

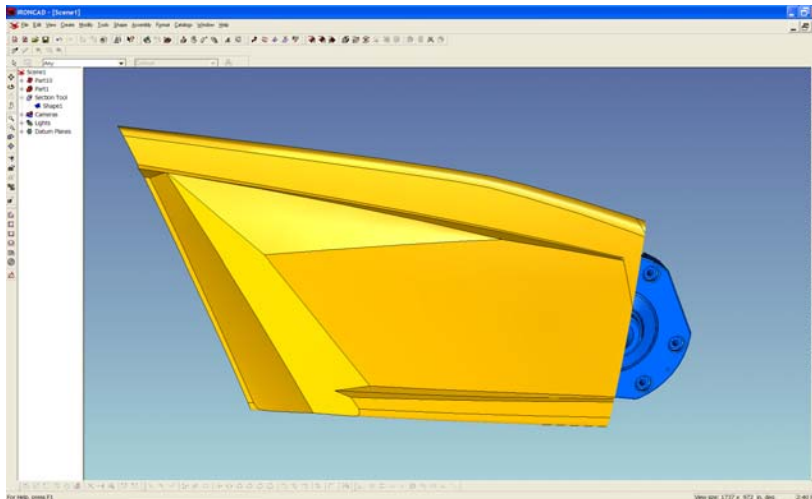
FreeForm® Modeling Plus™ v8.2 — Solutions

Solution: Fast, accurate, design iteration and prototyping

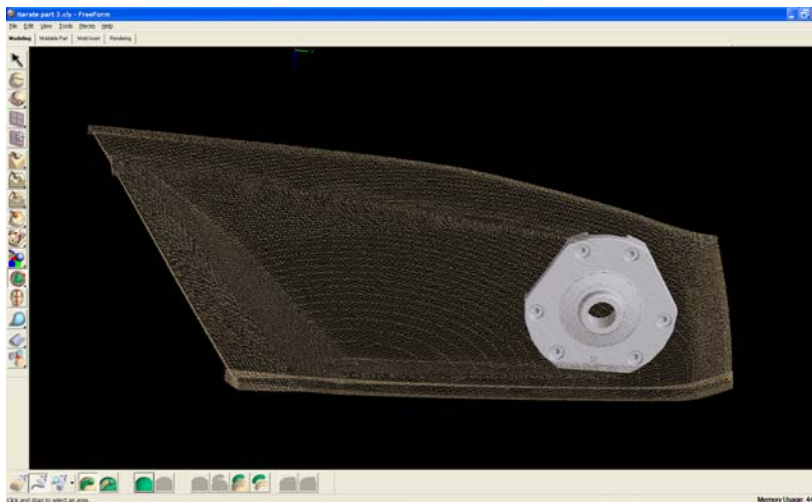
Problem: Developing prototypes and digital concept models that meet size, volume, and other engineering constraints can be very time consuming, especially in the concept stage. Solid and surface modeling software can usually provide a good starting point, but there is very little return on investment for the time required to develop a full CAD model early in the design process, especially if a range of design ideas are being presented.

Solution: Use the inherent rounding, controlled filleting, shaping, and smoothing capabilities of the FreeForm Modeling Plus system to quickly blend surfaces or iterate on design concepts. This approach is particularly effective using roughed-out CAD models. Built-in benefits to this approach include watertight STL files for prototypes, and “no-fail” offsets for volume calculations and reduced prototyping materials.

The following sequence illustrates:



