer can make accurately and fast, otherwise complex and time consuming modifications.



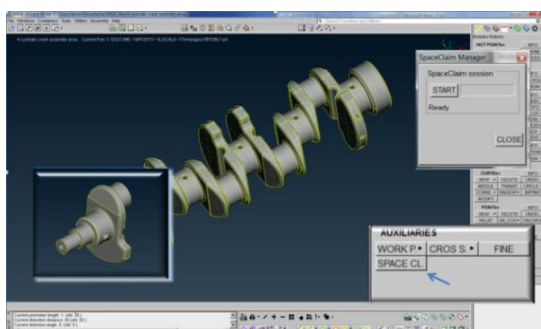
### Example of ANSA and SpaceClaim interaction

As an example, the modification of a crankshaft is presented. These modifications are the following:

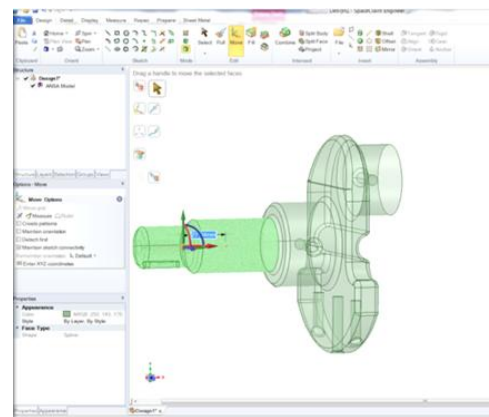
- Lengthen two regions of the shaft in order to reposition the keyseat.
- Increase the diameter of a region of the shaft.

### Exporting a model from ANSA to SpaceClaim

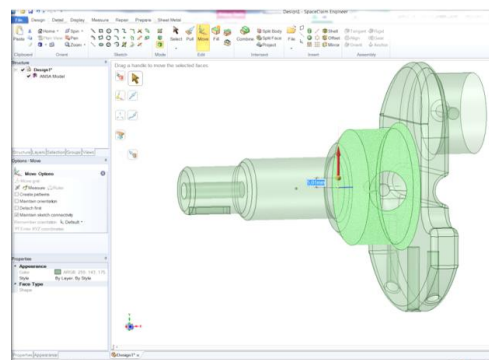
Using the SpaceClaim function in ANSA, the visible faces of the model are exported to SpaceClaim.



1: Exporting a region of the Crankshaft



2: Using the Move function of SpaceClaim to lengthen the shaft



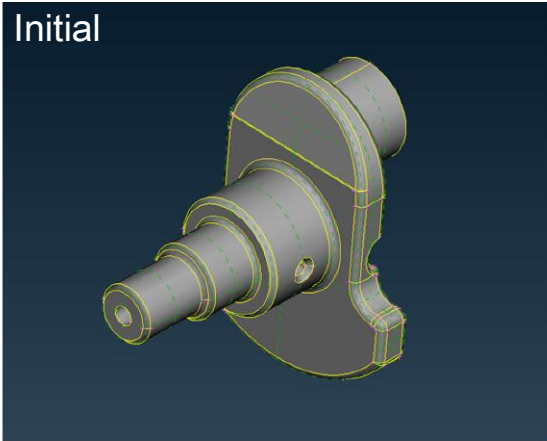
3: Using the Move function to change the diameter of a region

### Retrieving the Model

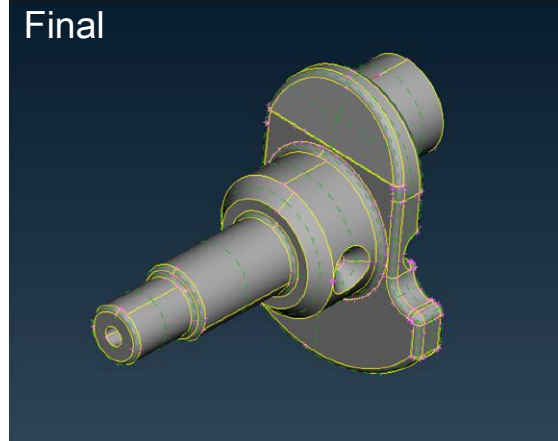
After finishing with the modifications, the model can be retrieved, in the ANSA's SpaceClaim

Manager, for the continuation of the CAE modeling

Initial



Final



### ANSA and SpaceClaim interaction benefits

ANSA and SpaceClaim interaction provides ANSA users with the capability to rapidly modify and repair a geometry in a direct modeling environment. Taking advantage of this interaction the engineers can:

- Reduce the time needed for the product designing and modifying processes
- Drastically reduce the time that CAE engineers work on model geometry
- Work in a direct modeling environment



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