Altair® HyperWorks™

Comparison between the new interface and the previous one – old tools are still available if you want to activate them!

In our new workflow, all of the tools you need are placed in intuitive, easy-to-access ways.

With HyperWorks, you can analyze even the tiniest details of your projects.

Altair® HyperWorks provides easy-to-learn, effective workflows that leverage domain knowledge and increase team productivity, enabling the efficient development of today's increasingly complex and connected products.

Product Highlights:

- Unified CAE environment for all your virtual product development
- Easy-to-learn workflows with improved usability
- Fast concept-level changes on FE geometry with direct modeling
- Lightweight meshing workflows with improved quality
- Access to "no set-up" morphing
- Faster assembly and management of large, complex models
- Rapid concept generation and design exploration workflows
- Complete compatibility with all HyperMesh models and scripts
- Access to interactive and real-time videos for instant help
- Access to classic HyperMesh panels
- Ability to customize your controls scheme

Learn more:
Altair.com/hyperworks

Driving More Design with Simulation

The new HyperWorks experience was created to free engineers to move from physics to physics, domain to domain, and even create reports without ever leaving their model. Create, explore and optimize designs within HyperWorks to produce robust designs that accurately model structures, mechanisms, fluids, electromagnetics, electrical, embedded software, systems design and manufacturing processes.

The solution specific workflows enhance a growing number of engineering processes including fatigue analysis, concept design optimization, CFD modeling, and design exploration. Each provides a meticulously designed and intuitive user interface, differentiated for each user profile, while remaining consistent and easy-to-learn.

Intuitive direct modeling for geometry creation and editing, mid-surface extraction, surface and midmeshing, and mesh quality correction, combined with efficient assembly management provide all the capabilities required for fast, accurate model creation and evaluation of design alternatives and product variants in less time.

HyperWorks offers a complete environment to visualize, query and process results data. It gives access to a wide range of CAE data formats, including video files and images, enabling full post-processing and data analysis with advanced table and curve plotting up to 3D visualization of complex simulation and photo-realistic rendering. Furthermore, it enables user to share and customize working sessions though flexible templates and reporting infrastructure.

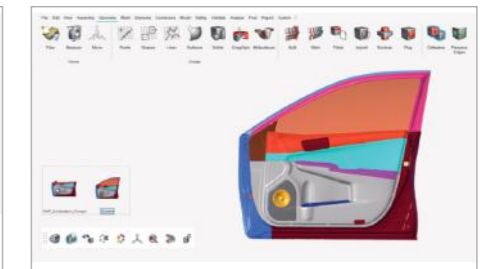## Benefits
Faster Product Development
Altair integrated the tools required for the product lifecycles of today's programs with bi-directional connection to PDM systems, while enabling multiple variants and sub-systems to be easily managed within the same model.
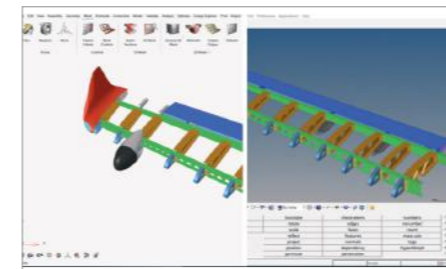
Greater Multi-disciplinary Collaboration
High-fidelity multi-disciplinary, multiphysics and multi-model simulations of your increasingly complex and connected product in every operating environment.

Accurate Modeling of More Design Alternatives
HyperWorks is the unified CAE environment for product development built on the foundation of Altair® HyperMesh®, the most trusted industry standard for FE modeling and visualization.

Key Features
Fast, Intuitive Workflows
Accelerate product development with new workflows optimized for specific processes including fatigue analysis, concept design optimization, CFD modeling, design exploration, and more.

Manage the Largest Models
Thanks to the efficient assembly management with bi-directional connection to PDM systems, multiple variants and sub-systems can be easily managed within the same model.

Direct FE and Geometry Modeling
Use the intuitive direct modeling capabilities to rapidly create and evaluate design alternatives. Introduce new geometry revisions directly on the existent FE model.

Transition on Your Timeline
Both the new and established HyperWorks experiences are available with no loss of existing functionality. All HyperMesh models, scripts, and processes continue to work.

High-fidelity Meshing
Decrease model build time with efficient workflows including: geometry creation and editing, mid-surface extraction, surface meshing and midmeshing, mesh quality correction.

Interactive Morphing
Morphing is no longer an expert-level tool. The easy-to-learn mesh morphing features of HyperWorks brings efficiency to teams working on simulation models early in product development.

Compatibility with HyperMesh
For both new users and veterans alike, it is significant to note that classic HyperMesh panels can be accessed at any given time. This way, you can adjust your workflow to best fit your needs as the same results can be achieved in different yet intuitive ways.

One interface for all of your needs
HyperWorks integrates all the Altair programs from the Hyper software family. With just two clicks you can switch from HyperMesh functionalities to HyperView, HyperGraph, MotionView, MediaView, TableView and TextView versions of the interface. Furthermore, the interface is very similar in its design to other Altair programs like SimLab or Inspire suite. Because of this, once you learn the basic workflow in HyperWorks, you can easily adapt to using other programs included in your software package.

Dedicated interfaces for CFD and NVH
Furthermore, two applications have their own launchers: HyperWorks CFD and HyperWorks NVH. They are focused only on those two specific areas to improve the ease of use of the program. The former has built-in tools for modeling of flows plus thermal and solar radiation while also gives to functionalities focused on meshing and post-processing. The latter allows both Full Vehicle NVH analysis and Standard NVH analysis.

Easy-to-learn workflow
Workflows available in HyperWorks are presented in a very modern yet intuitive way. On the upper ribbon, you can access all the basics bodies of work. They include robust functionalities dedicated to sketching, geometry (creation, editing and cleanup), meshing (1D, 2D, 3D), editing of elements (including 0D), assembly (organize, build and compare), connectors, morphing, modeling (setup of materials, properties and composites; interactions; plots), model validation, analysis (structural and thermal), design space, optimization, design exploration, post-processing and reporting the results.