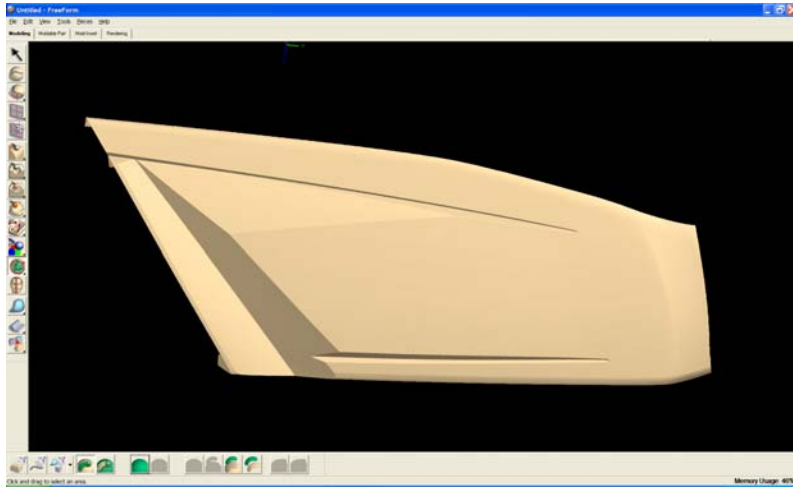
1. Using traditional CAD tools, rough out the design in proper coordinate space with basic size and engineering constraints in place.



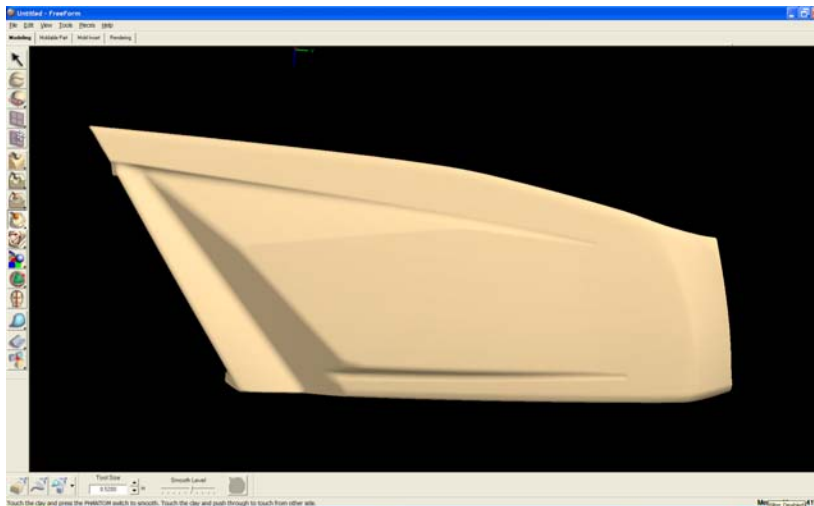
2. Export the form and other relevant reference parts to the FreeFrom Modeling Plus system.

— More —

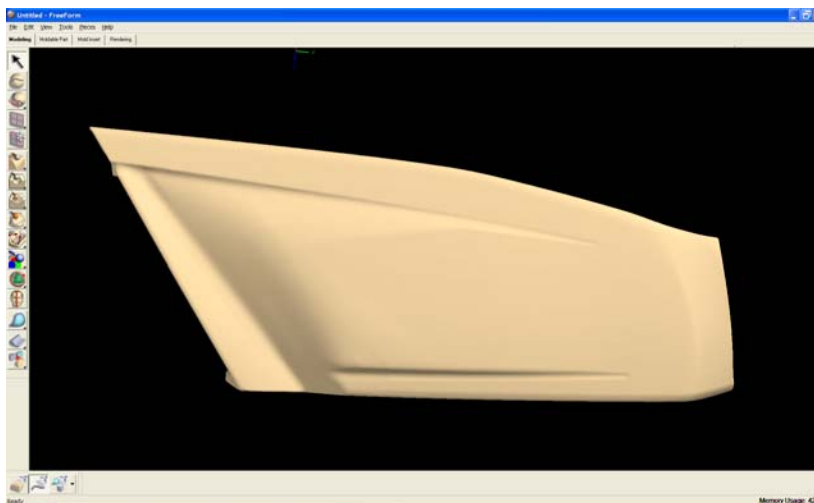
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3. Convert imported form to digital clay.



4. The entire clay piece can be automatically smoothed in a one-step process so that all intersecting surfaces have the same fillet radius. Blend radii can also be easily adjusted for individual intersections as desired.



5. Rounding, controlled filleting, shaping, and smoothing can be used to quickly explore related design concepts, while maintaining proper clearance to reference parts. At any point, an STL file can be exported for prototyping and fit-up assembly.