ANSYS SpaceClaim
Direct Modeler

Rich Moore
VP Business
Development
SpaceClaim—Built by Geometry Experts for CAE Experts

<table>
<thead>
<tr>
<th>Founders</th>
<th>Prior Experience</th>
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<tbody>
<tr>
<td>Mike Payne</td>
<td>• PTC and SolidWorks Founder</td>
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<td>Chairman</td>
<td>• CTO of Dassault Systèmes</td>
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<td>Danny Dean</td>
<td>• Lead Developer Pro/ENGINEER</td>
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<td>VP of R&amp;D</td>
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Developed Fantastic User Experience
1. SpaceClaim is easy to learn and use with short learning curve—simplified user interface
2. Intelligence at your finger tips—Heuristics
3. Interactive Automation—Repair and Prepare and Conversion
A partnership for Geometry Modeling

- Innovative partnership with ANSYS, Inc.
- Smart geometry modeling leading to increased productivity for ANSYS, Inc. customers
- Integrated ANSYS Workbench-hosted geometry solution
- Strategic partnership with ANSYS for customer success
SpaceClaim Direct Modeler is Integrated with Workbench

- **SpaceClaim enables**
  - rapid pre-processing and repair of dirty geometry
  - manipulation of “dumb” CAD models
  - parameterization without native CAD
  - extraction of analysis data such as fluid domain

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Embraced by Top Companies Around the World
1. Dirty Geometry and Model Prep
2. Beams and Shells
3. GAMBIT Users
4. ANSOFT Integration
5. Concept Modeling
SpaceClaim Helps Clean Up Dirty Geometry

- Up to 50% faster model prep and revision
- No delays waiting for CAD specialists
- Spend more time analyzing and innovating
- Optimize designs before returning to detailed CAD

“With SpaceClaim, we no longer get hung up in preparing models for analysis. In fact, SpaceClaim is already saving us anywhere from 25 to 50 percent in valuable time.”

-Shane McGoldrick, PE
SpaceClaim Provides Automated Features for Users

- Dedicated tools to repair flawed CAD geometries
- Push-button automatic tools dedicated to simulation
  - Volume Extract and Enclosures
  - Create volumes for CFD
  - Simplify rounds, small features, irrelevant features
  - Merge faces to simplify meshing
  - Extract mid-surfaces to create shell elements
  - Extract extrusions to create beam elements
  - Isolate relevant sections of large models, assemblies
  - Set up symmetry conditions
- Industry-leading direct modeling to edit and optimize the design
This modification took about 6 hours in SpaceClaim, but it would have taken weeks in Pro/ENGINEER.

– Engineer
Large Defense Contractor

“I’ve gained back at least 50% of my time with SpaceClaim and able to focus on analysis and delivering the optimal design changes to new concepts or existing machinery. Pre-processing is no longer the limiting factor”

Pierre Ngankeu
Senior Mechanical Engineer
Emhart Glass Research Center
SpaceClaim for Concept Modeling

- **SpaceClaim** is easy to learn and use with short learning curve
  - Precise, powerful, and easy-to-use modeling, without the complexity of traditional history-based MCAD

- **History-free modeling**
  - Flexible and interactive tools support fast design creation and editing

- **Intelligence at your finger tips**
  - Application analyzes geometry and context, anticipates user actions and gestures
  - Powerful geometric inference engine that works independently of where the model was created

- **Superior interoperability**
  - Imported CAD data can be edited and combined as easily as native data
SpaceClaim significantly streamlines the procedure for making model changes, effectively improving overall efficiency and resulting in a workflow that is clearly better than our previous data exchange methodology. The tool helps us find optimal solutions while meeting cross-discipline objectives.

Hiroshi Mizuide, Branch Manager, Hioki E.E. Corporation.
ANSYS SpaceClaim Direct Modeler for customers who...

- Need Beams and Shells
- Use GAMBIT
- Uses ANSOFT products
- Is not a skilled CAD user but needs to modify geometry
- Does not have the native CAD system installed and licensed locally
- Has very complex models that need defeaturing
- Does not always receive native CAD files
- Wants to build conceptual models
  - Be liberated from the CAD group!
Thank you!